Economic Decision Making and Money-Making Strategies in Ancient Greece.

by

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This dissertation is dedicated to my beloved wife, Amy. It is as much a product of her labor as it is of mine.

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Chapter 1: Economic *mentalité*, rationality, and institutions.

I. Introduction: the argument.

What precisely distinguished the ancient Greek economy from our own? This question has guided the research of many classicists and historians, and there have been a number of explanations for why the ancient Greek economy never developed past the point that it did.[1] One hypothesis in particular is so brilliant, so powerful, and so simple that it has been accepted by many as the fundamental reason for the limits to ancient Greek economic development: they simply did not think the way we do about the economy. Nor is this judgment limited to their lack of economic theory, but extends to their behavior and their conceptions of the world, which were ultimately quite dissimilar to our own. They had a different *mentalité*, which was *non*-economic, and to this extent non-rational, in that it lacked economic rationality.

[1] The great debate of the ancient economy, the so-called 'primitivist-modernist' debate, has been outlined so many times that I feel it unnecessary, and frankly distracting, to recount it at length in this study. A voluminous literature on the debate exists: see Pearson, 1957; Austin and Vidal-Naquet, 1981, 3-8; Andreau, 1995; Cartledge, 2002; Millett, 1991, 9-18; Morris, 1999; Meikle, 1995, 2002; Nafissi, 2004, 380-89, 2005, 235-83; Bresson, 2007, 8-22.

Mentalité is the way a people envisions their place in the world, and their relationships with each other, [2] and is often said to determine the way people behave. If it is true that the ancient Greeks were not driven by economic goals in the same way as modern individuals, this would amount to a major qualitative difference between the ancient Greek and modern economies. Indeed, *mentalité* is powerful enough an explanation to account for *all* the reasons for ancient Greek economic primitiveness; a non-economic mental orientation is enough to inhibit economic progress altogether.

Not all scholars support this interpretation, however, and at the moment, there is little agreement about the fundamental motives and mental forces driving the ancient Greek economy. With such a wide gulf in the interpretations of human economic behavior, the human element is a wild card, a highly unstable, ungrounded, and floating variable that can be manipulated in almost any way to fit any type of conclusion. Behavioral and mental forces constitute probably the most significant factor that currently impedes scholarly consensus on the ancient Greek economy, but they have rarely been the center of scholarly discourse, meaning that they are usually drawn upon untested to support a given interpretation.

It is my intention to deal with *mentalité* directly, and to dispel the notion that ancient Greek economic *mentalité* is what was primarily responsible for that society's relatively underdeveloped economy. Not only is such a hypothesis an over-simplification, but it is also largely incorrect. Through a detailed analysis of individuals' actual economic decision-making and money-making strategies, I hope to demonstrate that the claims for a significantly different

[2] I am not the first to use the term *mentalité* to describe the economic behavioral tendencies of ancient peoples: see, e.g., Andreau, France, and Pittia, 2004. Many others have used the English 'mentality' in their discussions of the ancient economy (see below).

economic *mentalité* are exaggerated, and that ancient Greeks were generally driven by the same types of economic impulses and goals as their modern counterparts. [3] When examined closely through the lens of economic rationality, Ancient Greeks' economic behavior conforms to modern economic theory, and so cannot be said to have inhibited development to the extent that some have claimed.

Furthermore, analyzing Greek economic behavior and decision making through the lens of economic rationality can reveal previously hidden impediments to ancient Greek economic performance. Rationality, when considered in conjunction with the other components of the ancient Greek economic system, can yield significant, non-obvious, insights into phenomena whose effects are not possible to see when individual behavior is believed to be irrational.

In particular, I will argue that using the assumption of economic rationality as a point of departure, and examining the money-making strategies and economic decisions of ancient Greek individuals from such a perspective, exposes other factors that inhibited development and created the conditions that gave the ancient Greek economy its own particular character: institutions Indeed, it seems to have been primarily institutions, rather than *mentalité*, that inhibited increasing economic development; the most significant differences between the economies of ancient Greece and the modern West were institutional and technological. While there are some

[3] This is not to say that there are not elements of cultural *mentalité* that made ancient Greek economic behavior distinctive. As Darnton, 1999, 4-5, has written, cultural particularity can often be found in the smallest details, and I believe a systematic comprehensive study of culturally distinctive economic behavior and concepts would be fascinating. As far as this study is concerned, however, there seems to be no such monumental gulf between the economic behavior of ancient Greeks and our own notions of economic rationality. As such, there is not enough evidence to support an entirely different economic *mentalité* as far as rationality is concerned, at least. I hope my conclusions pave the way for additional studies in the cultural specificity of ancient Greek economic behavior.

differences between ancient Greek and modern economic behavior, these were often determined by different institutional opportunities and hindrances.

Although scholars have long recognized the importance of institutions in determining the performance of economic systems in antiquity, I will demonstrate that the assumption of rationality can expose institutional barriers to economic progress that otherwise would have remained invisible. Because the effects of institutions is often difficult to conceptualize, I believe that there is great promise in identifying and studying previously unrecognized institutional problems for economic development in ancient Greece. Indeed, the institutional impediments to economic development seem to have been powerful enough to create the effects that have been previously attributed to an entirely different economic *mentalité*.

II. Non-economic *mentalité*: a revolution in the ancient economy.

In the twentieth century, a revolutionary concept was introduced that quietly but significantly transformed the study of the ancient economy: *mentalité*. Rather than being explicitly and overtly integrated into the field, however, *mentalité* has almost imperceptibly crept into the study of the ancient economy, and though it has rarely been treated with systematic analysis, it remains scattered throughout scholarly discourse and exudes a powerful force in the explanatory frameworks that have been constructed. While often not at the fore of any particular study, it is often marshaled among the most decisive arguments supporting various perspectives.

Mentalité is an invention of the French *Annales* school of history, and is one of the most important historical theories of the twentieth century. *Mentalité* seeks to explain the pre-modern world from the bottom up, from the perspective of the lower classes in their cultural, economic, and social everyday lives as opposed to the top-down military and political narratives that dominated history up to that time. In order to illuminate the world of the lower classes, an effort was made to capture the distinctiveness of those peoples' world-view, and not to impose modern behavioral models upon what could have been a completely different mindset: "*Mentalité* is born from a sense that the past is very different from the present …using the term mentality involves seeing people in the past as essentially different from our own time"[4]

This movement has its roots in the field of anthropology,[5] and specifically the 'primitive mind' or 'primitive mentality' problem. Lucien Lévy-Bruhl developed the most systematic account of 'primitive' mind or *mentalité*, and its opposite, 'western *mentalité*', proposing that all non-western thought should be denoted as 'primitive', unable to sort the supernatural out from the concrete, and unable to address contradictions.[6] Lévy-Bruhl saw the march to western rationalism in teleological terms: the natural result of evolution from a simpler, universal primitive mentality to the rationalized mentality of the modern West. Anthropologists later tempered this 'primitive mind' argument to a much milder, but less easy to pin down notion of 'cultural relativism', in which different cultures seem to exhibit different behaviors in various spheres of life, including the economic sphere.[7]

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[4] Arnold, 2000, 99-100. For a succinct definition of *l'histoire des mentalités*, see Darnton, 1999, 3.

[5] Arnold, 2000, 99.

[6] Lévy-Bruhl, 1910; 1922.

[7] In other words, the value judgments associated with a the inferior, pre-rational, primitive, mind were removed, and cultural behavior is recognized as being different – complex, sophisticated, and following different rules in different societies (see below). Culture is absolutely integral to the cognitive function of human beings and in many ways determines behavior (Geertz, 1973, 68).

In one important respect, however, anthropology retained the stark dichotomy between the pre-modern world and the modern West – in economic anthropology and the work of Karl Polanyi. Polanyi argued that market-centered analysis and modern economic theory were inappropriate for pre-modern economies, which were qualitatively different from the modern West. Instead, he proposed an alternative to the explanatory models of mainstream, or 'formal', economic theory: 'substantivism', an anthropologically-informed theoretical framework appropriate for pre-modern economies. For Polanyi, 'formal' economic theory is only appropriate for the modern West, where the economy has become 'disembedded' from cultural and social life, and follows rules of its own, especially supply and demand. Other economic systems, however, remain 'embedded' in social life, do not follow the laws of modern economic theory, and therefore require a different, anthropology-based analysis, which he called 'substantivism'.

Polanyi's dichotomy between pre-modern, 'embedded' economies, and the 'disembedded' economy of the modern West contains an important mental element. Outside of the modern West, economies are characterized by "the absence of the motive of gain":[8] "householding, production for one's own use … has nothing in common either with the motive of gain or with the institution of markets. Its pattern is the closed group".[9] "Primitive man, far from having a capitalist psychology, had, in effect, a communistic one".[10] To Polanyi, economic rationality exists only in the modern capitalist economy,[11] and is the defining characteristic of

[8] Polanyi, 1944, 47.

[9] Polanyi, 1944, 53

[10] Polanyi, 1944, 44.

[11] Polanyi, 1944, 68.

modern, western economic behavior. Therefore, in the modern West, a new, ‘disembedded’, economic *mentalité* based on individualistic calculation of profit emerged, and overcame the traditional *mentalité* of pre-modern economies ‘embedded’ in social life.

Concurrent with, and complementary to, Polanyi’s arguments for embeddedness and non-market *mentalité* was the emergence of the field of peasant economics, which gave added support to the notion that pre-modern individuals did not behave like modern economic actors. Beginning with Chayanov, a number of scholars focused on the strategies of peasants that diverged from standard economic theory.[12] Peasant moral economy[13] provided a powerful alternative to profit-oriented *homo oeconomicus*; the field drew upon so many cultures that together they seemed to support the notion of a universal pre-modern economic *mentalité*, which was only broken in the modern West.[14]

Closely contemporary with Lévy-Bruhl, modernization theories also emerged to explain why the modern West was so different from all other historical societies.[15] Foremost among these modernization theorists, Max Weber argued for the ‘Protestant Ethic’, an entirely new

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[12] Chayanov, 1966; Scott, 1976.

[13] The term ‘moral economy’ was first used by Thompson, 1971, in reference to the lower classes of England, and was subsequently applied to peasant subsistence strategies because they often involve heavy co-dependence and cooperation with others, against whom it is generally unacceptable to pursue individualistic gain. Thompson, 1971, 79, summarizes the essence of ‘moral economy’ as follows: “a popular consensus as to what were legitimate and what were illegitimate practices in marketing, milling, banking, etc. This in turn was grounded upon a consistent traditional view of social norms and obligations, of the proper economic functions of several parties within the community”.

[14] Scholars have taken the opportunity to apply peasant studies to ancient Greece, and the insights have been very fruitful, e.g., Gallant, 1991; Sallares, 1991. The peasant studies perspective has radically improved our understanding of ancient agriculture, the methods that individuals used for intensive cultivation, the labor they used, the possible yields of crops, and the dynamics of trade in the ancient Mediterranean.

[15] For modernization theories, see Mielants, 2000; Goody, 2004, 6-16; Tilly, 1984, 44-48.

mentalité that was qualitatively different and decidedly more economic in its orientation. Moreover, only in the West, Weber claimed, does 'rationalism' characterize architecture, art, capitalism, mathematics, philosophy, and science. Even western music was 'rational', while everything non-western was not rational.[16] Weber's hypothesis is strikingly reminiscent of Lévy-Bruhl's 'primitive mind' theory, namely that only with the modern West was rational, logical thought able to prevail over irrationality and mysticism. The stark contrast between modern West and everything else is likewise similar to Polanyi's pre-modern, embedded versus modern, disembedded dichotomy.

Furthermore, the fields mentioned above were operating alongside, or within, Marxist and other theories about the evolution of the western economy by stages. Marx famously described the evolution of the economy in terms of massive, cataclysmic, total transformations – the ancient, slave-based mode of production of the Greeks and Romans transformed into the feudal mode of production, which in turn gave birth to an entirely different system, capitalism. Marx's stark break between feudalism and capitalism has influenced historians and economists to this day, and still dominates the epistemological framework of economic history. A similar progression of stages was also applied to the ancient economy by Bücher, who like Marx was part of the same nineteenth century intellectual school of evolution as Darwin. The idea of total, system-wide qualitative change was therefore promoted by the intellectual discourse of the nineteenth century, and lends unmistakable, though indirect, support to the idea of a new modern *mentalité*. Marx even included all pre-capitalist economic production under the blanket term

[16] Weber, 1992, xxviii-xxix.

‘primitive’,[17] and thereby also contributed to the widespread, contemporary trend of calling anything that preceded the modern West ‘primitive’.

It seems to have been Moses Finley who first introduced the idea of a different economic *mentalité* to ancient economic history, forever changing the study of the ancient economy. In rather cryptic or paradoxical terms, he argued that the ancient Greeks did not have the same ‘productive mentality’ as their modern counterparts.[18] Since ancient Greeks had a different *mentalité*, modern notions of economic behavior had to be eschewed, and entirely new models had to be constructed to describe their economic behavior:

> “the inapplicability to the ancient world of a market-centered analysis was powerfully argued by Max Weber and by his most important disciple among ancient historians, Johannes Hasebroek; in our own day by Karl Polanyi. All to little avail … If such assumptions prove invalid for antiquity, then all that follows must be false, about economic behavior and the guiding values alike. We have, I suggest, to seek different concepts and different models, appropriate to the ancient economy, not to ours.”[19]

The work of Polanyi clearly had great influence on Finley,[20] and other scholars soon followed Finley’s interpretation, but pushed Finley’s argument even further. Some argued for a

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[17] *Das Kapital*, Vol. I, Chapters 26-31.

[18] Finley, 1973, 122: “their mentality may have been a non-productive one; it was in no way a non-acquisitive one”; 144: “the prevailing mentality was acquisitive but not productive”. Finley, 1973, 144 seems to have been troubled by the limits to the force of this argument, however, and recognized that the Greeks had been able to conceive of complex economic arrangements: “we are not faced with an intellectual failing”.

[19] Finley, 1973, 26-7.

[20] Morris, 1999, xi-xiii.

"profoundly unproductive mentality";[21] a 'non-economic mentality';[22] a 'non-economic' or 'non-productive mentality' and 'mental habits' which inhibited a 'productive spirit';[23] a 'non-market mentality'.[24]

Finley's student Paul Millett further advanced these arguments against market-centered analysis using standard economic theory:

> "the illusion of Athens as a market economy is heightened by the appearance in the ancient literature of the external trappings of market exchange … the existence in Athens of a focal area for all this buying and selling, policed by magistrates and regulated by law, only serves to strengthen the impression of a fully fledged market economy … the surface phenomena … and underlying laws and conventions relating to exchange, are best understood through an alternative type of analysis along non-market lines" (1990, 168-9).

He maintained this stance in his influential book *Lending and Borrowing in Ancient Athens*: "As already argued, the Athenians lacked the mentality appropriate to modern conceptions of 'rational economic man'. They did not develop accounting techniques capable of calculating comparative rates of profit".[25] Therefore, economic rationality, the defining characteristic of modern economic behavior, was absent in ancient Greece, amounting to the central, most demonstrable sign of a different *mentalité*.

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[21] Millett, 1983, 44.

[22] Gauthier, 1976, 129-30, followed Finley's interpretation of a non-economic mentality, and believed that the notion of the "juste prix", among other things, constituted a departure from a "mentalité économique".

[23] Austin and Vidal-Naquet, 1981, 11, 15, 119.

[24] Meikle, 2002, 248-9, contrasts "ancient behavior and mentality and modern market behavior and mentality".

[25] Millett, 1991, 165; see also at 71-80, and 189 for further statements on ancient Greeks' non-productive mentality.

The combined weight of these arguments adds up to a powerful explanation: an entirely different economic *mentalité* which in itself is sufficient to say the ancient Greeks had a qualitatively different economic system, since it was driven by entirely different behavioral impulses. Therefore, a challenge was presented to ancient historians to try to explore the differences between the ancient and modern economies,[26] and anthropology was quickly and thoroughly integrated into ancient Greek economic history.[27]

III. *Mentalité*: a valid approach to the ancient Greek economy?

The problem with *mentalité* is that it imputes a single dominant viewpoint on an entire people, complete with uniform attitudes and morality, to the point that the mental diversity within a population is obscured. [28] Moreover, since applying *mentalité* to a historical context presupposes artificial divisions of time and space to simplify historical reconstruction, there is no way to ensure that such arbitrary divisions accurately represent a cognitive or mental reality that is as distinct as the notion of *mentalité* suggests:

> "The problem - but perhaps also the solution – with *mentalité* is that the people of the past are as different from us as we are *from ourselves*. At certain moments they – and we – cohere

[26] Rostovtzeff's model was uncritically modern, and retrojected anachronistic models from the modern world, including such categories as "the working class", which are extremely problematic when viewing the ancient world, in which slavery and the lack of a widespread market for free labor exploitable by large-scale capitalists create significant differences. By applying a category such as "the working class" onto the ancient world, one obscures a very important particularity of that society. See Meikle, 2002, 239-240, and D'Arms, 1981, 11-13, for a concise critique. For Rostovtzeff's life and work, see Wes, 1990, and Andreau and Bérélowitch, 2008.

[27] See, e.g., Humphries, 1978; Millett, 1991; Möller, 2000; Von Reden, 1995; Tandy, 1997.

[28] For this sort of criticism of *mentalité*, see Ginzberg, 1980, xxiii-xxiv.

around patterns of behaviour, and the historian can certainly seek out those patterns; but they are neither entirely the same nor entirely different from us."[29]

We are as different from ourselves as we are from people of the past. If one searches for ways in which the people of the past are essentially different from ourselves, he or she is bound to find that distinctiveness in the source material. But how can one be sure that the difference lies in *mentalité* and not in the subjectivity of individuals?

Some would say that 'the individual' is a purely modern phenomenon – that the notion of the 'individual self' distinct from social and cultural collectives did not exist in the pre-modern world. Marx declared in the introduction to *The Grundrisse* that the individual was not the same in the pre-modern world, and that the classical economists Adam Smith and David Ricardo committed a fatal methodological error in retrojecting the modern concept of the individual back onto pre-modern society: "the more deeply we go back in history, the more the individual, and hence also the producing individual, appear as dependent, as belonging to a greater whole."[30] The similarities in Polanyi's thought, wherein the individual is embedded in social relations, are unmistakable, and Marx's arguments against making the individual, and not the social system, the center of analysis, are repeated by a number of economic anthropologists.[31]

[29] Arnold, 2000, 109. For a discussion of *mentalité* and the methodological dangers associated with it, see Arnold, 2000, 98-109.

[30] Tucker, 1978, 222-224.

[31] E.g., Godelier, 1972. Marx's arguments against the existence of the 'individual self' before the modern West have been repeated or adapted by others, including Jacob Burckhardt, who believes the "development of the individual" first occurred in Renaissance Italy (Burckhardt, 1958).

Others combine Marx's stance with Weber's theories, and argue that the Protestant Reformation created the conception of the individual self, whereas all pre-modern life was characterized by "an imprisoning of the self in uncanny external forces".[32] Only in the modern world did the individual break free from the cultural, institutional, and mental bonds that trapped it in the pre-modern world. If this is true, then it would amount to a powerful qualitative difference between the modern West and everything else, and would even further corroborate the remarkable transformation that occurred.

As Lyndal Roper writes, however, reifying the pre-modern world as a single entity is a simplification that serves to reinforce and facilitate modern western feelings of superiority, and therein lies the key to understanding its weakness as an analytical category:

> "this is the supposed location of the early modern world's otherness: its characteristic cultural collectivity and the absence of the concept of the individual self … the use of anthropology, which allows us to stress the exoticism of this society, enables us, oddly enough, both rationally to grasp the otherness of this world, while furnishing us with a written guarantee of the modernity of our own time. There is of course a circular argument here".[33]

Roper instead demonstrates how much continuity there was between thought and behavior before and after the Protestant Reformation in early-modern Germany. Rather than a major revolution that saw the disembedding of the individual and the turn to rationalism, the notion of the

[32] Taylor, 1989), 192.

[33] Roper, 1994, 11.

individual seems to have changed very little, if at all, and the 'irrational' beliefs in magic, witchcraft, and mysticism seemed to *intensify* rather than disappear.[34]

The theory of *mentalité* assumes as a matter of course that pre-modern peoples are inherently irrational, and lumps everyone, rich and poor, together into a single collective consciousness that is decidedly not modern or rational; individualism is absent, and cultural and social structures determine how people behave. Contrary to the dichotomy between irrational 'primitive' and rational 'modern' thought, however, Claude Lévi-Strauss argued that the savage mind had the same characteristics as the civilized mind, and that 'primitive' logic just looked different than that of the modern West, owing to differing cultural, institutional, and material circumstances.[35]

Similarly, a number of anthropologists objected to Lévy-Bruhl's lumping together all pre-modern and non-western peoples into the category 'primitive', all sharing a universal 'primitive' mentality.[36] In the end, Lévy-Bruhl himself rejected his earlier theories about primitive mentality, and the dichotomy between the pre-modern world and the modern West,[37] but he was only one part of a much larger trend of seeing the modern West as distinctive from everything

[34] Roper, 1994, has shown that there was a resurgence of interest in magic and the irrational in the wake of the Protestant Reformation, far from the purely rational ascetic *mentalité* that Weber argued emerged from this movement. Thus, there was no sudden qualitative transformation of *mentalité* to one of rationalism because of Protestantism.

[35] Lévi-Strauss, 1962. Indeed, contrary to nineteenth century theories of racial superiority supported by such evidence as cranial capacity, human beings over the world all have the same cerebral evolution and mental capabilities (Geertz, 1973, 69), and attempts at defining how modern thought is actually different from primitive thought have been largely unsuccessful (Geertz, 2000). Even Lévi-Strauss was unable to escape dichotomizing the pre-modern world and the West, however - see Goody, 1977, 4-9.

[36] For criticisms of Lévy-Bruhl's notion of primitive mentality, see Spurr, 1994, 266-80, and De Laguna, 1940, 552-66.

[37] Spurr, 1994, 269.

else that has existed, and 'primitive' *mentalité* still persists in a number of different forms to this day.

Mentalité arguments are ultimately rooted in the anthropological assumption of cultural relativism,[38] which arose as a valuable corrective to Lévy-Bruhl's dichotomy. Franz Boas demonstrated that mental performance and behavior were not genetically or racially determined, but were rather a product of environment – culture and education. [39] Therefore, cultural relativism, the fact that culture can and does impact behavior, is an important assumption.

Moreover, the desire to preserve the rapidly fading native traditions of such peoples motivated anthropologists to describe and *emphasize* the peculiarities of their subjects' mindsets, and this same desire to reconstruct the otherwise lost distinctiveness of pre-modern mindsets motivated the *Annales* school to search for, and focus on, difference wherever they could find it. This approach is, indeed, laudable in that it attempts to preserve the cultural distinctiveness of people that is vanishing in the face of modernity.

As anthropologists Geertz and Trigger have shown,[40] however, arguments of relativism can be taken to such an extreme that one can argue that no one can ever truly understand another person; therefore, it is clear that relativism has limits, and that those limits should be

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[38] For the debates over relativism and rationalism in anthropology, see Trigger, 2003, 3-13.

[39] Boas, Franz, *The Mind of Primitive Man.* (New York, 1911).

[40] Geertz, 2000, 147-63; Trigger, 2003, 9.

acknowledged. Jack Goody further elaborates on the limits of 'cognitive relativism' and 'conceptual incommensurability':[41]

> "In the course of several years living among people of 'other cultures', I have never experienced the kinds of hiatus in communication that would be the case if I and they were approaching the physical world from opposite ends. That this experience is not unique seems apparent from the contemporary changes occurring in developing countries where the shift from the Neolithic to modern science is encapsulated into the space of a man's lifetime."[42]

As Geertz argues, if one goes to the extreme in looking for differences in thought, one might misinterpret phenomena in a way that is fundamentally misleading. In his view, extreme adherence to the primitive mind solution led scholars to "interpret cultural materials as though they were individual expressions rather than social institutions."[43] Confusing individual behavior and institutions is a major methodological and interpretive flaw, and was caused by a biased eagerness to find difference wherever it could be found. Without being consciously aware of the dangers of relativism as an approach, ancient economic scholars also run the same danger of confusing or conflating such fundamental concepts as individual behavior and social institutions.

Not only anthropologists, but also historians are also fighting against the idea that there is an unbridgeable gulf between the conceptions of past peoples and ourselves: "the supposed gap between ourselves and the past, which we use to justify a particular way of dealing with that past

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[41] 'Cognitive relativism' and 'conceptual incommensurability' are concepts that have come to replace the 'primitive mind' in anthopology. See Geertz, 2000, 148.

[42] Goody, 1977, 8.

[43] Geertz, 2000, 149.

world, is less complete than we sometimes suppose, and the assumption of difference is not always a useful heuristic tool."[44] Furthermore, we have no idea what actual makes modern, Western thought distinctive anyway, and there is no indication that any single overriding *mentalité* can encompass the modern West.[45] Thus, any argument for the distinctiveness of modern or pre-modern *mentalité* is doomed from the start to suffer from arbitrary criteria of subjectivity.

The very notion of a gulf between pre-modernity and the modern West is also a product of a Eurocentric value judgment of human progress –what is European is good, and simultaneously the logical *and* natural endpoint of development. As Jack Goody argues, "we must abandon ethnocentric dichotomies in human thought" that divide the irrational and 'primitive' pre-modern world from the modern, rational West. [46] Eurocentrism can clearly be seen in Weber's evaluation of the West as the only rational society in world history, and as Goody argues, the focus on rationality itself is ethnocentric because rationality is also seen to be distinctively western.[47]

Indeed, capitalism is also often equated with rationality, which is closely akin to views of irrational, 'primitive' societies, and the theories of the 'primitive' mind.[48] Since only westerners have rationality, and it was rationality that engendered capitalism, therefore capitalism only exists in the West. Therefore, capitalism is rationality, and rationality is distinctive to the West.

[44] Roper, 1994, 3.

[45] Geertz, 2000. See Arnold, 2000, 109, on American culture in the 1960s.

[46] Goody, 1977, 9.

[47] Goody, 1996.

[48] Goody, 2004, 2-3. Goody, 1977, has also argued forcefully against this view.

Braudel argues forcefully and persuasively against the notion that capitalism is to be equated with rationality, and especially the misguided idea that double entry accounting is a *sine qua non* of rationality.[49] As Braudel so clearly demonstrates, double entry book keeping did not engender capitalism, and was often not even a part of the central decision-making process of business.[50] It only receives so much attention because it is seen as distinctive to the rise of western capitalism,[51] and such views ignore other 'rational' financial instruments just because they were *not* peculiar to the West: "but of course all these things were to be found outside the western world and its sacrosanct rationality. And they were in any case an inheritance, a slowly accumulated body of practice which had been simplified and perfected by the day-to-day activities of economic life (575)." Therefore, a uniquely western invention was extolled by economic historians trying to find differences between the modern West and everything else, while similarly sophisticated instruments of exchange were overlooked simply because they also existed in non-western societies.

Capitalism, therefore, is not to be equated with western rationality, and doing so moreover conflates individual behavior with social, institutional, technological, and systemic

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[49] Braudel, 1982, 572-78.

[50] Weber agrees that accounting only increases the degree of calculating precision, and as such only affects the *degree* of rational capitalistic calculation. It does not, in other words, amount to a qualitative difference in the *type* of behavior that occurred when it was invented. It was created as a result of a capitalist mentality, not vice versa. See my discussion of Weber below.

[51] For the (in)significance of double-entry book-keeping, see my discussion below, in Chapter 3. Braudel, 1982, 575, puts it succinctly: "Sombart exaggerated the importance of accounting (575) … it does not dictate the decisions taken by the head of the firm … Even detailed statements (audits), and balance-sheets … were not central to the decision-making process, and consequently not central to the operations of capitalism." Goody, 1996, in any case demonstrates that similarly sophisticated forms of accounting existed in the Far East, and Raymond De Roover *Annales d'histoire économique et sociale* (1937), 193, notes that medieval accounts were much more sophisticated than was portrayed by such scholars as Werner Sombart.

phenomena: "the 'rationality' that is often imputed to the overall economic system or of the institutions and instruments of exchange "cannot be the same thing as the rational behavior of the individual entrepreneur who seeks the path of maximum profit to himself ."[52] Herein lies a major methodological error that is often made by scholars – when terms such as 'rational', 'rationality', and 'rationalism' are arbitrarily attached as value judgments to an economic system or to institutions: the 'rationality' of these larger social processes becomes confused with economic rationality, which refers exclusively to the tendency of individuals to pursue their best interest.

Therefore, as Braudel shows, great care must be taken when using of the terms 'rational', 'rationality', and 'rationalism', because confusion can easily arise between the rationality of individual behavior and mental drives, and that of social and institutional constructs larger than, and external to, the individual. These concepts must be clearly and explicitly kept separate.

One example of a historian using the term 'rational' not as economists do in describing individual behavior, but rather as a value judgment of western superiority, appears in Weber's opening to the *Protestant Ethic*:[53]

> "Indian geometry had no rational proof; that was another product of the Greek intellect … a rational chemistry has been absent from all areas of culture except the West … All Indian political thought was lacking in a systematic method comparable to that of Aristotle, and, indeed in the possession of rational concepts … a rational jurisprudence of the Roman law … [the West's] rational tone intervals [and] … rational harmonious music …rational use of the

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[52] Braudel, 1982, 575.

[53] For the many substantive criticisms of Weber's methodology and conclusions in the *Protestant Ethic,* See Giddens, 1976, xviii – xxiv.

> Gothic vault … rationalization of all art … rational utilization of lines and spatial perspective."[54]

Weber here demonstrates a danger in the use of the term 'rational', as he applies it to the creations of western civilization (architecture, art, law, mathematics, music) within a work about the economic rationality of the individual.[55] By describing non-economic western creations with the use of a term that the field of economics restricts to the individual, Weber causes a great deal of confusion for the reader about what economic rationality actually is.

By saying that everything outside the modern West is irrational, Weber also invites the reader to think that individuals living in such societies are irrational also, which is to conflate individual behavior with cultural and social creations. Such an error can have major consequences, because Weber seems to assert that rationality is not a simple model of individual economic behavior, but rather the quintessence of modern, western exceptionalism.

Therefore, the assumption that the West saw the emergence of a qualitatively new *mentalité*, one which was rational as opposed a to pre-modern, irrational, pre-rational *mentalité*, has sustained itself partly because of confusion: between 'rationality', as arbitrarily and subjectively applied by modern scholars as a value judgement to whatever is distinctive about the West, and economic rationality, the simple model of self-interested individual behavior in modern economic theory.

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[54] Weber, 1992, xxviii-xxx.

[55] Weber does, indeed define individual economic rationality in the *Protestant Ethic*, and so uses the terms 'rational' and 'rationality' to refer to different things in his work.

For Weber, the Greeks were unique among pre-modern peoples in having invented the rational mathematical proof, philosophy, cosmology, law and political thought, and art – all of which he says laid the foundations for modern, western rationalism. Ancient Greece holds a peculiar place in the debates over the primitive mind, and thereby reveals a further weakness with the notion of a primitive, pre-modern economic *mentalité*. On the one hand the Greeks must necessarily be part of the 'irrational', 'primitive' pre-modern world, but on the other hand, the Greeks are also credited with creating the rational, scientific thought that eventually gave rise to the rational mind of the modern West. So could the ancient Greeks, therefore, share a universal, primitive, *mentalité*, if they alone among pre-modern peoples laid the 'rational' foundations for western rationalism?

IV. Rationality, the Protestant Ethic, and capitalism in antiquity.

Weber had an extremely well-developed account of rationality and the institutional development of the western economy, and his arguments for the Protestant Ethic are only part of his account of the rise of the modern economy. Indeed, he believed that capitalism existed prior to the Protestant Reformation and that the modern world was the culmination of processes that had begun much earlier. He even believed that economic rationality existed in ancient Greece. But nevertheless he argues that the Protestant Ethic amounts to a new economic *mentalité* which separated the modern western economy from every other economic system that had ever existed in world history:

> "The concept spirit of capitalism is here used in this specific sense. It is the spirit of modern capitalism. For that we are here dealing only with Western European and American capitalism is obvious from the way in which the problem was stated. Capitalism

existed in China, India, Babylon, in the classic world, and in the Middle Ages. But in all these cases ... this particular ethos was lacking ... the *summum bonum* of this ethic, the earning of more and more money, combined with the strict avoidance of all spontaneous enjoyment of life, is above all completely devoid of any eudaemonistic, not to say hedonistic, admixture. It is thought of so purely as an end in itself, that from the point of view of happiness of, or utility to, the single individual, it appears entirely transcendental and absolutely irrational. (Weber, 2009, 24-25).

This 'spirit of capitalism', therefore, was unprecedented, and gave rise to the modern industrial-capitalist system.[56]

Weber's views created an outpouring of criticism from scholars who insisted that the spirit of capitalism existed earlier than the Protestant Reformation. Raymond De Roover argued that Weber's identification of the Protestant Ethic as the main force in the rise of capitalism is misplaced, noting that commercialized capitalism, in the sense of an economically rational enterprise effectively structured for profit, was certainly achieved by the Medici and other Italian bankers by the fourteenth and fifteenth century.[57] Many other scholars agree,[58] among whom

[56] Modern capitalism is thus characterized by an "irrational" devotion to work as an "end in itself", a "calling" (30). The modern capitalist has combined this relentless productivity, in which both rich and poor were required to engage as a sign of their piety, with a commitment to avoidance of pleasure and expense through pious asceticism (35): "not leisure and enjoyment, but only activity serves to increase the glory of God ... waste of time is thus the first and in principle the deadliest of sins ... even the wealthy shall not eat without working ... for everyone without exception God' Providence had prepared a calling, which he should profess and in which he should labour (82-3)." Thus, an *ethos* of simultaneous self-restriction of expenditure though self-denial and working hard in one's calling to glorify God is one of the primary defining characteristics of modern Western capitalism which distinguish it from earlier forms.

[57] De Roover, 1963, 6-7.

Padgett and McLean conclude that Renaissance Florence invented financial capitalism,[59] and Raymond Goldthwaite likewise sees Renaissance Italy as having "the nascent spirit of European capitalism", having developed "an economic sense of investment as the calculated employment of money for the purpose of making a profit",[60] and where economic rationality characterized businessmen's decisions.[61] The evidence from Renaissance Italy therefore demonstrates that since modern financial capitalism can be traced back to a pre-Reformation Catholic society, then Weber's arguments for a new, Protestant, economic *mentalité* are highly problematic.

Other scholars argued that the spirit of capitalism appeared far before even the Italian Renaissance. Sombart also disagreed forcefully with Weber's Protestant Ethic thesis and argued that capitalism had started in the Middle Ages.[62] More recently, Medieval scholar Mielants concludes that "the concept of commercial capitalism is completely applicable in the late Middle Ages throughout the entire intercity-state system of western Europe" (256). Mielants sees capitalism appearing in late-twelfth century, and lays out a very convincing account of

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[58] Schumpter also saw Italian Renaissance as birth of capitalism. Tawney, 1963, 261, agrees that there was capitalism in Renaissance Florence and Venice because they were the greatest commercial and financial centers of that age.

[59] Padgett and McLean, 2006, 1522.

[60] Goldthwaite, 2009, 8.

[61] Goldthwaite, 2009, 586-7.

[62] See Sombart's argument with Weber in Lehmann, 1993, 196-7, who summarizes Sombart's views as follows: "it was during the Middle Ages that people had come to cherish the value of money, and secularization and urbanization had strongly supported this notion. By the end of the Middle Ages, he argued, the desire to earn and possess money, especially gold, had turned into a mass phenomenon … it was this desire that led people to search feverishly for gold, by digging or through alchemy, and it was in this context that he believed some people discovered that money could also be won through economic activity … it must have been people of modest means; people who were sober and cool-minded, who calculated and understood business matters in a sharp, rationalistic way … first among small shop-keepers and retailers, among profiteers of limited means … in Western Europe among foreigners living there, that is, among the Jewish part of the population … doing business with outsiders had served the same purpose, that is, to develop the spirit of making money".

institutional and technological change that occurred in small increments over the next few centuries and eventually the accumulated effects of these innovations amounted to something of a transformation of the European economy (259). Goldthwaite even places the "Commercial Revolution" as far back as the tenth century CE. The spirit of capitalism and economic rationality, therefore, can be identified much earlier than the Protestant Reformation.

A number of scholars, therefore, push Weber's change in *mentalité* back from the Protestant Reformation into the Medieval period, from the 13th to the 16th century (Mielants, 2000, 246-8), but the fact that economic rationality and capitalism have also been identified in the pre-modern Far East shows how merely pushing back the date for the 'great awakening' into the Medieval is not enough. Jack Goody has argued not only that the pre-modern Chinese had the rationality necessary to develop 'rational book-keeping',[63] but also that Japanese business also exhibited signs of pre-western rationality, and that fifteenth-century Indian trading communities engaged in merchant capitalism.[64] Moreover, capitalism has been discovered by economist Polly Hill and anthropologist Keith Hart in rural African agricultural societies.[65] If economic rationality existed in East Asia before the introduction of western techniques, then evidence for an emergence of rational capitalism in Medieval Europe appears more of an accident of source material preservation than signs of a true shift in *mentalité*.

Indeed, a number of scholars have argued for the existence of both capitalism and economic rationality in Greco-Roman antiquity. Johannes Hasebroek, though often depicted as a

[63] Goody, 1996, 81. Rational book-keeping is extolled by Weber and others as a clear sign of economic rationality and a modern, western, capitalist spirit.

[64] Goody, 1996, 93.

[65] Goody, 2004, 2

primitivist, argued that capitalism did exist in antiquity, and that economic rationality did govern the behavior of many businessmen, particularly in the fields of trade and finance.[66] Likewise, Wesley Thompson argued that an entrepreneurial spirit existed in classical Athens, and that ancient economic decisions were similar to those of modern businessmen.[67] More recently, Dominic Rathbone has sought to identify economic rationality in the accounts of an estate in Roman Egypt,[68] and Paul Christesen has shown that profit-maximizing strategies can be seen in the archaeological record of the Laureion mining region in the Classical period.[69] Edward Harris argued that "one had to be a canny *homo oeconomicus* to achieve success as a *homo politicus*" and that "economic rationality was not incompatible with the pursuit of status and honor".[70] Edmund Burke argues that disembedded economy emerged in fourth-century Athens,[71] and Alain Bresson opens his massive two volume work on the ancient Greek economy by criticizing the scholarly arguments for a dichotomy between irrational pre-modern economies and the economically rational modern West.[72] Darel Tai Engen sees no major differences between

[66] Hasebroek believes that capitalists existed in ancient Greece - they just stayed in the money-lending side and did not venture into trade itself, not like modern businessmen who created trading companies or large merchant businesses (1965, 7, 10). Moreover, economic man in ancient Greece was politically marginalized (30); these men were the metics, who were focused on making profit because they were excluded from land and politics like businessmen in the early-modern period.

[67] Thompson, 1978; 1982.

[68] As Andreau and Maucourant, 1999, and Kehoe, 1993 demonstrate, Rathbone was not able to convince all his readers that the accounts of the Heroninos archive demonstrated signs of economic rationality: the main point was that there is no depiction of the owner comparing the relative profitability of different investment options and making his choice based on profit (see my discussion below).

[69] Christesen, 2003.

[70] Harris, 2002, 85-6.

[71] Burke, 1992.

[72] Bresson, 2007.

ancient Greek and modern economic behavior,[73] concluding that ancient Greeks actually were entrepreneurs and capitalists according to Weber's definitions of capitalism.[74]

Indeed, Weber himself agreed that the dichotomy between the modern West and pre-modern systems implied by the Protestant *mentalité* was too simplistic; he believed that rational, capitalistic activity existed prior to the Protestant Reformation. In particular, he believed that capitalism had appeared in ancient Greece, and concluded that 'capitalism' was, indeed, the correct term to describe it:

> "were these developments really part of an economic structure which we can call 'capitalist'? ... capital always means wealth used to gain profit in commerce. Otherwise the term loses any classificatory use … Today the concept of 'capitalist enterprise' is generally based on ... the large firm run with free wage-labor ... from this point of view it has been argued that capitalist economy did not play a dominant role in Antiquity, and did not in fact exist. However, to accept this premise is to limit needlessly the concept of capitalist economy to a single form of valorization of capital ... Where we find that property is an object of trade and is utilized by individuals for profit-making enterprise in a market economy, there we have capitalism. If this be accepted, then it becomes perfectly clear that capitalism shaped whole periods of Antiquity."[75]

Capitalism shaped whole periods of Antiquity. In *The Protestant Ethic and the Spirit of Capitalism*, Weber further elaborates upon the nature of this pre-modern capitalistic market

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[73] Engen, 2010, 36.

[74] Engen, 2010, 95-97.

[75] Weber, 1976, 48-51.

economy, as he defines the characteristics of “rational capitalistic enterprise”, concluding that it did exist in the ancient Greco-Roman world, as well as all other pre-modern nations:

> “the important fact is always that a calculation of capital in terms of money is made, whether by modern book-keeping methods or in any other way, however primitive and crude. Everything is done in terms of balances: at the beginning of the enterprise an initial balance, before every individual decision a calculation to ascertain how probable profitableness, and at the end a final balance to ascertain how much profit has been made ... So far as the transactions are rational, calculation underlies every single action of the partners. That a really accurate calculation or estimate may not exist, that the procedure is pure guess-work, or simply traditional and conventional, happens even to-day in every form of capitalistic enterprise where the circumstances do not demand strict accuracy. But these are points affecting only the *degree* of rationality of capitalistic acquisition ... all that matters is that an actual adaptation of economic action to a comparison of money income with money expenses takes place, no matter how primitive the form. Now in this sense capitalism and capitalistic enterprises, even with a considerable rationalization of capitalistic calculation, have existed in all civilized countries of the earth ... in China, India, Babylon, Egypt, Mediterranean Antiquity, and the Middle Ages ... These were not merely isolated ventures, but economic enterprises which were entirely dependent on the continual renewal of capitalistic undertakings”.[76]

[76] Weber, 2009, 6.

Thus, to Weber, calculation and balances are the key characteristics of rational capitalism, and advanced accounting practices only affect the *degree* of rationality, [77] which has existed in many historical contexts. The real significance: calculation of profit,[78] a mental activity. And this was present in ancient Greece, where rational capitalistic activity existed. Rationality was not the defining characteristic of the modern West, then, and the *degree* of rationality can be enhanced over time through further innovations.

To Weber the force of the Protestant ethic was just an intensification of the rationality that had always existed. The Protestant Ethic was not to be equated with economic rationality and capitalism, which had not only existed in the ancient world, but had "shap[ed]whole periods of antiquity". Like his critics, then, Weber saw that economically rational capitalism predated the Protestant Reformation, and maintained that the Protestant Ethic was merely a new type of economically rational capitalism.

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[77] Weber provides a detailed definition of what constitutes "rational economic action" in the second chapter of his later *Economy and Society* (1978): First, "'rational economic action' requires instrumental rationality in this orientation, that is, deliberate planning (63)." Then, after a lengthy discussion of what typically measures rational economic action,[77] he focuses upon the most critical element: "There is a form of monetary accounting which is peculiar to rational economic profit-making, namely, "capital accounting." Capital accounting is the valuation and verification of opportunities for profit and of the success of profit-making activity by means of a valuation of the total assets (goods and money) of the enterprise at the beginning of a profitmaking venture, and the comparison of this with a similar valuation of the assets still present and newly acquired at the end of the process; in the case of a profit-making organization operating continuously, the same is done for an accounting period. In either case a balance is drawn between the initial and final states of tile assets (91)."

[78] His emphasis on calculation is repetitive: " 'formal rationality of economic action' will be used to designate the extent of quantitative calculation or accounting which is technically possible and which is actually applied (86)".

V. Supply and demand, markets, and *mentalité*.

Weber's fine distinction between the type of economically rational capitalism that existed in antiquity and the new Protestant Ethic and the spirit of capitalism reveals a tension in the concept of economic *mentalité*, one whose full significance has not been pursued by ancient economic historians. If ancient peoples were economically rational and engaged in what we could describe as "capitalism", then to what extent is it possible to say they had an entirely (or significantly) different economic *mentalité?* The full implications of this tension in the concept of *mentalité* have not been resolved by ancient economic historians, nor has the full significance of the presence of such modern economic phenomena as market exchange and the operation of supply and demand in a system that is assumed to operate according to different behavioral rules. For the most part, the existence of such features of the modern market economy in the ancient Greek world has been treated as paradoxical, particularly because of the belief that the modern economy was the result of a different *mentalité*. How can the ancient Greek economy have had modern elements if it operated according to entirely different rules, being driven by different individual behavior?

This is particularly true of the presence of supply and demand and markets in Greco-Roman antiquity. Polanyi argued for an extreme dichotomy between the pre-modern and modern economies, and was troubled by the existence of supply and demand and markets in ancient Greece. A great deal of evidence exists for the operation of supply and demand at Classical Athens, Delos and Babylon during the Hellenistic period, and both Rome and Egypt during the

Roman period.[79] Polanyi himself admitted that Hellenistic Delos' price records indicate a functioning supply-and-demand mechanism, and also recognized that Aristotle saw the emergence of an economy operating according to the market principles of supply and demand in fourth century Athens.[80]

As far as Polanyi's arguments for a different *mentalité* are concerned, if supply and demand existed, however, it would be extremely difficult to claim that the motive of gain was absent in classical antiquity; on the contrary, its presence suggests that the same individual behavioral drives were also at work in the ancient Greek economy as that of the modern world. Because supply and demand are the result of the aggregate force of modern economic individual behavior, it follows logically that the same individual behavioral forces that drive the modern supply and demand economy also drove the ancient Greek supply and demand system. These

[79] For supply and demand in ancient Greece, see Bresson, 2000, 286-7; Bresson, 2007; Harris, 2002, 75-77; Engen, 2010, 92-3. For the operation of the supply and demand price-setting mechanism that is attested at Hellenistic Delos, fluctuating in response to seasonal patterns for different commodities, see Reger, 1994. For the classical period, a great deal of evidence exists for supply and demand determining price levels. For Lysias 22 *Against the Graindealers*, Dunham, 2007, has provided a compelling explanation of the specifics of the case according to the Neoclassical laws of supply and demand. The ancient primary source evidence is convincing in its revelation of supply and demand affecting and determining prices: See, e.g., Lysias 22.14-15, Demosthenes 50.6. The Greeks even understood that they could control price movements by controlling supply and demand: Dem. 56.7-9, Lysias 22.8-9 and 22.12. Aristotle's anecdote about Thales and the olive presses in *Politics* book 1 is further evidence of a supply and demand mechanism, as is Xenophon's observation in *Poroi* 4.6 that increases in supply for specific goods lead to oversaturated markets and drops in prices. Aristotle notes that the coinage changes in value, yet another indication of modern economic processes such as supply and demand (*Nicomachean Ethics* 5.5.14); Passages indicating supply and demand in the Roman world include, e.g., Cicero *De Officiis* 3.50-53; *In Verrem* 2.3.214-15. Duncan Jones, in his analysis of wheat prices from Roman Egypt, refers to the "market price" which is affected by scarcity, plenty, and money supply, interpreting the price fluctuations in the papyri as the result of changes in supply and demand (Duncan-Jones, 1990, 143-50). More recently Peter Temin has explored in-depth the supply and demand in the market economy of the Roman Empire (Temin, 2013). Hellenistic Babylon likewise demonstrates the operation of supply and demand (Temin, 2013, 53-59). Lysias 22 (Athens, for which see Figueira, 1986), and Pseudo-Aristotle, *Oikonomika* 2.1347a (Lampsakos), are among many references to Greek officials stepping in to control price movements due to supply and demand.

[80] Polanyi, 1957.

forces are collectively referred to as economic rationality. If economic rationality existed in the ancient world, and also drove a supply and demand price-setting market system, then the *mentalité* of the people cannot be said to be as significantly different as has been claimed.

Polanyi saw the problems for his stark division between the modern and pre-modern economies even as early as his *The Great Transformation* (1944), where he tempered his absolute, dichotomous language with equivocation and qualifications: he changed his view from gain being "absent" in pre-modern economies to being a "not prominent" motive (55); the propensity to barter went from being nonexistent to not "dominant" (50); and the individual's economic interest went from purely a characteristic of the modern West to being "rarely paramount" (46). The principle of exchange for gain had not yet dominated the economy, however, and only remained marginal.

As support for the view that the motive for gain was only of marginal importance in antiquity, Polanyi argued that Aristotle was "discovering" the economy in a prophetic manner – that the motive of gain was just beginning to appear in classical Athens.[81] Because the *mentalité* of market exchange had appeared at precisely the time Aristotle was writing, the ancient Greek could not be said to have been dominated by the same behavioral drives as the modern economy, because they had not yet spread throughout society enough to determine the functioning of the entire economy.

Likewise, Polanyi argued that markets, and the *mentalité* associated with them, were also peripheral to the economic system as a whole: "though the institution of the market was fairly

[81] Polanyi, 1944, 54; 1957.

common since the later Stone Age, its role was no more than incidental to economic life",[82] and "up to the end of the Middle Ages, markets played no important part in the economic system; other institutional patterns prevailed.[83] Therefore, through his own scrutiny, Polanyi recognized the problems with his all-or-nothing dichotomy, and altered his arguments to be of degree or emphasis rather than of type. Markets to some extent did exist in ancient Greece, and along with them, the market mentality – the motive for gain.

Finley also recognized that the stark dichotomy that Polanyi had developed between the modern world and the pre-modern economy was too extreme, and he steered clear of the claim that ancient economic *mentalité* was antithetical to gain: "their mentality may have been a non-productive one; it was in no way a non-acquisitive one."[84] Moreover, he admitted that the ancient Greeks had been able to conceive of complex economic arrangements: "we are not faced with an intellectual failing."[85] Therefore, his view was similar to that of Weber to a certain extent: the ancient Greeks were motivated by the pursuit of gain, but in a different way than modern westerners, whose *mentalité* he describes as "productive". Therefore, ancient Greeks were "acquisitive", but had not made the leap that modern people did to being "productive", a position that is reminiscent of Weber's Protestant Ethic, in which the modern West had been able to advance beyond the capitalistic economic rationality of earlier periods through their new Protestant economic *mentalité.*

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[82] 1944, 43.

[83] 1944, 55.

[84] Finley, 1973, 122.

[85] Finley, 1973, 144.

Finley, unlike Weber, never explicitly acknowledges that the ancient Greeks and Romans behaved in an economically rational manner, but like Polanyi he recognized that markets existed in classical antiquity and operated according to supply and demand: "Xenophon thinks only of manufacture for the local market; otherwise his remarks make no sense." Although Finley's emphasis in discussing this passage is on the inelasticity of demand, he nevertheless admitted that the increase in demand produced a decline in prices, just as it does in the modern economy. Moreover, even if a market is local, it is still a market and operating according to market principles, and despite Finley's advocating a non-market-centered analysis for the ancient Greek world, he himself was unable to dispense with the concept of the market entirely. Like Polanyi, Finley tried to marginalize the importance of the market and supply and demand,[86] but nevertheless recognized that supply and demand were operating within markets. Finley's middle ground between Polanyi and Weber was a sensible position to take, but did not resolve the tension between the existence of supply and demand (presumably driven by the economically rational capitalistic activity Weber recognized in antiquity) and the different *mentalité* he believed characterized ancient economic behavior.

But if supply and demand market price-setting mechanisms existed at Athens, Delos, Egypt, Rome, and Babylon, how does one determine where these 'local markets' ended, and where the non-market systems began? It may be rather that the preservation of source material at these sites is sufficient enough to contain this information, which was otherwise lost for other regions, which also may have operated (to whatever extent) according to market principles. Therefore, the existence of evidence for supply and demand in ancient Greece seems to be more

[86] Finley, 1973, 178.

of an accident of source material, which has been preserved for these well-documented historical contexts, than one of the limits of a market system.

The mere existence of supply and demand and markets causes major problems for idea that ancient economic *mentalité* was entirely different from that of the modern world, and especially that it was not rational. Supply and demand in the modern economy are driven by the behavioral assumptions of Neoclassical economic theory, which assumes that people behave in an economically rational manner. If economically rational behavior in the modern economy drives supply and demand, it seems most likely that supply and demand in the ancient economy would also be driven by economically rational individuals.

Therefore, the full implications of the existence of supply and demand and markets in ancient Greece have not been fully considered with respect to the theory of a pre-rational economic *mentalité*. If the most fundamental aspects of modern price behavior are present in ancient Greece, this is highly suggestive that the behavioral forces which drive the operation of prices in the modern world were also operating in the ancient economy as well. Moreover, far from being entirely marginal, this behavior was probably widespread enough among the people that supply and demand were operating at the larger, systemic level, in the behavior of prices at the city level at least.

VI. Embeddedness and the arrival of the market system.

The notion of 'embeddedness' adds further insight into similarities between modern and pre-modern economic *mentalité*. Polanyi originally argued that pre-modern economic matters were 'embedded' in social and cultural concerns; pre-modern peoples did not pursue economic aims as distinct from social ends and therefore necessarily could not have had an economic *mentalité* like modern individuals. Recent scholarship, however, has explored the full implications of Polanyi's arguments for embeddedness in great detail, and has come up with a very different interpretation: not only is embeddedness a characteristic of pre-modern and modern economic systems alike, but pre-modern economies even demonstrate levels of 'disembeddedness', which Polanyi had attributed to the modern economy alone.

Indeed, it seems that embeddedness is just as much a part of the modern West as it is pre-modern systems. Mark Granovetter, for example, in a seminal article on embeddedness, demonstrated that business in 1980s corporate America and Japan was so governed by social relations that it cannot be described as anything but embedded:[87]

> "Few economists have accepted this conception of a break in embeddedness with modernization; most of them assert instead that embeddedness in earlier societies was not substantially greater than the low level found in modern markets … the level of embeddedness of economic behavior is lower in nonmarket societies than is claimed by substantivists and developmental theorists, and it has changed less with 'modernization' than

[87] Braudel, 1982, 225-8, agrees that Polanyi's dichotomous, qualitative distinction between embedded, pre-modern and disembedded, modern economies is pushed too far.

> they believe; but I argue also that this level has always been and continues to be more substantial than is allowed for by formalists and economists."[88]

In short, the brilliant discovery Polanyi had made, the concept of embeddedness in pre-modern systems, is just as active in the modern economy. With this gulf between pre-modern and modern economic systems removed, the notion of a 'primitive' economic *mentalité* becomes much less tenable.

Polanyi reveals further insights into the nature of embeddedness and disembeddedness when he elaborates upon the marginality of markets in pre-modern economies: "markets are not institutions functioning mainly within an economy, but without … the origins of trade [are] in a sphere unrelated to the internal organization of economy".[89] Moreover, the pattern of "householding" has "nothing in common with gain", but rather that of the "closed group".[90]

Polanyi here defines markets as external to the internal organization of economy, and outside the pattern of the "closed group", and thereby reveals that he is arguing for something that ethnographic anthropologists have observed in the field: that the morality of exchange relations *within* a group differs from the morality of exchange in interactions with outsiders.

Anthropologists have long demonstrated that different rules govern interactions within groups as opposed to their dealings with outsiders, who are almost universally more susceptible to economic exploitation in human societies. An increase in kinship (or social) distance leads to

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[88] Granovetter, 1985, 52.

[89] Polanyi, 1944, 58.

[90] Polanyi, 1944, 53.

increasingly impersonal, gain-oriented interaction that is unacceptable within a close-knit family or social group. Behaviors that are inappropriate for *intra*community relations are considered appropriate for, and are often relegated to, *inter*community interactions with outsiders. This is a fairly universally observed principle, from the Navajo, to the Siaui of the Solomon islands, to ancient Israel:[91] "Unto a stranger thou mayest lend upon usury; but unto thy brother thou shalt not lend usury.[92]

Economic anthropologist Stephen Gudeman makes this distinction between *intra*community and *inter*community economic interaction the center of his theoretical framework:[93] interactions with a group belong to the realm of 'community', while dealings with outsiders belong to the realm of 'market'. The 'market realm' is the place of self-interest and gain, while the 'community realm' is dominated by a concern for maintaining beneficial relationships within a group. As Gudeman demonstrates, the two realms "complement each other", "may be institutionally and tactically interwoven" and "most of use both realms of economy every day."[94] Like Parry and Bloch's long vs. short-term transactional orders (see below), both types of behavior are practiced by the same people in the same societies in different contexts, and so the two cannot be seen as mutually exclusive, and supporting a dichotomy between a pre-modern and modern economic system.

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[91] Sahlins, 1972, 197-200.

[92] Deuteronomy, xxiii, 21, quoted by Sahlins, 1972, 191.

[93] Gudeman, 2001).

[94] Gudeman, 2001, 11-12.

Polanyi was simply emphasizing the types of exchange that anthropologists have identified as characterizing *intra*community relations and he relegated *inter*community interaction to a marginal position. In other words, Polanyi focused on phenomena from the perspective of exchange *within* communities, which is friendly and mutually supportive, at the expense of exchange *between* or *outside of* communities, which are more likely to follow market principles. Moreover the difference of morality in dealings with insiders as opposed to outsiders is just as much a feature of the modern West as it is in pre-modern societies, so one cannot say that the modern West was thoroughly disembedded from social relations.[95]

Furthermore, as soon as communities begin trading with outsiders, the rules seem to change, and these types of interactions seem to create even in simple societies the types of market behavior that Polanyi defined as 'disembedded' and exclusive to the modern West. Indeed, as Sahlins demonstrates, supply and demand seems to control changes in rates of exchange even in pre-monetized economies that operate according to barter in kind.[96] Many anthropologists have concluded that the economic behavior in tribal societies displayed features

[95] Marx recognized the difference between *intra*community and *inter*community morality of exchange in *The Manifesto of the Communist Party*: "The bourgeoisie has torn away from the family its sentimental veil, and has reduced the family relation to a mere money relation" (Tucker, 476). It is clear that this is an exaggeration, and that the distinction between appropriate behavior within families as opposed to dealings with outsiders has not yet become entirely erased by modern capitalism; anyone with family or a friend can recognize that the differential ethic of dealing with kin as opposed to outsiders still permeates the modern West. The differential ethic of exchange between as opposed to within groups still exists, contrary to Marx's insistence on a complete qualitative shift.

[96] Sahlins, 1972, 295, studies three non-monetized Oceanic trading systems and concludes that all three exhibit changes in exchange value according to supply and demand.

of a formalist economic system, and have argued that even such societies can be analyzed with basic Neoclassical economic theory.[97]

Therefore, Polanyi was probably right in saying that the motive for gain was marginal in the simplest societies, since it was relegated to dealings with outsiders. With increasing social complexity and population, however, the chances for interacting with notional outsiders, in impersonal market exchange will also increase.[98] Furthermore, while some societies seem to have restricted the motive of gain to dealings with outsiders, others even seem to have encouraged the pursuit of gain within a community, and restricted it to certain types of transactions, or certain 'spheres of exchange': within one sphere of exchange in their economy, the Tiv in Africa, for example, try "to maximize their gains in the best tradition of economic man."[99] Even *within* simpler communities, therefore, the motive of gain can exist.

Since all economies exhibit embeddedness to some degree, and since all societies seem to have both friendly, *intra*community, and exploitative, *inter*community ethics of exchange, there seems to be actually at least two major types of economic behavior that coexist in every economic system. As Sahlins demonstrates,[100] the transition from traditional, kin-based exchange

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[97] Granovetter, 1985, 52. Harold Schneider and Raymond Firth are foremost among the anthropologists who advocate using basic economic theory in the study of even 'primitive' societies. For an introduction, see Schneider, 1974, 1-21.

[98] Within the ancient Greek *polis*, there were many layers of overlapping social groupings and identities including affiliation in religious cult associations such as *thiasoi* and *orgeones*; *phratries*, clans, and families. The complexity of social structure within the *polis* demonstrates that ancient Greeks would not view their *polis* as a single kinship group within which impersonal exchange would not occur. Rather, the complex series of social networks would have created innumerable opportunities for interacting with notional outsiders – not even including dealings with everyone else outside the *polis*, any of whom could come into an *agora*.

[99] Bohannan and Bohannan, 1968, 227.

[100] Sahlins, 1972, 280-295.

to market-based exchange seems to occur when previously autonomous groups make contact. Exchange between these two groups initially functions as a sort of diplomacy, and eventually, as embedded systems of prestige and social status drive the acquisition of new goods, markets in these goods expand, and the roots of formalistic, disembedded market features appear from formerly purely substantivist systems. In other words, the dynamics of internal exchange become altered with access to new prestige goods, and features of disembedded market exchange can appear as a result of the interaction with new groups.

Not only economic anthropologists, but also economic historians have shown that the market impacts traditional, ‘embedded’ societies, ‘disembedding’ them as they become incorporated into larger exchange networks. The force of the market is said to take on a life of its own, and is described as acting like an animate force: it ‘arrives’, ‘moves’, ‘transforms’, and ‘disembeds’. Capitalism and the changes it brought to nineteenth century Japan, for example, are all subsumed by Sand under the notion of ‘modernity’:[101]

> “Modernity came from overseas (15) …[it] destabilizes, relocates, and reinvents community at every level of society. It dislodges material and practical forms from their local vernaculars and releases them into the market (1) … the legal-economic space of private property in land, which capitalism made into an alienable commodity, removing it from the layers of local use rights and personal obligations in which it had been embedded” (3).

Colonialism, modernity and the market economy are described as having impacted the native and traditional economic systems of Malaysia in precisely the same terms. The village-based, subsistence, peasant moral economy, which had been embedded in traditional values of mutual

[101] Sand, 2003.

assistance and collective support, are said by Scott to have broken down in the face of the market and transformed into individualistic, economically rational monetary calculation.[102]

Many other scholars even see a market 'revolution' in the transition from a embedded, non-capitalist system to a disembedded, capitalist, market system in early nineteenth century American rural communities.[103] Sellers describes the disruptive forces of the market's arrival in rural nineteenth century White American farming communities in precisely these terms:[104]

> "History's most revolutionary force, the capitalist market, was wresting the American future from history's most conservative force, the land … Wherever merchant capital reached, the market's irresistible commodities drew people into producing the commodities it demanded … As traditional cultures gave way to a spreading market culture, new beliefs, behaviors, emotions, and interpersonal relations spurred work and consumption. (4) …people who settled at any distance from navigable water mainly produced use values for subsistence rather than the market's commodity values for sale. Profound cultural differences arose from these contrasting modes of production. The market fostered individualism and competitive pursuit of wealth by open-ended production of commodity values that could be accumulated as money. But rural production of use values stopped once bodies were sheltered and clothes and bellies provided for. Surplus produce had no abstract or money value, and wealth could not be accumulated … By 1815, however, a market revolution was surmounting the overland transportation barrier." (5)

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[102] Scott, 1976, 1985.

[103] See, e.g., Dunaway, 1996; Brooks, 1996.

[104] Sellers, 1991.

For nineteenth-century White American farmers, therefore, the closer they were to 'merchant capital', commercial trading centers and the sea, the more likely they would adopt disembedded, profit-oriented market culture, behaviors, and beliefs. The more remote they were, the more they exhibited embedded, subsistence-oriented behavior.

There is a spectrum, therefore, along which people can fall from disembedded, market behavior, to embedded, substantivist, communistic behavior, all depending on transport costs and the proximity to the market.[105] Even same person can exhibit subsistence and market-oriented behavior simultaneously, which Stephen Gudeman emphasizes. Substantivist behavioral elements interact with, and, in turn, affect, formalistic economic behaviors within the same transactions, and vice versa.[106]

Weber himself recognized that two different economic systems seemed to coexist in the ancient Greek world - one highly commercialized and market-oriented, and the other rural and primitive operating according to the 'natural' economy of the peasant:

> "Much of ancient history centres round those cities whose ships were engaged in international trade, but because we hear of these cities we easily forget how insignificant this trade was in quantity ... alongside the highly developed commercial economy of these towns there existed – exactly opposite in character – the natural economy of the primitive peasants of the interior

[105] For medieval Europe, Hodges 1988, agrees that the distance to market determines how integrated an economic system can be.

[106] Bruegel, 2006, provides a compelling analysis of the interplay between substantivist and formalistic patterns of behavior within the same individuals in nineteenth-century American farming communities. See my discussion of this below, in Chapter 6.

> ... A truly regular and stable international trade was maintained only via sea routes or on the large rivers. There was no trade with the interior in Antiquity (Weber, 1976, 391-2)."

These economic systems remained distinct to Weber, who, like Polanyi denied that the disembedding of the rural interior ever happened. Here, Polanyi was correct that market integration was lower in rural areas before the modern West created highly integrated 'internal' or 'national' markets. There are many who agree with him that rural communities seemed to be resistant to the penetration of impersonal, market morality.

Therefore, from ancient Greece to Meiji Japan to Malaysia to nineteenth century America, the same processes have been described by a number of different scholars working independently of each other: the rise of commerce and urbanization leads to the emergence of market capitalism, which encroaches upon the traditional values of embedded community relations. The market expands and breaks down traditional relations in all these societies.

In all these accounts, from pre-modern economies to the modern West, two seemingly qualitatively different systems coexist side-by-side, and explaining the nature of this symbiosis is one of the most promising areas of future research. Since embeddedness is just as much a part of corporate behavior in the modern West, it seems that the same forces are at work in modern and pre-modern economies, and that the difference is a matter of degree, and not type. Therefore, it is best to see features of embedded and disembedded systems as coexisting within the ancient Greek economy, as they do even in the modern economy.

Though embeddedness cannot be said to represent a qualitative difference between pre-modern and modern economies, this is not to say that Polanyi's discovery of 'embeddedness' is not a groundbreaking insight; Polanyi's work not only had an impact on ancient Greek and Roman economic history, but that of the modern world as well, and a number of scholars have used Polanyi's concept of embeddedness to demonstrate how even the modern economy needs to be described with substantivist analysis to complement the formalist economic theory that has dominated the study of the modern economy.

Therefore, behavior that is characteristic of embedded economic systems can coexist with that of disembedded systems within the same society and individuals operate within both spheres simultaneously. The ways that different systems of behavior and coexist, and can in turn be affected by proximity to markets, makes it extremely difficult to argue that ancient Greeks uniformly exhibited a pre-rational economic *mentalité*.

VII. Market mentality vs. subsistence: the peasant problem.

The way the market is said to impact native, traditional, peasant subsistence economic systems raises important methodological lessons for the application of the peasant subsistence model. I argue that the presence of the market in ancient Greece allows for only the limited application of the peasant subsistence model in ancient Greece. [107] As Weber said the peasant

[107] Starting with Rodbertus and Bücher, many scholars have seen ancient Greeks as aiming for self-sufficiency, subsistence production in their households. For *autarkeia*, self-sufficiency, see Möller, 2007, 362. Sallares, 1991, 298-300, argues for the old view of seeing self-sufficiency as the aim of ancient Greeks at both the micro- and macro-economic level. In recent years, however, a number of scholars have criticized the view that Greek households and/or *poleis* aimed at self-sufficiency or subsistence: Bresson, 2000, 2007; Horden and Purcell, 2000, 271-78, and Johnstone, 2011, 15, who agrees that market trade, not self-sufficiency, is what people depended upon in ancient Greece, especially in Athens. Indeed, the Greek notion of *autarkeia* was an ideal to strive for (Hasebroek, 1965, 81), but included and presupposed the existence of foreign trade (Bresson, 2000, Chapter 6). Bresson, for example, has shown that on Lesbos the cities which were better situated for trade became more prosperous and

population of the interior existed alongside, and separate from, the commercialized maritime trading *poleis.* While peasant subsistence models are appropriate for some portion of the population, they are not suitable for exploring the behavior of individuals that do not adhere to a subsistence regime. Therefore, a peasant *mentalité* cannot be said to have dominated ancient Greece, but rather existed alongside a market-oriented *mentalité*.

Chayanov first developed the model of peasant self-sufficiency, with its anti-drudgery mentality,[108] and James C. Scott describes this peasant moral economy as being a risk-averse, safety-first, subsistence system distinct from profit-oriented, capitalistic systems.[109] Such a view is certainly valid, but becomes problematic, however, when the market is incorporated into the analysis. [110] It seems rather that the peasant subsistence models must be complemented by market-centered analysis, since the two modes of behavior are said to coexist alongside each other.

Indeed, as Hodges and Wolf have shown, peasants come to behave like *homo oeconomicus* the more developed the market system becomes.[111] Many peasant studies use the village as the focus of their analysis, and as discussed above with Polanyi's focus on *intra*community economic behavior, such a perspective obscures interactions with outsiders,

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powerful than those with the most land (Bresson, 2000, Chapter 5). Most dangerous is the tendency to conflate models of the self-sufficient *polis* with those of the self-sufficient *oikos*.

[108] Chayanov, 1966.

[109] Scott, 1976.

[110] The importance role of market exchange is something that is neglected by Chayanov (Tannenbaum, 1984), and also the field of peasant studies as a whole, a major methodological problem, as peasant studies often presuppose a Marxist framework, which focuses on productive relations at the expense of the market (Mielants, 2000).

[111] Hodges, 1988; Wolf, 1966.

which anthropologists have shown usually take on a different, exploitative character, in contrast with the internal dynamics of assistance within the village unit. Since profit-oriented behavior is often restricted to dealings with outsiders, a village-only focus will naturally provide a distorted picture of reality, with emphasis on internal, non-market behavior at the expense of external, profit-oriented, market behavior.

Furthermore, when the market is incorporated into the analysis, additional limitations to the peasant moral economy model appear. From eighteenth-century France to twentieth-century Vietnam and Peru, scholars have challenged the simplistic view of a subsistence-only peasant *mentalité* by showing that peasants could develop flexible, fluid productive strategies in response to market conditions, and took risks in order to make profits and advance their position.[112] Moreover, medieval peasants also have been shown to be much more market-oriented than scholars have recognized in the past, as opposed to being trapped in the inescapable trap of dependency relations with their landlords.[113]

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[112] Popkin has offered similar critiques of the one-size-fits-all peasant subsistence model. He shows that gambles, innovations, and risky investments are practiced by Vietnamese peasants when they are secure against loss and when the success can improve their position, an important emendation of the model of peasant moral economy (1979, 21). Moreover, against the primitiveness of even eighteenth-century French peasants, which had been strongly asserted by the *Annales* school, Vardi, 1993, presents a much more dynamic picture of the French peasant. Rather than being constrained by a subsistence-only *mentalité*, they were capable of fluid strategies in response to changing market conditions, and could transform their agricultural base into market-oriented textile production very easily, simply because it was more profitable.

[113] See, e.g., Hodges, 1988, 132 on medieval peasants being market-oriented rather than trapped by a subsistence *mentalité*. A large percentage of production in eleventh century England was market-oriented, contrary to earlier scholarship which minimized the importance of the market in favor of a peasant subsistence model (Snooks, 1995). Mielants, 2000, 232-35, agrees that peasants were much more involved in market production and exchange than the subsistence model suggests; indeed, the extraction of surplus by landlords even seems to have encouraged and perhaps necessitated market exchange. Productive relations are an element of an overall market system, which determines the strategies of peasant producers.

Scott himself notes that the peasant subsistence level is a tenuous middle ground, below which peasants are forced to engage in market-oriented monoculture of cash crops, and above which their surpluses allow for risky, profit-oriented activity.[114] This goes to show that the term peasant is a messy concept, imprecise to the point of being almost inapplicable, or rather only applicable to a small percentage of many populations.[115]

At the very least, in economies that have become monetized, subsistence agriculture and market activity are falsely dichotomized. As Enrique Mayer has shown for the Peruvian Andes, cash investment is necessary to engage in subsistence agriculture, since households must purchase a great deal of their productive capital on the market;[116] in other words, subsistence production requires money, and this money must be procured through market exchange. Moreover, since cash invested in subsistence agriculture is lost more easily than in commercial production, cash investments tend to be concentrated primarily in cash crops (223), meaning that the monetized market acts as a positive feedback mechanism, drawing more and more investment into commercial production as time goes on. Thus, the market comes to dominate productive strategies at an increasing rate after monetization occurs.

There is also a difference between rich and poor farmers; contrary to many of the models of peasant economics, in Peru the wealthier farmers are by far most likely to engage in subsistence production, while poorer farmers engage in predominantly market-oriented strategies (220). In fact, while subsistence farming is a major percentage of the economic production of

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[114] Scott, 1976, 22ff.

[115] Sahlins, 1972, 226 demonstrates that the concepts associated with the term 'peasant' are often even applied to 'primitive' societies, and incorrectly.

[116] Mayer, 2002, 220-24.

wealthier households, poorer households rely upon subsistence agriculture as only a small percentage of their productive strategies, and actually depend upon other sources of market-based activity for the vast majority of their income (209).

These findings from Peru mirror exactly the observations made by Nicholas Cahill for households in fourth-century Olynthus, where only the wealthiest farming households had sufficient storage space for their agricultural produce, while the majority of houses were too small to store food for the year, and rather were forced to depend upon market production and consumption.[117] The congruence between the observations made both in Peruvian peasant households and in the archaeological record of Olynthus underscores the problems with a one-size-fits-all model for peasant subsistence agriculture, which is actually impossible for all but the most successful farmers. Pseudo-Aristotle confirms that small and large households practiced different methods of storing and selling produce, saying that for smaller households engaging in the Attic model of *oikonomia*, householding, one in which goods are sold and then bought in market exchange is more advantageous, whereas larger estates are better suited for storing and controlling the consumption of its produce .[118] Therefore, even if the model of self-sufficiency and subsistence agriculture is applicable to ancient Greece, it is by no means a one-size-fits-all solution equally applicable to all situations, but probably only to a minority of households.

Therefore, the peasant moral economy model, as a one-size-fits all-solution, blurs and obfuscates important distinctions between rich and poor, and town and country. The differences

[117] Cahill, 2002.

[118] *Oikonomika* 1345a 18-22. Other examples of differing strategies for rich and poor include: Olives being good for peasant production but not for the rich (Pliny *NH* 18.38), and that the ox is poor man's slave (Arist. *Pol*. 6.8.23).

between strategies of rich and poor could have been significant: As Bruegel, 2006, has shown for early nineteenth century American farming:

> "modes of marketing revealed the discrepancy between rich and poor: Contacts with several specialized traders obtained for the prosperous, while few connections but with general shippers and even peddling of nuts and apples were the rule among the humble (550) …a farmer's wealth determined the itinerary of his produce and products. By virtue of their service to the neighborhood, millers captured smaller farmers' grain, collected it, and forwarded it to the river where merchants and sloop owners would take over the shipment. Wealthier cultivators delivered wheat, and sometimes flour, directly to the shipper on the Hudson (548)."

Poorer households were forced to engage with middlemen in the market to a greater extent than wealthier households. Similar differences between the strategies of rich and poor, therefore, can be identified in both fourth-century Olynthus and nineteenth-century rural America.

Moreover, the poor in Classical Athens could depend on state support as a safety net, which may have further encouraged risk-taking in the market,[119] and indeed many of the poor met in classical Athenian sources specialized in selling goods in the market and bought their food with cash, such as the sausage seller in Aristophanes' *Wasps*, and the poor mother forced to

[119] Classical Athens was just one such situation in which peasants had a safety net against loss: the wages and social security provided by the *polis*. Jury duty, *ekklesia* attendance, wages from serving in the military, and even government welfare in the form of the *theorikon* were provided to all citizens, and if any lost their fortunes, they could receive wages from the state to support themselves. Moreover, feasts and public festivals were ways for citizens to receive free meat provided by the state, and since a large percentage of the Athenian calendar were devoted to festivals, even the most destitute of citizens could at least survive at public expense, thanks to state redistributive mechanisms.

sell ribbons in Demosthenes 57 *Against Euboulides*. Therefore, a model of pure subsistence likewise ignores *non-market* mechanisms of redistribution provided by the state.

Hesiod does not exhibit the anti-drudgery attitude of Chayanov's peasants,[120] but rather he exhorts Perses to work upon work upon work, so that he may become wealthy.[121] Hard work enables the accumulation of wealth and the purchase of additional property and prevents losing out in competition with others and being forced to sell one's patrimony. Moreover, Hesiod reveals the limits to the moral economy, beneath which lies the stark realities of starvation in case of failure. While a moral economic system can provide a safety net,[122] if one does not engage in the full reciprocity required of such systems, starvation and death will result, as Hesiod warned,[123] as happens in the case of Razak in Malaysia, when his daughter died of starvation after he was unable to engage in the social reciprocity of the village.[124]

Winning and losing in the market, therefore, is an important component of peasant life that is often underemphasized in moral economy models of subsistence. It is not that peasant morality did not exist , but that it existed alongside, and interdependent with, the market system. The coexistence of a peasant moral economy with market-oriented strategies further disproves the notion of a system-wide non-market economic *mentalité*. In a system such as ancient Greece,

[120] This is not to say that leisure was not a desirable goal of many individuals; as Veblen, 1899, has shown, from 'primitive' tribal societies all the way to the modern West, leisure is an important status marker, and carries with it many benefits.

[121] *Works and Days*, 380-82.

[122] Sahlins, 1972, 41-99, describes the social support networks of a model village community in what he refers to as the 'Domestic Mode of Production'.

[123] *Works and Days*, 404. The limits of the moral economy are further revealed when Hesiod says that others will buy Perses' farm if he is not successful (341).

[124] Scott, 1985, chapter 1.

which consisted of thoroughly monetized, market-oriented *poleis* alongside more traditional, rural *poleis*, the peasant moral subsistence economy was an important component of a larger system that also operated according to profit-oriented, market behavior.

VIII. Institutions instead of *mentalité*?

Since peasants seem more, or less, inclined to exhibit market-oriented, economic rationality depending on their relative wealth and their proximity to markets and commercialized centers, it may be that different conditions can change their behavior to such an extent that it *appears* as if they have a different economic *mentalité*. Individuals may respond so differently to the ecological and institutional realities of their particular historical context that it appears that they have a unique *mentalité*, when in reality they are reacting as a rational individual would in the face of specific constraints or opportunities.

As Hernando De Soto argues, Westerners' confusion between institutional factors and *mentalité* has led to a widespread fundamental misunderstanding about the backwardness of the Third World:

> "Westerners … blam[e] Third World peoples for their lack of entrepreneurial spirit or market orientation. If they have failed to prosper despite all the excellent advice, it is because something is the matter with them: They missed the Protestant Reformation, or they are crippled by the disabling legacy of colonial Europe, or their IQs are too low. But the suggestion that it is culture that explains the success of such diverse places as Japan, Switzerland, and California, and culture again that explains the relative poverty of such

> equally diverse places as China, Estonia and Baja California, is worse than unhumane; it is unconvincing (3-4) … These failures have nothing to do with deficiencies in cultural or genetic heritage."[125]

Therefore, the lack of entrepreneurial spirit, of a modern rational economic *mentalité,* is not just attributed to pre-modern peoples, but also to people living in the Third World today.

As De Soto states, such claims border upon racism, they instill a false sense of superiority in Westerners, and they also distract from the real issues at hand: institutional development, the significance of which has been overlooked:

> "Today few are aware of the tremendous edge that formal property systems have given Western societies. As a result, many Westerners have been led to believe that what underpins their successful capitalism is the work ethic they have inherited or the existential anguish created by their religions … a great part of the research agenda needed to explain why capitalism fails outside the West remains mired in a mass of unexamined and largely untestable assumptions labeled 'culture' … one day these cultural arguments will peel away as the hard evidence of the effects of good political institutions and property law sink in (224-5)."

Institutional structures are taken for granted: "we seem to have forgotten the process that allows us to obtain capital from assets (40) … Westerners take this mechanism so completely for granted that they have lost all awareness of its existence … [an] implicit legal infrastructure hidden deep within their property systems (8)." Institutions, in other words, are enough to

[125] De Soto, 2000, 9.

explain why capitalism thrives in the West and fails in the Third World. The arguments for a different, non-economic, or non-entrepreneurial *mentalité*, therefore, have distracted from the real issue at hand: the institutional structures that allow capitalism to thrive.

Confusing the effects of a different *mentalité* with those of social institutions is a major methodological error.[126] As Geertz argues, [127] mistaking institutional realities for individual behavior or cultural proclivities can lead to grave consequences, and so it is of the utmost importance to consciously and explicitly distinguish between the subjectivity of individuals (and the ways in which they respond to institutions), and a cultural *mentalité*.

De Soto's insights into economic development in the Third World can provide a useful perspective on the stagnation of the economy in classical antiquity: just as institutional structures can inhibit capitalism in the Third World, institutional structures also may have stunted the development of capitalism in ancient Greece. Not that capitalism was entirely inhibited in the ancient world, but that the massive institutional infrastructure that supports capitalism and allows it to thrive in the modern West was largely absent in ancient Greece. As De Soto demonstrates, the long process of institutional development which promotes capitalism in the modern West is largely taken for granted by scholars who do not make institutions the focus of their economic analysis. And it seems, indeed, that institutions can provide unparalleled insights into the causes of growth and stagnation in the ancient economy.

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[126] For further discussion on some of the pitfalls of not clearly distinguishing between the effects of mentalité and institutions, see Frier and Conison, 2009.

[127] See my discussion in Section III of this chapter.

New Institutional Economists, for example, places institutions at the center of their analysis, and demonstrate that institutional structures can be powerfully influential on the development of economies. As Douglass North has said, "the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the Third World."[128] Property rights and the ability of the state to enforce them are of the utmost importance for economic development. As North and De Soto argue, it is in the institutional structures of the modern West that the secret for economic growth can be found. These structures were not the inevitable outcome of some modern cognitive awakening, however, as some have claimed – those who have a teleological view of human development. Rather, they were part of the long, *unlikely*, and historically-specific development of modern, western institutions.

Therefore, because the effects of institutional constraints can be misinterpreted as differences in *mentalité*, it is absolutely necessary to clearly distinguish between institutions and mental drives in studying the ancient Greek economy. Charles Reed does a good job of demonstrating the different significance of mental operations and institutions, in a succinct, and in my view correct, articulation of their separate power:

> "more to the point is the difference in the *scale* on which instrumental rationality was employed before and after c. A.D. 1880. Prior to 1880 instrumental rationality was largely a feature of an *individual* landowner's or entrepreneur's outlook. Thereafter came the application of instrumental rationality to *institutions*."[129]

[128] North, 1990, 54.

[129] Reed, 2003, 80.

Though Reed is a bit restricted in his use of the term ‘institutions’ (referring only to the large modern firm), he is nevertheless absolutely correct in showing that the same mental processes can characterize individual behavior (instrumental economic rationality), and that it is institutions (though much more broadly defined) that determine how the economy driven by these behavioral forces actually looks. For Reed, the ancient Greek world did not lack economic rationality, but it did lack the institutions necessary to bring about the modern economy. Rather than a *mentalité* that was oriented away from economic goals in the modern sense, it was the institutional structures of the ancient Greek world that limited what an economically rational *mentalité* could achieve.

The accumulated weight of all this scholarship I have cited points in a single direction: the economic *mentalité* of the ancient Greek world may not have been as instrumental in checking economic development as has been claimed. Instead of *mentalité*, a different set of forces comes to the fore: institutions. Therefore, explicitly distinguishing between institutions and individual economic behavior and decision making, I will now lay out the institutions which affected the performance of the ancient Greek economy, and will conclude by demonstrating that economic rationality can exist within an economy that contains structural limitations to its overall development.

IX. Putting the Greek economy in its place: institutional and technological development.

Economic anthropologists have led the way in showing that economies must be compared institution by institution with other systems in order to identify the way pre-modern economic systems operated. Therefore by focusing on the nature of political and social institutions, as well as commercial and financial instruments, I will demonstrate that the ancient Greek economic system was a mid-way point on the line of institutional and technological innovation from the Neolithic Revolution to the Industrial Revolution.[130]

First, Greece seems to have had a system of market exchange, complete with institutionalized markets with officials and regulations to facilitate fair exchange.[131] This market system operated according to supply and demand at least roughly on the principles of modern economic theory. However, price change was greatly affected by a slow speed of transport and communication, and was also subject to misinformation and manipulation.

Nor was this commercialized Aegean economy a perfectly integrated market system, but was replete with market imperfections. Annual fluctuations in production and supply were determined by the quality of the harvest in this overwhelmingly agrarian world and therefore subject to fluctuations in temperature and rainfall.[132] Sailing was largely restricted to half of the year, significantly hampering transportation and exchange for much of the Greek world. Moreover, within this market system, personal ties, such as trading relationships and aristocratic ties of *xenia*, seem to have created sometimes significant market imbalances and inequalities in access to information and opportunities.

[130] The topics in my account that follows are very similar to those dealth with by the Oxford Roman Economy Project, as outlined in Bowman and Wilson, 2009.

[131] Bresson, 2007.

[132] See Reger, 1994, for the seasonal fluctuations in supply and demand for goods in the Hellenistic Aegean.

The economy of the Greek world was not a uniform collection of undifferentiated *poleis*,[133] but rather, as Weber has argued, there actually seemed to be two dominant modes of economic activity. On the one hand, there were a large number of relatively self-sufficient, inland, agricultural regions that operated more according to the principles of the traditional peasant moral economy. Simultaneously there was also the commercialized, monetized world of maritime trading coastal *poleis* in the Aegean, which operated more according to the market behavior of supply and demand economies. As with the modern economy, neither system was isolated from the other, as reciprocity and gift giving existed alongside market structures and behaviors.[134]

Self-sufficiency may have been an ideal,[135] but exchange was seen to be necessary to realizing this goal,[136] since no *polis* had everything it needed within its own borders.[137] Rather, *poleis* often specialized their production for market exchange, and capitalized on the greater productivity that specialization and exchange brought, according to David Ricardo's economic model of comparative advantage.[138] An international division of labor, therefore, existed, in

[133] As Cartledge, 2002, has argued, the Greek "economy" should rather be understood as a large number of intersecting and overlapping "economies" of different types.

[134] See Millett, 1991, for the pervasiveness of reciprocity in ancient Greek credit relations. See Polanyi, 1957, and Tandy, 2000, for non-market mechanisms of distribution.

[135] Morley, 2007, 20-26.

[136] Bresson, 2000, Chapter 6.

[137] Old Oligarch, 2.3, 11-12, Isoc 4.42.

[138] Bresson, 2007.

which citizens of different *poleis* engaged in activities that were most advantageous for exchange.[139]

The Aegean trading world was a fragmented monetized economy that was largely divided between different polities. Sparta, for example, used its own iron currency and was not fully integrated into the wider monetized economy of the Mediterranean until the late Classical and Hellenistic periods.[140] Even certain cities like Olbia had laws restricting the use of coinage within their markets and made trade between different *poleis* less fluid than between regions which used a common currency.

The political divisions of currency were compounded by regional distribution patterns for different goods. Archaeological evidence suggests that there were "cellular" economies which were shaped by the differences in distribution of various goods based on the location of raw materials and processing centers as well as the distance between consumptive markets.[141] The great variation in the distribution of different types of pottery throughout the Mediterranean basin shows that there were different goods which were in circulation in different regions at different times.[142] This distribution was affected by transport costs between production and

[139] Bresson, 2007; Rostovtzeff, 1941, 91-100. Hasebroek argues for a "considerable" division of labor in ancient Greece (1965, 1,6). Different cities have different proportions of people engaged in different trades: fishermen in Tarentum and Byzantium, navy men at Athens, maritime traders at Aegina and Chios, ferry-men at Tenedos (Aristotle *Politics* 4.4.1, 1291b 23-25). The most extensive ancient Greek discussions about division of labor can be found in Xenophon's *Cyropedia* 8.2, and Book 2 of Plato's *Republic*.

[140] For the Spartan economy, see Hodkinson, 2000.

[141] 'Cellular', or regional, economies can be seen, for example, in the variable distribution of lamps in the Roman empire, for which Duncan-Jones, 1990, 48-58, has identified. Duncan-Jones has provided further evidence of the fragmented, disconnected nature of the Mediterranean economy through his study of Roman lamps, which argues against a single, integrated economy during the Roman Empire. (Duncan-Jones 1990, 48-58).

[142] For pottery distribution variations in the Greek world, see, e.g., Osborne, 2007, Möller, 2000.

consumption centers as well as local tastes, as can be seen in the highly variable circulation patterns of Laconian, Corinthian, and Athenian pottery in the Peloponnese.[143] Also perishables could only be produced for a limited market, and could not participate in the Aegean or Mediterranean-wide market of nonperishable goods such as wine, oil, wish-sauce, grain, or textiles. The result was a system of overlapping, non-concentric circles of different-sized markets for different goods which each had their own restrictions on portability due to transport costs, the disparate distribution of raw materials, and the variability of production centers.

Markets were imperfectly integrated, as can be seen in the regional differences in price behavior.[144] Based on slower speed and transportation problems, the ancient Greek market system was less well interconnected than the modern economy. This is in line with Peter Bang's arguments that markets during the Roman Empire were fragmented and only loosely integrated, with disparities in supply and demand. For Bang, the market system of the Roman empire was fragmented, opaque, and volatile. Transportation problems inhibited market integration, and supply and demand were uneven. The 'Invisible Hand' was in reality all too visible - the leveling out of market inequalities was imperfect and haphazard, and the integration of markets depended on clear, overt, *non-Hidden hand* to prevent hoarding and correct problems in distribution.[145] Nevertheless, contrary to the perfect, seamless, fluid and, uniform integration implied by such

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[143] For the relatively low level of imported pottery in Laconia, for example, see Cavanagh et al., 1996, 88; Catling, 1976-7.

[144] For regional price behavior and imperfect market integration, see Reger, 1994, 75-82; 2002, 134-36.

[145] Bang, 2008, 137-44.

descriptions as an “enormous conglomeration of interconnected markets”, even the modern economy has significant imbalances in distribution and imperfections in market integration.[146]

As with the Roman and the modern economy, imperfections of distribution needed to be corrected by the ‘visible hand’ of state action,[147] including *symbolaia* agreements between states like Athens and the Bosporus or Phaselis. Preferential treatment was given to individuals in the form of *isoteleia, ateleia, and enktesis* to counteract market forces.[148] To provide fairness for the demos, state officials such as *sitophylakes* sometimes controlled prices,[149] and forced redistributions often favored poor citizens at the expense of traders and the wealthy.

The development of the state is an important institutional distinction between ancient Greece and so-called ‘primitive’ societies. The complexity of Athenian democracy and the stratified society of Sparta show how developed the non-kin political realm had become by the classical period, and there was a multi-layered system of social and kinship networks which had been incorporated into the organization of the state, including villages or demes and smaller

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[146] The classic work on the imperfections of distribution in the modern world is Amartya Sen’s classic study on the famines in twentieth-century India, which required significant state action to correct the imbalances of the market system. Imperfect market integration can be seen in the variation of goods available in different countries, and even regions of the United States.

[147] In the Roman world, these differences were not seamlessly corrected through the ‘invisible hand’ of market behavior, but were only smoothed out in an imperfect and haphazard manner by state intervention (Bang, 2008, 131-144). The ‘visible hand’ of state action has a significant role in the modern economy as well, and can create significant distortions in the economy, a major barrier to development in the Third World and undeveloped countries, for which see Wright, 1997.

[148] *Isoteleia* is an award given to metics (resident foreigners), to give them the same status as citizens for taxation purposes; *ateleia* was a freedom from all taxes; *enktesis* was a special grant made by *poleis* to allow resident foreigners to own land in their territory. See Engen, 2010, and Burke, 1992, for specific measures.

[149] Bresson, 2000, 2007.

corporate groups such as *thiasoi*, clans, cult groups, and phratries.[150] Social complexity and the development of the state seem to have reached the point in which the *intra*community morality against exploitation that exists in many societies had largely been marginalized.[151] There is a great deal of evidence for the tension between the civic ideology of moderation and *philia* in classical Athens,[152] but on the other hand, the complex social fabric of Athens, for example, shows that there were multiple degrees of social distance that overlapped and permeated Athenian society in different contexts, complicating a simple *intra* versus *inter*community moral dichotomy.[153] This is not to say that there were no ideological constraints on market behavior,[154] but just that they did not completely overwhelm impersonal market interactions for profit.

As in the modern world, the state in ancient Greece, in the form of the *polis*, was an institutional distortion of the free market. Government was actively involved in trade, and took steps to ensure that the necessary goods were procured for the citizen body.[155] The role of the state in the Aegean economic system was substantial.[156] Taxes were levied on agriculture and

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[150] For the complexity of the Athenian social and political network system, see Ober, 2008.

[151] For this differential ethic of exploitation, see Sahlins, 1972, 191. This is not to say, however, that the traditional obligations of reciprocity within communities had completely eroded with increased social complexity; as Fordyke, 2005, demonstrates, the traditional obligations of rich to the poor still occupied a powerful position in the minds of Greeks even with the rise of the market economy. Indeed, the understanding that the elite needed to retain their role as service providers to the poor even in classical Athens, where their traditional obligations were institutionalized as liturgy service.

[152] Morris, 1994.

[153] Hodges, 1988, Chapter 4; Schaps, 2004.

[154] See Von Reden, 2003.

[155] Bissa, 2008.

[156] Ober, 2008, for example, has argued that Athenian democracy did much to encourage material welfare.

crafts, as well as on sales, imports and exports.[157] Rules were established as protections for foreign merchants and incentives for citizen traders whose aim in many respects was to reduce transaction costs and increase the volume of trade and the resulting tax revenues for the city.[158] Athens set up laws to guarantee the quality of its coinage to encourage traders and merchants to come to the city. Institutions such as welfare subsidies, state pay for citizens, and liturgies were extremely important mechanisms for the redistribution of resources in society.

In this last respect, the Athenian *polis* corrected market imbalances resulting in the overconcentration of wealth among the few. The credit crisis in sixth-century Megara reveals the extent to which wealth overconcentration had reached,[159] and the steps taken by Solon at sixth-century Athens reveals that the state intervened to correct inequalities in wealth distribution even in the Archaic period. Overconcentration of wealth was cited as being a major problem of Greek *polis* relations by Aristotle,[160] and Plato theorized that the overconcentration of wealth led to the downfall of oligarchies.[161] Overconcentration of wealth and the tendency of capitalism towards monopoly also occur in the modern market economy.[162] Simon Kuznets shows that with growth, income distribution becomes skewed, and that only after growth stabilizes that

[157] Gabrielsen, forthcoming.

[158] Bresson, 2007, Harris, forthcoming. See also Erdkamp, forthcoming.

[159] For a thorough discussion of this crisis, see Forsdyke, 2005, updated in Forsdyke, 2012, 117-43.

[160] See, e.g, Finley, 1985, 53, for Aristotle's discussion in *Politics*, Book 2. For attitudes towards the overconcentration of wealth, which the Athenians called *pleonexia*, or greed, see Balot, 2001.

[161] Plato, *Republic* 555b. For estimates of the inequalities of the distribution of wealth at Athens, see Bresson, 2007, 150; Foxhall, 2002, 209-220.

[162] Marx has shown that capitalism tends towards crises of accumulation and the emergence of monopolies. Joan Robinson, moreover, has shown that perfect competition does not exist, a conclusion akin to John Kenneth Galbraith's demonstration that oligopolistic markets, not free competition, arise from free market capitalism.

egalitarian distribution is able to arise: first savings become concentrated among a wealthy upper class, and this savings is then redistributed through state intervention in the form of inheritance taxes, and other government mechanisms for monetary redistribution. Therefore, precisely like the Athenian democratic *polis,* which intervened in the unequal distribution of wealth and redistributed the wealth of the rich for collective benefit through liturgies and *eisphorai*, the modern state also intervenes into the unequal distribution of income to correct the imbalances created through less regulated free market capitalism.

Monetization was pervasive in commercialized *poleis*,[163] which was another institution that made ancient Greece more similar to early modern Europe than to 'primitive' societies, in that much of ancient Greece used sophisticated all-purpose money, not 'primitive' money.[164] Thanks to the excellent comparative work of economic anthropologists, it is possible to distinguish between the characteristics of different types of money.[165] Ancient Greek coinage performs all the necessary functions of all-purpose cash: it is portable, divisible, convertible to other denominations, general in its application to goods and services, it provides for anonymity in exchange, and it is legally sanctioned and controlled by the state. It is a means of storage of value, it provides commensurability for all goods and services, it is a means for precise calculation, and allows for accounting and the comparative assessment of opportunity cost. Most importantly, it was not limited to specific spheres of exchange like other forms of primitive

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[163] The extent of monetization throughout the population of such *poleis* can be seen in the pervasive use of small change in the ancient Greek economy. See Kim, 2002.

[164] Schaps, 2004.

[165] For the distinction between modern, all-purpose money and "primitive" money, see Sahlins, 1972, 211-277, and Polanyi, 1991, 45-47. Hodges, 1988, chapter 4, provides an excellent discussion of the typology of money in economic anthropological literature.

money in which certain shells could only be used for certain transactions, or in which prestige goods and necessities were not transferrable outside of their own distinct spheres of exchange.[166]

As Schaps argues, the invention of coined money was a major institutional innovation that amounted to a revolution in the ancient Greek economy.[167] Almost anything could be bought for a price in the classical period.[168] Land, labor, and capital were generally alienable, though with a few restrictions. Metics, for example, could not purchase land without special permission, though D'Arms and Shipton show the "walls" between commercial finance and landed wealth were much more permeable and fluid than Finley suggested.[169] Indeed, through collaboration, citizens and metics could work around the institutional barriers to a completely free economic market.[170] Moreover, metics could own ships, slaves, and materials, giving them control over

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[166] The sphere of exchange is another contribution of economic anthropology in further distinguishing between economic behaviors in pre-modern societies. Seeing how certain goods are restricted to certain uses, or certain units of money being restricted to certain purposes, has done much to isolate which aspects of pre-modern economic behavior participate within a monetized market, and which aspects are excluded from impersonal market exchange. For spheres of exchange, see, e.g., Bloch and Parry, 1988, 12-16. Spheres of exchange did exist in ancient Greece, as can be seen in Classical Greeks' reluctance to spend religious dedications on productive investments or wartime expenditures which kept much wealth frozen in the cultic sphere (Davies, 2001). Nevertheless even many temples were willing to mobilize the wealth in their possession for money-making purposes, and so spheres of exchange did not entirely deprive money from the commercial market.

[167] Schaps, 2004, 1-17, 194-8

[168] Kurke, 1999, shows that there were still some things which were generally forbidden from the monetized economy, such as selling one's female relatives as prostitutes, etc. However, even citizenship, which is considered one of the most sacrosanct aspects of Greek socio-cultural and political identity, could be bought for a certain price, as Pasio the banker and other foreigners awarded with citizenship prove. See the charge that citizenship could be bought from demes for a bribe in Demosthenes 57.59.

[169] Finley, 1973, famously argued for a "wall" between landed property and liquid commercial wealth. D'Arms, 1981, and Shipton, 2000, have shown that the involvement in citizens in the commercial operations of their cities was much more frequent than Finley allowed.

[170] Frier and Kehoe, 2007, 129-130, show the ways that citizens and metics could work around legal constraints.

productive capital and the labor power of their workforce.[171] However, there was not a free labor market comparable to that of modern industrial capitalism,[172] and instead of being the primary type of labor, it seems to have played a less important role than the exploitation of unfree labor power.[173] Furthermore, Weber recognized that genuinely free market competition was impeded by the restriction of land-ownership by status,[174] and so an international market in land was inhibited by the *polis* as an institutional structure.

The institution of slavery allowed for the direct purchase of labor power, and serfdom likewise allowed permitted extraction of surplus labor power. The household, *oikos*, was the legal structure for business, meaning that property belonged to a single individual who had complete control over and liability for his assets and ventures. Slavery allowed estate owners to control the inputs and outputs of production tightly, even permitting increased productivity through division of labor. Division of labor was possible to a significant extent, even to the point that Smith demonstrates in his famous pin factory discussion.[175] Vertical specialization (management hierarchies), however was inhibited by the *oikos* structure of business, and any labor specialization that did occur was horizontal (by task among laborers).[176]

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[171] For definitions of 'capital' which are applicable to pre-modern economic systems, see Weber, 1976, 48-66; Godelier, 1972, 284-87; Bourdieu, 2001.

[172] The most developed labor market in ancient Greece seems to have been in the form of mercenary service.

[173] For the long process by which a predominantly free population of wage-laborers was made available on a large scale for capitalist exploitation in the Industrial period, see Wolf, 1982, 268-70, 354-63.

[174] Weber, 1978, 937.

[175] The best evidence for division of labor within ancient Greek workshops comes from Xenophon's *Cyropedia* 8.2, the famous shoe workshop.

[176] Harris, 2002.

The widespread availability of credit financed commercial, industrial, and manufacturing enterprises as well as political and social expenditures;[177] credit was available interest-free from families and friends, and at interest from banks, professional money-lenders and temples. The Greeks even had a notion of mortgage akin to that of the modern world.[178] The process of institutional innovation in the creation of new credit instruments *prasis epi lysei* and *apotimemata* seems to have been a direct result of monetization. *Chrematistike*, money-lending at interest, was another innovation that characterized the financial sophistication of the ancient Greek world,[179] as did the sphere of banking.[180] Maritime loans protected by law (*dikai emporikai* in fourth-century Athens) provided commercial finance, and also further encouraged commerce by functioning as simple insurance. The state even provided laws to protect property rights, but private ingenuity, the drive for profit, was always able to devise new ways of staying ahead of the law.[181]

Finally, the social and cultural values and norms which were particular to ancient Greece both encouraged and discouraged individuals to engage in various types of economic activity.[182] On the one hand, values very much encouraged acquisition and financial success, such as Athens, where democratic ideals of individual freedom and self-reliance translated into a value

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[177] Millett, 1991, for the widespread availability of credit in classical Athens.

[178] Isager and Hansen, 1975, 154-6; Thompson, 1978, 404-5, *pace* Finley, 1951, 113-117, who argues passionately, but ultimately unconvincingly about the lack of true collateral in ancient Greece.

[179] Schaps, 2004,175-193.

[180] For banking in ancient Greece, see Bogaert, 1968; Millett, 1991, 197-217; Cohen, 1992; Shipton, 1997.

[181] See especially my discussion in Chapter 6.

[182] Attitudes are institutions that can be described as informal constraints to behavior (North, 1990, 36-45).

placed upon free and willful transactions,[183] though there was a very definite prejudice about acquiring too much at the expense of one's fellow citizens.[184] Furthermore, in accordance with the middling ideology of fairness in the Athenian *polis*, there was an attitude that money had to be spent in the right way to help one's city and not just wasted in conspicuous consumption.[185] Still, even in a society in which honor and service to the *polis* were highly valued, the highest political offices were restricted to the wealthiest individuals. Thus, embedded within political systems was an incentive to get rich to attain glory, and ever since time of Solon in Athens, a wealth-based class system encouraged social mobility through market-based profit, either from agriculture or trade.

Moreover, a sense of "Greekness", belonging to Hellenic culture, may have influenced agricultural production. Greeks considered the foods they ate, specifically the Mediterranean Triad of olives, grapes, and dry cereals, as being an important part of their cultural identity, especially in contrast with northern barbarian peoples, and this notion of identity may have encouraged the production of "Greek" goods. Demand, in the strict economic sense, would have also been important (and perhaps paramount), but the notion of a distinct Greek cultural identity very likely directed individuals' decisions about what to produce.

There is evidence of a social stigma against "banausic" (manufacturing) trades, retail trade, and "slavish trades" such as management positions which in some cases violated free

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[183] Bitros and Karayiannis, 2008.

[184] Balot, 2001.

[185] See, e.g., Von Reden, 1995, ch. 4.

citizen ideology.[186] Some *poleis,* including Sparta, forbade citizens from participating in such occupations.[187] Hasebroek is likely correct in that prejudices against trade and commerce and industry kept aristocrats from investing in trade and finance (38-43).

Such attitudes do not seem to have discouraged economic development, however. The Greeks did not, for example, associate money with devils like some other cultures.[188] D'Arms has demonstrated that even the supposed anti-commercial sentiments of the Romans were much more ambiguous than has been supposed.[189] In some respects, Greek economic institutions fostered pure, calculating market behavior to a greater extent than even in the Italian city-states Florence, Genoa and Venice. Greeks could lend at high rates of interest without the fear of excommunication or damnation which haunted every Italian banker who chose to loan at *any* rate of interest.[190] Moreover, commerce was an accepted and even celebrated part of ancient Greek life, [191] which carried little, if any of the anti-commercial stigma of the later Church.[192]

Furthermore, in late-Medieval and Renaissance Italy, human ingenuity and innovation allowed for the emergence of a vibrant financial and commercial system amidst the most

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[186] See my discussion in Chapter 3.

[187] Xenophon, *Lak. Pol.* 7.2.

[188] For such attitudes, see Harris, 1989.

[189] D'Arms, 1981, 22-31.

[190] Such a fear did not inhibit the development of Italian banking, however, as bankers manipulated language and exploited loopholes in Church law to enable themselves to make profits through interest on lent sums.

[191] Many *poleis'* citizens primarily engaged in non-agricultural occupations: Aristotle, *Politics* 4.1291b.

[192] Hodges, 1988; As Hasebroek, 1965, 4-6 says, no church hostility against traders existed in Ancient Greece. In this respect, Hasebroek says, the ability to engage in commerce and usury at all levels and specialize in these activities made Greece more sophisticated than Medieval Europe, and commercial intercourse was far more developed in Classical Greece than in Medieval Germany, for example.

powerful strictures against commerce and money-lending imaginable: those of the Church. As in the Middle Ages when the prohibitions of the Church against usury and commerce might have hindered their development, on the contrary, Italian bankers found ways around such prohibitions to create a thriving financial and commercial economic expansion (see Goldthwaite for the commercially-fuelled industrial expansion of the Italian Renaissance). The means by which these Italian bankers and merchants were able to profit in the face of the Church's prohibitions was by manipulating language, and using rhetorical tricks to call the collection of interest and profit something else: gifts, for example.[193]

Cultural notions of masculinity and femininity did encourage some while discouraging other trades.[194] Many elite men, for example, seem to have left the running of their estates to slaves and wives while they themselves engaged in the political world of the *polis*.[195] Finally, Greek cultural notions of success and happiness may have affected economic behavior as well. For example, in depictions of the gods and heroes of the Golden Age, Greeks seem to have envisioned happiness as having plenty of food and wine, as well as freedom from pains, grief, and toil, as opposed to the Protestant ethic of endless accumulation. There was also a sense that success bred *hybris*, and this also may have led to an avoidance of extremes and excess. Mortality was also an ever-looming fear, and the desire for remembrance after one's death, *kleos*, may have played a role in explaining certain economic behaviors as well.

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[193] De Roover, 1968, 10-14.

[194] See Brock, 1994, however, for the wide variety of occupations which women were willing to practice in spite of social stigmas.

[195] Cohen, 1992, 2002.

Finally, the Greeks themselves saw themselves as the most modern, sophisticated system that had ever existed, part of an overall metanarrative of progress. As Thucydides shows in the famous opening of his history, the "Archaeology", the Athenians considered themselves to be the most sophisticated, advanced people that had ever existed (1.2-19). This is the account of a writer who is conscious of his own age as being the furthest stage in a more or less linear development of economic, political, and social evolution. Although the development of the world economy since Classical Greece has certainly not been linear, but rather full of regressions, circularities, diversions, and transformations, the Greeks themselves saw their achievements as being the most modern in history. They may have reached a pinnacle that was not to be surpassed for centuries.

As far as their economy was concerned, the Greeks understood market trade, and especially maritime commerce, as a progressive force in human history.[196] Progress, therefore, is not just a metanarrative of the Enlightenment and the modern bourgeoisie, but a reality of all Western history, and the ancient Greece should be seen as an intermediate stage of institutional development from the Neolithic to the Industrial Revolution, the furthest stage of economic and political institutional advancement ever reached by its time.

X. Putting the Greek economy in its place: the limits of Greek institutional development.

As a mid-way point in the development of Western institutions, there are also many innovations that the ancient Greeks did not create, and that separate our own economy from

[196] As Thucydides does, for example, in the "Archaeology" at the beginning of book one.

theirs. The areas in which they *did not* innovate are as important as those things they did achieve, and only by tracing the developments of early modern Europe is it possible to fully appreciate the importance of that unprecedented era.

First, there was no distinction between household and firm in antiquity.[197] Athenian law contained no notion of partnership or corporation,[198] and the lack of legal recognition for corporate entities was a significant factor in limiting the growth of business in ancient Greece (see below, Chapter 8). Ancient Greece had no large shipping companies, for example,[199] and the temporary partnership was the dominant structure for business. Corporate immortality permits long-term growth and accumulation of business assets, and this was wholly lacking, exposing business accumulations to the whims of disinterested heirs.

This lack of a pervasive free wage-labor market was largely the result of the lack of distinction between corporate and individual property in ancient Greece,[200] since the organization of labor and production was largely confined within the limits of the *oikos*. The expansion of slave labor within the *oikos*-dominated productive sphere inhibited the development of the free market for labor of the economy beyond a limited extent.[201] Furthermore, this *oikos*-centered economic organization limited the expansion of individuals' productive enterprises because of the liturgy system which heavily taxed the upper classes; slave-run economies of scale

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[197] Schefold, 2011, 133 and Weber, 2009, 8.

[198] Argued by Harris, 1989; see also Harris, 2006, 241-2 (with bibliography). Ismard, 2007, comes to the same conclusion that corporate groups were not recognized as legal entities in Athens. See also Reed, 2003, 37, n. 15.

[199] Hasebroek, 1965, 84; Reed, 2003 also comes to the same conclusion.

[200] Weber, 2009, 8.

[201] Weber, 1976, 393; see also Nafissi, 2005, 60-62.

represented "visible" property meant that they were inevitably subject to the limitations imposed by liturgies.[202] Also, the diminishing returns from too many slaves were inevitable because of the increased maintenance, supervision, and management costs which were incurred from expansion.[203] Therefore, slavery may have set upper limits to the extent of organizational efficiency that can be achieved by enterprises based on free labor.[204] The necessity of slaves for surplus production also meant that if an organization became too large, the chances of slave revolt were much greater, and the Greeks were always conscious of the dangers of slave revolt.[205] Thus, the organization of large-scale manufacturing within the bounds of the *oikos*, along with the difficulties for metics to acquire land, created several structural limitations to the expansion of large-scale enterprise. Furthermore, since it was mainly large slave-owning households that produced the surplus needed for the civilized superstructure of the Greco-Roman world, these size constraints prevented the emergence of complex managerial hierarchies,[206] and fostered extensive horizontal as opposed to vertical hierarchical specialization.[207]

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[202] See Cohen, 1992, 8, 112, for wealthy citizens' strategies to avoid taxation on "visible" property by hiding their money in *aphanes* investments.

[203] For awareness of the law of diminishing returns in ancient Greece, see Xenophon, *Poroi* 4.5.

[204] As Finley, 1981, 15-16, states: "[Slavery] hindered, and effectively prevented, increasing rationalisation of production".

[205] ps. Aristotle, 1.5.6 (1344b), Plato *Laws* 777c.

[206] For the emergence of complex managerial hierarchies in the modern economy, see Chandler, 1992.

[207] Harris, 2002.

Moreover, as Hasebroek has shown, in comparison with modern financial institutions, ancient Greek banking was rudimentary, small, and ephemeral.[208] Part of the reason for this was that banking in ancient Greece was extremely volatile; there are numerous examples of bank failures, probably because of ineffective enforcement of property rights for liquid assets. Because banks were not able to grow in the long term, their reach being limited, they did not dominate the economy of ancient Greece in the way they do in the modern economy.[209] Ancient Greek banks were therefore marginal to the economy, and this is a major qualitative difference between this institution in ancient Greece and the modern economy. Fourteenth and fifteenth century Florentine banks had branches stretching from the Levant to England, and there seems to have been nothing in ancient Greece approaching the size and sophistication of these Italian banks.[210]

Renaissance Italy provides a useful upper limit for situating Greek banks in their developmental context, and for demonstrating the institutional developments that were not attained in ancient Greece. Raymond Goldthwaite summarizes very well the innovations of Renaissance Florence that were improvements over the institutions of the Greco-Roman world:

> "they effected the transition from the individual merchant-adventurer to the sedentary firm, the evolution of the partnership form of business organization, and the refinement of many business practices, such as double-entry accounting, maritime insurance, and all those

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[208] Hasebroek, 1965, 85-6. Temples were major players in economy by contrast, and served the function of modern banks both in their size and the services they provided – a major feature that made its economy distinct from our own.

[209] Schaps, 2004, 193; Millett, 1991, 206-17.

[210] Though Pasion did have credit overseas (Isoc. 17.35-37; Cohen 1992, 16).

> instruments designed to facilitate monetary transfers and the extension of credit, from the check to the bill of exchange and the certificate of deposit".[211]

In all of these instruments, Renaissance Italy advanced beyond the achievements of ancient Greece and Rome.[212] Venice also had a stock market (the Loggia), a large navy, a state-owned merchant fleet accessible by auction, a corps of ambassadors, protective measures for its own merchants at the expense of foreigners, bankers who could make account transfers, overdrafts, were speculative investors and lenders to the state, stock-exchange on the Rialto fixing commodity prices, interest rates on public loans, premiums for maritime insurance, and bills of exchange. [213]

The early-modern Dutch economy dwarfs the ancient Greek economy even more. At Antwerp, the letter obligatory, which allowed debts and credits to circulate on the exchange as an extra form of currency, and could be canceled out in clearing houses.[214] The first true stock market emerged in early seventeenth-century Amsterdam,[215] and along with joint-stock

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[211] Goldthwaite, 2009, xi. Florence also invented holding-companies, as noted by Braudel, 1984,128.

[212] For the bill of exchange, see Kindelberger, 1984, 39-41; Goldthwaite, 2009, 217-221. The bill of exchange never developed in ancient Rome (as noted by Bang, 2008, 149), though something similar, the *publica permutatio* did exist, which was used by the *societates publicanorum* (tax-farming companies), which arranged for money transfers and credit payments (Andreau, 1999, 20-21).

[213] Venice's commercial brilliance had created an economy that dwarfed even those of much larger territorial kingdoms France, England and Spain, in which the combined budget of the Venetian city and its mainland and maritime empire in the fifteenth century was 1.6 million ducats, in comparison with France's one million, and with a population one-tenth the size (Braudel, 1984, 119-20).

[214] In Antwerp, bills of exchange could be transformed into letters obligatory, and circulated from hand to hand. Discounting bills before they were due, assignment, in which the original debtor was responsible until a third party had satisfied the creditor, was another institutional innovation that increased the circulation of credit and increased transaction velocity (on Antwerp's innovations in credit and finance, see Braudel, 1984, 154-56). Hasebroek, 1965, 85-6, points out that Greece had no clearing houses or clearing of international debts by bills of exchange.

[215] Braudel, 1982, 100-106.

companies, corporations, and limited liability, are yet more institutional developments that eclipsed the ancient Greek financial institutions.[216]

English institutional development further distanced the modern West from ancient Greece. The 'Financial Revolution' in England came as a result of the Glorious Revolution of 1688, in which Parliament gained full financial control in England, giving rise to a thriving market in circulating government debt, company shares, and futures, including bonds, Exchequer bills and tallies, and securities.[217]The circulation of government debt and company shares are major institutional advances that have increased the liquidity of the market and the velocity of transactions. The state, therefore, promoted commerce and finance to an extent never dreamed of in ancient Greece. Indeed, the state had not yet made the important transformation from tribute-collector to the encourager of business,[218] and it would not make this leap until the modern period.

To put it all in perspective, the Greeks had not even mastered sailing in the Atlantic, and were restricted to a limited trading area in and around the Mediterranean basin. This fact alone demonstrates the point in technological development they had reached, and illustrates how restricted its commercial market was. Therefore, the ancient Greeks were constrained from expanding their maritime commerce beyond the Mediterranean by the technology they had at

[216] Kindelberger, 1984, 195-212; Braudel, 1982, 438-455.

[217] Dickson, 1967, is the authoritative work on the explosion of public financial instruments in England.

[218] Wolf, 1982, 265-6 notes that before the Industrial Revolution in early modern Europe, the state (royalty and aristocracy) plundered merchants and restricted their property rights as opposed to the incentives and the protection of property rights seen in the modern state. North and Weingast, 1989, argue that the biggest change came in 1688 with the Glorious Revolution at which time parliament began honoring its debts in stark contrast with the frequency with which royalty reneged on debts during the Middle Ages. Many of the most sophisticated and longest-standing businesses of the early modern and Medieval were bankrupted by the defaults of royal borrowers.

their disposal. In a similar way, I will argue that the institutions of their world imposed similar limits on the development of business capital, and that it was not a primitive *mentalité* that constrained the ancient Greek economy. All the economic rationality in the world could not have solved all the problems that would have been necessary for the Greeks to make the giant leap forward to break the bounds of pre-modern economic development.

XI. Economic rationality: an imperfect, but still effective model.

The easiest way to demonstrate that the ancient Greeks did not have a non-productive, or non-economic *mentalité*, is to prove that they were economically rational like modern individuals. This is not to say that economic rationality is a perfect model, or that it explains all modern economic behavior. There are many problems with the model, which have led to significant modifications of the central model of *homo oeconomicus*, but nevertheless economic rationality remains at the heart of the behavioral assumptions of mainstream, or Neoclassical, economic analysis. [219] Since economics is still a valid intellectual discipline, the model still retains enough potency to provide powerful insights. If economic rationality existed in ancient Greece, as I argue, then a different economic *mentalité* is much more difficult to uphold.

Nor is the general model of economic rationality some complicated, sophisticated set of behaviors, but is merely "the 'sensible apportioning of means to ends' ... the pursuit of profit, defined broadly" (McCloskey, 1996, 143). Sensibly apportioning one's means to one's ends

[219] For succinct descriptions of economic rationality as the basic behavioral assumptions of mainstream economics, see North, 1990, 17-20; Simon, 1955, 100-03; Frier and Kehoe, 2007, 115. For in-depth discussions, see Kirchgässner, 2008, 12- 58; Sen, 1977, 1994; Skousen, 2009, 27-41; McCloskey, 1996; Eriksson, 2005; Godelier, 1972, 30-47.

naturally includes a process of comparison and choice: "According to [his] preferences, the individual assesses the various alternatives at his disposal, he weighs up the pros and cons, the costs and benefits of the alternatives against each other and finally chooses that (those) alternative(s) which come(s) closest to his preferences or which promise(s) to bring about the maximum net benefit" (Kirshgässner, 2008, 12). Figuring out *how* is best to attain one's goals is a central aspect of rationality, and so, the active decision-making process whereby an individual chooses between various alternatives is an important component of the model.[220]

Maximum benefit is difficult to measure, since benefit can be financial, intellectual, personal, religious, or social. The wide range of desires people have is described by the economic notion of 'utility', and if people try to maximize their utility, they are said to be rational. Utility is tricky, however, since every person's utility is different; at any given time, a person can desire to maximize knowledge, money, sex, power, playing board games, eating filet mignon, or spending time at the beach. The easiest way to measure utility maximization, therefore, is to look at a very specific subset of utility maximization, profit maximization.

Profit maximization is the most clearly recognizable manifestation of economic rationality, and this is one reason the model of *homo oeconomicus* has come under a great deal of scrutiny, since people do not always act to maximize their profit. Experimental studies by

[220] Rationality has nothing to do with people's desires; it only refers to the means by which people attain what they want. People can have goals that appear irrational to others (subjectively), but are still considered rational if they choose the best means to attain these goals Polanyi, 1957 (The Economy as Instituted Process), 245-6, defines rational action as follows: "the manner in which the logic of rational action produces formal economics ... rational action in here defined as choice of means in relation to ends. Means are anything appropriate to serve the end ... Thus 'rational' does not refer either to ends or to means, but rather to the relating of means to ends ... whatever the end, it is rational to choose one's means accordingly; and as to the means, it would not be rational to act upon any other test than that which one happens to believe in. Thus it is rational for the suicide to select means that will accomplish his death.

behavioral economists studying the psychology of economic decision making have demonstrated the weakness of profit maximization. In a famous experiment, Daniel Kahneman and Amos Tversky observed the choices people made when they were offered the option of a guaranteed lower return as opposed to a greater, but less secure return.[221] They found that people almost invariably valued the certainty of a return even when it was outweighed by a slightly less probable higher return, a divergence from standard rational choice theory which they term "prospect theory". Therefore, the pursuit of profit is also tempered by a consideration for uncertainty and other factors, and so the concept of profit maximization is an oversimplification of reality. People value certainty, which is a perfect example of how the notions of utility includes more than just monetary profit; safety of return is an important consideration that must be factored into any evaluation of profit maximization.

Even choices that seem rational to individuals may actually be irrational, [222] because the human brain itself creates highly subjective models of reality which may seriously impact the ability of actors even to perceive reality and the nature of their choices.[223] Moreover, the fact that many of us have competing preferences, or 'multiple selves', further complicates the image of the clear-headed, focused rational actor.[224] There are other behavior economic experiments that are opening intriguing new avenues of research in human psychology and behavior, but

[221] Kahneman and Tversky, 1979.

[222] Boudon, 1992.

[223] Viale, 1992. See also North, 1990, 17-24.

[224] Hargreaves-Heap, 1989, 103-112.

nevertheless these experiments have not significantly altered the central model of rationality that lies at the heart of economics.[225]

Herbert Simon examined the information and time constraints of the human decision-making process and argued that true maximization is unrealistic.[226] Rather, a person is more likely to choose an acceptable option within a given time with limited information, which is actually more reasonable than taking the extra time to gather perfect information in each choice: "human reasoning, the product of bounded rationality, can be characterized as selective search through large spaces of possibilities … The search halts when a satisfactory solution has been found, almost always long before all alternatives have been examined (1992, 4)." The result is that reasoning "falls far short of the ideal of 'maximizing' postulated in economic theory. Evidently organisms adapt well enough to 'satisfice'; they do not, in general, 'optimize' (1955, 129)." 'Satisficing' is characteristic of Simon's 'bounded rationality'. Although people try to optimize, greater utility is achieved through choosing more 'good enough' options than fewer 'perfectly maximizing' options in the same time period. Like Simon, Amartya Sen stresses the difficulties in assuming effect-maximizing behavior with the principle of least effort within the realm of human behavior. These principles were formed in physics and adopted by economists,

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[225] Other behavioral economists such as Richard Thaler have performed similar experiments in laboratory settings, in which issues as diverse as mental accounting practices, consumer choices, and feelings of self-control and fairness have been examined for their 'quasi-rational' inconsistencies with Neoclassical rational choice theory (Thaler, 1991). Others, such as Robert Shiller, have emphasized the effects of emotions on decision-making in the case of speculative bubbles, and have shown that the artificial and unsustainable price increases in such situations are the result of excessive entry into specific markets based on the emotional envy of those who have been recently successful (Shiller, 2000). There are many other experiments that are being done in the field of behavioral economics, and my view of the field as it now stands is the same as that of Donald Wittman: "This is an interesting area of investigation, but at present, the results are not sufficiently compelling to overturn the analysis based on rational actors (2005, 12).

[226] Simon, 1955, 1957, 1982, 1992.

which is problematic for the latter for whom human decision-making is the central complicating variable.[227]

Economic sociologists, like Sen, [228] also emphasize that altruism and social considerations are important in motivating human behavior.[229] Human beings do not engage solely in maximizing profit at the expense of others, but need to create and maintain relationships in order to maximize their utility.[230] 'Social capital' is just as important as financial capital in maintaining one's well-being and satisfying needs and desires,[231] and so profit-maximization in isolation ignores the necessary investments of time and energy to maintain beneficial relationships. Therefore, much human behavior is socially-oriented, or seems to serve other purposes, and so does not fit a purely profit-maximizing scheme.

Anthropologists have also pointed out that culture shapes economic behavior, and have offered have argued that economic rationality is not applicable to some economic systems.[232] Sahlins is clearly correct in demonstrating that cultural expression is not determined by material reality, but can vary greatly; culture can influence economic behavior.[233] But, as Granovetter has noted: "culture is not a once-and-for-all influence but an ongoing process, continuously constructed and reconstructed during interaction. It not only shapes its members but also is

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[227] Sen, 1997.

[228] Sen, 1977.

[229] See, e.g., Bourdieu, 1997, 267-8.

[230] For economic sociology, see Zafirovsky and Levine, 1997; Swedberg and Granovetter, 2001.

[231] Bourdieu, 2001.

[232] See, e.g., Sahlins, 1976; Gudeman, 2001.

[233] Sahlins, 1976.

shaped by them, in part for their own strategic reasons" (1992, 57). Ancient Greek cultural norms were, as I have shown above, largely compatible with the pursuit of profit and self-interest, even more than in early-modern Europe, where the modern economy was born. Indeed, cultural values in ancient Greece encouraged the acquisition of wealth by self-interested individuals.

From a different perspective, Institutional economist Thorstein Veblen demonstrated that social status and honor motivate behaviors that are not rational according to a strict profit-maximization model.[234] Nevertheless, such motives already fall under the economic notion of utility,[235] and therefore do not affect the central model of rationality, which only concerns the means-ends relationship.

New Institutional Economics considers social considerations as necessary transaction costs for economic interaction within a world where information is not perfect, and opportunities are not open to all.[236] Game Theory, likewise examines the decision-making process when the strategies of other individuals must be taken into account, and demonstrates that cooperation or competition varies based on the choices other people make.

Economic anthropologists distinguish the different types of calculation needed for short-term as opposed to long-term gain in the concept of 'transactional orders', in which short-term

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[234] Veblen, 1899.

[235] For Sahlins, 1976, viii, "it is culture which constitutes utility".

[236] The field of New Institutional Economics was created unintentionally by Ronald Coase, in his two articles "The Nature of the Firm," *Economica* 4.16 (1937), 386-405, and "The Problem of Social Cost," *Journal of Law and Economics* 3.1 (1960), 1-44. The field has since expanded exponentially, and some of its classics include Williamson, 1975, North, 1986, North 1990. For the use of New Institutional Economics in the ancient economy, see Bresson, 2007, Frier and Kehoe, 2007, Bang, 2009, 194-206. For criticisms of New Institutional Economics, see Swedberg and Granovetter, 2001, 12-17.

gain by profiting at the expense of others is contrasted with the long-term benefits of maintaining profitable relationships of trust. As Parry and Bloch describe it, the difference between the long- and short-term transactional orders concerns the “reproduction of the long-term social or cosmic order, and … a ‘sphere’ of short-term transactions concerned with the arena of individual competition”. [237] Therefore, short-term maximizing behavior must be offset by a longer perspective for maintaining important social relationships and guaranteeing one’s place as a viable actor within the social system.

A concern for the long term maintenance of relationships of trust, the long-term transaction order, is not antithetical to, but rather a necessary component of long term profit maximization. Modern corporations often resort to trusted, long-term relationships, rather than always searching for the most cost-effective option in the open market. The long-term maximization of profit is actually best sought in these relationships, in order to cut costs of searching for better alternatives.

As Granovetter states,[238] there is a spectrum of approaches ranging from under-socialized accounts of individual behavior (Neoclassical economics) to those which are oversocialized in that they argue for a social or cultural determinism. Rather, such extremes should be avoided and external cultural influences must be considered in conjunction with internal individual desires. The model of economic rationality, therefore, must be supplemented by an awareness of social concerns, as economic anthropologists, economic sociologists, New Institutional Economists, and Game Theorists have shown.

[237] Parry and Bloch, 1989, 24.

[238] 2001, 54-59.

The conclusion to take from all these critiques of economic rationality is that while it is not a perfect model even for the modern world, it is still a necessary analytical model for human behavior. Modern western individuals do not fit the pattern of rationality perfectly,[239] and so ancient Greeks should not be expected to either. As a broad, general, sketch of human behavior, however, economic rationality does explain economic motivations and decision-making with remarkable consistency.[240] Profit maximization is not the only story, but it is an important story, especially when it comes to the problem of a non-rational pre-modern economic *mentalité*. Profit maximization does exist in the modern world, and its presence in ancient Greece will be sufficient to demonstrate that the economic *mentalité* of the people was not greatly different from our own, at least as far as rationality is concerned.

Donald Wittman explains clearly how rationality is the best way to envision human behavior overall: "Rationality is a plausible assumption regarding human behavior. Isn't a better theory of human behavior that people do what they prefer to do rather than that people behave randomly (they are arational) or that they consistently act against their own preferences (they are irrational)?"[241] Economist Donald McCloskey further demonstrates the pitfalls in assuming that pre-modern peoples were not economically rational:

> "A world in which neoclassical economics is supposed *not* to work at all would be a paradise for the stray wise man. In such a world there would be unclaimed profits everywhere … An

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[239] Other types of rationality which account for behaviors that do not perfectly fit the model of have been identified by some scholars, but these typically complement, and exist alongside, rather than supplant, standard economic rationality. See Hargreaves-Heap, 1989.

[240] Tilly, 1984, 30-33, agrees that rationality is a much better behavioral assumption than irrationality or randomness.

[241] Wittman, 2005, 6-7.

> economy filled with people as irrational as some historians have believed, under the baleful influence of Karl Polanyi and A.V. Chayanov and James C. Scott, would be filled with opportunities to buy low from one set of fools in order to sell high to another. Such a view, I would say, does not treat the dead with due respect. It entails assuming our ancestors were heedless and, if asked, would not prefer a little more bread to a little less … The second-guessing ought to be easy in such an economy, because the mistakes would be so egregious. They would compound one another, the foolishness of peasants allowing the lords to engage in still greater foolishness."[242]

Rationality is not some magical creation of modernity, but is a simple, elemental sort of behavior:

> "The leaves on maple trees are not stacked in a row right behind the other; instead they are arranged in a way to maximize the amount of light falling on all the leaves. Advanced mathematics is needed to solve this problem, but, as far as I know, no maple tree has ever gone to college. If trees can act rationally, it should not be unreasonable to assume that people act rationally as well."[243]

Anthropologists have long shown that often exploitative market oriented behavior is directed towards outsiders, or confined to specific spheres of economic activity, in order not to disturb the internal cohesion of a group. Moreover, economic anthropologists have noted that economic rationality can be seen in primitive communities that have experienced monetization and the

[242] McCloskey, 1996, 146.

[243] Wittman, 2005, 8-9.

commensurable calculation that it permits.[244] The more complex the market system, the more likely peasants are to behave in the manner of *homo oeconomicus*.[245] With monetization and markets, therefore, ancient Greece meets these criteria.

Indeed, many ancient economists have already implicitly argued for economic rationality by advocating a New Institutional Economics approach, which assumes economic rationality within its analytical framework.[246] The editors of the *Cambridge Economic History of the Greek and Roman World*, Alain Bresson, and Peter Bang have all applied New Institutional Economics to the ancient economy with powerful effect, and it would be difficult to reconcile such an approach with the ancient evidence if it did not at least approximately accord with the behavioral assumptions of NIE. For New Institutional Economics, information and trust problems are paramount, in an environment of uncertainty, in which social relationships must be maintained to counteract the difficulties of interacting within such an environment.

Moreover, in his bazaar economy model, Geertz's himself explicitly points to the central components of economic rationality as the fundamental force driving individuals in his bazaar economy model:

> "Considered as a variety of economic system, the bazaar shows a number of distinctive characteristics. Its distinction lies less in the processes which operate and more in the way those processes are shaped into a coherent form. The usual maxims apply here as

[244] Gudeman, 2001, 41-2.

[245] Hodges, 1988.

[246] For the Neoclassical behavioral assumptions at the root of New Institutional Economics, see Granovetter, 1985; Frier and Conison, 2009, 514. Game Theory likewise assumes economic rationality as the basis of individual choice, for which see Von Neumann and Morgenstern, 1944.

> elsewhere: sellers seek maximum profit, consumers maximum utility; price relates supply and demand; factor proportions reflect factor costs (1978, 29)."[247]

The particular institutions of the bazaar, therefore, are what give it its distinctiveness – not the mental processes that drive human behavior, which conforms to economic rationality.

Some may still nevertheless believe it misguided to seek out models of modern economic behavior in a pre-modern system – the inappropriate, anachronistic, retrojection of our own world onto the past:

> "Despite the fact that Renaissance Florentines invented financial capitalism and much else that we associate with modernity, we agree with contemporary historians who stress the traditionalist *mentalité* of the era. Florentines were too drenched in concerns with family, marriage, status, and clientage, not to mention the ever-looming threat of early mortality, to appear to be cognitively very much like us, even though they frequently did things that look very much like what we do. Social science efforts to impose modernist models of ourselves on the past do violence to our comprehension of that past. More important, they lead us to miss the opportunity to learn what the ancients have to teach us, about social science, among other things. Listening to, not testing preconceived ideas about, the past is how to learn."[248]

Though Padgett and McLean are laudable in their declaration that the ancients should be allowed to speak for themselves, the drawbacks of such a positivistic methodology are that the theoretical and metanarrative paradigms within which a historian operates are ignored. If there is any single

[247] See also Geertz, 1979, 124.

[248] Padgett and McLean, 2006, 1543-44.

methodological lesson that can be learned from history of the twentieth century, it is that historians invariably and unconsciously shape their analysis with metanarrative and theoretical assumptions,[249] and that only by being as transparent as possible about the theoretical framework that influences his or her study can the historian one escape from the trap of extreme positivism.

Moreover, merely listening to the words of pre-modern peoples also exposes the historian to the trap outlined by Geertz, in which focusing only on surface representations and symbols detracts attention away from deeper realities.[250] Ian Morris agrees that too much attention on the symbolic can distract from the material realities beneath.[251] Fernand Braudel makes this precise point when discussing the circular trap that so many studies of economic *mentalité* become caught in: "if we really want to discover the origins of the capitalist mentality, we must move out of the charmed circle of words and look to real life."[252] Therefore, the focus of this study will be primarily on the actual decisions that ancient Greeks made in their economic affairs.

Furthermore, as Geertz noted above, individual behavior and institutions must be clearly and explicitly distinguished in any approach to pre-modern societies. The best way to do this is to analyze individual behavior as it responds to institutions, and the best way to measure individual behavior and not to confuse it with social institutions is to measure the observed behavior in the sources alongside the model of economic rationality.

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[249] See, e.g., the objections of Morley, Neville, *Writing Ancient History*. (Ithaca, NY, 1999), 93: "Facts *don't* speak: the historian who tries to listen to nothing but the facts will produce an interpretation that is driven by his own unconscious preconceptions, assumptions, prejudices".

[250] Geertz, 2000, 153.

[251] Morris, 2002.

[252] Braudel, 1982, 580-81.

Much of the misunderstanding surrounding economic rationality is the seeming irrationality of human institutions and behavior on the collective level. With so much inefficiency and inequality in the economy and society, how can individuals be said to behave rationally? This is because rationality on an individual level does not lead to sensible behavior by larger groups or society as a whole. As Jon Elster has said, "individual rationality leads to collective disaster."[253] It is counterintuitive that individuals acting for their own benefit can create inefficient, or even chaotic, results at the societal level, and it is easy to see why many scholars believe that the seemingly nonsensical state of affairs in human society cannot be the result of behaviors that can be labeled as "rational".

Economic rationality is individuals acting for their own benefit, selfishly. Selfishness can create unfair, inequitable outcomes for people as a whole, and on the level of economic, political, and social institutions, what works out well for one person does not always work out well for all, and the result can seem quite irrational.[254] Therefore, confusion between human rationality at the individual level and that on the aggregate level is entirely misleading, and leads to the same fundamental mistakes as confusing individual behavior with social institutions.

Economic rationality is a useful model for evaluating individual behavior. It is a well-defined, easily recognizable, verifiable, and falsifiable set of variables against which ancient

[253] 1982, 467. Also see Elster, 1989, 126: "there are innumerable examples in social life of [the] perverse tendency of individual rationality to generate collective disaster"

[254] Consider the dispute over the Ambassador Bridge between Windsor, Ontario and Detroit, Michigan. The bridge's owner is perfectly rational in promoting the monopoly he holds over the traffic at this important border crossing, but a new, competing bridge would be better for the economy as a whole. Therefore, individual economic rationality can impede collective benefit, and can restrain collective development and progress.

evidence can be tested.[255] As such, it provides a more or less objective set of criteria with which to analyze ancient behavior. I am not arguing that the ancient Greeks conform perfectly to a pattern of economic rationality – only that they fit the model to the same, albeit imperfect, extent that we in the modern world do.

XII. Methodology.

The only objective way to measure the economic *mentalité* of a people is to measure their behavior against the model of economic rationality. If economic rationality existed, the economy should function in the same way. If it did not, then it would have operated totally differently. There has been little agreement on this subject, which is probably the most significant barrier to scholarly consensus on the ancient economy.

Economic rationality provides an objective means for analyzing the economic *mentalité* of ancient Greeks. After examining the economic decision-making process, and the strategies Greeks employed in their business and household management, it becomes apparent that the ancient Greeks were no less economically rational than their modern counterparts, and that it is in institutions that the most significant qualitative differences between the ancient Greek and modern economy lie.

Institutions, like economic rationality, provide an objective, measurable index of development for comparing different economic systems. My intention is to bring institutions to

[255] For the importance of explicitly identifying and applying testable and falsifiable models to the ancient economy, see Morris and Manning, 2005, 35.

the fore of the discussion, and to demonstrate the ways in which they affected individuals' economic decisions. Market imperfections, the limits of *polis* jurisdiction for the enforcement of contracts, and a kinship, rather than corporate structure for business, together created many of the peculiar circumstances that distinguish the ancient Greek economy from that of the modern West. The ways individuals responded to these particular institutional conditions include behaviors that appear not to conform to economic rationality at first, but when the institutional environment is considered, these motives were no less rational than those of individuals in the modern West.

Although economics was not a central concern for most extant Greek authors, who had no economic theory of their own,[256] there is nevertheless an abundance of evidence directly pertaining to the functioning of the Greek economy and the behavior of individuals within it. [257] Xenophon, Plato, and Aristotle, in particular preserve a great deal of evidence regarding how people behave on the whole, making universal statements about economic behavior in their discussions of current political or social matters.

Not that these statements are always easy to interpret. For example, Xenophon's *Symposium* contains some of the most seemingly contradictory statements on wealth from ancient Greece. After being asked by fellow reveler Callias why he is proud of his poverty after losing his fortune, Charmides responds that he no longer fears burglars or any of the other things that afflict rich people (Xen. *Symposium* 4.29-33). Antisthenes is then asked by Socrates how he can be proud of his own wealth when he is actually quite poor, and his answer is ambiguous:

[256] Finley, 1973, 18-22.

[257] This is not to say that there was a single, organic Greek economy. A multitude of overlapping *polis* "economies" is probably the best way to envision the Greek economy system. See Cartledge, 2002.

"ὅτι νομίζω, ὦ ἄνδρες, τοὺς ἀνθρώπους οὐκ ἐν τῷ οἴκῳ τὸν πλοῦτον καὶ τὴν πενίαν ἔχειν ἀλλ' ἐν ταῖς ψυχαῖς. ὁρῶ γὰρ πολλοὺς μὲν ἰδιώτας, οἳ πάνυ πολλὰ ἔχοντες χρήματα οὕτω πένεσθαι ἡγοῦνται ὥστε πάντα μὲν πόνον, πάντα δὲ κίνδυνον ὑποδύονται, ἐφ' ᾧ πλείω κτήσονται".

"I think, gentlemen, that people have wealth and poverty not in their houses, but in their souls. For I see that many private individuals, who are altogether very rich, think they are so poor that they undergo every labor, every risk, in order to acquire more wealth" (Xenophon, *Symposium* 4.34-5).

The overall impression one gets from this section of the *Symposium* is that one man is proud of the freedom he gets from his poverty, another is proud of his scarce means because they are sufficient for his wants, and others are so desirous of wealth that even when they are rich they feel as if they are poor and do everything they can to acquire more. On the one hand, there are attitudes that belittle the importance of wealth and economic activity.[258] On the other hand, there are universal statements that are in perfect accord with the behavioral assumptions of modern economic theory: "those who are altogether very rich think they are so poor that they undergo every labor, every risk, in order to acquire more wealth."

It is passages such as this that have made the study of economic behavior in ancient Greece so difficult. Although there are numerous passages that seem to reveal modern economic principles at work in ancient Greece, they are often balanced by statements which suggest the

[258] This is also the impression gained from the pseudo-Platonic dialogue *Eryxias*.

opposite. Plato's *Hipparchus*, for example, contains critiques of selfish, or base gain, but in the end concludes that all people are lovers of gain.

Most scholarship on ancient Greek economic behavior has emphasized the passages that are at variance with modern economic thought, in keeping with the principles of cultural relativism which guided ancient economic history in the twentieth century.[259] This emphasis on difference has resulted in a distorted view of the ancient economy, since crucial evidence, which depicts ancient Greeks and their economy functioning in accordance with modern economic principles, has been ignored or dismissed as exceptional, unrepresentative, or of limited significance. As in the comment of Antisthenes above, in which he describes already wealthy people undergoing risks and labor to increase their wealth, there is enough evidence which is suggestive of modern economic principles operating in ancient Greece to necessitate a systematic reevaluation of the scholarly assumptions about ancient Greek economic behavior.

Much of the best evidence for economic behavior in ancient Greece appears in contexts whose moralizing tone pairs these statements with contradictions or refutations. However, we need not confuse the injunctions of a philosopher, and the prescriptions he provides, with the behaviors which he is criticizing. I argue then, that it is necessary to look past the wealth-disparaging ideas of authors or characters with moralizing agendas in order to reach some of the best evidence for economic life in ancient Greece.

Indeed, when statements describing individuals who pursue their self-interest at the expense of the *polis* appear in the moralizing works of Plato and Aristotle, the incidental nature

[259] See Trigger, 2003, 3-14, for a succinct discussion of cultural relativism and the dangers of adopting an extreme view of relativism.

of their preservation makes them even more valuable and illuminating. These are realities which are so prevalent in daily life, so pervasive in every aspect of the Athenian's lived experience that they motivate these philosophers to try to find cures for them in their solutions to the problems of the *polis*. A strong moralizing agenda is a response to powerful forces, which are perceived as being potent enough to degrade significantly the social bonds of the community itself.

Though copious, much of this evidence has been neglected in scholarship on the ancient Greek economy,[260] and much of the scholarly uncertainty surrounding ancient Greek economic behavior results from such incomplete readings of the sources. The overall effect of this selective use of the evidence has been to obscure the operation of the economic system, removing critical elements from the study of the system as a whole.

It is this neglected evidence that will be the focus of this dissertation, in an attempt to reintroduce it into the mainstream scholarship on ancient Greek economic behavior. Hardly exceptional, this evidence is rather of the utmost importance, providing an unparalleled glimpse into the money-making strategies and economic decision-making of ancient Greeks.

Most of the evidence will come from the Attic orators, and evidence from lawsuit speeches is problematic by nature. These speeches present only one side of a case and their authors are constantly manipulating the "facts" in order to present as convincing a case as possible to receive a favorable verdict from the jury. Not only must one grapple with the deliberate misrepresentation of facts in these cases, but also the strategically-created character profiles of the speakers themselves and their opponents.

[260] There are exceptions to this rule, e.g., Thompson, 1978, 54; 1982.

Not only behavior, but also motivation and intention are often fashioned to debase an opponent's character while extolling those of the speakers themselves. Some of the best evidence for economic rationality, intentions and rationale, are often attributed to an opponent's by the speaker, and therefore must be examined critically. Moreover, speakers also appeal to the jury's moral and cultural values in presenting the characters of the parties involved, and so the presence of cultural slanders and stereotypes intended to rouse the ire or sympathy of the audience must be considered as well. Thus, for forensic oratory, what scholars read is not an objective account of "what really happened", but rather the subjective creation of a biased party who is trying to persuade to serve his own purposes.

However, this layer of distortion does not invalidate the evidence in the orations, because what matters at the discursive level is that the actions are plausible. If an orator makes an argument based on what someone is likely to have done (*eikos*), his audience is expected to believe that that person's behavior is likely and plausible.[261] The orators often depict individuals behaving in ways that we would consider economically rational, and if the audience is expected to believe that this is plausible behavior, the natural inference is that the behaviors and motivations depicted by the orators are in line with how people were normally believed to act.

Evaluating the evidence of the orators for historical reconstruction has been the topic of much discussion in recent decades, and a number of important methodological points have been

[261] Cohen, 1992, 26-27.

made.[262] Edward Harris conveniently lists six criteria for judging the reliability of statements in the orators:[263]

1. Statements that are supported by relevant evidence can be regarded as reliable.

2. It is important to determine whether the evidence cited by the speaker could actually have proven the truth of his statement.

3. While we can trust a statement of fact that is corroborated by relevant evidence, nothing compels us to accept the speaker's interpretation of that fact.

4. All statements not supported by evidence should be regarded with suspicion.

5. The only kinds of unsubstantiated assertions that can be trusted are those made about public events in the recent past and charges made by the prosecutor that are mentioned by the defendant without being refuted.

6. The failure of the defendant to respond to a charge made by his accuser is not strong grounds for considering the charge to be true.

In the end, there is a symbolic veneer in all Athenian rhetorical sources, and there are methods appropriate for evaluating the evidence in these sources.[264] Facts are often distorted in order to fit symbolic paradigms within Athenian public discourse, and as Geertz has said (see above), it is

[262] Todd, 1990; Cohen, 1990.

[263] Harris, 1995, 15-16.

[264] Ober, 1989, 43-49.

necessary to see through the level of symbolic discourse, to penetrate to the deeper realities that lie beneath.

Seeing through the symbolic level in philosophical works is equally important. Even in these works, it is possible to see past the philosophical screen which obscures and obfuscates the operating realities of economic life. While an author may present an anti-wealth attitude, the fact that such generalizing statements of the realities of economic life also appear alongside, and usually are the target of such moralizing sentiments, suggests that people behaved in these ways in sufficient enough numbers to justify a moral outcry.

Indeed, there is a great deal of evidence for economic rationality and profit maximization preserved in the estates from ancient Greece, which are exclusively the property of the wealthy; the fact that so much evidence does exist for wealthy individuals makes it easier to find economically rational behavior, because these would have been the people least likely to live according to a peasant subsistence regime. Assuming that the rich and poor pursue the same economic strategies is a serious methodological problem, and it should be seriously considered that these wealthy individuals made different decisions and employed different strategies than poor peasants living at the level of subsistence.

It is true that capitalism or even economically rational behavior may only be recognizable among a small percentage of the population – the upper-crust, as Braudel has described it.[265] Likewise, Weber has argued that ancient Greek capitalism only appeared in certain *poleis*. Looking only at 'dominant' trends, however, obscures the full operation of the economy. If one only paid attention to the behavior of the majority of the population (wage-laborers) without

[265] Braudel, 1982, 232, 239, 248; cf. Cartledge, 2002, 14.

focusing on such large players as investment banks, it would be impossible to understand the modern economy. The sheer volume of money and transactions that banks control makes them indispensible for any account of the modern economy. In ancient Greece, many wealthy individuals engaged in profit maximization in such fields as maritime trade, money lending, silver mining, and manufacturing. These individuals were predominantly from the wealthy portions of the population, and they were among the most important movers of the economy.

Today banks and corporations are the big players in the economy, but in ancient Greece, it was wealthy estate owners. Just as one could never understand the economy of the modern world by looking only at lower and middle class individuals and ignoring banks and corporations, one cannot understand the ancient Greek economy by focusing on the masses at the expense of the biggest players, the wealthy estate owners who in many ways filled the roles of bankers and firms today. These were the biggest actors, and they were therefore the most significant agents that affected the performance of the economic system on the whole.

Dismissing economic rationality as exceptional or marginal is not a sufficient explanation for the relatively underdeveloped state of the ancient economy. As Braudel notes, in early-modern Europe the evidence for economic rationality and capitalism is likewise marginal – limited to an upper crust of merchants – but it was an upper crust of merchants who created the modern industrial capitalist system. Therefore, even if there is only clear evidence of economic rationality among a small number of individuals who were peripheral to the dominant agrarian society in which they lived, this is still not sufficient to claim that the predominant *mentalité* was the main constraining factor, as economically rational capitalism is also same relatively marginal also appears in early-modern European sources.

Wealthy estate owners' motives cannot be assumed to follow a peasant subsistence model,[266] and so, I will examine their actions according to the model of economic rationality. As Dennis Kehoe has shown, proving economic rationality is difficult: one must demonstrate that the individuals have a choice in investment and that they are comparing the relative profits and costs of different investment options.[267]

It is within the *oikos* that the majority of ancient Greek economic behavior and strategies can be found, especially with reference to production and consumption, and so I will center my analysis upon this powerful institution. Most of the attested business and householding decisions took place within the sphere of estate management, and so I will examine the attested estates from ancient Greece in great detail. On the other hand, much evidence also comes from the market, the center of exchange, and the activities of merchants. Maritime commerce in ancient Greece was risky business, and there is a great deal of evidence for the strategies taken by traders in the field of international trade.

XIII. Conclusion: Rationality + institutions = unparalleled insights.

In the end, rationality is not some earth-shattering revelation, a mental epiphany that inevitably brings about Western modernity, as it has often been presented by historians: "The concept of rationality is rather trivial. Nobody had to read this chapter to discover that people

[266] Foxhall, 2007, 248.

[267] Kehoe, 1993, 476, 483-4; 1997, 6-7.

generally choose what they prefer. However … rationality in combination with other simple ideas produces non-obvious and deep insights."[268]

Following Wittman, I believe that exploring the concept of economic rationality within the institutional environment of ancient Greece can produce "non-obvious and deep insights" into both individual economic behavior and the performance of the economic system as a whole. Indeed, far from only satisfying a scholarly fetish to see modern traits in the ancient world, seeking economic rationality in pre-modern societies can help to illustrate cultural and economic peculiarities.

Therefore, I will examine how rational individuals interacted with the institutions of their society and how these institutions shaped economic performance. Such institutions as inheritance, the liturgical system, and the fragmented world of the *polis* all shaped economic performance, and by focusing on the ways that institutions affected the accumulation of private capital, I will show that the institutional framework of the ancient Greek world was a significant factor in determining the development and the performance of the economy.

The *polis* was the most important political institution in the ancient Greek world, and its structure had major effects on the development of the economy. The *oikos,* in turn, was the other major institution that shaped the ancient Greek economy. The family was the most important corporate economic entity in this world, and the private estate therefore took on the functions of both firm and household, which are institutionally distinct in the modern Western economy.

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[268] Wittman, 2005, 12.

By examining the unique combination of institutional forces in ancient Greece, I hope to demonstrate that it was not a primitive *mentalité* or economic irrationality that prevented further economic development, but rather the state of institutional structures and technological development. Just as river bed directs the flow of water, the institutional framework of ancient Greece channeled the driving forces of its individuals, and their money, in ways that were often amenable, but also sometimes antithetical, to further economic development.

The first part of my argument demonstrates in detail how ancient Greeks' economic decision-making and money-making strategies conform to the basic principles of modern economic rationality. The second part of my argument is to show how the specific institutional structures of the ancient Greek economy prevented this economically rational behavior from creating a more sophisticated economic system. As Wittman argued, economic rationality combined with other factors can yield non-obvious and deep insights. By using economic rationality as a lens through which to examine individual behavior and the ways that institutional structures affected economic behavior, I will argue that the institutional structure of ancient Greece created unforeseen, and unintended consequences for the long-term accumulation of business capital by private individuals.

Chapter 2: Ancient Greeks' observations on their own economic behavior.

I. Introduction: Socrates, Plato, Aristotle and economic rationality.

In the *Apology*, Plato's Socrates claims that he has spent his life trying to convince Athenians that they should aspire not to economic prosperity, but rather to improving their character: Οὐκ ἐκ χρημάτων ἀρετὴ γίγνεται, ἀλλ' ἐξ ἀρετῆς χρήματα, "Excellence does not arise from wealth, but rather wealth from excellence."[269] While arguing how much he has done for the Athenians, he reveals a great deal about the ancient Greek economy in statements that would be banal except from the perspective of economic behavior:

> Τί ἄξιος εἰμι παθεῖν ἢ ἀποτεῖσαι, ὅτι μαθὼν ἐν τῷ βίῳ οὐχ ἡσυχίαν ἦγον, ἀλλ' ἀμελήσας ὧνπερ οἱ πολλοί, χρηματισμοῦ τε καὶ οἰκονομίας καὶ στρατηγιῶν καὶ δημηγοριῶν καὶ τῶν ἄλλων καὶ συνωμοσιῶν τῶν καὶ στάσεων τῶν ἐν τῇ πόλει γιγνομένων, … ἐπιχειρῶν ἕκαστον ὑμῶν πείθειν μὴ πρότερον μήτε τῶν ἑαυτοῦ μηδενὸς ἐπιμελεῖσθαι πρὶν ἑαυτοῦ ἐπιμεληθείη ὅπως ὡς βέλτιστος καὶ φρονιμώτατος ἔσοιτο

> What do I deserve to suffer or pay, because I did not lead a quiet life, but neglecting the things that most people care for, making money, estate management, generalships, public speeches,

[269] Plato, *Apology,* 30b.

and the other secret clubs and political factions that exist in the city … I tried to persuade each of you not to take care of his affairs before himself, in order to be as good and wise as possible.[270]

In these passages, Plato's Socrates presents a stark contrast between himself and the rest of the Athenians. While he is concerned with goodness and wisdom, average Athenians care more for making money and engaging in political affairs. Socrates is an exception to the norm; most Athenians devote their lives to economic and political success.

In the *Politics*, Aristotle divulges further important details about ancient Greek economic behavior as he describes the types of profits Greeks strove to realize through the art of money-making, *chrematistike*:[271]

ἄπειρος δὴ οὗτος ὁ πλοῦτος, ὁ ἀπὸ ταύτης χρηματιστικῆς … τέλος δὲ ὁ τοιοῦτος πλοῦτος καὶ χρημάτων κτῆσις … μὲν φαίνεται ἀναγκαῖον εἶναι παντὸς πλούτου πέρας, ἐπὶ δὲ τῶν γιγνομένων ὁρῶμεν συμβαῖνον τοὐναντίον· πάντες γὰρ εἰς ἄπειρον αὔξουσιν οἱ χρηματιζόμενοι τὸ νόμισμα.

Indeed this wealth has no limit, which comes from this type of money-making ... and the end is wealth of this kind and the acquisition of money … on the one hand it seems necessary that

[270] Plato, *Apology*, 36b-c.

[271] For the ancient Greek conception of *chrematistike* as a *techne*, see section IV below.

> there be a limit for all wealth, but on the other we see the opposite occurring in actual deeds; for everyone engaged in money-making will increase his money without limit.[272]

In Plato, most Athenians are said to concern themselves with making money, and Aristotle says that “everyone engaged in money-making will increase his money without limit”. By themselves these statements by Plato and Aristotle are not all that significant, but for the study of the ancient Greek economy, they are of the utmost importance, because they seem to suggest that many ancient Greeks wanted to maximize their profits and wealth. Trying to make as much money as possible is the clearest sign of economically rational behavior,[273] which contradicts the widely-held belief among scholars that ancient Greeks were constrained by a “pre-rational”, “non-economic”, or “primitive” *mentalité*.

These passages preserve important evidence for ancient Greek economic behavior, and Plato and Aristotle were not alone in saying that most Greeks focused on financial concerns and making as much money as they could. There are a large number of remarks scattered throughout Greek literature that corroborate the impression of ancient Greek behavior that is found in the above passages. When this evidence is presented in its entirety, Greek authors from the archaic period through the fourth century BCE are consistent in describing ancient Greeks behaving in a

[272] Aristotle, *Politics*, 1.1257b 23-35. For a detailed discussion of Aristotle’s economic observations in this passage, see Meikle, 1995, 43-67. For Aristotle’s treatment of *chrematistike* in the *Politics*, see Austin, and Vidal-Naquet, 1977, 362-68. Meikle, 1996, also shows that Aristotle’s view of *chrematistike* is largely negative, and there is a moralizing tone in this and other passages concerned with money-making and business. In order to become the target of Aristotle’s moral censures, such behavior must have been very widespread. For Aristotle’s economic analysis in the *Politics* and the *Nicomachean Ethics*, which is unique in ancient Greece, see Finley, 1970.

[273] As discussed in Chapter 1, the basic behavioral assumption of Neoclassical economics is that individuals generally try to make economic choices which lead to their material benefit, which includes profit-maximization, with some important qualifications. By “Neoclassical” economics, I mean the standard, orthodox, or mainstream field of economic theory since the late nineteenth century – see my discussion in Chapter 1.

way that resembles modern notions of economic rationality: people tried to make as much money as they could, and for many the drive for profit was insatiable. Moreover, ancient Greeks engaged in this behavior to such an extent that the aggregate effect of their behavior significantly affected the social and political life of the *polis*,[274] and caused many ancient Greek writers to comment on the pursuit of wealth and its consequences on society. At the same time, however, this desire for profit was tempered by an awareness of risk. As in the modern economy, safety was an important consideration in the economic decision-making process. Throughout ancient Greek literature, the weighing of risk features prominently in Greeks' evaluations of the profitability of a given opportunity.

In the end, I will argue that the fundamental principles of ancient Greek economic thought are consistent with modern economic theory,[275] and describe an economic system that functioned according to the same basic rules. Indeed, some of the best evidence for economic rationality is the existence of supply and demand, as economic rationality is the force which drives the operation of modern supply-and-demand price-setting markets. Since supply and demand is known to have operated to some extent in ancient Greece, it is likely, and perhaps necessary, that the ancient Greek economy was also driven by the same motivations for personal profit as in the

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[274] In this chapter I am concerned with observations made at the aggregate level, the behaviors on the whole that drive the economic system; that is to say, my focus is on the statements about Greek economic behavior in general, not the evidence of any individuals in particular. In subsequent chapters, I will look at the attested strategies and decisions of actual individuals, but it will first be necessary to demonstrate how ancient Greeks viewed behavior on the aggregate level before examining the details of individuals' economic decision-making and money-making strategies. For the distinction between the individual and aggregate focus in economics, see Wittman, 2005, 7.

[275] This is not to say that the ancient Greeks had developed any sort of systematic economic theory, for which see Finley, 1973, 21-23. Nevertheless, there are a sufficient number of observations made by ancient Greek authors on their economy to credit them with having some sort of economic thought.

modern world.[276] I will begin, therefore, with the evidence that prices in classical Athens were determined by supply and demand and the profit-oriented behavior of economically rational individuals.

II. Prices and profits: Xenophon on Greeks' reactions to supply and demand.

After the Social War of 357-355 BCE, Athens was in a state of financial ruin.[277] During the war, the state is said to have expended more than one thousand talents on mercenary pay alone,[278] not including the other costs of the war, which must have been considerable;[279] the total revenue of the Athenian state following the war dropped to only *one hundred and thirty* talents per year,[280] far below the amount needed to run the Athenian military and political apparatus.[281] The situation was so serious that a number of Athens' leading citizens advocated drastic changes in Athenian state policy to alleviate the economic crisis. The most famous of all the attempts to address the financial situation was made by Xenophon, in his treatise, *Poroi*.[282]

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[276] This is not to say that there was a single, organic, ancient Greek economy. See Cartledge, 2002, 12-13. A complex network of overlapping *polis* economies, each with some sort of internal differentiation, is probably the best way to envision the economic system of the ancient Greek world. Since the study of the ancient Greek economy has not yet progressed to the point that my analysis can be applied to different cities individually, there will naturally be some Athenocentrism in my focus, as the evidence is mainly preserved from fourth-century Athens.

[277] For the Social War and Athens' financial situation afterwards, see Sealey, 1955, 74-81; Cawkwell, 1981, 52-55; Buckler, 2003, 377-84.

[278] Isocrates, 7.9.

[279] See Andreades, 1933, 221-226, for estimates of Athenian wartime expenditures during the fourth century prior to the Social War.

[280] Demosthenes 10.37.

[281] Burke, 1985, provides estimates for Athenian political expenses during the fourth century BCE.

[282] It is now generally agreed that this work was published very soon after the end of the Social War, most likely in the summer of 355/4 BCE. For the date of *Poroi*, see Gauthier, 1976, 4-6; Jansen, 2007, 50-56. *Poroi* cannot be

While recommending that the state expand its involvement in the mines at Laureion to increase its revenues, Xenophon inadvertently provides a fascinating and unparalleled glimpse into the nature of the market economy of fourth-century Athens. He describes how individuals enter into and exit from specific types of manufacture in response to fluctuations in the prices of manufactured goods:

> ὅταν πολλοὶ χαλκοτύποι γένωνται, ἀξίων γενομένων τῶν χαλκευτικῶν ἔργων, καταλύονται οἱ χαλκοτύποι, καὶ οἱ σιδηρεῖς γε ὡσαύτως· καὶ ὅταν γε πολὺς σῖτος καὶ οἶνος γένηται, ἀξίων ὄντων τῶν καρπῶν, ἀλυσιτελεῖς αἱ γεωργίαι γίγνονται, ὥστε πολλοὶ ἀφιέμενοι τοῦ τὴν γῆν ἐργάζεσθαι ἐπ’ ἐμπορίας καὶ καπηλείας καὶ τοκισμοὺς τρέπονται
>
> Whenever there are many bronzesmiths, and bronze products become cheap, bronzesmiths are ruined, and blacksmiths likewise; and whenever there arises a great deal of wheat and wine, and the produce becomes cheap, farming becomes unprofitable, so that many people, removing themselves from working the land, turn to trade, shopkeeping, and lending at interest.[283]

considered outside the context of the financial reforms during the administration of Eubulus just after the Social War. The most authoritative and comprehensive account of the career of Eubulus is still Cawkwell, 1963, who thinks that the "financier" Eubulus actually carried out the suggestions recommended by Xenophon in the *Poroi*. Burke, 1984, 113-18, also believes that he largely followed Xenophon's proposals, but there is too much uncertainty surrounding the available evidence to say for certain that this was true. See also Gauthier, 1976, 223-31, for a full discussion of the evidence. Eubulus' position was created as part of a series of extensive reforms of the Athenian public financial administration during the fourth century, for which see Rhodes, 1980, 309-315. For Athenian public finance prior to the fourth century, see Samons, 2000.

[283] Xenophon, *Poroi* 4.5-6.

The significance of this passage must not be underestimated, as it reveals the operation of an economic system functioning according to the fundamental economic principles of supply and demand. [284] More people producing the same product increases supply, which, without a corresponding increase in demand, decreases the good's value, leading to a drop in price. With the decreased profitability of producing a good in a saturated market, those who do not adapt to the changing market situation will see their profits decline and may be ruined.[285] Those who do make the decision to switch their production do so, according to Xenophon, in response to prices, to maintain their profits.

Since it is not likely for peasant farmers or poor blacksmiths suddenly to be able to learn new trades in the face of a market fluctuation,[286] Xenophon's comment makes best sense in

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[284] Austin and Vidal-Naquet, 1977, 318, n. 4. For Xenophon's observations of supply and demand, see Jansen, 2007, 373-77. For the operation of supply and demand at fourth century Athens, see the sources collected by Harris, 2002, 75-77, and my discussion for ancient Greece as a whole in Chapter 1 (above). Polanyi admits that Aristotle saw the emergence of an economy operating according to market principles in fourth century Athens (Polanyi, Karl, "Aristotle Discovers the Economy," in Karl Polanyi et al. (eds.), *Trade and Market in the Early Empires.* (Chicago, 1957), 64-94), and Gary Reger has shown that the price fluctuations preserved in the inscriptional record of Hellenistic Delos reveal a functioning supply and demand price-setting mechanism (Reger, 1994, 127-188). There are, however, some limitations to the explanatory power of supply and demand. Johnstone, 2011, has shown that prices are not solely determined by supply and demand, but that there is also an important human element in haggling negotiations (13). There could be variation in individuals' willingness to spend based on a variety of factors. Also, the prices listed in temple accounts, for example, may only be average prices, and cannot be used uncritically as accurate indices of changes in supply and demand only, since there may have been considerable variability in the quality of the products purchased, in the absence of extensive modern quality control standards (47-48). Other problems with prices can be seen in the price data from Hellenistic Delos, where some goods follow the seasonal pattern of supply and demand, while others, such as frankincense, may have been secured through non-market means which guaranteed a stable price (Reger, 2002, 140). On the whole, however, supply and demand were certainly operating in ancient Greece.

[285] καταλύονται in this passage can mean to "ruined", or, as Gauthier, 1976, 121, thinks, "retire". I prefer "ruined" since Xenophon's statement does not necessarily imply that blacksmiths or bronzesmiths are retiring from their trades.

[286] There were probably many stubborn craftsmen who were ruined by their unwillingness or inability to switch fields at times of economic distress. One example is the sickle-maker in Aristophanes, *Peace* 1198-1202, who does not switch his production to martial goods during wartime and thanks Trygaeus for making peace. Likewise, the

describing the actions of wealthy men who are operating purely at the level of ownership, in the acquisition of new properties.[287] While a working blacksmith would be hard-pressed to become a money-lender, a wealthy farmer could easily do so, if he sold his property for cash. Likewise, for the wealthy, entry into a new field of production could be as easy as buying trained slave workers, while a poorer craftsman would have great difficulty in paying the capital required for a new trade.[288] Therefore, this passage provides insightful details into the lives of wealthy individuals who are able to switch their field of production by transferring their money into new investments, and do so in response to changes to supply and demand in the market of fourth-century Athens.[289] Xenophon likely focuses on *sitos* and wine because these are precisely the sorts of crops that a rich investor would choose for quick profits.[290] Unlike olives and figs, whose trees could take up to thirty years to mature, cereals could bring a return within a year, and vines

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arms seller, helmet maker, and spear maker in *Peace* 1212-39 are angry at Trygaeus, and cannot sell their goods for any price in peacetime. The fact that Solon is supposed to have required fathers to teach their sons a trade is evidence for the expertise required to engage in trades (Plutarch, *Solon* 22), which could not simply be adopted without extensive training. Farmers throughout Aristophanes are also depicted as stubbornly sticking to their land, even in the face of financial ruin during the Peloponnesian War. Therefore, for poorer tradesmen and farmers, it would have been much more difficult to change their economic specialization than for wealthy men of property.

[287] Gauthier, 1976, 121 agrees.

[288] With the numerous opportunities for public wage-pay under the Athenian democracy in the jury courts, the *ekklesia*, the navy, etc., it probably would have been much easier for poorer craftsmen to supplement their profits with pay from public service. See Rhodes, 1981, 300-09, 338-44, 490-93, and 691-95, for public wage opportunities in Athens.

[289] These wealthy citizens were not, of course, the main laborers in their operations, but purchased slaves to staff and manage the majority of their wealth-producing properties. For the use of slave labor on agricultural estates, see Wood, 1988, 51-80; Pomeroy, 1994, 61-67; De Ste. Croix, 1981, 505-508; Jameson, 1977, 122-41; Gallant, 1991, 30-33. For the role of slaves in managing banks, see Cohen, 1992, 77-101.

[290] Gauthier, 1976, 122-23, suggests that Xenophon only mentions grain and wine while omitting olives and figs because the former fit his agenda in the *Oeconomicus* of demanding a great deal of attention by the master.

within a few years, making them ideal as cash crops.[291] Prices of cereals and wine would have been subject to changes in production throughout the Mediterranean,[292] and the fluctuations of prices would have provided opportunities for profit.[293]

The central considerations for Xenophon in this passage are the fluctuations in prices according to the increasing or decreasing supply of certain goods, and the way people tend to respond to these price changes. The emphasis on prices of products as the deciding factor in determining individuals' choices is extremely important since it means that considerations of profit and monetary return ultimately influenced people to enter or exit certain fields of production. Xenophon's focus on entry and exit, the pattern of choosing investments in response

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[291] Foxhall, 2007, 76-77. For cereal cultivation in ancient Greece, see Jardé, 1925; Sallares, 1991, 309-89; Isager and Skydsgaard, 1992, 21-26. For viticulture, see Isager and Skydsgaard, 1992, 26-33; Horden and Purcell, 2000, 213-220. For olive cultivation in ancient Greece, see Sallares, 1991, 305-309; Isager and Skydsgaard, 1992, 33-40; Horden and Purcell, 2000, 209-13; Foxhall, 2007, 97-217. For figs, see Isager and Skydsgaard, 1992, 1992, 41-42.

[292] Grain prices at Athens were affected by a market which was not merely local, but which spanned the entire Eastern Mediterranean, from Sicily to the Black Sea: prices dropped at Athens in 323 or 322 (MacDowell, 2009, 284), when a shipment of Sicilian grain arrived (Dem. 56.9), and in 386 (Gernet, and Bizos, 1989, 84), the grain dealers, *sitopolai*, at Athens were able to profit from news that Athenian grain ships in the Black Sea were lost (Lysias 22.14). Demosthenes says that Athens imported 800,000 *medimnoi* of grain per year, half of which came from the Bosporus (Dem. 20-31-32). Market opportunities affected local production in Athens, including the availability of highly desirable and cheap wheat from the Bosporus, which may have caused Athenians to produce the barley for which their land was better-suited: Oliver, 2007, 39. For the suitability of Attica for barley, see Sallares, 1991, 369; Osborne, 1987, 33-34. For the preference for wheat over barley, see Möller, 2007, 363, Von Reden, 2007, 404. For cereal production in ancient Greece more generally, see Jarde, 1925; Garnsey, 1998, 205-213. For grain trade and production in Athens specifically, see Sallares, 1991, 309-313; Garnsey, 1998, 183-205; Whitby, 1998, 102-29; Moreno, 2007, 3-32. For cereal consumption, see Foxhall and Forbes, 1982, 75-92, but their conclusions on ancient production and consumption may be affected by different grain weights in the ancient world, for which see Stroud, 1998, 64-67. Calculations of carrying capacity and minimum nutritional requirements often carry with them the flawed assumption that people aimed at self-sufficiency and subsistence in an economy which had a minimum level of market exchange. For a criticism of this viewpoint, see Horden and Purcell, 2000, 272-78.

[293] Price fluctuations could be quite drastic, as in the increase of price from the normal rate of five drachmas per *medimnos* of *sitos* to the much higher sixteen drachmas attested in Dem. 34.39. As mentioned by the speaker at Lysias 22.12, prices could even change greatly during the course of a single day. Duncan-Jones, 1990, 144-5, shows that prices in Roman Egypt fluctuated significantly.

to changing opportunities for profit, is a clear sign of yet another important phenomenon which economic historians today examine in their analyses of the modern economy.[294] That Xenophon is observing a phenomenon from the modern economy operating in fourth-century Athens is highly suggestive of the same principles at work, albeit on a smaller scale. Therefore, Xenophon suggests that people watch the movement of prices in the market, enter fields which bring the most profit, and exit those whose profits are falling, just as in the modern economy.

This is a fluid, dynamic system in which producers choose to enter and exit different fields of production based on how successful each field would be as far as monetary return is concerned. Therefore, it is the individual desire for profit that Xenophon identifies as the driving force for the operation of this price-setting mechanism. Producers react to drops in prices by choosing to exit the field which they are in and switch to another field which brings more money simply for the sake of making more money. If they do not, they risk going under as a result of a market fluctuation, like those stubborn bronze and blacksmiths who stayed at their forges when prices were dropping. Watching prices, therefore, and making economic decisions purely based on profit and monetary return is how Xenophon depicts these individuals behaving in this market system,[295] who react to avoid losing profits in an effort to continue making money.

There is no discussion of sentimental attachment to ancestral or traditional occupations for these wealthy individuals, but only a money and profit-oriented choice in response to changing market conditions. Nor is there any hint of adhering to an ideal of the honorable yeoman hoplite citizen or the noble country gentleman. Instead, agricultural products are subject to the same

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[294] See McCloskey, 1996, 126-42, for a clear explanation of the significance of entry and exit in Neoclassical economic theory.

[295] This is also the interpretation of Bresson, 2000, 294.

laws of supply and demand as all other products, and agriculture is treated as just one of the many ways of making money available to ancient Greeks, along with bronze-smithing, iron-working, trade, and money-lending.[296] Producers are depicted as choosing agriculture based solely on the profitability of its products. Rather than being the default choice, then, agricultural products are compared to those of other types of economic activity, and are chosen if and only if they are more profitable to the producer.

The implication of this passage is that individuals generally consider different fields of production and choose between them based on the comparative profitability of their products, much like a modern *homo oeconomicus*, who behaves in accordance with economic rationality.[297] To Xenophon this may have been an observation of everyday significance, but to

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[296] The fact that Xenophon here describes people only concerned with making profits must be considered in light of his moralizing prescriptions about the monetary, personal, political, and social benefits of being a noble country gentleman farmer in the *Oeconomicus*. The prescriptive, moralizing agenda of the *Oeconomicus* seems to be addressed to the same wealthy individuals whose profit-motivated actions he describes in the passage from the *Poroi*. To see the behavior of the individuals in this passage from the *Poroi* against the backdrop of Xenophon's other works helps to illuminate more fully Xenophon's impressions of these people, who were so engaged in personal money-making that they were neglecting the *polis*, in his view. Xenophon's moralizing agenda in the *Oeconomicus*, then like that of Aristotle in the *Politics*, is directed at a behavioral trend in fourth-century Athens which was significantly pervasive and powerful that it necessitated a moralizing response. For the audience and aims of the *Oeconomicus*, see Pomeroy, 1994, 9-10.

[297] For the centrality of this comparative decision-making process for the modern definition of economic rationality, see Chapter 1 above. Gauthier, 1976, 120, interprets this passage entirely differently, claiming it is "essential pour saisir l'absence de mentalité économique (au sens modern) des anciens Grecs". To defend this claim, he says that Xenophon's observations depict a local market in which "demande est stable", and in which "le marché … était d'abord et essentiellement le marché local. Et certes cela sonne étrangement aux oreilles des modernes, pour qui le marché est élastique" (129). This interpretation, however, oversimplifies and miscomprehends Xenophon's thinking, which makes good economic sense. Xenophon's purpose in this passage is to describe very simply the effects of overproduction: increased supply leading to reduced prices. He is not trying to explain the functioning of the economic system in detail, for which an entire analytical corpus, rather than a single descriptive sentence, would be required. Rather, by isolating the initial effects of increased supply on prices, and not pursuing the secondary and tertiary results effects which may affect demand, Xenophon is unknowingly applying the principle of *ceteris paribus*, which is used by economists to isolate and explain the effects of a single change in the market of a single good, in order to limit the analytical focus which could otherwise become infinite: "the ceteris paribus clause is particularly restrictive in those cases where only a narrowly limited issue is analysed, such as price formation in a

economic historians of ancient Greece, the claim that greater profits drove people to abandon one enterprise and enter another is highly suggestive of the most central principles of modern economic theory in operation in ancient Greece: a supply-and-demand price-setting mechanism, and the self-interested, profit-oriented behavior of individuals who drove that system.

The centrality of money and profit in people's economic decision-making is also stated by Xenophon in a different way in his *Constitution of the Spartans*:

> ἐν μὲν γὰρ δήπου ταῖς ἄλλαις πόλεσι πάντες χρηματίζονται ὅσον δύνανται· ὁ μὲν γὰρ γεωργεῖ, ὁ δ' ἐμπορεύεται οἱ δὲ καὶ ἀπὸ τεχνῶν τρέφονται· ἐν δὲ τῇ Σπάρτῃ ὁ Λυκοῦργος τοῖς ἐλευθέροις τῶν μέν ἀμφὶ χρηματισμὸν ἀπεῖπε μηδενὸς ἅπτεσθαι … οὐ γάρ ἐσθῆτος πολυτελείᾳ, ἀλλὰ σώματος εὐεξίᾳ κοσμοῦνται.

> In the other cities all people make as much money as they can; for one man farms, another engages in trade, and others are supported from crafts. But in Sparta Lycurgus forbade free

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single market. Effects on other markets, and possible repercussions, are excluded … Economics is bound to perform *partial analysis* rather than *total analysis*: it considers phenomena in an economic system which is only a part of the wider complex and interdependent social system, and fixes its demarcations by means of the ceteris paribus clause" (Schlicht, 1985, 3). Though not consciously using such a concept, Xenophon's assumption of stable demand is precisely how an economist would describe the effects of increased supply in a market. For the use of *ceteris paribus* in economics, see Carter and Cullenberg, 1996, 88-89. Therefore, this passage cannot be used as evidence for a "borné et rigide" market in ancient Athens. Gauthier's other claim that Xenophon's rigidity of demand implies a non-exporting strategy among ancient Greek producers, who are only concerned with a local market (129), is likewise a misreading for the same reasons, as Xenophon is presenting a simplified picture rather than an extended discourse on economics. Gauthier is correct in noting that Xenophon's unit of analysis is a somewhat restricted market, and Finley, 1973, 135, agrees. Their observations may actually provide some insight into the limits of the Athenian market's reach, which is reminiscent of the arguments for the regional, or "cellular" nature of economies in Greco-Roman antiquity, which were imperfectly integrated and slow in their response time to supply and demand (see above, for my discussion of market integration in Chapter 1). Nevertheless, to claim that this limited analytical focus is evidence for "l'absence de mentalité économique" is certainly a stretch, and Gauthier's claim that the presence of a "juste prix" is also evidence for a non-economic mentality is equally problematic (see my discussion of just and market prices above in Chapter 1). While Gauthier does make a good point that ancient Greek technical innovations would have provided much less leeway for increasing production and thereby lowering the prices a producer could offer (130), this has nothing to do with a "mentalité économique".

> men from touching any of the things concerning money-making … for it is not in the beauty of their clothing that they are adorned, but in the beauty of the body.[298]

Once again, agriculture, trade and craft production are presented as ways of making money, first and foremost. Like the passage in *Poroi*, Xenophon's focus, and that of the people he describes, is centrally upon making money, with the occupations only mentioned as various means to this end. This statement is significant in two further ways. First, he says that everyone makes as much money as they can, which is tantamount to saying that people tried to maximize their profits, the clearest sign of economically rational behavior. Furthermore, that he says people did this in every other city than Sparta is a universal statement about ancient Greek economic behavior: ἐν μὲν γὰρ δήπου ταῖς ἄλλαις πόλεσι πάντες χρηματίζονται ὅσον δύνανται, "in the other cities everyone makes as much money as they can".[299] This is a very general statement, to be sure, but nevertheless it is significant that Xenophon believed that ancient Greeks, in the aggregate, tried to make as much money as they could.

III. Safety, honor, and social mobility: the benefits of wealth.

Far from being alone, Aristotle's and Xenophon's observations about Greeks making as much money as possible echo the testimony of many other writers from the ancient Greek world; from the Archaic period through the fourth century, ancient Greeks' desire to make money is

[298] *Lak. Pol.* 7.1-3.

[299] Even the Spartans may not have been exceptions to this rule, as Xenophon himself at *Lakedaimonion Politeia* 14 that many Spartans of his day did engage in wealth-creation against the precepts of the Lycurgan constitution. Plato, *Republic*, 8, 548a-c, and Plutarch, *Agis* 5, agree with him on this point. See Austin and Vidal-Naquet 1977, 335-7, and Hodkinson, 2000, for wealth in ancient Sparta.

well attested.[300] Solon, when asked what delights people most, replied: κερδαίνων, "making profit".[301] In Archaic Boiotia, Hesiod says that the desire for wealth can be met through work, work, work.[302] To persuade his brother Perses to work, he includes an incentive: ὄφρ' ἄλλων ὠνῇ κλῆρον, μὴ τὸν τέον ἄλλος "so that you may buy the farm of others, and that another not buy yours".[303] The implication of this advice is that other people desire to acquire Perses' property as well, part of the acquisitive aims of the people described by Aristotle and Xenophon.

Nor is it difficult to see why wealth was so desired in ancient Greece. Theognis says that wealth helps to bring release from the pains and cares which were so prevalent in ancient life: εἴη μοι πλουτοῦντι κακῶν ἀπάτερθε μεριμνέων ζώειν ἀβλαβέως, "let it be possible for me to live wealthy without harm and far from evils and worries."[304] Wealth itself, therefore, helped to alleviate much of the uncertainty and anxiety that plagued people living in a pre-modern society where the chance of starvation and death was ever present.[305] Hesiod depicts a world in which

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300 See Seaford, 2004, 157-62, for discussion and examples of other archaic and classical Greek statements about the desire for money as a universal aim.

301 Diog. Laert. 1.87.

302 "σοὶ δ' εἰ πλούτου θυμὸς ἐέλδεται ἐν φρεσὶν ᾗσιν, ὧδ' ἔρδειν, καὶ ἔργον ἐπ' ἔργῳ ἐργάζεσθαι" (*Works and Days*, 381-2). For Hesiod's *Works and Days*, see Edwards, 2004; Millet, 1984, 84-115; Zurbach, 2012, 179-91. For Hesiod's poetry more generally, see Clay, 2003. For the evidence of Greek antipathy towards labor, see Wood, 1988, 23-28. Hesiod's *Works and Days* exhibits both an advocacy for a strong work ethic and the opposite attitude, which is represented by Perses.

303 *Works and Days*, 341.

304 *Elegies*, I.1153.

305 This is not to say that famines and food crises in the ancient world were a constant feature of everyday life, for which see Garnsey, 1988, 6-40. Nevertheless, the threat of bad harvest was very real and required effective strategies of risk-buffering especially among the members of the population who were living at or near subsistence. For peasant subsistence strategies, see Garnsey, 1988, 43-88; Gallant, 1991. Even in the modern world starvation and famine are a constant threat in some communities, for which see Sen, 1983. For modern peasants' subsistence strategies, see Scott, 1976, 13-55; Ellis, 1988.

people are motivated to work on the one hand by the desire to acquire wealth, and on the other to avoid hunger.[306] The desire for wealth and the avoidance of hunger were also seen to be the sole motivations for economic activity by the proponents of Classical Liberalism during the early Industrial era,[307] a fundamental similarity between behavioral principles in ancient Greece and the modern economy. Hesiod tells his audience that they must work, since they will go soon hungry if they depend on their neighbors,[308] suggesting that some sort of market system existed in the Greek world even at that time, and that this market system was largely driven by the exact same principles of modern market behavior. [309] Theognis sums up the benefits of wealth in such an uncertain world very well: οὐ σε μάτην, ὦ Πλοῦτε, βροτοὶ τιμῶσι μάλιστα, ἦ γὰρ ῥηιδίως τὴν κακότητα φέρεις, "Not in vain, Plutus, do mortals honor you most, for you bear hardship easily" (523-4). Wealth not only satisfied the desire for gain, but also helped to reduce the impact of such hardships which were so common in this uncertain world.

Nor did wealth have only material benefits, but as Theognis says for sixth-century BCE Megara, it also brought respect in the community: πᾶς τις πλούσιον ἄνδρα τίει, ἀτίει δὲ

[306] Hesiod warns that hunger will be the consequence of inactivity at *Works and Days*, 299-300, 363, and 394-404.

[307] On the economic thinkers of Classical Liberalism, see Hunt, 2003, 44-52.

[308] *Works and Days*, 394-404.

[309] For the Archaic economy in general, see Osborne, 2007, 277-301; Van Wees, 2009, 444-67. For the emergence of a market economy system in the Archaic Period, see Tandy, 1997. For the Archaic peasantry, see Zurbach, 2009, 9-44. I agree with the arguments which locate a strong affinity to what has been termed the peasant moral economy in the period, but it seems that some principles of the market were also at work, since Hesiod warns of starvation and the limits to the economy of social reciprocity, and the ability to purchase the land of others. Thus, two competing value systems were operating simultaneously in ancient Greece – one supporting self-serving profit-seeking, and the other advocating social cooperation and interdependence. For the concept of the moral economy, see Thompson, 1971, 79: "a popular consensus as to what were legitimate and what were illegitimate practices in marketing, milling, banking, etc. … grounded upon a consistent traditional view of social norms and obligations." This concept of moral economy has been identified in many societies: see e.g., Scott, 1976.

πενιχρόν, "all honor a rich man but dishonor a poor" (621). Honor, therefore, came to those who became rich, and it was the type of honor which brought real benefits, such as marriage to wives of high station,[310] who "honor money."[311] Hesiod concurs: πλούτῳ δ' ἀρετὴ καὶ κῦδος ὀπηδεῖ, "excellence and praise attend wealth" (311). The esteem which accompanied wealth was so widespread in fourth-century BCE Athens that Plato in the *Republic* says that some individuals "honor nothing other than wealth and those who are wealthy."[312] Far from approving of the esteem which money-making and wealth brought to its possessors, however, Plato decries this practice, since the noble and good then became deprived of the esteem which they rightfully deserved, usurped by those who could merely make money (550e-551a).[313]

Once a person acquired enough wealth, one could even join the ranks of the elite, a central theme of Theognis' poetry as he describes the developing socio-economic situation of sixth-century Megara: Πλοῦτε, θεῶν κάλλιστε καὶ ἱμεροέστατε πάντων, σὺν σοὶ καὶ κακὸς ὢν γίνεται ἐσθλὸς ἀνήρ, "Wealth, most beautiful and pleasing of all the gods, with you even one who is base becomes a noble man" (1117-18). Indeed, in archaic Megara, the newly rich had become so successful in penetrating the upper classes of society that Theognis could say πλοῦτος ἔμειξε γένος, "wealth had mixed the race" (190). Thus, social mobility and a desirable

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[310] As I argue in a later chapter, marriage alliances could bring additional material benefits by effectively expanding one's kinship group and the resource base thereof, which could help buttress further against misfortunes and expand the number of opportunities which could be presented from the new, enlarged network of relations.

[311] χρήματα μὲν τιμῶσι (189).

[312] τιμᾶν μηδὲν ἄλλο ἢ πλοῦτόν τε καὶ πλούσιους (553d).

[313] Notions of the rich as wicked in their exploitation of others are common in Greek literature: in Plato *Laws* 742b-743a, the idea is stated that only scoundrels, and never good people, are rich. This same idea is repeated throughout Aristophanes' *Ploutos* (*passim*), and the notion that the richest people are also the most wicked is stated in the pseudo-Platonic dialogue *Eryxias* 392b-393a.

marriage were tangible benefits from becoming wealthy, particularly in a world in which it was possible for lower classes to surpass their aristocratic neighbors in material well-being. To a certain extent, wealth and profit had even succeeded in trumping the aristocratic notion of *arete*: πλήθει δ’ ἀνθρώπων ἀρετὴ μία γίνεται ἥδε, πλουτεῖν, “For the majority of people this is the only excellence: to be wealthy” (699-700). It should come as no surprise that many people desired wealth, which brought so many tangible benefits: honor; security against hardships; freedom from toil, pain, and worry; social mobility; profitable marriages; even *arete*.[314]

IV. The insatiable desire for wealth in ancient Greece.

The lust for riches, however, went far beyond the need to supply one’s daily necessities, or to attain the respect of one’s community; rather, people’s desire to accumulate wealth was unlimited. As part of his description of the forces which led to the crisis of late-seventh and early-sixth century Athens,[315] Solon says that “there is no bound to riches for mortal men.”[316] According toTheognis, πλὴν πλούτου παντὸς χρήματός ἐστι κόρος, “there is satiety in every good thing but wealth” (596), an idea he rephrases later: οὔτε γὰρ ἂν πλούτου θυμὸν

[314] There are some stray passages which seem at first glance to indicate that there may have been a competing anti-wealth attitude, such as Hesiod’s statement that the bribe-devouring *basileis* are “fools and do not know how much more the half is than the whole, and how much of a great benefit there is in mallow and asphodel” (*Works and Days*, 40-41). This passage must be considered alongside Hesiod’s strictures to avoid base gain (352), and wealth seized by force (321), and are in stark contrast with Hesiod’s otherwise positive evaluation of gain earned through hard work, and should therefore be read only in the context of his advice to his brother Perses, who has shamelessly seized the greater part of their father’s estate. For the historicity of Hesiod and Perses, see West, 1978, 30-40; Griffith, 1983, 37-65; Edwards, 2004, 20-25.

[315] For a recent study of Solon’s political poetry, see Irwin, 2005. For economic explanations of the Athenian crisis at the time of Solon, see Morris, 2002; Forsdyke, 2006.

[316] πλούτου δ’ οὐθὲν τέρμα πεφασμένον ἀνδράσι κεῖται (Solon, F1 l. 71 in Campbell, 1967).

ὑπερκορέσαις, “for you could not overly satisfy your heart with wealth” (1158). Plato in the *Laws* says that people disregard good repute and moderate gain, and instead seek wealth insatiably:

> σμικρὸν γένος ἀνθρώπων … ὅταν ἐξῇ χρήματα λαβεῖν πολλά, νήφει καὶ πρότερον αἱρεῖται τοῦ πολλοῦ τὸ τοῦ μέτρου ἐχόμενον· τὰ δὲ τῶν ἀνθρώπων πλήθη πᾶν τοὐναντίον ἔχει τούτοις, δεόμενά τε ἀμέτρως δεῖται καὶ ἐξὸν κερδαίνειν τὰ μέτρια, ἀπλήστως αἱρεῖται κερδαίνειν.
>
> Small is the class of men… who, whenever they are able to take much wealth, are sober, and choose what is moderate rather than what is more. The majority of people are completely contrary to these men; when they desire, they desire without measure, and when it is possible to make moderate profit, they choose to profit insatiably.[317]

Such insatiable desire indeed seems to have been restricted to money and wealth. Aristophanes in *Ploutos* depicts two characters telling the god Ploutos that people can have enough of love, baked goods, music, honor, war, ambition, and lentil soup, but no one can have enough wealth:[318] σοῦ δ’ ἐγένετ’ οὐδεὶς μεστὸς οὐδεπώποτε, ἀλλ’ ἢν τάλαντά τις λάβῃ τριακαίδεκα, πολὺ μᾶλλον ἐπιθυμεῖ λαβεῖν ἑκκαίδεκα, κἂν ταῦτ’ ἀνύσηται, τετταράκοντα βούλεται ἤ φησιν εἶν’ ἀβίωτον αὑτῷ τὸν βίον, “no one is ever full of you, but if someone gets thirteen talents, he much more desires to get sixteen, and if he procures these for himself, he wants forty, or he says that his life is unlivable” (193-7) . This contrast between the demand for goods and that of money is highly reminiscent of Xenophon’s comment in the

[317] Plato, *Laws* 918c-d.

[318] Aristophanes, *Ploutos* 187-197.

Poroi that while one can have too much furniture, the demand for money never drops: καὶ γὰρ δὴ ἔπιπλα μέν, ἐπειδὰν ἱκανά τις κτήσηται τῇ οἰκίᾳ, οὐ μάλα ἔτι προσωνοῦνται, ἀργύριον δὲ οὐδείς πω οὕτω πολὺ ἐκτήσατο, ὥστε μὴ ἔτι προσδεὶσθαι, "for furniture, whenever someone acquires enough for his house, they do not buy more. But money, on the other hand, no one yet has acquired so much that he still does not desire more" (*Poroi* 4.7). Even the richest, who had more money than they needed already, desired to increase their wealth immeasurably. Theognis, in lines which are also attributed to Solon, says that those who possess the most wealth only want more: οἳ γὰρ νῦν ἡμέων πλεῖστον ἔχουσι βίον, διπλάσιον σπεύδουσι, "for those of us who now have the greatest wealth yearn for twice as much."[319] The Greeks themselves recognized that money was special, in that it was not subject to the same constraints on acquisition which governed other goods.

The unique effects of wealth and money on the ancient Greek mind are brought out by these passages. Money was not subject to the normal limits which prevented the ceaseless accumulation of other goods, but had no limit to its acquisition. Moreover, the lust for wealth drove some to undergo difficulties even when it was not necessary. Antisthenes in Xenophon's *Symposium* states:

> ὅτι νομίζω, ὦ ἄνδρες, τοὺς ἀνθρώπους οὐκ ἐν τῷ οἴκῳ τὸν πλοῦτον καὶ τὴν πενίαν ἔχειν ἀλλ' ἐν ταῖς ψυχαῖς. ὁρῶ γὰρ πολλοὺς μὲν ἰδιώτας, οἳ πάνυ πολλὰ ἔχοντες χρήματα οὕτω πένεσθαι ἡγοῦνται ὥστε πάντα μὲν πόνον, πάντα δὲ κίνδυνον ὑποδύονται, ἐφ' ᾧ πλείω κτήσονται.

[319] Theognis, 228-9; West, Solon F 13, 72-3.

> I think, gentlemen, that people have wealth and poverty not in their houses, but in their souls. For I see that many private individuals, who are altogether very rich, think they are so poor that they undergo every labor, every risk, in order to acquire more wealth.[320]

Thus, money warped the mind's perception of reality.[321] Even very wealthy individuals were so affected by the distortions which money and wealth gave to their conceptions of their own status that they were driven to "undergo every toil, every risk" to add to the pile. This gave money a special place in the Greek mind, since it alone caused people to behave in such a peculiar manner; the attitude towards monetary acquisition overstepped the bounds of natural laws in that it could be pursued to an unlimited extent.[322]

So insatiable was the desire for wealth that money-making was seen as having become an art or craft unto itself. Plato refers to *chrematistike*, the work of a χρηματιστής, as a *techne*, or art.[323] These χρηματισταί are individuals who are especially fond of money, and yearn after it more than twice as much as people who are not overly fond of money, and praise nothing more than wealth as it is the product of their work (*Republic* 330c). As all arts are concerned with realizing an end which is distinct from the practice of the art itself (*Republic* 342c, 346a), people are involved in money-making solely for the purpose of creating wealth. Moreover, there were so many people who sought to make money in their *technai* rather than practice them for their

320 Xenophon, *Symposium* 4.34-5.

321 cf. Hesiod, who says that *kerdos* is capable of deceiving peoples' senses: εὖτ' ἂν δὴ κέρδος νόον ἐξαπατήσῃ ἀνθρώπων (*Works and Days*, 323-4).

322 There was simultaneously a powerful anti-exploitation ideology which developed in response to the unrestrained self-serving behavior of those who gained at the expense of others. Hesiod does warn against shameful gain at 320-326, and 352. For a thorough discussion of the Greek concept of base gain and greed, see Balot, 2001.

323 *Gorgias* 451d-452e.

benefits to society that Plato's Socrates in the *Republic* discusses doctors (342d), shepherds (345d), and soldiers (397e) who act like χρηματισταί in seeking money from their arts as opposed to the common good. Therefore, even those arts which were not originally money-making by nature had been transformed into wealth generating *technai*.

Aristotle goes into greater depth into the nature of money-making in ancient Greece, in his famous discussion of *chrematistike*. He says that human craft and innovation, moving beyond what was permitted by nature alone, had created new ways of accumulating profits which were not possible before money. This was entirely an innovation of human creativity, *nomos*, as opposed to *physis*, and therefore violated the laws of nature which set limits to all other goods. This could be seen in particular in the realm of *kapelike*, retail trade, which arose out of money, and become "τεχνικώτερον, πόθεν καὶ μεταβαλλόμενον πλεῖστον ποιήσει κέρδος", "more technical, from which one will make the most profit from transacting".[324] Here Aristotle repeats the views of Xenophon, saying that people want to make the most profit they can, which is again suggestive of economic rationality. The word τεχνικώτερον is of supreme importance to Aristotle's argument in this section, in that he sees the field of money-making in trade and commerce as having become more advanced through human innovation, which has allowed trade to become something from which one could make the greatest profit from making exchanges.[325]

[324] Aristotle, *Politics* 1257b 1-5.

[325] See Chapter 6 on maritime trade where it seems that many merchants tried to maximize the number of transactions which they were able to make within a given voyage. They seem to have recognized that they could make more money faster by increasing the number of transactions.

The art of *chrematistike* had become sophisticated enough to permit individuals engaged in money-making to increase their wealth as much as possible. As Aristotle notes in the passage quoted at the beginning of this chapter, the wealth to be made from *chrematistike* "has no limit", and "everyone engaged in money-making will increase his money without limit". The sole purpose of *chrematistike* is the acquisition of money.[326]

Whereas natural economic success was limited to what the earth could provide, with the invention of money, the bounds of one's wealth were now unlimited: χρηματιστικήν, δι' ἣν οὐδὲν δοκεῖ πέρας εἶναι πλούτου καὶ κτήσεως, "money-making, through which there seems to be no end of wealth and acquisition."[327] Therefore, Greeks were in the process of experimenting with money-making for the sole purpose of increasing their profits and accumulation to the maximum extent possible.

Money-making was not just an activity engaged in by a few individuals, but was widespread enough in Plato's time that it constituted one of the fundamental elements of the *polis* in his view (*Republic* 441a). Although Plato does not claim that all people aim at making as much money as possible, he considered money-making to be the aim of a sufficient number of people in Athens that money-makers and money-making figured prominently in his dialogues.[328] Indeed, so universal is this phenomenon in Plato's eyes, that he sees money-making as the purpose for the creation of oligarchical government in the first place (*Republic* 562b); in fact, he

[326]Aristotle, *Politics* 1.1257b 23-35.

[327] Aristotle, *Politics* 1256b 40-1257a 1.

[328] e.g. *Gorgias*, 452a-c, *Republic* 330b-c, 550e-564e.

recognizes the maximization of wealth as the primary cause for the natural transition from oligarchy to democracy: οὐκοῦν, ἦν δ’ ἐγώ, μεταβάλλει μὲν τρόπον τινὰ τοιόνδε ἐξ ὀλιγαρχίας εἰς δημοκρατίαν, δι’ ἀπληστίαν τοῦ προκειμένου ἀγαθοῦ, τοῦ ὡς πλουσιώτατον δεῖν γίγνεσθαι; “and so, I said, does it not change from oligarchy to democracy is such a manner as this, through the insatiate desire for this proposed good, becoming as wealthy as possible?” (555b). Therefore, in a passage which is reminiscent of Marx’s identification of the strains in the productive relations in capitalism as being the cause of the downfall of the capitalist system,[329] the extreme pursuit of wealth at the expense of the greater good is, to Plato, the cause of its own demise (562b). Likewise, Aristotle also recognized the potential harmful effects of greed and unrestrained self-gratification, since it broke down the fundamental bonds of human society. Self-interested profit-seeking had become so widespread, that Aristotle was afraid that it was detrimental to the well-being of the *polis* itself.[330] Therefore as they understood it, Greeks in general tried to make as much money as they can, and ancient Greek authors believed that this was a widespread characteristic of the way their people behaved.

[329] Marx identifies the self-defeating forces of capitalism “immanent” within the structure of the capitalist system itself in *Das Kapital* Volume III, chapter 15, sections 2-3. According to Marx, the capitalist system contains self-imposed limitations on its own expansion, a paradox since profit and the accumulation of capital lead to lower rates of profit. Moreover, in *The Communist Manifesto*, he identifies the sources of the downfall of capitalism as being the creation of capitalism itself: “The productive forces at the disposal of society no longer tend to further the development of the conditions of bourgeois property … they have become too powerful for these conditions … and so soon as they overcome these fetters, they … endanger the existence of bourgeois property … the weapons with which the bourgeoisie felled feudalism to the ground are now turned against the bourgeoisie itself” (Tucker, 1978, 478). For a stimulating discussion of Marx’s conception of the internal contradictions of capitalism which create crises and eventually bring about the downfall of capitalism, see Godelier, 1972, 78-86. For crises in Marx, see Fine, and Saad-Filho, 2010, 46-56. For a detailed explanation of Marx’s theories in general, see Cohen, 2000.

[330] For Aristotle’s fears about the detrimental effects of self-serving, profit-seeking behavior on the social bonds of the *polis*, see Balot, 2001, 22-57.

V. Risk, profit, and safety in ancient Greek economic decision-making.

When one turns from these general observations of aggregate behavior to real-life examples of the actual economic decision-making process, it becomes clear that real decisions were made with this same concern for profit, but that profit considerations were also balanced by an awareness of risk.[331] In one of the only preserved cases of an ancient Greek depicted as choosing between alternative money-making opportunities, he does *not* choose an option which will bring him as much money as possible. When faced with the choice of taking over the management of his father's bank or shield factory, Apollodorus chose the less profitable shield factory instead of the more lucrative bank:[332]

> νέμονται τὴν τράπεζαν καὶ τὸ ἀσπιδοπηγεῖον, καὶ λαβὼν αἵρεσιν Ἀπολλόδορος, αἱρεῖται τὸ ἀσπιδοπηγεῖον ἀντὶ τῆς τραπέζης … οὔτε γὰρ ἡ πρόσοδος ἦν πλείων, ἀλλ' ἐλάττων , τὸ μὲν γὰρ τάλαντον, ἡ δ' ἑκατὸν μνᾶς ἔφερεν … διόπερ σωφρονῶν εἵλετο τἀσπιδοπηγεῖον· τὸ μὲν γὰρ κτῆμ' ἀκίνδυνόν ἐστιν, ἡ δ' ἐργασία προσόδους ἔχουσ' ἐπικινδύνους ἀπὸ χρημάτων ἀλλοτρίων.
>
> they divided up the bank and the shield factory, and Apollodorus having the choice selected the shield factory instead of the bank … and not because the income was not greater, but less, the factory brought in a talent, while the bank brought in 100 minae …

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[331] By using the term "risk" I am not suggesting that the ancient Greeks had consciously developed the distinction between "uncertainty" and "risk" as in modern economic thought. Nevertheless, they do seem to have had some notion of risk, which was variable in respect to different economic investments. For an interesting discussion of the ways in which Greeks dealt with risk through the use of curses and other magical and religious means, see Eidinow, 2007.

[332] For the career of Apollodorus, for whom many speeches of the Demosthenic corpus were written, see Trevett, 1992.

> for this reason he wisely chose the shield factory: because it was a risk-free possession, whereas the bank was an operation holding risk-laden revenues from the money of others (Dem. 36.11).

Here, in one of the only occasions in which we can see a Greek choosing between two lucrative options, is an unequivocal statement that Apollodorus chose the option which provided less return but also lower risk of loss. According to Demosthenes, the decisive factor for Apollodorus in this decision was risk: even though the bank earned sixty-six percent more revenue each year, Apollodorus decided to go with the shield factory since it was risk-free. This situation is highly reminiscent of Kahneman and Tversky's "Prospect Theory" in which the guarantee of lesser return is seen to be more attractive than an uncertain greater return.[333] Such a choice is not in accordance with strict textbook economic rationality, in which profit is maximized by individuals to the fullest extent possible,[334] and is therefore problematic for some of the more extreme aspects of neoclassical economic theory.

When compared to actual modern investment practice, however, it seems that Apollodorus' attention to risk and safety of return is perfectly in line with the advice of successful investors. In *The Intelligent Investor*, Benjamin Graham opens his first chapter with a

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[333] Kahneman, and Tversky, 1979.

[334] This focus on the lesser return in the short-term is somewhat misleading, however, since Apollodorus was guaranteed an equal share of the bank in the long-term no matter which choice he made. Still, unless he so despised Phormio that he was willing to sacrifice profit for the freedom of never to have to interact with him at the bank, he seems to have chosen a lower return with greater security and certainty as opposed to the highest possible profit, and so is not a profit-maximizing individual in this instance. Nevertheless, the fact that he was as wealthy as he was means that the difference between the return of the two enterprises would have been very slight in comparison with his total wealth. The difference between the two enterprises thus perhaps would have been worth less to him due to diminishing marginal utility of money. Since the decision was only of short-term consequence, and would not have impacted his total wealth significantly, he may not have considered the difference between the rates of return all that significant, a factor which must be taken into account.

distinction between "investment" and "speculation": "an investment operation is one which, upon thorough analysis, promises safety of principal and an adequate return. Operations not meeting these requirements are speculative".[335] Thus, Demosthenes' evaluation of Apollodorus' choice as "wise" is based on exactly the same criteria that are emphasized by Graham: safety and return. Risk (κινδυνος), therefore, is the decisive consideration which Demosthenes attributes to Apollodorus' choice of the shield factory, not the highest possible return, and he seems to be articulating an idea very similar to that of investment guru Benjamin Graham. [336]

Nor was Demosthenes alone among ancient Greeks to express this concern for risk when evaluating the profits of potential investment, but ancient Greek literature contains plenty of evidence of a similar concern for risk and profit in the evaluation of investment options. Indeed, risk and profit are the central considerations in many of the discussions of economic decision-making in ancient Greece, and it seems that Greeks did evaluate economic choices in these exact terms.

Aristotle, for example, demonstrates his own awareness of the relationship between risk and profit in his discussion of the distinction between different sorts of money-making:

> τῆς μὲν οὖν οἰκειοτάτης χρηματιστικῆς ταῦτα μόρια καὶ πρῶτα· τῆς δὲ μεταβλητικῆς μὲν ἐμπορια, καὶ ταύτης μέρη τρία, ναυκληρία φορτηγία παράστασις· διαφέρει δὲ τούτων ἕτερα ἑτέρων τῷ τὰ μὲν ἀσφαλέστερα, τὰ δὲ πλείω πορίζειν τὴν ἐπικαρπίαν.

[335] Graham, 2003, 18.

[336] For a similar awareness of the high risks associated with highly profitable investments in the Roman world, see Frier, 1980, 21-24.

These then are the branches and first parts of wealth-getting in its most proper sense. Of the kind that deals with exchange, the largest branch is commerce of exchange (of which there are three sub-sections: ship-owning, transport, and marketing:[337] these differ from each other in the fact that some are safer and others bring more return.[338]

That safety (ἀσφάλεια) and return (ἐπικαρπία) are the first considerations which come to Aristotle's mind in distinguishing between the relative advantages and drawbacks of each of these forms of money-making is highly suggestive that they were also central in the minds of Greeks deciding whether to choose potential investment options.

Safety being a central factor in determining how to commit one's money can also be seen in Lysias' fragmentary speech *Against Aeschines* 4: οἱ ἐν τῷ Πειραῖει διάκεινται ὥστε πολὺ ἀσφαλέστερον εἶναι δοκεῖν εἰς τὸν Ἀδρίαν πλεῖν ἢ τούτῳ συμβάλλειν, "those in the Piraeus are so disposed as to think that it is safer to sail into the Adriatic than to lend to this guy". Here the speaker jokes that through not paying back his loans, "which he considered more his own than his inherited patrimony," Aeschines' credit had become so bad that money-lenders in the Piraeus think "that it is much safer to sail to the Adriatic than to lend to this guy." This is a hilarious exaggeration by use of the most extreme example, but nonetheless one which depicts

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[337] The exact sense of *parastasis* seems to be "display or exposure for sale" (LSJ), or "offering for sale" (Saunders, 1995), but I have used Apostle and Gerson's "marketing", in the sense of putting up for sale in the market (Apostle and Gerson, 1986).

[338] Aristotle, *Politics* 1258b 20-24.

the lenders comparing the risk of two different potential investments. Once again, alongside the potential profitability of lending to this person, safety (ἀσφάλεια) is a central concern.

Hypereides, in *On Behalf of Euxenippos*,[339] shows the concern with risk in decisions on whether or not to pursue a particular investment in his discussion of dangers in the field of mining: ὅταν γὰρ ᾖ φοβερὸν τὸ κτᾶσθαι καὶ φείδεσθαι, τίς βουλήσεται κινδυνεύειν; "When there is fear in acquisition and sparing/saving, who will want to take the risk?" (4.37). Thus, fear and safety were central concerns in decisions of what types of investment to acquire, with the increased risk (κινδυνος) to profits.

The comparative estimation of risk and profit can be seen in Xenophon's attempts to convince his liturgical class audience to support his idea for the creation of a capital fund (*aphorme*) to invest in the transformation of the Athenian public economy:[340]

> κτῆσιν δὲ ἀπ' οὐδενὸς ἂν οὕτω καλὴν κτήσαιντο ὥσπερ ἀφ' οὗ ἂν προτελέσωσιν εἰς τὴν ἀφορμήν· ᾧ μὲν γὰρ ἂν δέκα μναῖ εἰσφορὰ γένηται, ὥσπερ ναυτικὸν σχεδὸν ἐπίπεμπτον αὐτῷ γίγνεται, τριώβολον τῆς ἡμέρας λαμβάνοντι· ᾧ δέ γ'ἂν πέντε μναῖ, πλεῖον ἢ ἐπίτριτον. οἱ δὲ γε πλεῖστοι ᾿Αθηναίων πλείονα λήψονται κατ' ἐνιαυτὸν ἢ ὅσα ἂν εἰσενέγκωσιν. οἱ γὰρ μνᾶν πρετελέσαντες ἐγγὺς δυοῖν μναῖν πρόσοδον ἕξουσι, καὶ ταῦτα ἐν πόλει, ὃ δοκεῖ τῶν ἀνθρωπίνων ἀσφαλέστατον τε καὶ πολυχρονιώτατον εἶναι.

[339] See Whitehead, 2000, 256.

[340] Xenophon *Poroi*, 3.9-10. For a discussion of this passage, see Gauthier, 1976, 93-96; Jansen, 2007, 338-52.

> But from nothing else could they acquire so fine an investment as from whatever they advance to the *aphorme*. For whoever contributes ten *minae* will get almost a fifth in return, just as in nautical loans, when he receives his daily *triobolon*. Whoever contributes five *minae* will receive in return almost a third. And most of the Athenians will receive more than they contribute each year. For those advancing one *mina* will receive a return of almost two *minae*, and these in the *polis*, which seems to be the safest and most long-lasting of human institutions.

Xenophon's words in this passage of the *Poroi* are a window into the thought process of Greeks who were deciding between different ways of mobilizing their money for productive activities.[341] Xenophon thinks his Greek audience would have been persuaded by the comparison between the returns from the *aphorme* and those of profitable investments. Thus, Xenophon's first strategy in trying to persuade his audience to support the *aphorme* is to tell his audience that its return (more than 33 percent) is comparable to that of bottomry loans,[342] which were some of the riskiest but also most rewarding of investments in ancient Greece. Profit was not Xenophon's only selling point, however, as at the end of this passage he says that this return was provided by the *polis*, the safest (ἀσφαλέστατον) and longest-lasting of all human institutions. Thus, risk-minimization seems to be just as important as profit in his audience's mind. Contributing to the *aphorme* is not only as profitable as bottomry loans, but it also carries none of the risk, precisely what made the shield factory so much more attractive to Apollodorus than the bank. Thus, by

[341] Jansen, 2007, and Cartledge, 1997, 166, "Introduction" and notes to Waterfield, Robin. *Xenophon. Hieron the Tyrant and Other Treatises* (London, 1977), both think that Xenophon's proposals in the *Poroi* are evidence of an economically rational mentality.

[342] See Millett, 1991, 104-5, 184-5, for interest rates on bottomry.

presenting the *aphorme* as a safe alternative to risky bottomry loans, Xenophon reveals that his audience would have found a low-risk, high-profit investment more attractive than one which carried greater risk.

Nevertheless, risk was also seen to be a necessary component of money making. As seen above in the words of Antisthenes in Xenophon's *Symposium*, many individuals are said to have engaged in money-making behavior to such an extent that they were willing to undergo any risk (κίνδυνος) in order to make more money (4.35). This statement adds further support to the conclusion that Greeks did, in fact, consider risk when pursuing their profits, and also suggests that they accepted it as an inevitable part of the money-making process. Combined with the rest of the evidence outlined above, it seems probable that wealthy Greeks would make comparisons of the relative levels of profit and risk in their decisions regarding potential investments.

VI. Calculation of profit in ancient Greece.

It is unlikely that such comparisons would have required sophisticated techniques of calculation, but were rather based on long years of experience as well as simple mental calculations. Knowing the type of risk that voyages were subject to would have been acquired over the course of a career and could be handed down by generation either directly or indirectly through slaves. Christesen has shown that relative levels of risk and profitability were well-established in rates of interest for different types of investments.[343] These rates of interest seem to have developed as the result of long years of accumulated knowledge from the experiences of

[343] Christesen, 2003, 50-53.

countless traders in countless transactions. Although lenders and borrowers could negotiate any interest rate they wanted,[344] there was a universal sense that the riskier the venture, the higher the rate of interest should be. In Demosthenes' speech *Against Lacritus,* there is a clear demonstration of the awareness of the increased risk which came with sailing too late in the season, and the interest rate is increased to account for this extra danger for the lender.[345]

Even rough calculations could give a sufficient idea of whether or not a field might be profitable in comparison with other possibilities. Though examples of such calculation are lacking in our extant source material, it seems that numeric calculation was possible for a significant portion of the population, and certainly for those who would have the means and will to carry out such calculations. In Aristophanes, Dicaeopolis does some quick calculations while he waits for the rest of the *ekklesia* to arrive in *Acharnians*,[346] and the *Clouds* opens up with Strepsiades doing his household accounts, calculating the interest on his debts.[347] Even Theophrastus' Stupid Man in *Characters* is able to make some calculations, though he needs to ask others if he is correct.[348] In each of these three situations, the verb λογίζομαι is used for the act of calculation, revealing a widespread practice which was described in the same terms by Greek authors as different as Aristophanes and Theophrastus.

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[344] For interest rates at Athens, see Cohen, 1989, 207-23; Millett, 1991, 95-108.

[345] Dem. 35.10.

[346] *Acharnians*, 31.

[347] *Clouds*, 12-22.

[348] Theophrastus, *Characters* 14.2

Outside the realm of comedy and satire, Xenophon[349] and Pseudo Aristotle advocate tracking monthly and annual expenditures,[350] and Cato recommends keeping accounts for different types of goods.[351] Pericles' housekeeper, Euangelos supposedly kept daily accounts by which he was able to manage the former's property with great precision.[352] Athenogenes in Hypereides 4 required the slave managers of his three perfumeries to submit accounts for him to inspect every month.[353] The most famous banker in ancient Greece, Pasion, kept very detailed books,[354] and Apollodorus even kept detailed accounts of the expenses incurred during his trierarchy.[355]

In Plato, calculation is called a *techne* (*Charmides*, 165e),[356] and in the *Republic* he devotes some attention to calculation, in which he ultimately argues that the calculating portion of the mind should be what directs human action, in its decision-making (439d-441e). This can be dangerous, however, in that for someone who is misdirected in his goals, desiring money above all else, the calculating portion of his brain will be devoted to nothing more than the accumulation of wealth:

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[349] *Oeconomicus*, 7.36, 9.8.

[350] Pseudo-Aristotle, *Oikonomika* 1345a, 20ff.

[351] Cato, *de Agri Cultura* 1.2.5-6: "ea cognita aequo animo sint, quae reliqua opera sint curare uti perficiantur: rationes putare argentariam, frumentariam, pabuli causa quae parata sunt; rationem vinariam, oleariam, quid venierit, quid exactum siet, quid reliquum siet, quid siet quod veneat: quae satis accipiunda sint, satis accipiantur: reliqua quae sint uti conpareant. Siquid desit in annum, uti paretur: quae supersint, ut veneant".

[352] Plutarch, *Pericles* 16.3-5.

[353] Hypereides, 4.19.

[354] Dem. 49.5., 52.3-6.

[355] Dem. 50.30.

[356] ἀριθμητική is also referred to as a *techne* by Plato at Gorgias 453e.

τὸ δὲ γε οἶμαι λογιστικὸν τε καὶ θυμοειδὲς χαμαὶ ἔνθεν καὶ ἔνθεν παρακαθίσας ὑπ' ἐκείνῳ καὶ καταδουλωσάμενος, τὸ μὲν οὐδὲν ἄλλο ἐᾷ λογίζεσθαι οὐδὲ σκοπεῖν ἀλλ' ἢ ὁπόθεν ἐξ ἐλαττόνων χρημάτων πλείω ἔσται, τὸ δὲ αὖ θαυμάζειν καὶ τιμᾶν μηδὲν ἄλλο ἢ πλοῦτόν τε καὶ πλουσίους, καὶ φιλοτιμεῖσθαι μηδ' ἐφ' ἑνὶ ἄλλῳ ἢ ἐπὶ χρημάτων κτήσει καὶ ἐάν τι ἄλλο εἰς τοῦτο φέρῃ

But I think that having set down on the ground and beaten down into slavery under wealth the calculating and passionate parts of his brain, the one he does not allow either to calculate or delve into anything other than from where more money will be made from less, and the other in turn he does not allow to wonder at or honor anything other than wealth and wealthy people, and to be proud of nothing other than the acquisition of wealth, and if something else leads to this.[357]

This statement is a clear link between calculation and money, where individuals devote the calculating abilities of their brains entirely to making money. In addition, since the greater context of this statement is a discussion of an individual who κατὰ σμικρὸν φειδόμενος καὶ ἐργαζόμενος χρήματα συλλέγεται "being sparing and working, little by little accumulates wealth", the application of this calculation in Plato's mind is to the long-term accumulation, and perhaps maximization, of wealth. With such an explicit statement about calculations being performed solely for the purpose of make money, "from where more money will be made from less," it is difficult not to conclude that calculation of profitability was carried out in terms of prices for long-term wealth accumulation and perhaps profit-maximization. Since Plato is presenting an "ideal type" of the money-hungry man in this discussion, it seems that he is

[357] *Republic,* 553c-d.

drawing upon real world examples from his own time in Athens,[358] and so to Plato, at least, the person who devotes his calculating energies entirely to money making was a very real phenomenon.

It would have been entirely possible for an interested entrepreneur to make some quick calculations to estimate the potential profitability of different investments. Ancient Greece is one of the earliest contexts in which calculation in terms of money would have provided the ability to determine how profitable ones holdings were, and also allowed for commensurability between different sorts of production. [359] Although double-entry bookkeeping is not known to have existed in ancient Greece, it was not necessary for effective profit calculations to be made, even through the early modern period.[360]

[358] The individual he describes is presented by him as being the son of a general or other high-ranking individual whose wealth has been ruined by sycophants (553b), a situation which is as fourth-century Athenian as one could imagine.

[359] For scholarship on accounts and accounting in ancient Greece, see: de Ste. Croix, 1956, 14-74; Pomeroy, 1994, 55-57; Rathbone, 1991; Mickwitz, 1937; Macve, 1985, 233–64; Chandezon, 2011, 96-121.

[360] Macve, 1985, has shown that modern scholars such as Mickwitz, de Ste. Croix, and Finley have overemphasized the necessity of complex accounting for calculations of the profitability of an enterprise. In his detailed discussion of modern accounting practices, he has shown that their insistence that ancient accounting practices would have led ancient entrepreneurs into making economically irrational decisions is misplaced: “we should not conclude that the state of ancient accounting would have systematically misled people into making irrational decisions (247)”; “whatever the verdict on their ‘economic rationality’, it seems clear that the lack of modern accounting techniques would not, in itself, have misled them or prevented them from making sensible decisions” (254). Since misleading accounting practices exist even in the modern world, one must put little faith into what ancient “accounting” can tell us about the nature of rational choice, in spite of Mickwitz’s and de Ste. Croix’s interesting observations. Otherwise, one must call into question the rationality of modern ‘economically rational’ enterprises, or at least place them on the same level as their ancient counterparts: “the question of whether people are misled by accounts is still topical. Plans should be made in terms of future cash flows, internal rates of return and net present values, even though accounts are still kept that calculate ‘profit’ or ‘income’ according to traditional conventions. While it would be theoretically possible to recast the accounts so that they do reflect the kind of economic thinking that goes into the rational appraisal of ventures, in practice this is generally not done. Consequently, the argument still arises as to whether investors and business managers are misled by modern accounting figures into making incorrect decisions (254).”

Indeed, Braudel doubts that double-entry bookkeeping was instrumental to the emergence of modern capitalism, which developed largely without such accounting procedures:[361] "accounting … does not dictate the decisions taken by the head of the firm … [was] not central to the decision-making process, and consequently not central to the operations of capitalism."[362] Moreover, as Macve shows, profits can be calculated through the simple practice of taking opening and closing inventories: "Essentially one can calculate income for a period without any transactions records at all by taking an opening and closing 'inventory', i.e. valuation of assets and liabilities. The change in net assets for the period … represents the income of the period … Not only is double-entry not necessary for the calculation of income, it is not sufficient."[363] Weber agrees, and says that more advanced forms of accounting only affect the *degree* of calculation; monetary calculation of opening and closing balances were the necessary actions to cut costs and increase profits.[364] Successful profit-making could have even been possible without accounting procedures.[365] Experience could have informed a slave-owner as to how much a slave

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[361] Braudel, 1982, 572-78.

[362] Braudel, 1982, 575.

[363] Macve, 1985, 257-8.

[364] For Weber, 2009, 6, money was *the* necessary component for such rational, capitalistic calculation: "the important fact is always that a calculation of capital in terms of money is made, whether by modern book-keeping methods or in any other way, however primitive and crude. Everything is done in terms of balances: at the beginning of the enterprise an initial balance, before every individual decision a calculation to ascertain how probable profitableness, and at the end a final balance to ascertain how much profit has been made ... So far as the transactions are rational, calculation underlies every single action of the partners. That a really accurate calculation or estimate may not exist, that the procedure is pure guess-work, or simply traditional and conventional, happens even to-day in every form of capitalistic enterprise where the circumstances do not demand strict accuracy. But these are points affecting only the *degree* of rationality of capitalistic acquisition ... all that matters is that an actual adaptation of economic action to a comparison of money income with money expenses takes place".

[365] "Without the need to prepare the overall account of profitability for the Inland Revenue etc., the advantages of troubling to prepare the analysed accounts may be hardly worth the bother. If the farmer is closely involved with day

would cost to maintain, and costs of entry into a field were largely limited to tools, animals, and slaves. Such costs could be ascertained and compared with some degree of accuracy in respect to the potential profits which various products could receive.

The apparent absence of double-entry bookkeeping is an interesting characteristic of the ancient Greek economy which demonstrates the point at which accounting technology had progressed. Evidence for the types of organizational and accounting advances which emerged in fourteenth-century Florence, for example, in which the simultaneous emergence of the partnership system and double-entry bookkeeping, which led to the conceptualization of business in terms of partnerships instead of individual transactions, is lacking for Greco-Roman antiquity.[366] Envisioning business in terms of transactions as opposed to relationships seems to have been a widespread characteristic of the ancient Greek world,[367] which can explain much about ancient business strategies. Harris has shown that in Athenian Law, business relationships

to day management he may well get an adequate feel for how things are going without elaborate records" (Macve, 1985, 252).

[366] Padgett and McLean, 2006, 1539-47, for example, have argued that double-entry bookkeeping coincided with the emergence of the partnership system in Renaissance Florence, a symbiotic pair of institutional innovations which helped to drastically increase the efficiency of profit-calculation in business accounting. By permitting the continuous set of transactions to be listed according to partnership or account as opposed to individual transactions, double-entry bookkeeping led to the enhanced ability to calculate profit.

[367] Apollodorus' description of Pasion's bank record books (Dem. 52.4-6) makes it difficult to determine whether account or transaction-based organization was practiced. He states that the name of the depositor was entered first in the books, followed by the amount, and if necessary, the person who would collect the funds. In the matter of loans, Apollodorus states that bankers are accustomed to write in their records the sums which are lent, the purpose of the loan, and the payments which a borrower makes, and the customer's name, in order that the receipts and deposits may be known for the accounts (Dem. 49.5). This description seems to be referring to the accounts of the customers, perhaps implying that the relationship was the primary method of organization in Pasion's books. This does not rule out the possibility that transaction-centered organization was also practiced or, in fact primary. In any case, Apollodorus had no difficulty in determining the full amount of Timotheus' debts, which means that the bank's record-keeping system was, indeed, sufficient to calculate the account balance of individual customers and therefore to map out the state of the financial relationship between the bank and its patrons.

were envisioned as being restricted to individual transactions, as opposed to being conceptualized as long-standing corporate entities or partnerships.[368]

While double-entry bookkeeping was certainly an important innovation in the development of modern business procedures, individuals were nevertheless still able to determine profitability prior to its invention.[369] Although there are few examples of true accounting procedures, the ability to compare and calculate relative profit rates did exist in ancient Greece, and it should not be surprising if some of the more successful money-makers in ancient Greece were able to use even the methods at their disposal to great effect. Michele Faraguna, for example, has demonstrated that temple accounts contain the most basic, fundamental details which allow for comparisons of profit, and has argued that ancient Greeks would have been able to use simple accounting procedures, combined with the abacus, to calculate profitability.[370]

Even without sophisticated accounting procedures or detailed publications of price lists to inform a potential investor of the profitability of a given field, two institutions in ancient Greece aided considerably in the collection of information and calculation of profitability: the *agora* and money. As a physical location in which exchange was controlled and concentrated, a single visit to the *agora* could provide much information on the prices and potential profits of various products. A series of visits could provide a larger dataset which could then be analyzed for longer-term price behavior. Moreover, money, as a recent invention, permitted for a

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[368] Harris, 1989, 339-43.

[369] This is also the view of Harris, 2002, 83-84.

[370] Faraguna, 2008, 33-58.

commensurability of different types of goods which was much more difficult in its absence.[371] The invention of money in sixth-century Greece must be seen as a major advance in the ability to compare and calculate relative profits, and Classical Greek economic decision-making certainly benefitted from this significant innovation, one which is altogether indispensable in the long history of business accounting procedures. Calculation based on money, which provided commensurability for different goods, was a major innovation in ancient Greece, which permitted for the much more effective calculation of profit. Therefore, with a single location for the collection of price data and the commensurability provided by money, in which all goods and expenses could be calculated and compared in numerical terms, the ancient Greek market system represented a significant step forward in the ability to calculate profits.

As Xenophon states above, it is the movement of prices which caused individuals to make choices about what sort of production to engage in, meaning that it was possible for ancient Greeks to track the movement of prices for various goods and make decisions based on this price movement. Therefore, it seems that the institutions of *agora* and money, with the ability to track prices in quantitative terms, did, apparently, enable the effective use of price information for economic decision-making.

Some people even gained a reputation for being calculating, or at least were depicted as such by their opponents to denigrate their character. The speaker of Lysias 7, *On the Olive*

[371] Aristotle, *Nichomachean Ethics* 5.5.8-16 (1133a7-1133b16), discusses in detail the advantages of commensurability which arise with the invention of money, permitting all goods to be compared according to a single, objective standard. For a lengthy discussion of this passage, see Meikle, 1995, 21-42, who argues that money does not provide true commensurability, a point which Johnstone, 2011, 47-8, also emphasizes. Nevertheless, Aristotle's point is correct: money provides functional, practical commensurability, which is nearly impossible in its absence.

Stump, for example, tries to downplay his opponents' charges that he was a calculating individual: ἐγὼ τοίνυν, ὦ βουλή, ἐν μὲν τῷ τέως χρόνῳ, ὅσοι με φάσκοιεν δεινὸν εἶναι καὶ ἀκριβῆ καὶ οὐδὲν ἂν εἰκῇ καὶ ἀλογίστως ποιῆσαι, ἠγανάκτουν ἄν, ἡγούμενος μᾶλλον λέγεσθαι ὥς μοι προσῆκε. "Well then, *Boule,* I would be upset in former times, at whoever would say that I am clever, precise, and doing nothing at random or without calculation, thinking that it was spoken beyond what was fitting for me" (12). "Clever, precise, and doing nothing at random or without calculation" is how his opponents try to depict him; ironically, the manner in which he (or Lysias) addresses this charge proves his opponents right. In his argument against the likelihood that he would have cut the olive tree down for profit, he actually proves himself to be just as calculating, precise, and clever as his opponents claim. This defense argument is one of the best extant examples of a profit versus risk calculation where the speaker tries to argue that he would have had no reasonable grounds for removing the stump when the potential profit he could receive from having done so would have so been far outweighed by the risk, the death penalty: πῶς ἂν ἐτόλμησα τοσούτων μεμισθωμένων καὶ ἁπάντων συνειδότων ἀφανίσαι τὸν σηκὸν βραχέος μὲν κέρδους ἕνεκα, προθεσμίας δὲ οὐδεμιᾶς οὔσης τῷ κινδύνῳ "how could I have dared with so many people renting the land, and everyone knowing that I had removed the stump for the sake of small profit, and there being no statute of limitations for the risk?" (17). The terms which the speaker focuses on the most in this argument are "profit" (κέρδος 12, 13) and "risk" (κίνδυνος 14, 15, 17), all part of an *eikos* argument to show that no one would risk so much for so little profit (presumably the land used to grow cereals). The argument's success depends on the jury agreeing that risking so much for so little would have been extremely unlikely. The speaker clearly thinks that this type of profit-risk measurement will be effective in convincing his audience whether or not the action in question was believable.

Indeed, examples of profit-risk calculations are extant even from the earliest Greek literature. Hesiod warns his brother Perses against risking his entire livelihood on the high seas, in case the desire to seek profit should seize him: “Leave the greater part behind, and put the lesser portion on board” (*Works and Days*, 689-94).[372] Seeking *kerdos* on the sea[373] is acceptable only if you risk a small part of your possessions and keep the majority of your goods safe on land. This may be advice imparted by Hesiod’s father, who, escaping poverty sought his fortune in being a maritime trader and eventually was able to purchase a solid piece of land for himself in Boeotia. Though he needed to risk it all on the high seas, his success has made it such that his sons can seek their success in less risky pursuits, such as agriculture. Thus, the father took great risks in trading on the high seas to accumulate the wealth which would allow him to retire comfortably and to make sure his sons did not need to engage in high-risk, profit-seeking behavior. Pseudo Aristotle agrees, saying that more property should be productive than unproductive, but that not all property should be risked at once.[374] Here, we can see the same concern for profit and productivity, but with a careful eye turned towards risk.

[372] μηδ’ ἐν νηυσὶν ἅπαντα βίον κοίλῃσι τίθεσθαι
ἀλλὰ πλέω λείπειν, τὰ δὲ μείονα φορτίζεσθαι.
δεινὸν γὰρ πόντου μετὰ κύμασι πήματι κύρσαι.
δεινὸν δ’, εἴ κ’ ἐπ’ ἄμαξαν ὑπέρβιον ἄχθος ἀείρας
ἄξονα. καυάξαις καὶ φορτία μαυρωθείη.
μέτρα φυλάσσεσθαι· καιρὸς δ’ ἐπὶ πᾶσιν ἄριστος.

[373] Hesiod, *Works and Days*, 632.

[374] καὶ πλείω τὰ κάρπιμα εἶναι τῶν ἀκάρπων, καὶ τὰς ἐργασίας οὕτω νενεμῆσθαι, ὅπως μὴ ἅμα κινδυνεύσωσιν ἅπασιν (Ps. Arist., *Oikonomika*, 1344b, 28-9). Philodemus in his *Περὶ Οἰκονομίας* says the author of this work is Theophrastus.

VII. Conclusions

The views of the ancients, then, suggest that on the whole ancient Greeks made economic decisions with an eye to securing profits. Such behavior is in accordance with textbook economic rationality, in which personal profit was the main driving force in the economy. Like the modern economy, this drive for personal profit seems to have created a market system operating according to supply and demand, and individuals responded to relative price shifts resulting from supply and demand by changing their productive strategies in order to secure the greatest profit. Most Greeks seem to have aimed at profit in their economic behavior, according to Xenophon, Plato, and Aristotle, and making as much money as possible was an important behavioral aspect of the ancient Greek economy. This is suggestive of profit-maximization and economic rationality, and so I will explore the existence of these phenomena in the source material for real-life decisions made by individuals in their money-making strategies in later chapters.

Risk and safety likewise figure prominently in the discussions of the economic decision-making process, particularly in the actual deliberations made regarding specific investment choices. This balancing of profit with a concern for risk is in accordance with practical modern investment literature, in which the drive for profit is balanced by an appropriate concern for risk. This is invaluable insight into the thought process of Greeks as they considered economic choices, and the revelation that the same principles, profit, risk, and safety, also figure into modern economic decision-making is a powerful sign that modern economic rationality may also underlie ancient Greek economic behavior.

This is not to claim that ancient Greeks, like modern people, did not have other concerns and goals in their behavior, such as altruism, the quest for honor, beauty, and health,[375] but rather that the ancient Greek world, like the modern, ran according to the principles of basic economic theory. This conclusion permits the further investigation of economic behavior at another level: the household and business strategies of individual Greeks preserved in the source material.

Therefore I shall now explore in the next three chapters the decisions made in household management and business, to determine whether the evidence at this level matches the observations made about Greek economic behavior by the authors examined in this chapter. The first topic to be explored is the extent of profit-maximization in the management of the *oikos*, which will be the focus of Chapter 3.

[375] The pseudo-Platonic dialogue *Eryxias* argues that these values are more important than wealth.

Chapter 3: Ancient Greek estate management for long-term profit?

I. Introduction: Household management to make money: Aristotle on *oikonomike* as *chrematistike*.

The argument of this chapter is that many ancient Greeks ran their *oikoi* in the same way that modern businessmen operate their firms: to make a profit. As I argued in Chapter 1, large financial institutions such as banks and large-scale corporations did not exert the type of influence in the ancient Greek economy that they do in the modern world, where they are the primary actors in the global economic system. Instead, temples were powerful financial entities which performed some of the actions of modern bankers, and filled part of the function of modern banks. Most of the financial activity, however, seems to have been carried out by individuals acting privately and independently, not part of a larger corporate partnership. Since the division between household and firm was largely absent in ancient Greece, [376] much of the

[376] Schefold, 2011, 133, rightly emphasizes the point first made by Weber that the institutional and conceptual distinction between firm and household property, which is taken for granted in the modern world, did not exist as yet in the ancient world, and that the aims of the household, which theoretically maximizes utility for its members, and those of the firm, which are driven by competition towards profit-maximization, may have come into conflict in the ancient world, leading to "erratic and irrational behavior". Weber, 2009, 8, makes the point that there was no distinction between corporate and personal property in the ancient Greek world.

evidence for money-making behavior belongs to the realm of the *oikos*. The dominant *locus* of production in the ancient Greek economy was concentrated in the *oikos*, in the sense of the extended family including relatives and slaves. In order to fully appreciate the range of money-making strategies in ancient Greece, it will be necessary to explore the productive nature of these *oikos* units, to determine the extent to which they were run according to rational principles, in the manner of modern businesses.[377]

Aristotle's discussion in Book I of the *Politics* which opened Chapter 2 serves as an excellent point of departure for exploring the extent of profit-seeking and money-making in household management. In this passage, he makes an important distinction between household management (*oikonomike*), and money-making (*chrematistike*), revealing a clear conceptual difference between the two in his mind:

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[377] Schefold, 2011, 152-3, discusses the possible conflicting preferences for the head of an ancient Greek household, who would often be expected to participate in warfare, politics, and aiding one's friends in addition to running a profitable household. For example, in Xenophon's *Oeconomicus,* profit was not Ischomachos' only aim in running a productive household (for which see my discussion below), since he cherished the leisure time which his successful, well-managed, agricultural estate provided for him (in 7.2 he has the leisure time to wait for *xenoi*, and in 11.14-25, he describes his typical day, which leaves plenty of time for physical and military training, as well as practice in rhetoric). On the one hand, these other interests seemingly present limitations to the extent of profit-maximization which could be achieved by the ancient Greek *oikos*, since the living and recreational expenses of the household must have been subtracted from the overall profits of the estate. On the other hand, by exploiting the labor-power of its productive members, and slaves in particular, the Greek *oikos* went beyond the modern household in incorporating many of the features on the modern firm. Moreover, since many modern companies have tried to cut wage costs by providing housing and food for their workers, keeping these elements in-house rather than allowing employees to procure these items for themselves in the market, the Greek *oikos* was able to attain this level of control which could only be dreamed of by corporations today. Therefore, with the superior ability to supervise personally labor and assure productivity, to control and limit workers' rations, housing, and working hours; to exploit labor to the fullest extent desired through the institution of slavery; the Greek *oikos* was able to achieve an efficiency which could only be attained in the modern world with the most sophisticated systems of hierarchical organization. Prior to the emergence of large economies of scale, the Greek *oikos* possessed the ability to be an extremely efficient productive economic unit. Indeed, given the problems and costs inherent in competing for free labor, providing effective incentives for managers, and supervising workers to assure productivity, it just may be that the Greek *oikos* was a more efficient productive unit than many early modern firms.

> ὅτι μὲν οὖν οὐχ ἡ αὐτὴ ἡ οἰκονομικὴ τῇ χρηματιστικῇ, δῆλον τῆς μὲν γὰρ τὸ πορίσασθαι, τῆς δὲ τὸ χρήσασθαι· τίς γὰρ ἔσται ἡ χρησομένη τοῖς κατὰ τὴν οἰκίαν παρὰ τὴν οἰκονομικὴν; πότερον δὲ μέρος αὐτῆς ἐστί τι ἢ ἕτερον εἶδος, ἔχει διαμφισβήτησιν.

> And so it is clear that household management is not the same thing as money-making, for the function of the latter is to provide and that of the former to use; for what will be the art that will use the things throughout the house, unless it is household management? But whether money-making is a part of household management, or a different notion, is debated.[378]

Aristotle above distinguishes between *chrematistike* and *oikonomike* in that the one is for providing, and the other is for use: "τῆς μὲν γὰρ τὸ πορίσασθαι, τῆς δὲ τὸ χρήσασθαι". Thus, *chrematistike* and *oikonomike* are qualitatively different in his mind, both in their ends and in their means, the former being concerned with acquisition, and the latter with use or disposition. However, he ends this statement by noting that it is not agreed by all whether or not the two are entirely separate, or whether *chrematistike* can be part of *oikonomike*.

Indeed, according to Aristotle, his own stark distinction is not followed by many people of his time, who rather confuse the two notions, and think that the purpose of *oikonomike* is the same as *chrematistike*: to make a lot of money. Thus, they run their households for monetary gain:

[378] Aristotle, *Politics*, 1256a 10-15.

> ὥστε δοκεῖ τισι τοῦτ’ εἶναι τῆς οἰκονομικῆς ἔργον, καὶ διατελοῦσιν ἢ σῴζειν οἰόμενοι δεῖν ἢ αὔξειν τὴν τοῦ νομίσματος οὐσίαν εἰς ἄπειρον …εἰς ἄπειρον οὖν ἐκείνης τῆς ἐπιθυμίας οὔσης, καὶ τῶν ποιητικῶν ἀπείρων ἐπιθυμοῦσιν. ὅσοι δὲ καὶ τοῦ εὖ ζῆν ἐπιβάλλονται τὸ πρὸς τὰς ἀπολαύσεις τὰς σωματικὰς ζητοῦσιν, ὥστ’ ἐπεὶ καὶ τοῦτ’ ἐν τῇ κτήσει φαίνεται ὑπάρχειν, πᾶσα ἡ διατριβὴ περὶ τὸν χρηματισμὸν ἐστι.

> So that it seems to some that this (increase) is the purpose of estate management, and they persevere in thinking that it is either necessary for them to either save or increase their estate (in the form) of money to an unlimited extent ... And so, with that desire being for unlimited increase, so also they desire unlimited productive means. And even those people who do desire to live well seek this in respect to the pleasures of the body, so that when even this seems to exist in acquisition, all their time is spent in money-making[379]

Thus, rather than observing his conceptual and terminological distinction between household management and money-making, people use their household estates in order to make as much money as possible.[380] Thus, the unbounded desire for gain, or profit-maximization, which

[379] Aristotle, *Politics,* 1257b38-1258a5.

[380] Similar to Aristotle’s equation of *oikonomia* and *chrematistike* is Plato’s comment in the *Republic* that young men only learn philosophy in the time before they take up household management and money-making (*oikonomia* and *chrematismou*) as adults, seeming to equate the two, or at least pinpoint the two activities as young men’s primary activity after reaching adulthood (*Republic,* 498a).

Aristotle discussed in respect to *chrematistike* (see above, Chapter 2), is applied by some of the people of his time even to the way they manage their households.

II. Aristarchus: a reluctant household money-maker.

This is not to say that every estate owner was willing to do everything necessary to make money, as seen in Socrates' conversation with Aristarchus in Xenophon's *Memorabilia*. Aristarchus, a member of the Athenian elite whose fortune like so many others was ruined by the Peloponnesian War, became so overrun by his female relatives that he has found himself in difficult financial straits. In this anecdote, Xenophon attempted to provide sound advice to Athenians who were forced to confront the new economic and political realities in the wake of the Peloponnesian War, which saw the collapse of huge fortunes, particularly in Attic agriculture and mining in the Laureion region, which were largely unavailable to the Athenians during the final phase of the war due to the Spartan occupation of Deceleia.[381] Without the use of their

[381] Thuc. 7.27-28 describes the great decline in Athenian power due to the Spartan occupation of Decelea, saying that afterwards the Athenians were deprived of their entire hinterland during the entire year. The result of this would be a collapse in agricultural productivity and consequently wealth based on agriculture in Attica. With landowners unable to produce crops or even to mobilize their land as collateral for alternative investments, many agricultural fortunes seem to have been decimated. Thucydides says that the wealthiest (many of which were farmers) were suffering the most from the war (8.48), as does the Old Oligarch, who says that farmers wanted to end the war (2.14). Aristophanes' *Acharnians* is filled with references to the struggles of farmers during the Peloponnesian War (for a detailed discussion with references, see Hanson, 1998, 136-37. Moreover, the Laureion mining region seems to have been entirely unused, with very little to no evidence for mining from the late fifth century down into the second quarter of the fourth century (for which see Mussche, 1998, 62-64, on Thorikos, the major mining town in the Laureion district, where the evidence for mining at the end of the fifth and beginning of the fourth century is almost absent).

productive properties outside the walls of Athens for several years, many Athenians suffered major financial disasters.

For some, such as Aristarchus, a complete economic transformation was required in order to survive financially. Socrates advises Aristarchus to turn his household into a business by employing his female relatives as weavers producing market goods, and he can be as successful as other individuals who have secured long-term success from specializing in textiles,[382] as well as most of the Megarian population, who make a living from making a specific type of cloak.[383] Aristarchus' response is initially negative, that the success of Socrates' examples is dependent upon slave labor, whereas his female relatives are not trained as weavers, but rather were educated in the manner of the well-to-do: ὁ μὲν δούλους τρέφει, ἐγὼ δ' ἐλευθέρους … ὁ μὲν γὰρ τεχνίτας τρέφει, ἐγὼ δ' ἐλευθερίως πεπαιδευμένους, "That man feeds slaves, but I support free people … he supports craftsmen, while I support people educated in the manner of free people".[384]

Thus, this passage suggests that there may have been some resistance to employing one's free relatives in the same manner as slaves, but upon closer inspection this seems to be merely an elite prejudice against personally engaging in physical labor. Juxtaposed with Aristarchus' reluctance to employ his well-to-do relatives is the success of the other households Socrates mentions, which are described as being run for the creation of profit, perhaps even in a business-like manner employing slaves for the production of goods for the market. Each household

[382] For textile specialization in ancient Greece, see Bresson, 2007, 196-99.

[383] Xen. *Mem* 2.7.6. See Osborne, 1995, 27-43, for a discussion of this passage and the scholarly debates about citizen prejudices against engaging in slave-like labor.

[384] Xen. *Mem.* 2.7.3-4.

Socrates cites engaged in specialized production, concentrating in the production of a single good; some individuals, such as Nausikydes, were so successful in running their households for specialized market production that he was able to raise himself into the liturgical class.

Indeed, there seem to have been many households which were actually run for the creation of monetary gain. The archaeological record reveals a number of households which were entirely or primarily devoted to the production of goods for the market, particularly from Olynthus. House A v 9, for example, seems to have devoted every available bit of sunlit space to the production of textiles, for instance, and at least four looms were set up in the house's well-lit areas to maximize the amount of productive space.[385] As Cahill notes, four looms is more than is needed for household consumption, and so this house seems to have been devoted almost entirely to the production of textiles for the market. This may have been a slave-staffed operation such as those mentioned by Socrates, which would explain Aristarchus' reluctance to put his proud, once-elite female relatives to work which was normally reserved for slaves, a major social stigma.[386]

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[385] Cahill, 2002, 119.

[386] Aristarchus is not the only individual in Xenophon's *Memorabilia* who objects to engaging in economic activity on the grounds that it is "slavish". Eutherus recoils at Socrates' suggestion that he take up work as *epistates* for another free man's estate, saying he does not to submit to "slavery" (2.8.4). There were elite prejudices against some sorts of economic activity, especially commerce and manufacturing, for which see Hasebroek, 1965, 38-43, and Engen, 2010, 37-40. Xenophon, in his quest to convince wealthy Athenians to return to the country and devote themselves to the *polis* through military training and making time for public affairs in the *Oeconomicus*, speaks against the banausic trades, on the grounds that they make citizens unfit for military service, keep them from helping their friends, and also make them unwilling to go to war to protect their city, to the point that some cities forbid their citizens from engaging in them (4.2-3), a point which the pseudo-Aristotelian *Oikonomika,* 2.2.3, echoes. Herodotus 2.167 says that many foreign peoples esteem their tradesmen less than their other citizens, and moreover says that all the Greeks hold the same opinion, especially the Spartans, with the Corinthians being least prejudiced against trades. With Sparta, of course, Lycurgus forbade citizens from engaging in many types of money-making activity, (Xen. *Lak. Pol.* 7.1). Aristotle, *Politics* 3.3.1-3.3.4 (3.1277b1-78a27), questions whether those involved in banausic trades should even be permitted to be citizens, and says that the best-ordered states were those that did not, citing Thebes

as an example of a *polis* which restricted participation in government to those who had not engaged in market exchange in the *agora* for ten years. The general sense of these statements all point towards a clear program of social and political philosophy: money-making in non-agricultural trades undermines the strength of the *polis*. Xenophon's pleas for wealthy Athenians to return to the countryside as farmers and turn away from banausic trades is a central part of his larger social and political philosophy: those who live on land outside the city walls will be eager to fight on behalf of their country, whereas those who practice trades inside the walls of the city will be unwilling to go to war since war was detrimental for their business (*Oec*. 6.5-10 cf. 5.17). That profits were great from these trades is stated by Aristotle at *Politics* 3.3.4 (3.1278a24-25): πλουτοῦσι γὰρ καὶ οἱ πολλοὶ τῶν τεχνιτῶν. That money-making could be detrimental to the cohesion of the *polis* can be seen in Aristotle's lengthy discussion about the justice of market exchange and its effects on the bonds between citizens in the *Nicomachean Ethics* 5.4-5.5. Plato was so wary of the detrimental effects of money-making on the citizen body of his ideal state that he says that magistrates should protect their people from innovations by visiting sea traders, and that they should have as little contact with them as possible (*Laws* 12.952d-e). The sea, after all, was dangerous to the citizenry, since exchange brought depravity and luxury, fostered distrust and made the city ἄφιλος, where the natural bonds between citizens had given way to economic calculation (*Laws* 4.704d-5b). There were, however, progressive measures taken in such cities as Athens, where Solon was said to have required all Athenians to teach their sons a trade or risk being left uncared for in their old age (Plutarch, Solon 22), and by the fourth century laws were passed in Athens forbidding citizens from denigrating anyone for their business in the *agora* (Dem. 57.30). Still, at the highest levels, prejudices against the illiberal trades persisted into the fourth century at Athens, where the wealth-acquisition and low birth of many of the *nouveaux riches* politicians of the fifth century were the target of constant attacks on their characters (Connor, 1971, 152-74). The law at Thebes shows that citizens did still want to engage in such market activity, and Frier and Kehoe, 2007, demonstrate how easily citizens could circumvent such restrictions by working through a slave agent. This is exactly what Aristotle suggests in the *Politics* – that wealthy individuals use slave overseers in order to be able to devote their time to politics and philosophy (1.2.23, 1255b 35-37). The evidence from Athens shows that citizens often acted in blatant disregard of laws pertaining to private economic activity (see, e.g. Christ, 1990, 2006). In the end, it seems that individual desires often overcame the legal injunctions of the state and the moral injunctions of fellow citizens. As Hasebroek, 1965, 4-6, has said, the prejudice against engaging in such trades did not even remotely approach the potency and pervasiveness of the medieval Church's hostility against engaging in profiteering and usury, and that in this respect ancient Greece was far more amenable to money-making in commercial and financial pursuits than medieval Europe. For a lengthy description of the Church's strictures against trade and usury, see Braudel, 1982, 559-69. Coexisting with such legal restrictions were a variety of cultural and social values which encouraged successful market activity, including commerce and finance (Bitros and Karayiannis, 2004). As Engen, 2010, 140-54 has shown, Athens altered the traditional values of the elite by extending honors into the sphere of maritime trade for metic merchants who were willing to perform benefactions for the *polis*, an argument similar to that of Burke, 1992, who argues for a "disembedding" of traditional values and honors and their extension into the sphere of market exchange. As market trade grew, it seems that it became more and more acceptable to engage in such activities. Indeed, Aristotle says that the *demos* of both Aegina and Chios was comprised largely of *emporoi* (*Politics*, 4.4.1 (1291b 24-25), part of a larger discussion in which he characterizes the *demos* of all cities as being divided between farmers, merchants, tradesmen, etc, in stark contrast to the nobles, whom he characterizes as being distinguished by wealth, education, and birth. This may prove the point that the nobility did not, on the whole, engage in commerce, finance, and manufacturing, as argued by Hasebroek, 1965, and that these trades were largely restricted to the lower classes, and did not lead to the emergence of a capitalist bourgeoisie or aristocracy as emerged in the early modern United Provinces. Xenophon and Aristotle certainly were opposed to a commercial capitalist class ruling the *polis*, since such individuals would be more interested in preserving their own profitable business activities than in fighting on behalf of the city. That the Dutch were able to continue their profits even by trading with the enemy during wartime (Braudel, 1984, 205-10) would

Associating textile production with slaves seems to have been quite common. Xenophon says that teaching a slave girl wool-working (*talasias*) can double her value for the household (*Oeconomicus*, 7.41). This statement simultaneously shows that wool-working was a popular choice for employing female slaves, and also that increasing the productive capabilities of the slave workforce was an important goal for Xenophon, and presumably for his audience as well, who would have found such a statement appealing. The large number of slave women working as wool-workers and textile manufacturers is nicely illustrated by the frequency of *talasiourgoi* in the Athenian manumission lists of the later fourth century BCE, which are by far the most numerous occupation listed in these inscriptions.[387] Therefore, it would make sense for Aristarchus, who associated textile production for the market with slave labor, to recoil at the suggestion that he employ his noble female relatives in such a slave-like occupation.

And so, it seems that Aristarchus represents only one side of the coin, which has been emphasized by such scholars as Moses Finley, in which there was elite resistance to engaging in personal labor and in other types of dishonorable money-making activities.[388] It is the other side

have been outrageous to these moralizing philosophers. Though a commercial aristocracy or ruling class may have never emerged in ancient Greece, nevertheless, many wealthy Athenians of the liturgical class did prefer commercial, financial, or manufacturing investments, as has been shown by Kron, 1996.

[387] See Lewis, 1959. Rosivach, 1989, 365-70, believes that the term "talasiourgos" can mean not just wool-worker but also simply homemaker or house worker. For the alternative suggestion that these *talasiourgoi* were actually prostitutes or *hetairai* whose real livelihood was masked by the name "wool-worker", see Wrenhaven, 2009. Meyer, 2009, interprets these documents very differently: that they are actually connected with the *graphe aprostasiou* proceedings brought against metics, not slaves. My interpretation is that these *talasiourgoi* were simply wool-working slaves, as with, e.g., Fisher, 2008, 139-41.

[388] Finley, 1973 51-61. Though many have supported Finley's views, there have been detractors. See, e.g., D'Arms 1981, who demonstrates that Finley's emphasis on aristocratic attitudes against economic activities among the Romans is exaggerated.

of the coin, represented by the examples of productive households run for profit that is the focus of this study, and that I will explore in this chapter.

III. Agricultural estates run for profit: Ischomachus and Xenophon's *Oeconomicus*.

Nor was it only textile production which the household could use to make a profit; Xenophon's arguments in the *Oikonomikos,* largely placed in the mouth of the dialogue's main character, the gentleman farmer Ischomachus, aim to prove that one can become an "awesome" or "clever" money-maker "δεινὸς χρηματιστής" by engaging in farming.[389] In the dialogue, he argues that engaging in agriculture can be as profitable as any other trade and can also provide additional non-monetary benefits which the so-called *banausic* trades cannot. Thus Xenophon also emphasizes the physical, military, political, and social benefits of becoming a gentleman farmer, but his arguments in persuading his audience to enter agriculture are mainly focused on the profitability and ease of farming. As Pomeroy states, "According to the *Oeconomicus,* profit is the chief goal of estate management,"[390] a sentiment with which Edward Harris agrees: "Ischomachos certainly ran his household in an 'entrepreneurial spirit', with an eye to *kerdos*", profit.[391]

[389] Xenophon, *Oeconomicus* 2.18.

[390] Pomeroy, 1994, 51-52.

[391] Harris, 2002, 84.

Indeed, their interpretations are well-supported, as the focus on increasing wealth is repeated and emphasized throughout. The term *kerdos* appears a number of times throughout the dialogue, indicating that the focus of the discussion is on what brings profit.[392] The verb *auxano*, "grow" or "increase", occurs frequently as well,[393] and this in particular reveals the central interest in the dialogue: how to increase one's estate.[394] Therefore, just as Aristotle observed many people trying to manage their estates for the purpose of making money, Xenophon advocates agricultural estate management as an effective way of making a profit in the *Oeconomicus*.[395]

Xenophon's advice comes at the level of the highest management, in the choices of production to be made with the estate's money, as well as the selection and training of the rest of his management staff. A strict division of labor by gender is advocated to maximize the productivity of both the outdoor and the indoor household productive operations. The wife, the

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[392] *kerdos* appears at, e.g., 2.18, 3.8, 8.12, 12.15-16,14.8, 14.10. The opposite, *zemia*, loss, also appears frequently, as the consequence for not following Socrates' and Ischomachus' advice: 1.7, 1.8-9, 2.18, 8.21, 9.14, 12.19. The juxtaposition between profit and loss as the consequences of hard work or laziness also figures prominently in Hesiod's advice in the *Works and Days*, for which, see above, Chapter 2.

[393] E.g. at 1.4, 1.6, 1.16, 2.1, 3.10, 3.15, 5.1, 6.4, 7.16, 7.43, 9.12, 11.8, 11.13

[394] Pomeroy, 1994, 61, also notes the importance of *periousia*, "surplus" in the dialogue, again emphasizing the aim of growth and profit.

[395] Although Osborne, 1991, shows that the liturgical demands imposed upon wealthy Athenians would have forced them to make money from their estates (echoing one of the concerns voiced by Socrates in the *Oeconomicus*), it should not be supposed that this was the sole motivation for making money on an estate. On the contrary, the voluminous literature in recent decades on tax-evasion and liturgy avoidance in classical Athens demonstrates that the primary drive in making money from an estate was personal profit (see, e.g., De Ste. Croix, 1953; Christ, 1990, 2006; Gabrielsen, 1986; Cohen, 1992, 191-207). Rather, it seems that wealthy individuals' drive for personal profit, which already existed in the Archaic period (see my discussion above, in chapter 2), was harnessed by the *demos* to suit its own purposes, redistributing the profits that were already accruing to the wealthy among the rest of the people.

male slave overseer (*epitropos*), and the female slave housekeeper (*tamia*), are all part of the management of the productive *oikos* unit which Xenophon advocates. By convincing his wife that the household is also her property, the household owner enlists her as an equal partner in the ownership and management of the estate, making her an equally productive part of the management as opposed to being a wasteful consumer of the *oikos*' property.[396] With his wife having an equal stake in the productive operation of the household, she was the most trusted partner, entrusted with the household accounts, and tracking expenses and income. Likewise, since the male slave overseer and female slave housekeeper were also invested with a large amount of responsibility,[397] Xenophon advocates giving them a similar stake in the management of the estate, providing them with a share in the profits for their successful efforts.[398] By watching over everything in the household, and personally being present in all operations, the master of the *oikos* can ensure the maximum productivity of his estate, reducing waste while increasing the productive desires of his partners in management: his wife and slaves.

In fact, agriculture was so associated with profit that farming and animal husbandry are the first fields which Aristotle lists in his enumeration of different types of *chrematistike*:

> ἔστι δὲ χρηματιστικῆς μέρη χρήσιμα· τὸ περὶ τὰ κτήματα ἔμπειρον εἶναι, ποῖα λυσιτελέστατα καὶ ποῦ καὶ πῶς, οἷον ἵππων κτῆσις ποία τις ἢ προβάτων, ὁμοίως δὲ

[396] Xenophon, *Oeconomicus* 7.11-16.

[397] For the training of the *epitropos*, see Carlsen, 2002, 116.

[398] Xenophon, *Oeconomicus* 12.6-7. Varro, *De Re Rustica* 1.17.5 also advocates giving rewards to slave managers: praefectos alacriores faciendum praemiis dandaque opera ut habeant peculium et coniunctas conservas, e quibus habeant filios.

καὶ τῶν λοιπῶν ζῴων. δεὶ γὰρ ἔμπειρον εἶναι πρὸς ἄλληλά τε τούτων τίνα λυσιτελέστατα, καὶ ποῖα ἐν ποίοις τόποις, ἄλλα γὰρ ἐν ἄλλαις εὐθηνεῖ χώραις. εἶτα περὶ γεωργίας, καὶ ταύτης ἤδη ψιλῆς τε καὶ πεφυτευμένης, καὶ μελιττουργίας, καὶ τῶν ἄλλων ζῴων τῶν πλωτῶν ἢ πτηνῶν, ἀφ' ὅσων ἔστι τυγχάνειν βοηθείας.

These are the useful branches of money making: the practical experience with possessions, what sorts are most profitable and where and how, such as what sort of acquisition of horses or cows or sheep, and likewise for the rest of animals (for it is necessary to be experienced in which of these are most profitable in respect to one another, and what kinds are most profitable in which places, for different animals thrive in different places). The next branch concerns agriculture, and of this there are cereals and trees, and also bee-keeping, and of however many other animals, either swimming or flying, from which it is possible to make a living.

Here agriculture and animal husbandry are presented as forms of *money making*, and for Aristotle to treat agriculture as form of *chrematistike* distinct from household management shows that some people, himself included, did see agriculture as being profitable.[399] Hardly subsumed

[399] Schaps, 2004, 168-73 has argued that agriculture was not as thoroughly monetized as other fields of economic activity in classical Greece. However true this may be for some regions of the Greek world, nevertheless in the more commercialized regions monetization had so pervaded the field of agriculture that there were many opportunities for specialization for market production and profit from exchange. As early as 427 BCE, agriculture is said to have been incorporated into the fully monetized economy of the Aegean, as Thucydides describes how in the aftermath of the Mytilenean revolt, Lesbos was divided into 3,000 *kleroi*, parcels, each given to an Athenian who was to receive a rent of 200 drachmas per year. He says that the Lesbians were forced to pay this rent in *argurion*, cash (Thucydides 3.50.2-3). The Attic Stelai, published just after the Hermokopidai incident in 415, expresses the agricultural produce and plots of land confiscated from the offenders in cash terms, the price paid by the buyers in the resulting auction. Other public documents, such as the *rationes centesimarum* (for which see Lambert, 1997, and Lewis, 1973, and for a view that the transactions recorded in these inscriptions may be leases rather than sales, which seems to be less

entirely in the world of self-sufficiency, agriculture is here explicitly categorized as money-making enterprise, for profit in the market. The issues which Aristotle describes as facing a money maker in the field of agriculture are here concerned with profit and getting the most out of one's acquisitions and possessions: what sorts of animals, whether horses, cattle, or sheep, are the most profitable in which sorts of situations. Thus, the farmer in this passage of Aristotle is a person who makes a comparison between potential productive options and makes a decision based on what is most profitable for the piece of land in question. Because Aristotle says that people choose which sorts of production will be most profitable, it seems that these individuals were specializing for market production rather than diversifying to secure household self-sufficiency.

The superlative λυσιτελέστατα, "most profitable", is stated twice in this short passage, a clear, unambiguous sign of a desire to get the highest return, or to profit maximize in the field of

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probable in my view, see Osborne, 1985, 56-59), attest that individuals in Athens were willing to pay huge amounts of cash for farm plots with little notice, doubtless confident in their ability to get more cash from them. Aristotle, in the quote above, of course classifies agriculture as a money-making activity, agreeing with Xenophon, who says agriculture can be a profitable money-making venture, one which can make a person a clever or awesome money-maker (2.18), and bring high profits in the long-term (Xen. *Oec*. 20.22-26). In the lease inscriptions from Attica, wealthy Athenians seem to snap up greedily even small plots of land in their quest for quick profits in agriculture (Osborne, 1985, 54-9; 1988). On Delos, auctions for the lease of Apollo's estates were highly competitive and driven by profit, deals were done in cash, and some estates' cash rents rose and fell with, and therefore to be determined by, the prevailing prices for barley (Reger, 1994, 197-201); this is as monetized a situation as one could imagine. Pericles, of course was said to have sold all his produce in the market for cash (Plutarch, *Pericles*, 16.4), apparently a real-world example of the so-called "Athenian style of householding, in which the estate's produce was sold in the market for cash, rather than being stored in the house all year (ps.-Aristotle, *Oikonomika*, 1.1344b31-33). Phaenippus in Demosthenes *Against Phaenippus*, is said to have sold 1,000 *medimnoi* of barley and 800 *metretes* of wine (Dem. 42.20). As Demosthenes says (20.30-33), 800,000 *medimnoi* were imported into Athens alone, all of which was obtained through market trade: grown for, and purchased with, cash. Even more modest farmers sold their crops in the agora, for which see Ehrenberg, 1951, 130, for examples of peasants selling their goods. Osborne, 2002, 128-9 argues convincingly that agriculture was very deeply integrated into the cash market economy at Athens, since so many liturgists needed to raise cash to meet state demands from agriculture.

agriculture and animal husbandry. This sentiment is entirely in keeping with Aristotle's observation in the *Politics* that people use money making to try to expand their wealth without limit, and also Xenophon's statements in the *Lakedaimonion Politeia* that most Greeks make money however they can, including in agriculture, and in the *Poroi* where he depicts agricultural products as just one of the many economic specializations which individuals choose when they bring better opportunities for profit (see my discussion above, Chapter 2). If profit maximization was pursued by some individuals in agriculture, many of these certainly would have been wealthy, but perhaps some were also more humble citizens on the typical family farm. Xenophon certainly advocated making money from farming in the *Oeconomicus*, and in light of Aristotle's remarks that people try to make money from *oikonomia*, it is difficult not to conclude that this was a widespread practice, and perhaps even seen as typical.

Comparative evaluations of profitability in different situations are a major part of the decision-making process as presented by Aristotle. Although Aristotle here is only depicting individuals making decisions about how best to use a specific plot of land after already choosing to enter agriculture, he does say that they must know which animals are most profitable in respect to one another (πρὸς ἀλλήλους). Such a comparison is, indeed, characteristic of an individual who evaluates the relative merits of different investments based purely on their profitability (λυσιτελέστατα), and then makes a decision based on this calculation of potential profit. The person who does this is a perfect textbook example of the *homo oeconomicus* who evaluates his investment options and makes the decision which will secure the greatest profit.[400]

[400] Although the comparison of agriculture and other fields, an important part of the economic decision-making process (for which see above, Chapter 1), is not actually discussed by Aristotle, he does nevertheless portray the *act* of choice within agriculture, which is in perfect conformity with economic rationality. To project this comparative

Since the *oikos* was the main site of all production in ancient Greece, and agricultural production in particular, it is a natural conclusion that many people were, in fact trying to run their households, even those engaged in agriculture or animal husbandry, for profit.

To convince his audience of agriculture's profitability, Xenophon clearly demonstrates how specializing in agriculture could be used to make money. Ischomachus' father in the *Oeconomicus* is described as a "property flipper" who pursues profit by buying unproductive estates, fixing them up and reselling them at a profit:[401]

> τοῖς γε μέντοι ἐπιμελεῖσθαι δυναμένοις καὶ συντεταμένως γεωργοῦσιν ἁνυτικωτάτην χρημάτισιν ἀπὸ γεωργίας καὶ αὐτὸς ἐπετήδευσε καὶ ἐμὲ ἐδίδαξεν ὁ πατὴρ. οὐδέποτε γὰρ εἴα χῶρον ἐξειργασμένον ὠνεῖσθαι … τοὺς μὲν γὰρ ἐξειργασμένους ἔφη καὶ πολλοῦ ἀγυρίου γίγνεσθαι καὶ ἐπίδοσιν οὐκ ἔχειν … οὐδὲν οὖν ἔχει πλείονα ἐπίδοσιν ἢ χῶρος ἐξ ἀργοῦ πάμφορος γιγνόμενος. εὖ γὰρ ἴσθι, ἔφη, ὦ Σώκρατες, ὅτι τῆς ἀρχαίας τιμῆς πολλοὺς πολλαπλασίου χώρους ἀξίους ἡμεῖς ἤδη ἐποιήσαμεν… ἐπιθυμῆσαι ἔφη τοιούτου χώρου ὅπως ἔχοι ὅ τι ποιοίη ἅμα καὶ ὠφελούμενος ἥδοιτο … καὶ ἐγὼ μέντοι ἀκούσας τοῦτο ἠρόμην αὐτὸν· πότερα δέ, ὦ Ἰσχόμαχε,ὁπόσους ἐξειργάσατο χώρους ὁ πατὴρ πάντας ἐκέκτητο ἢ καὶ ἀπεδίδοτο, εἰ πολὺ ἀργύριον

evaluation of profit earlier in the decision-making process, to the level of deciding whether or not to enter or exit different fields, the quote from Xenophon's *Poroi* (as discussed in Chapter 2 above) certainly depicts the comparative evaluation of profits as part of the decision-making process. The choice to enter agriculture is also implicit in Xenophon's agenda in the *Oeconomicus*, to persuade his audience that entering the field of agriculture will allow them to become a clever money maker, that it will be a profitable choice in comparison with other trades. The point in the decision-making process which Xenophon's persuaded reader would have been in is precisely at the point at which one considers entry into a field.

[401] Xen. *Oec*. 20.22-26.

εὑρίσκοι; καὶ ἀπεδίδοτο νὴ Σι’, ἔφη Ἰσχόμαχος· ἀλλὰ ἄλλον τοι εὐθυς ἀντεωνεῖτο, ἀργὸν δὲ, διὰ τὴν φιλεργίαν.

> “ ‘From farming comes the quickest way of making money for those who are able to be careful and who put their all into farming, as my father taught me and also practiced himself. For he never allowed me to buy a piece of land that was well-worked … For he said that those plots which were well-worked cost a lot of money and were incapable of improvement … Therefore nothing is capable of more improvement than a land which becomes all-productive from a state of neglect. For know well, Socrates, that we have already made farms worth many times their original price ... He said that he desired such a farm so that he might have something to do and to have pleasure while he was making profit. For as it seems to me, Socrates,’ he said, ‘my father was the Athenian who loved farming the most.’ And I, upon hearing this asked him: ‘Did your father keep all the farms he improved, Ischomachos, or did he sell them, if he could get a lot of money?’ ‘He sold them, of course,’ said Ischomachos, ‘but he would straightaway buy another, and an unworked one, because of his love of labor.”

Here Xenophon lays out how one could apply estate management principles to money-making. By constantly seeking opportunities for profit, Ischomachus’ father takes a systematic approach to making money in agriculture, by identifying and purchasing neglected properties and “flipping” them at a profit. The implication of Xenophon’s arguments is that some of his audience would have been convinced to switch to agriculture from other fields precisely because it was a profitable field. By operating his *oikos* efficiently, and taking a business-like attitude to the acquisition of new properties, the successful *oikonomos* is able to maximize on profitable opportunities as they arise.

The profitability of agriculture and the eagerness with which wealthy landowners tried to acquire plots of land even in the short-term can be seen in many of the land sales and leases preserved in the epigraphic record. Property sales at fourth-century Tenos reveal multiple purchases of land, including one with 47 transactions ranging from sixty to eight thousand drachmas (IG XII.5.872). The so-called *rationes centesimarum*, be they sales or leases,[402] in any case demonstrate that even expensive plots of land were snatched up by buyers, as do the large sums paid for plots of land in the sudden auctions recorded in the Attic Stelai. Thespiai in the late third and early second centuries BCE likewise published a series of land leases,[403] in which it seems that both the price and the term of the lease was negotiable, and in which wealthier members of the community were eager to invest, often in more than one plot at a time, and renewed their contracts for long periods of time, up to twenty years. As Osborne has said, the motivation to have these plots is purely agricultural,[404] and those with *aulai*, stables, on them fetched a higher price on average, apparently because these properties were prized for the ability to raise livestock, including one stable which was leased for 330 drachmas annually (12.5% its value), indicating the types of profit it could be expected to make. Reger has shown that the prices for rents of estates at Delos were closely connected to the prices of the agricultural

[402] Osborne, 1985, 56-9, is correct to say that there is no definitive evidence that these are sales, and suggests that they could be leases, not purchases as Lambert, 1997, Lewis, 1973, and Andreyev, 1974, 15-18, 44-45, argue.

[403] Osborne, 1988, 292-3.

[404] Osborne, 1988, 295.

produce to be grown on them, barley and olives.[405] One plot of land, for example, is said to have yielded 5,760 drachmas worth of crops in one year.[406] Huge profits from wealthy men who seem to be manipulating information and restricting the opportunity to lease this land to an exclusive group of wealthy individuals, an example of institutions that are created by and for a certain interest group.[407] The Rheneia estates owned by the Temple of Apollo at Delos were leased for an average of 1300 drachmas a year in the 290s.[408] High status lenders,[409] many of which appear as guarantors who already owned real estate, and some who were already known for other commercial activities,[410] showed interest in even small plots of land, and there was no shortage of demand for land by men of high wealth and status.[411]

As Osborne states, pastoralism was a major money-maker for the lessees of these estates, which perfectly illustrates the capitalistic nature of their operation:

> Unlike crops with roots, sheep and cattle could quickly be acquired or disposed of for cash, along with the slaves who looked after them. Rapid entries to and exits from agricultural practice were therefore possible … the pattern of agriculture on the temple estates made an

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[405] Reger, 1994, 197-201, 205, 209.

[406] Osborne, 1988, 296.

[407] North, 1990, 16: "Institutions … are created to serve the interests of those with the bargaining power to devise new rules."

[408] For the leases on Delos, see Kent, 1948.

[409] Osborne, 1988, 299.

[410] e.g., Diaktorides (Kent # 74), was a banker who leased temple land and a foundry. Another, Antigonos, who may have been a banker (Kent # 22), a lessee of temple land who also bought the contract for the harbor tax at another time, overextended his resources to the point that he became indebted to the temple.

[411] Osborne, 1988, 291.

> openended commercial attitude to farming possible: the turn-over of estate leases makes it look as if some, at least, took advantage of that possibility. (Osborne, 1988, 302).

For the ambitious money maker, an opportunity such as a large estate lease could bring enormous profits. The size of the rents and the large crop production attested show how much money could be made. There was even a frantic bidding war for many of the estates, before temple officials had to step in to stop the rapid increase,[412] in what could even be compared to a speculative bubble, since the default of lessees and the seizure of their land was the result of over-committing resources, beyond what the value of the property could sustain, to what was believed to be a more and more profitable venture. Therefore, there was much competition for these estates, because of the profitability of the agriculture and animal husbandry that could be practiced on them. As Finley has shown, windfall opportunities were the best most people could hope for,[413] and in the Delian economy, the scarcity of land certainly made the temple estate leases some of the best opportunities for profitable investments. This explains why they were so valuable and sought-after, and the timely seizure of profitable opportunities can be seen in the rich men who so eagerly snatch up even small plots of land.[414]

Phaenippus was certainly a money-maker in agriculture.[415] The amount of profits Phaenippus made from just this one year's crop, 18,000 drachmas from barley (1,000 medimnoi

[412] Kent, 1948, 279-80; Reger, 1994, 214-21.

[413] Finley, 1973, 117-22.

[414] Osborne, 1985, 54-9. Reger, 1994, 218, describes competition for these estates as being "fierce".

[415] For a detailed discussion of Phaenippus' farm, see Bresson, 2007, 152-55, and De Ste Croix, 1966.

at 18 drachmas)[416] and 9,600 drachmas for wine, even if they are reduced to more likely figures, are still enormous returns for an enterprise of any kind. Since this was such a profitable *oikos*, it is a fair conclusion that Phaenippus was running this estate as a business, to make money.[417] Because he was exploiting his resources to the fullest it seems that he was trying to make as money as he could with this property, since he was cutting down and selling the timber on his property and even employing mules and a driver to do so. He also made the choice to grow wine on the better-watered portions of his estate, a cash crop that was regularly in high demand, as opposed to wheat which would have brought him a lower return (Osborne, 2002, 122). And so, it seems that Phaenippus was, indeed running his agricultural *oikos* as a money-making operation for profit, and that he made choices in order to increase those profits.

The emergence of agricultural and estate management pamphlets by the fourth century is perhaps also a sign of an increasing concern with the rationalization of agriculture at this time. In the late fifth and fourth century, Antisthenes was said by Xenophon in the *Memorabilia* to be an *oikonomos* who was extremely successful to the point of making himself a general; though this is uncertain, it is known that he wrote treatises on household management: *Περὶ ἐπιτρόπου ἢ περὶ τοῦ πείθεσθαι* (*On the Manager or On Obedience*), as well as the oddly-titled *Περὶ νίκης οἰκονομικός (On Victory: an Economic Work)*.[418] Androtion was said to have written a

[416] 18 drachmas per *medimnos* was high but not unheard of. Demosthenes 34.39 preserves a price of 16 drachmas per *medimnos* during a food shortage. It may be that Phaenippus was hoarding his produce in order to sell it at the highest price he could, in which case his grain may have been more than a year's worth stored, and it may have been just such a huge windfall that alerted the speaker to challenge Phaenippus in an *antidosis*.

[417] Phaenippus' estate is described as being quite large, large enough to have two huge threshing floors on his property, each a *plethron* in extent. He may have even rented out the use of these threshing floors to his neighbors or fellow demesmen, further exploiting the money-making potential of his property.

[418] Diog. Laert. 6.16; For Antisthenes see Davies, 1971, 39, (1194); Chandezon, 2011, 99-100.

Γεωργικά,[419] and Xenophon, along with Theophrastus and others began writing treatises on how to make money in agriculture at this time.[420] These were followed by such successors in the Hellenistic and Roman world as Cato, Columella, and Varro.[421] Aristotle notes that by his time agricultural treatises had gained a currency and degree of sophistication not found in other sorts of money-making, and wishes that works on agriculture by Charetides of Paros and Apollodorus of Lemnos would inspire similar works for other fields.[422] Already in the Archaic period, Hesiod set out a calendar in the *Works and Days* whereby to maximize the use of the agricultural seasons and slave productivity at different times of the year. The motivation Hesiod gives for a peasant to maximize his and his slaves' productivity is "so that you may buy the farm of others, and another not buy yours."[423] Xenophon and pseudo-Aristotle in their *Oikonomika* treatises both present a systematic, orderly approach to managing estates to maximize the efficiency and productivity of labor, and to secure as great profit as possible.[424] By properly training one's wife, slave overseer (*epitropos*), and housekeeper (*tamia*), one can control income and expenditures.[425]

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[419] Davies, 1971, 33.

[420] Theophrastus is said to be the author of the pseudo-Aristotelian *Oikonomika* by Philodemus in his *Peri Oikonomias.*

[421] See Varro, *De Re Rustica* praefatio, for an extensive list of Greek, Hellenistic and early Roman agronomists. Columella also provides a list at his own *De Re Rustica* 1.1.7-14.

[422] Aristotle, *Politics* 1259a.

[423] Hesiod, *Works and Days*, 341

[424] Both works advocate the efficient division of labor along gender lines, in addition to methods of slave management to maximize productivity.

[425] For slave *epitopoi* and management of estates, see Carlsen, 2002; Chandezon, 2011.

Controlling expenditures and keeping careful accounts allows one to make agriculture a profitable trade. The emphasis on frugality and precision, controlling expenditures and avoiding excessive consumption on pleasure is advocated by Xenophon's Ischomachus, who emphasizes the benefits of being industrious. These are precisely the values identified by Weber as being the most important defining characteristics of the modern capitalist: a refusal of expenditure on corporal pleasures, a system of accurate accounting, an eye on profit first and foremost, and an unfailing work ethic.[426] Nor is Xenophon the only ancient author concerned with emphasizing these values, but Pseudo-Aristotle echoes his own sentiments about keeping one's wife's spending on cosmetics and personal adornment to an absolute minimum.[427] Cato, in his *De Agri Cultura,* also emphasizes the importance of frugality for profit, identifying extravagant consumption as being detrimental to profitability; he likewise advocates keeping detailed, separate accounts for cash and the various agricultural products on the estate.[428]

The individual who practices frugality for the purpose of wealth accumulation is presented as a character type common in Athenian society by Plato, in the Republic: ταπεινωθεὶς ὑπὸ πενίας πρὸς χρηματισμὸν τραπόμενος γλίσχρως καὶ κατὰ σμικρὸν φειδόμενος καὶ ἐργαζόμενος χρήματα συλλέγεται "humbled by poverty, clingingly turning to money-making, and little by little saving and working, he accumulates wealth" (553c). By being sparing, φειδόμενος, he avoids expenditures and saves up his money little by little, κατὰ σμικρὸν, building it up over time. Being born of a well-to-do father who was ruined by

426 Weber, 2009, 24-25

427 Pseudo-Aristotle, 1344a, 20ff.

428 Cato on frugality being necessary for profitability: Scito idem agrum quod hominem, quamvis quaestuosus siet, si sumptuosus erit, relinqui non multum (*De Agri Cultura* 1.1.6).

sycophants,[429] this individual was ταπεινωθεὶς ὑπὸ πενίας, "humbled by poverty" to the point that his honor was depleted, and which he sought to regain through the accumulation of wealth. Therefore, for this individual, wealth accumulation, and perhaps maximization, is a means to an alternate end, which is achieved through thrift and hard work (ἐργαζόμενος).

IV. Frugality and precise accounting: Pericles' estate manager Euangelos.

Unfortunately, no accounts survive of the actual operation of agricultural estates, and finding unequivocal examples of farmers who operated to maximize profit margins is very difficult. Nevertheless, there is evidence that some individuals really did take such a systematic approach to their own household management, by keeping accurate accounts, and controlling expenditures.

Pericles, for example, is said to have had such concern for controlling waste that he arranged the affairs of his entire estate[430] with a view to making precise, accurate records: τὸν πατρῷον καὶ δίκαιον πλοῦτον ... συνέταξεν εἰς οἰκονομίαν ἣν ᾤετο ῥᾴστην καὶ ἀκριβεστάτην εἶναι "he ordered his ancestral and legal wealth in the manner of household management which he thought easiest and most precise," (Plutarch, *Pericles* 16.3).[431] He was so

[429] For sycophants in classical Athens, see Osborne, 1990, and the response by Harvey, 1990.

[430] Very little is known about Pericles' property for which see Davies, 1971, 459-60. Thucydides 2.13.1 states that he had farms (*agroi*) and houses (*oikiai*), and as Davies notes, this accords with what we know from Plato, that his sons became *hippeis* (*Meno*, 94b), and that he sold his produce (*karpoi*) in the agora (Plutarch, *Pericles* 16.3), all pointing to agriculture as the basis for his wealth.

[431] Plutarch's source for this passage is unknown. Stadter, 1989, 197-99, notes that Theopompos, Theophrastus, and Stesimbrotus have all been suggested as Plutarch's source, and that a comedy or a Socratic dialogue could also be

meticulous in limiting the expenditures of his own family, even, that he came to be despised by them for this reason: οὐχ ἡδὺς ἦν ἐνηλίκοις παισὶν οὐδὲ γυναιξὶ δαψιλὴς χορηγὸς, ἀλλ' ἐμέμφοντο τὴν ἐφήμερον ταύτην καὶ συνηγμένην εἰς τὸ ἀκριβέστατον δαπάνην, οὐδενός, οἷον ἐν οἰκία μεγάλη καὶ πράγμασιν ἀφθόνοις, περιρέοντος ἀλλὰ παντὸς μὲν ἀναλώματος, παντὸς δὲ λήμματος δι' ἀριθμοῦ καὶ μέτρου βαδίζοντος, "He was not a pleasant leader among his sons, nor a generous one among his female relatives, but they reproached his daily spending, which was restricted to the most exacting point, with no surplus as in a great house and prosperous conditions, but with every expense and every income going through arithmetic and measurement" (16.4).[432] What is significant about this passage is that

Plutarch's source. Stadter accepts the validity of the statement, nonetheless, and suggests that he was "trying to put his relatively unpredictable domestic income in the same regulated basis he was using for the *polis*. Carlsen, 2002, 126 n.28, suggests that anachronistic details of estate management may have crept into Plutarch's account of Pericles' estate management, since Euangelos resembles slave *procuratores* of Roman senatorial households, who had unrestricted control over the household's finances. Chandezon, 2011, 102, however, thinks that the passage is authentic, and rests on precise information from a fifth- or fourth-century Greek source. Pelling, 1999, 18-60, notes that at times Plutarch's paired lives can distort each other, as apparently can be seen in Pericles' and Fabius' demagogy, which are mirrored in a neat hour-glass structure. Moreover, as Hornblower, 1991, 251, notes, Pericles' fears that his *xenia* with Archidamus' might bring suspicion on him if his estates were spared by the Peloponnesians, and his subsequent promise to hand them over to the state in that case (known well from Thuc. 2.13.1), seem to have been projected upon Fabius' life by Plutarch, perhaps a blatant fabrication (Plutarch, *Fabius* 7). In this instance, however, Plutarch certainly did not fabricate the details of Pericles' household and Euangelos based on Fabius life, since the latter is devoid of a parallel passage. Cimon's domestic excesses as recounted by Plutarch (at *Cimon* 4.5-9, e.g.) are perhaps a better parallel, one that points to similar source material, fifth century Athenian literature. As Pelling notes, Plutarch was extremely well-read in fifth-century Athenian literature, and he often searched out new material to supplement his main sources, such as the variety of facts he used for Nicias' life that were not present in Thucydides' narrative. Plutarch, *Pericles* 29-33, for example, is filled with a number of non-Thucydidean facts regarding the outbreak of the Peloponnesian War, and so we may conclude that this passage describing Pericles' household and Euangelos is derived from a contemporary Greek source, though perhaps with some anachronistic embellishment, as suggested by Carlsen. In any case, such embellishment is not likely to obscure the basic facts concerning Euangelos' administration of Pericles' household. Indeed, the arrangement between Pericles and Euangelos conforms exactly to Aristotle's statement that slave bailiffs and overseers can free up an estate owner for nobler pursuits such as philosophy and politics (*Politics* 1.2.23, 1255b 35-37).

[432] For Plutarch's account of Pericles' estate management, see Stadter, 1989, 197-9. The statement in 16.4 that Pericles sold all his produce at once on the market during the harvest suggests that he would have been selling cheap and buying dear, and Stadter, 1989, 198, rightly doubts the accuracy of this statement, which may have been a misinterpretation of his source by Plutarch. A possible analog, however, is provided by the farmers of the Tulumayo

Plutarch focuses on his wealth, and the control of consumption and expenditure which were characteristic of the consumptive household using methods more appropriate to the firm aiming at growth.

The great precision, expressed in the superlative ἀκριβέστατον, with which he kept accounts of every transaction is noteworthy in this instance, and for this, he enlisted the help of his own slave overseer,[433] Euangelos. ὁ δὲ πᾶσαν αὐτοῦ τὴν τοιαύτην συνέχων ἀκρίβειαν

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valley in the Peruvian Andes, who sell their cash crops immediately after harvest when they expect prices to be at their highest (for which see Mayer, 2002, 218). They still try to maximize their return, and their behavior may be shaped by the specific market conditions in which they live. A piece of evidence which seems to corroborate Plutarch's account of Pericles' marketing practices is the description in the pseudo-Aristotelian *Oikonomika* book 1, which describes the Athenian household as characterized by selling produce and then buying the rest of what it needs for the year immediately (1344b). It may be that non-agricultural goods are at their cheapest during the harvest season, which would make this a very sensible practice, since one could obtain everything needed for the household when goods were cheap. Whatever the case, the Tulumayo farmers show that one can still engage in such a marketing practice with the intent of profit-maximization; an economically irrational mindset should not be automatically imputed upon Pericles without knowledge of the precise conditions for different goods within the Athenian market at different times of the year. Indeed, for Attica, it may have made most sense to sell one's goods immediately after the harvest all at once, while prices were still high before the arrival of grain from Sicily, Egypt, Pontos, and the Aegean islands. A shipment (*kataplous*) of Sicilian grain is said to have driven prices down for all Athens (56.9). In such a situation, the particular nature of the Athenian and ancient Greek market would make such an action extremely sensible from a money-making perspective.

[433] It is not clear whether Euangelos was considered an *epitropos* or an *epistates.* That the former seems to refer to slaves and the latter refers to free bailiffs seems to be implied in the use of the term *epistates* by Socrates when he tries to convince Eutherus to become the manager of another free man's property in Xenophon, *Memorabilia* 2.8 (Chandezon, 2011, 101). The *epitropos* is explicitly labeled as a slave in the Aristotelian *Oikonomika* 1.5.1 1344a25-29, where a distinction also perhaps is made with *epistatai*, τοῖς ἐφεστῶσιν, (1345a, 18-23). For the distinction between these terms and *oikonomos*, see Carlsen, 2002, 120-22. Xenophon also includes both terms in *Oeconomicus* 21.9, seeming to imply a difference. Carlsen's comment that the all-powerful role of Euangelus in Plutarch's depiction is an anachronistic insertion of a *procurator* of a Roman senatorial household (2002, 126, n. 28), is problematized by Aristotle's description of bailiffs with complete control over the household in *Magna Moralia* 1198b 13-20. See also his praise for the use of bailiffs to free up the master for politics and philosophy at *Politics* 1.2.23 (1255b 35-37). Pseudo-Aristotle's *Oikonomika*, 1345a, 5-12 the suggestion is that owners drop in on the estates managed by *epitropoi* frequently. This is precisely the advice given by Xenophon in the *Oeconomicus*, and also by Cato in the *De Agri Cultura* for the *vilicus*. This gives added support to the idea that slave bailiffs could control entire estates in ancient Greece. The only known *epitropos* from the epigraphical record was found in an inscription in southern Attica on the so-called Timesios farm (Langdon and Watrous, 1977, 168-73). It seems that the owners of the Cliff Tower also owned this property and set up the *epitropos* in charge of the farm (Carlsen, 2002, 120). It is still true that many (or most) of the *epitropoi* known from ancient Greece were still managers of

εἶς ἦν οἰκέτης, Εὐάγγελος, ὡς ἕτερος οὐδεὶς εὖ πεφυκὼς ἢ κατασκευασμένος ὑπὸ τοῦ Περικλέους πρὸς οἰκονομίαν "And there was one slave, Euangelos, holding together all his precision of this kind like no one else, whether by nature or trained by Pericles for household management" (16.5). Euangelos is said to have used so much precision, ἀκρίβειαν, in his administration that he even kept track of daily expenditures, ἐφήμερον δαπάνην. Such meticulous control by the overseer is in accordance with Plutarch's comment that Pericles arranged his estate management however would be ῥᾴστην, easiest, to allow him to focus on politics as Aristotle advocates. The employment of slave overseers for one's entire estate is indicative of a concern with ensuring the growth of the estate as a whole through managing not just the accounts, but regulating the behavior of one's own family as well. This is precisely what Xenophon and Cato advocate, and thus it seems that Pericles may have been one of those individuals mentioned by Aristotle who used the management of their estates (*oikonomia*) as a means of making money.

This is not to say that ancient Greeks used full, extensive systems of written accounting like modern business, monitoring their production and expenditures entirely in cash balances and. Recently, Stephen Johnstone has argued persuasively that Greek farms could have been operated in the absence of detailed written accounting systems, and that produce and money alike were apportioned into monthly and annual containers, which *per se* constituted the system

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only part of their masters' estates, including a single workshop, and that those who managed everything, like Euangelos, were probably the exception (Chandezon, 2011, 102). Xenophon's *Oeconomicus* 12.2-14.14 is the most extensive discussion on the selection and training of an *epitropos* in ancient Greek literature, for which see also ps.Aristotle *Oikonomika*. 1.5.1 (1344a25).

of accounting.[434] This practice of accounting as physical separation and "containerization" is an intriguing suggestion, and perhaps sheds some light upon how ancient Greeks could have managed their produce and consumption over the year without detailed written accounting systems.

This does not mean that there was no actual calculation involved, however; in 9.8, Xenophon says that Ischomachos set aside the goods "calculated" (ἀπολελογισμένα) to last for certain amounts of time, which is consistent with some sort of prior planning rather than just an *ad hoc* piling up and dividing up of the goods. Indeed, experience and time could have taught Greeks how much was likely to be consumed by each person per month, and containers could be procured of just the right size. The prior calculation suggests that Greeks did have an idea, something which they may have known since their early childhood, from living in their parents' household, and seen these containers on a daily basis. Because there was an advanced notion of how much to set aside, it would have been much easier to determine how much was left over, and could be sold for cash.

As Enrique Mayer has shown for household accounting in the Peruvian Andes, peasant farmers often keep separate accounts for cash, subsistence consumption, and reciprocal labor obligations.[435] Cash interests are kept separate from other expenditures because cash is both scarce and liable to be spent frivolously (223, 226). Whereas the modern firm considers labor costs in cash terms as part of a fully commensurate final balance, Peruvian peasants do not calculate their own labor as part of their overall balances, and restrict their cash accounts to

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[434] Johnstone, 2011, 71-77. His argument is based on Xenophon, *Oeconomicus*, 7.36, which perhaps, and 9.8 which certainly, describe the physical separation of goods into containers.

[435] Mayer, 2002, 225-30.

monetary inputs and outputs (217-19). This partition of accounts may be external support for Johnstone's argument that Greek farms only certainly kept written accounts of external relations, of money borrowed or loaned to other households.

Although some households may have, indeed, practiced the sort of sorting as accounting which Johnstone has proposed, Pomeroy is right when she says that there were written records of some kind which were used in Ischomachus' house.[436] Moreover, other households from ancient Greece are said to have used written accounts as well.[437] The majority of these examples are households which also practiced some sort of business, whether banking, maritime trade, or money-lending, whose specific business deals are being discussed in court. The fact that the records which do appear in these sources are all within the context of business activities suggests that perhaps records were solely or predominantly used for the commercial money-making actions of these household businesses, and not for the household itself. Nonetheless, as seen in Pericles' and Ischomachos' control over expenditures in the household,[438] it matters little whether accounting was made in physical or written form; in either case, household consumption is restricted so as not to deplete the profitability of the household. Therefore, while Johnstone is

[436] e.g., Xen., *Oec*. 9.10, which Johnstone notes refers only to items which were used occasionally. This precision may be somewhat overstated, since other items could be accounted for in writing as well (as Pomeroy notes), and Xenophon is not being absolutely explicit in limiting the written list only to such occasional items. Rather, he may have emphasized the written list in this section only to show that written lists could be used not *only* for foodstuffs and money, but also for other household items as well.

[437] The household in Lysias 32 used written accounts (32.7, 22, 25-6), and it seems that Demosthenes' father also kept detailed accounts to be able to list his property and its monetary value in such specific terms, and to calculate the profits from each of his workshops. Other examples of written accounts include Dem. 56.1, Dem. 25.60-61, Dem. 52.6, Isoc. 17.20 & 22-34. In ps.-Arist., *Oik.* 1.6.6.1345a20, the *epitropos* does the monthly and yearly accounts. For a discussion of accounting in estate management, see Chandezon, 2011, 108-17.

[438] Ischomachos advocates controlling expenditures at 7.36 and 9.8 clearly as part of the overall argument that consumption can be kept at a minimum and tracked to allow for the profitability and growth of the household.

correct that most Greek farms could be run without full *written* accounts of production and consumption, this does not mean that they were not run for profit.

Whether written accounting was used in the Greek household is paramount to the question of how well Greeks could calculate the profitability of their properties. The problem, discussed above in respect to Bertram Schefold's and Max Weber's identification of the distinctness of the firm and the household in ancient Greece, is well-articulated by Edward Harris: "Since the oikos and the business were virtually indistinguishable, one might assume that the Athenians did not run their ergasteria (workshops) in a business-like fashion, that is, with an eye to maximizing profits. In fact, Finley argued that the average Athenian was not capable of managing his household efficiently because he lacked the bookkeeping methods that would have enabled him to compare the profitability of different enterprises."[439] This problem is of the utmost importance in determining if ancient Greeks ran their households for profit.

In any case, as I have argued above in Chapter 2, the Greeks did have the ability to compare and calculate the relative profits of investment options. This is precisely what Aristotle states in the passage cited above: for money-making, owners must know how profitable certain types of property are in different situations. Therefore, Greeks did have the ability to compare the profitability of different types of property. As an important element of this ability, however, Aristotle does not mention accounting, but notes that one must be "experienced in which [properties] are profitable in respect to one another;" thus, the calculation and comparison of profitability may have largely been a matter of experience. Whether this comparison was made

[439] Harris, 2002, 83, in reference to Finley, 1985c: 110-11, 116-17.

using accounting, experience, or trial and error,[440] (or some combination of the three), the fact that Greeks were able to identify the importance of making such comparisons strongly suggests that they actually tried to determine profitability in practice. Calculation is attested within discussions of estates' property in ancient Greek households (e.g. Lysias 32.21-22 & 24), and so it is likely that ancient Greeks used a combination of all the means at their disposal to determine profitability.

V. Ancient Greek men's ideal wife: sparing, hard-working and profitable.

The way Greeks envisioned the ideal household is well illustrated by their descriptions of the ideal wife. For Greek men, whose voices are almost exclusively what survive from antiquity, choosing the right wife meant the difference between a happy, prosperous household and one which is characterized by grief and misery. Hesiod goes into some detail on exactly how to go about picking a wife for the household;[441] while the good wife can be the greatest blessing for a man's house, the bad wife is equally baneful, and can fill a man's life with sorrow.

As discussed above, a wife who helped increase the estate, and enabled it to grow by controlling her consumption and being an active, industrious member of the household, was

[440] Trial and error is still today used by the modern firm as part of the profit-maximizing process, for which see Macve, 1985, 250. North, 1990, 79, agrees that modern corporations still rely upon trial and error, and not just computations, in their quest to maximize profits: "maximizing activity by the firm results from learning by doing and investing in the kinds of skills and knowledge that will pay off." Thus, rather than merely relying upon calculations, the modern firm must rely upon a combination of different approaches, seems to have been the case in ancient Greece. Experimentation was also recognized as the key to success in the ancient world as well: see, e.g., Columella 1.4.5, on the need for experimentation to increase profitability on the Roman farm.

[441] *Works and Days* 695-705.

advocated by Xenophon in the *Oeconomicus*. As discussed above, Xenophon devotes a great deal of attention to the process of training one's wife so that she becomes an equal member in the productive, profitable household. Likewise, Pseudo-Aristotle's *Oikonomika* advocates treating one's wife as an equal partner in the estate management, and advocates a natural division of labor according to gender, and even instructs men to control their own behavior in order to retain their wives' good will and benevolence (see especially book III, which has only survived in Latin translation).

The wife who controls her consumption and contributes to the management of the household is consistently depicted as the ideal, not only in Xenophon's *Oeconomicus* and Pseudo-Aristotle's *Oikonomika*, but in other Greek literature as well. In Lysias 1.7, the same praise of meticulous control of expenditure and consumption coupled with accurate account-keeping that was seen in Plutarch's account of Pericles' slave manager Euangelos appears in discussions of the speaker Euphiletus' wife. He describes his wife as being a "the best of women, for she was an impressive household manager, sparing and administering everything with precision": πασῶν ἦν βελτίστη καὶ γὰρ οἰκονόμος δεινὴ καὶ φειδωλὸς ἀγαθὴ καὶ ἀκριβῶς πάντα διοικοῦσα. The repeated emphasis on frugality and precision, both here and in Plutarch's account of Pericles' manager Euangelos, suggests that these were widely recognized to be the values of successful and praiseworthy wives and slave managers. The fact that these values are the focus of his positive evaluation of his wife suggests that these were precisely the qualities which the jury would have considered to be desirable as well.

A wife was seen to be an important aspect of the household economy, both from a consumptive and productive perspective. One who depletes the family's resources is a curse, while one who helps the estate thrive is praised. This impression from literature is corroborated by the evidence from Classical Greek funerary epitaphs, which echo the praise given by Euphiletos for his wife while she still conformed to the ideal of industriousness and their consumptive restraint. [442] Two praise a woman for her industriousness (ἐργάτις),[443] the latter of which also described her in the same terms as Euphiletos: φειδωλὸς "sparing". The most common compliment for a deceased woman, however, is "prudent, "temperate", or "self-controlled", in the terms σώφρων and σωφροσύνη.[444] Thus, temperance, moderation, self-control, frugality, and industriousness were all seen as the defining and most praiseworthy terms with which to remember these women who were missed so dearly by their families. The fact that men praised their wives for frugality and productivity shows that a productive, increasing estate was seen as a major preference for ancient Greek household owners. Therefore, a profitable household was considered an ideal situation, one which was certainly not achieved by some, but was probably the goal of many.

Picking a wife, to ancient Greek men, could mean the difference between a prosperous and profitable household and one in financial ruin. Semonides, of seventh or sixth century BCE Amorgos, says in a lengthy poem on women that there are some wives who spend all their time

[442] See IG II² 11162, which praises a wife for her consumptive restraint.

[443] *CEG* 491, 537.

[444] See, e.g., *CEG* 494, 495, 516, 518, and 525. Σώφρων and σωφροσύνη are often used of sparing or restraint in money, appetites, expenditures, pleasures, and luxury, which is how Plato says that the majority of people, οἱ πολλοί, define it (Gorgias 491d). For specific examples, see North, 1966, 126, 134, and 142.

eating and consuming the *oikos'* resources, or else refuse to do any work, neglecting the house and its finances, and are said to be made from dogs, asses, pigs, and other animals.[445] Others, however, have the nature of the industrious bee, and can be quite a boon, causing the property of the household to flourish and increase: "θάλλει δ' ὑπ' αὐτῆς κἀπαέξεται βίος"(line 85). These are the only women in Semonides' poem whom he exclusively praises; the rest are either exclusively insulted or have abuse interspersed with reserved praise.

Praising wives for their ability to allow an estate to increase and grow financially is an important insight into the economic mind of the ancient Greek male household owner. If ancient Greek men identify thrift, frugality, self-control, and industriousness as the qualities which are praiseworthy in a wife and lavishness and laziness as faults, then it is clear that they considered the wife's role to be extremely important in determining the fate of the household. That financial responsibility and the growth of the estate are central in their discussions of women's qualities shows that these were the traits which were idealized in ancient Greece.

VI. Conclusions

The combined weight of the evidence for money making in *oikonomia* indicates that a profit and growth-oriented approach is apparent in much of the discussions of the ancient Greek household. Controlling expenditures and a concern for profitability are prominent in the main prescriptive texts on household management, and so it seems that the lack of division between

[445] Semonides 7 in Campbell, 1967.

household and firm in ancient Greece does not rule out the possibility that many households were, indeed, run as businesses for profit. Indeed, the restrictions on excessive consumption, the use of accounting, and the eye for profit in ancient Greek literature is reminiscent of Max Weber's description of economically rational capitalists (see above in Chapter 1). Therefore, there is sufficient evidence that many ancient Greeks did view their estates as money-making enterprises, which they operated for profit.

Unfortunately, a full overview of an estate in ancient Greece which preserves the full accounting practices and the economic choices made by its owner is entirely lacking. It is true that the Zenon archive could be used fruitfully in order to explore the exact management and accounting procedures of this particular estate, but as of yet such a study is still needed.[446] In the absence of better-documented examples, it will be necessary to turn to the lists of property and estates which are attested in the orators and the epigraphical record of classical Greece. These estates are extremely fragmentary, and must be examined with extreme caution, but nevertheless they can be used to piece together some of the real-life strategies used in household and business management in ancient Greece.

Therefore, in the next two chapters I will explore the actual decisions made by real-life ancient Greek household and business owners as attested in the extant sources to examine their money-making strategies. After examining those estates which specialized in their economic activity, concentrating in one field of production, I will then turn to diversified estates to determine whether these also were geared to the creation or maximization of profit.

[446] A full account has yet to be written, but the records have been discussed in some detail by De Ste. Croix, 1956; Mickwitz, 1937; Chandezon, 2011; Macve, 1985. The most extensive discussion of a single accounting corpus, of course, belongs to the Roman world: Rathbone, 1991.

Chapter 4: The Economic Decision Making and Money-making Strategies of Diversified Estate Owners.

I. Introduction: diversification and the economic decision-making process.

Because ancient Greece was largely an agrarian world, and commerce, finance and manufacturing were subsidiary to the agricultural production that dominated pre-modern economic life, the agricultural nature of the ancient Greek economy has been emphasized in recent years as its defining characteristic.

Diversification, therefore, is often presented as being an important part of the risk aversion strategies that peasants who are engaged in subsistence agricultural production use to ensure their survival in case of crop failure or some other catastrophe. Most of the estates known from ancient Greece, however, did not belong to poor peasants, but rather to wealthy individuals living well above the subsistence level. These individuals often had a wide variety of properties, but they did not need a "safety first" attitude when it came to managing their estates. They had plenty to spare, and were often making healthy profits. For these individuals, therefore, a peasant subsistence model does not seem appropriate to describe the ways they operated their *oikoi*, households.

Rather, it seems that the attested behavior and decisions that these wealthy diversified estate owners made were often more in line with modern notions of economic rationality than with non-capitalist peasant subsistence production strategies. Many of these individuals managed their risk, but they did not try to avoid it altogether. Risk reduction was certainly a result of their diversification, but these risk reducing effects may not have been the motivation to diversify in the first place.

Profit, on the other hand, appears to have been central in the choices that these diversified estate owners made to acquire and maintain properties. The economic decision-making process of these estate owners reveals that instead of simply risk management, diversification often seems to have been the result of the timely windfall acquisition of profitable investments as they became available in a world of limited information about, and access to, profitable opportunities.[447] Therefore, profit seeking, rather than risk aversion, is the predominant motivation for the acquisition of new properties in these diversified estates.

But this is not to say that risk management was not an important element of their owners' management strategies. Indeed, the well attested desire to hide wealth from the Athenian *polis* to avoid liturgies also characterizes the decision-making of many ancient Athenian estate owners, many of whom diversified by investing in *aphanes,* invisible, assets to permit the long-term growth and profitability of their property. Avoiding liturgies was a risk reducing strategy which also coincidentally permitted increased profitability in many instances.

[447] See Osborne, 1988, 291 on opportunities for leases being restricted to inside groups, implying the restriction of circulation of news about these opportunities. Hesychius s.v. ἐν λευκώμασιν reveals that news of sales in Athens needed to be publicized to allow creditors to dispute sales of land and slaves that were being used as security for loans, but there was no law requiring information about potential opportunities to be distributed among the population at large before a sale, just as there is none today.

Indeed, it is entirely possible that the desire to maximize profits and wealth motivated the economic decision making and money-making strategies of these diversified estate owners,[448] whose actions might more naturally be assumed to follow the risk averse actions of a peasant subsistence model of safety first than an economically rational model of profit seeking. [449] Far from a non-productive mentality, diversified estate owners seem to have been concerned with securing high rates of profit, and their estates typically consisted of predominantly productive, profitable assets.

II. Timarchus' father Arizelos: a strategy of short and long-term profit.

The estate of Timarchus' father, Arizelos, is one of the best known from ancient Greece, and provides a window into the economic decision making process of an estate owner. Arizelos was the owner of a diversified estate who seems to have managed his property to maintain and

[448] Profit maximization is nearly impossible to determine with absolute certainty even for the modern world in which even Fortune 500 companies make mistakes (Markides, 1995, 102-3). Nevertheless, since rates of profitability are preserved for many Ancient Greek properties with even more accuracy than some early modern businesses (see, for example, Grassby, 1969, on the difficulties of calculating rates of profit for many businesses in seventeenth-century England), the results from this analysis will be reliable enough to draw some reasonable conclusions. In the end, it seems that many of the *oikoi* from ancient Greece were indeed structured primarily for the creation of profit with a rational approach to the acquisition and management of their properties.

[449] The non-capitalist peasant subsistence model was first articulated by Chayanov, 1966, from whom the field of peasant economic studies has emerged. For the anti-surplus, safety-first, peasant subsistence model, sometimes referred to as the "moral economy" of the peasant, see, e.g., Wolf, 1966; Hodges, 1988, 11; Scott, 1976. The term "moral economy" was first coined by Thompson, 1971, in respect to the anti-market sentiments of the English crowd, but was then applied to the peasant subsistence model. Problems with the wholesale application of the peasant subsistence model to societies have been pointed out by Tannenbaum, 1984, who notes that there is no single model of peasant, and that a sufficient account of the market and external economic realities are often lacking in such models. Popkin, 1977, 21, has shown that peasants often engage in risky behavior that is antithetical to these safety-first models. My main objection to the assumption of the peasant subsistence model in ancient Greece is in respect to the behavior and strategies of wealthy estate owners, who were certainly not peasants. On the other end of the spectrum, Sahlins, 1972, 226, similarly objects to the uncritical application of the term "peasant" to "primitive" societies studied by ethnographic anthropology. For a more detailed discussion, see above, in Chapter 1.

increase the profitability of his holdings in the long term. To show how Timarchus squandered his inheritance, Aechines lists its contents in depth:

> τούτῳ γὰρ κατέλιπεν ὁ πατὴρ οὐσίαν, ἀφ' ἧς ἕτερος μὲν κἂν ἐλητούργει, οὗτος δὲ οὐδ' αὑτῷ διαφυλάξαι ἐδυνήθη· οἰκίαν μὲν ὄπισθεν τῆς πολέως, ἐσχατίαν δὲ Σφηττοῖ, Ἀλωπεκῆσι δ' ἕτερον χωρίον, χωρὶς δὲ οἰκέτας δημιουργοὺς τῆς σκυτοτομικῆς τέχνης ἐννέα ἢ δέκα, ὧν ἕκαστος τούτῳ δύ' ὀβολοὺς ἀποφορὰν ἔφερε τῆς ἡμέρας, ὁ δ' ἡγεμὼν τοῦ ἐργαστηρίου τριώβολον. ἔτι δὲ πρὸς τούτους γυναῖκα ἀμόργινα ἐπισταμένην ἐργάζεσθαι καὶ ἔργα λεπτὰ εἰς ἀγορὰν ἐκφέρουσαν, καὶ ἄνδρα ποικιλητήν, καὶ ὀφείλοντας τινας αὐτῷ ἀργύριον, καὶ ἔπιπλα.

> For his father left to him property from which another man could have served liturgies, but Timarchus could not even preserve it for himself. There was a house behind the Acropolis, a plot of land at Sphettos,[450] another at Alopeke, as well as nine or ten slave manufacturers of the shoemaking trade, each of whom paid an *apophora* of two obols per day, and the manager of the workshop three obols daily. And still in addition to these, he left a woman who was skilled in working in flax from Amorgos, producing fine goods for the market, a man working in embroidery, some individuals owing money to him and furniture.[451]

As Aeschines says, Arizelos left enough money for Timarchus to serve liturgies. In addition to slave manufacturers producing goods for the market, land, and houses, he also left a great deal

[450] There is no clear way to distinguish qualitatively between the *eschatia* at Sphettos and the other plots of land, the *choria,* owned by Arizelos. See Jameson, 2002, for an in-depth discussion of the distinction. See Lambert, 1996, for the wide range in prices of *eschatiai* sold in the *rationes centisimarum*, some of which were extremely expensive, up to four talents, and so cannot be considered to be "marginal" or inferior land.

[451] Aeschines 1.97.

of money on loan (1.99-100), at least half a talent's worth that is known,[452] which Timarchus is said to have collected (1.100); moreover, the large amounts of *aphanes*,[453] or invisible wealth, in loans is said explicitly to have come from properties he had sold:

> ὡς τοίνυν ἐκέκτητο ὁ πατὴρ αὐτοῦ ἀργύριον οὐκ ολίγον, ὃ οὗτος ἠφάνικε, τοῦθ' ὑμῖν ἐπιδείξω. φοβηθεὶς γὰρ τὰς λῃτουργίας ἀπέδοτο ἃ ἦν αὐτῳ κτήματα ἄνευ τῶν ἀρτίως εἰρημένων, χωρίον Κηφισιᾶσιν, ἕτερον ᾿Αμφιτροπῆσιν, ἐργαστήρια δύο ἐν τοῖς ἀργυρείοις, ἓν μὲν ἐν Αὐλῶνι, ἕτερον δ' ἐπὶ Θρασύλλῳ
>
> And that his father owned a large amount of money, which Timarchus has hidden, I will demonstrate to you. For Arizelos, fearing liturgies, sold what possessions he had aside from those just mentioned: a plot of land at Kephisia, another at Amphitrope, and two workshops in the silver mining regions, one at Aulon, and another near [the tomb of][454] Thrasyllos (1.101).

Therefore, he had also previously owned two additional plots of land and two silver ore processing workshops in the Laureion silver mining district, [455] which Aeschines says Arizelos

[452] Aeschines 1.100 does not specify the number of borrowers Arizelos had, but only that it was to more than one (τισιν). The nature of *aphanes* wealth makes it impossible to guess its full extent. It is not clear how much of his wealth loans constituted, but the loan of a half talent to Metagenes of Sphettus (1.100) suggests that the total may have been substantial, and he is said to have lent to a number of people.

[453] The Athenians distinguished *aphanes*, invisible, property in the form of cash, loans, slaves and other moveable goods from *phanera*, visible assets in land and houses. For *aphanes and panera ousia*, see Gabrielsen, 1986, 99-114; Gabrielsen, 1994, 53-60; Cohen, 1992, 191-207.

[454] This is the translation of Adams, 1919.

[455] These *ergasteria* were most certainly silver ore-processing workshops, probably washeries, which are well-known from the archaeological, epigraphical, and literary record. In Demosthenes *Against Pantaenetus*, the lawsuit concerned a loan against the security of an *ergasterion* and thirty slaves (37.4), worth altogether three talents and two thousand drachmas (37.50). *Horoi* from Attica recording hypothecation transactions against the security of ore workshops are somewhat well-represented (see, e.g. Finley, # 88, 90). Ore washeries are ubiquitous in the Laureion mining region, for which see, e.g., Mussche, 1998, for ore washeries in the mining town of Thorikos. This is not to

had sold and transformed into loans (1.99-100).[456] Arizelos himself is explicitly said by Aeschines to have made the decision to invest in mining (1.105), so he himself seems to have been responsible for the acquisition of much, if not all of the productive property he owned at his death.[457] Thus, Arizelos owned a diversified set of holdings, with agriculture, loans, manufacturing, and mining activities all represented.

According to the peasant models frequently applied to ancient Greece,[458] the most obvious reason for this diversity is simple: the minimization of risk. Having four scattered plots of land would have allowed him to avoid the devastation of a flood or bad harvest,[459] and by supplementing his agricultural holdings with mining properties and loans, he was able to protect himself even further against a disaster in any one of these fields. Moreover, his slave

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say that *ergasteria* were always physical buildings, but could just refer to the slaves and their equipment (Finley, 1985 [1951], 67).

[456] The potential size of the loans can perhaps suggested by the values of ore washing workshops known from the literary and epigraphical record: Pantaenetus' workshop was worth three and a third talents (Dem. 37.50); the workshops known from *horos* inscriptions were worth at least 1,400 drachmas (Finley, # 90), and two talents (Finley, # 88), on the understanding that hypothecation could yield about half the property's actual value, as in the case of Pantaenetus. Thus, the sale of each workshop could have yielded anywhere between a quarter of a talent and two talents. Therefore, the loans could have been in the order of several talents, perhaps comprising the vast majority of the estate's wealth.

[457] Some of the wealth may have belonged to Timarchus' uncle, whose property Arizelos was said to have been administering (1.102), but it certainly would have been difficult for Timarchus to have been able to steal his uncle's property to the point Aeschines depicts that the latter was receiving state assistance as a disabled pauper, since such payments were only possible after a *dokimasia*, a scrutiny which doubtless would have inquired about the loss of his property. For the *dokimasia* of *adunatoi* in Athens, see Todd, 1993, 115, n. 13; 301.

[458] See, e.g., Gallant, 1991, 7-10, for the application of risk-minimizing peasant subsistence models to ancient Greece, which are, of course, perfectly appropriate for those who actually did resemble modern peasants. For the limits of the peasant model, and its inappropriateness for wealthy individuals, see Horden and Purcell, 2000, 271-78. Wood, 1988, provides a lengthy discussion of many of the issues in labeling ancient Greeks as peasants.

[459] Fragmentation of landholdings was the rule in Athens, which may have been for risk-minimization, but also perhaps resulted from the windfall acquisition of land plots that were fragmented from sale and partible inheritance, for which see Davies, 1981, 52-55, Osborne, 1985, 47-52, 62-63.

manufacturers' would have been able to bring in a reliable return throughout the year to offset the agricultural properties decline in productivity during the winter. This was a diverse variety of investments, each of which was vulnerable to different types of dangers and thus none would be completely wiped out by a single disaster or fluctuation in market prices. Though it is unclear whether or not he would have farmed his own plots of land or if they were rented out to tenants, his slave craftspeople and mining properties would have brought in a steady stream of cash, as would his loans, if they were for interest. Such diversification also allowed Arizelos to avoid the devastating market fluctuations described by Xenophon in *Poroi* (see discussion above, Chapter 2). At first glance, therefore, Arizelos' property list in isolation seems to conform to patterns of risk-reducing diversification.

Looking more closely at Arizelos' decision making process, however, suggests that he did not diversify his estate properties to avoid risk, but rather acquired the properties he did to make money. First, as Aeschines says, he acquired the mining *ergasteria*, workshops, in the Laureion region, and after he owned them for a certain time, he had made enough money to raise himself up into the liturgical class. Prior to owning these *ergasteria*, Arizelos was not concerned with being charged to serve liturgies, but after he had acquired them and owned them for a period of time, he got to the point that he so feared liturgies that he sold these properties.

He sold not only these mining *ergasteria* but also some plots of land. The liquidation of these properties was not a risk-reducing action, since Arizelos lost the risk-minimizing benefits of the scattered land plots he sold, selling his most farthest-flung plots at Kephisia and Amhipitrope near Sounion, and concentrating his agricultural activities onto fewer plots of land closer to the city. He also exited his mining activities, preferring an estate composition concentrated into fewer types of investment, a riskier portfolio; loans were higher risk than mining and land,[460] and his were most likely for profit (see below).

Therefore, risk-avoidance cannot be assumed for Arizelos' economic decision-making process, and profit seems to be the primary motivation for his decision to invest in these *ergasteria* to begin with. To get to a place that he would have had to fear liturgies, it seems that while owning these *ergasteria* Arizelos had increased his wealth substantially, and that his ownership of these properties would make it more likely to be selected to serve. The implication is that these were not only profitable properties but visibly profitable enough to attract the attention of the Athenian *polis*.

It seems that making profit was Arizelos' primary motivation to acquire these *ergasteria* in the first place; he operated them for a long enough period to permit sustained growth and increase his coffers as much as he could. Indeed, Arizelos' desire for profit and continued growth for his estate can be seen most clearly in the motivation for selling the mining *ergasteria*: φοβηθεὶς γὰρ τὰς λητουργίας, "because he feared liturgies". Therefore, having made so much money from his mining properties, he seems to have sold these properties and not his other holdings of land and slaves, because they were the most conspicuously profitable assets he owned.[461] He invested in silver ore processing, then exited from it once he had made as much money as he could without facing the heavy demands of liturgies, and transformed these assets

[460] As Millett, 1991, 84 states, loans were quite risky. The risk was that someone would not or could not repay the loan, which was common enough, based on the frequency with which unpaid debts appear in speeches and literature from ancient Greece.

[461] The large number of citizens making fortunes in the Laureion mining district, combined with the mechanisms for democratic participation at Athens itself would have meant that information about profitable enterprises in southern Attica would have been prominent in the discussions of wealth at Athens itself. Arizelos was wise to liquidate these mining properties to avoid liturgies.

into *aphanes*, hidden form. According to Aeschines, the form in which he reinvested this wealth was loans, and the insistence with which he collected the only loan that is known, half a talent to Metagenes, shows that this was not a friendly loan.[462] If his decisions to enter the field of silver ore processing and profit as much as he could, then liquidate these properties to avoid liturgies in order to continue to profit from the estate are any indication of his profit-seeking attitude, it is most likely that these loans were for interest.[463] Therefore, the strategies Arizelos employed seem to have been directed at continued growth and profit.

Not only was Arizelos aiming at profit in his economic decision-making process, but he may have even been trying to maximize his return. His pattern of property acquisition may be the result of seizing in a timely manner his various properties in an attempt to capitalize on what he perceived to be profitable opportunities as they arose.[464] As Moses Finley has argued, windfall acquisition seems to have characterized much ancient investment practice.[465] Given the imperfect

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[462] Metagenes was apparently repaying the loan in installments, since he had originally owed thirty minae, but still owed seven minae at the time of Arizelos' death (1.100).

[463] Nor would it be a surprise that the loans were for interest, a detail which Aeschines omits. Nausicrates' and Xenopeithes' lending fortune of almost ninety talents (38.20) was not described by Demosthenes as having been for interest (the loans are simply called loans, *chrea*, at 38.7-9), nor is Pasion's fifty talents of loans outstanding at his death (36.5), but these fortunes most certainly consisted of interest-bearing loans, geared for profit (see my discussion of these and other profit maximizing money lenders in Chapter 5, below). The fact that Arizelos is said to have lent to several people after transforming the money he had made from profitable mining properties into *aphanes* form to avoid liturgies suggests that altruism was not the central principle in his economic decision making. It is not impossible that they were *eranos* loans, however, which are attested in the amounts of 1,000 (Isaeus 11.43; Dem. 53.8-9), and 2,000 drachmas (Lysias F. 11.43 in Gernet and Bizos, 1989). Smaller amounts certainly must have been common as well, for which see Millett, 1991, 296, n. 38. It seems unlikely, however, that all the loans hinted at by Aeschines would have been friendly. Aeschines would have been able to depict Timarchus' squandering his father's fortune as being even more despicable if he mentioned that it was partially invested in to *eranos* loans. On the contrary, the profit-oriented decision making by Arizelos is much more consistent with a move to interest-bearing loans for profit, though he may have also lent on *eranos*.

[464] The opportunism in ancient Greeks' acquisition of productive property is emphasized strongly by Foxhall, 2007.

[465] Finley, 1973, 117-22; Millett, 1991, 166, agrees.

information networks in antiquity, the chance arrival of news by word of mouth may have been the rule, and long-term material success may have depended upon snatching up profitable opportunities at the right time. Therefore, the diversity of Arizelos' holdings may be a sign of a profit-oriented acquisitive strategy, in which he purchased different types of property in the hope of bringing in extra cash from a variety of ventures. Profit was certainly the point of his entry into ore processing, and also for his liquidation of these properties to allow for continued long-term growth.

Indeed, it seems that Arizelos was constantly trying to reinvest his money into additional productive purposes instead of just spending it on consumption.[466] Although a percentage is impossible to determine without specific figures, it seems that *all* his property listed by Aeschines, aside from the furniture and probably also the house,[467] was productive. The slave manufacturers were extremely profitable, and even if he was only receiving the minimum return from his shoe workshop (see below), he still would have been bringing in a steady sum from

[466] Some claim that combining interest-free *eranos* loans with loans at interest is a sign of an economically irrational attitude (see, e.g., Millett, 1991, 170-71.), but this is to ignore the importance of social capital and the building of networks of trust, which may have been instrumental in securing long-term economic opportunities and security. As Foxhall, 2007, 48-49, argues, the medium- and long-term benefits of *eranos* loans within the highly socialized fabric of the ancient Greek economy could be productive in very important ways; they would still be investments in social capital, for which see Bourdieu, 2001, and my discussion in Chapters 6 and 7, below. And so, engaging in *eranos* loans should not be judged as economically "irrational", but rather as one of the many transactions costs involved in doing business in the uncertain, inchoate market economy of ancient Greece. Information costs are a part of any economic transaction, and free and perfect information are ideal constructs better suited to simplified models of economic market behavior. The costs of obtaining reliable information are different in different economic contexts, and *eranos* loans provide an interesting insight into the interplay between the "embedded" realm of citizen social reciprocity and the "disembedded" realm of the commercialized maritime market economy of the Aegean.

[467] Kazakévich, 2008, 572, notes that the slave manufacturers probably worked in the city residence. The parallels for this are quite common: at least some of Demosthenes' father's slave workers lived and worked in his residence (see below), and Komon in Demosthenes 48 owned two houses, each of which housed a slave workshop, including his own residence. Choosing to place one's slave workshops in one's house was a way to avoid the costs of renting out a separate space. As seen in Olynthus, many houses were completely filled with productive spaces, for which see Cahill, 2002.

products in high demand. His two other productive slaves, who were explicitly said to be making specialized textiles of fine quality for the market (εἰς ἀγορὰν, (1.97), were certainly chosen and kept for their profitability. Indeed, even ordinary textiles were sold for substantial sums,[468] and specialized garments of Amorgos flax and embroidered items of finer quality would have brought an even greater price.[469] Moreover, his workshops in the Laureion region were a major cash-generating field whose acquisition eventually raised him into the liturgical class, and it was only at the point that he was going to lose significant sums to liturgies that he curtailed his *phanera ousia*, and is said to have transformed this wealth into *aphanes* form as loans, probably at interest.

Thus, it seems that Arizelos concentrated his wealth into as many different profit generating properties as he could. But did he actually try to maximize his profits? For this question the running of the shoemaking slave workshop is of great interest, and a key piece of evidence appears when Aeschines mentions the daily rate owed by each slave, two obols per working slave (nine or ten of them), and three obols per day from the *hegemon*,[470] probably a slave himself.[471] In the most despotic scenario, Arizelos would have required his slaves to pay

[468] Ordinary cloaks sold for up to 20 drachmas apiece, with lower quality garments roughly half the price. See Amemiya, 2007, 70-71. For the profits that could be made from textile production, see Xenophon, *Memorabilia* 2.7.

[469] An interesting illustration of the potential returns from such fine woven goods can be seen in Pausanias' comment at 7.21.14 that most of the women of Roman Patrae, who outnumbered the men two to one and needed to support themselves, made a living weaving fine flaxen dresses and hair nets.

[470] Aeschines 1.97.

[471] Aeschines calls this daily payment *apophora*, the payment that often absentee slave managers paid to their masters, for which see Harpocration, ἀποφοράν; Andocides 1.38; Old Oligarch, *Ath. Pol.*, 1.11. See also Kazakévich, 2008, 354-6; Cohen, 1992, 93-4; Lauffer, 1979, 67-71, 106-10, 175-6; Fisher, 2008, 124-27; Davies, 2007, 354-5. Weber, 1976, 205 suggests that the manager of this workshop could have been a slave or a freedman (who kept some of the profits, as Weber correctly assumes), but the institution of *apophora* was normally used for slaves living apart from their masters and paying the *apophora* while having the freedom to profit from and operate

him a daily rate and also all the profits. However, if this were the case, it would be odd for Aeschines to mention the daily rate, and as in other examples from the Attic orators, he probably would have just presented the total profits of the workshop which accrued on an annual basis.[472] It seems rather that the more likely scenario was that the slaves paid Timarchus' father a flat rate *per diem*, and that either the *hegemon* kept the profits or split them with Arizelos.[473] Since those Greeks who advocated profit sharing with slave managers did so with an eye to increasing productivity and profits,[474] Arizelos' use of the *apophora* is consistent with a long-term profit-maximizing strategy. Having a productive and interested manager would ensure effective management of a single profitable property while allowing the master to engage in other acts.

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the enterprises under their control. See Davies, 2007, 359 n. 144; Garlan, 1988, 69-73; Fisher, 2008, 121-46; Kazakévich, 2008, 352-54, argues convincingly that the Greeks did not use the term *ἀποφέρω* synonymously with δοῦλοι μισθοφοροῦντες but that the former implied the payment a slave with freedom to operate and profit from a master's property made to his master, while the latter expression refers to slaves who are rented out by their masters, like any other piece of property (though the term could probably refer to such slaves as those who worked with their master for wages, for example on construction projects or as rowers in the fleet). Kazakevich, 2008, also argues that Harpocration's identification of such independent slaves as the *choris oikountes* mentioned in Demosthenes is incorrect, and that these represented different groups, with which Fisher, 2008, 126-7, agrees. For a discussion of slave businessmen in Athens, see Cohen, 2002, 102-3.

[472] cf. Demosthenes' father's workshops in Dem. 27.9, and Apollodorus' shield factory and bank in Dem. 36.11-12, where the total annual proceeds are listed as a single lump sum.

[473] Xenophon, *Oec*. 12.6 says that he ensures his *epitropos'* loyalty by giving him a share of the profits: Καὶ πῶς, ἐγὼ ἔφην, πρὸς τῶν θεῶν εὔνοιαν ἔχειν σοὶ καὶ τοῖς σοῖς διδάσκεις ὅντινα ἂν βούλῃ; εὐεργετῶν νὴ Δί', ἔφη ᾿Ισχόμαχος, ὅταν τινὸς ἀγαθοῦ οἱ θεοὶ ἀφθονίαν διδῶσιν ἡμῖν. He repeats this idea of providing a share of the household's success for his housekeeper in 9.12. Ps. Arist., *Oik*. 5.6, says that a *telos*, including better clothing, treatment, praise, and eventually emancipation must be set before slaves to ensure their productivity. Varro agrees: "Praefectos alacriores faciendum praemiis dandaque opera ut habeant peculium et coniunctas conservas, e quibus habeant filios" (1.17.5). The distinction between the managerial *epitropos* (bailiff) and *tamias* (housekeeper), and the rest of the slaves is very pronounced in Xenophon's *Oeconomicus*. In ps. Arist., *Oik.* 5.3, slaves are divided between *epitropoi* (managers), and *ergatai* (workers), with major distinctions between them. Since the managerial slaves were rewarded more than the working slaves, it seems that the reward for the *hegemon* in paying a higher daily wage was a share of the profits. Cohen, 2003, 103, believes that the slaves paid the flat rate and kept all profits.

[474] The advice to share profits with slaves at Xenophon, *Oec*. 12.6, and to give slaves rewards for hard work at Ps. Arist. *Oec*. 5.6, are both made in discussions of maximizing slave managers' productivity.

Arizelos was, after all, also a landowner, a money lender, was active in the mines, and had other market-producing slaves. To be sure, Arizelos seems to have had eye out for profitable opportunities, and made the decisions on what to acquire and what to sell primarily with an eye for profit. At this level, Arizelos is not invested primarily in the management of one piece of property, but rather in the entry and exit into different fields based on profit; this behavior fits well into the model of *homo oeconomicus*, who compares the profitability of different investments and makes his choices on that basis.[475]

The figures which Aeschines gives for the income from the shoe workshop show that he would have received a large amount of profit from the workshop in any case. Nine or ten workers paying two obols, led by a slave manager who paid 3 obols per day would make between 21 and 23 obols per day, amounting to between 1277.5 and 1,400 drachmas per year, between a fifth and a quarter of a talent in silver per year. After factoring in the replacement costs for the slaves themselves, Thompson calculates that the workshop would have brought in at least 15-19% of its value in profit each year.[476] This is close to the rates of return for bottomry

[475] Dennis Kehoe astutely points out that the ability to evaluate multiple investment options is central to identifying evidence for the modern notion of economic rationality in ancient behavior (Kehoe, 1993), and Paul Christesen argues persuasively that the comparative assessment of different investment options was very easy for fourth-century BCE Athenians (Christesen, 2004). Among the opportunities for investment were loans, slaves, livestock, cereals, vines, olives, maritime trade, pottery, textile production, mining, retail trade, bathhouses, milling, banking, quarrying, fishing, and others. As Shipton, 2000 demonstrates, even the poorest were able to invest in the mines, and seem to have done so. There was no shortage of investors in land, as can be seen in the ready and eager buyers of Oionias' 81 talents of land in the Attic Stelai, along with all the other possessions auctioned off in these inscriptions, as well as the *hekatostai* inscriptions (whether these were sales (Lewis, 1973; Lambert, 1996; Andreyev, 1974), or leases (Osborne, 1985, 56-69, and 1988, 290-1), and the sales records from Fourth-century Tenos e.g. IG XII.5, 872), which all reveal a high demand in which land purchasers were willing to spend multiple talents for single plots at short notice

[476] Thompson, 1978, 408.

loans, and so it seems that he would have been securing a steady and sizable profit from the workshop even if he only received the fixed, *per diem* rate.[477]

That Arizelos was receiving such large profits from this steady, reliable source was simply smart business. In *The Intelligent Investor*, Benjamin Graham recommends that investors place between a quarter and three-quarters of their property in stocks ,[478] which can reasonably be expected to provide a steady, long-term return of six percent per year.[479] In comparison, Arizelos' profits look very desirable. Although Thompson's estimates do not include additional costs, they should be regarded as approximate minima, since he calculates the rate of return based on the highest attested price for manufacturing slaves known from ancient Greece. If the value of his shoemakers was somewhat less, as is likely (the average slave cost less than half of the slaves Thompson uses), then the relative profits of the workshop would have been even greater. Therefore, since the margin of error of Thompson's calculations would offset additional, unconsidered costs, it seems that Arizelos' shoe workshop approached one of those "special situations" in investment, as Benjamin Graham refers to them: "which over many years could be counted on to bring a nice annual return of 20% or better".[480] And so, Arizelos' shoe workshop is suggestive of a profit-maximizing strategy of his estate management overall, and his decision to

[477] Cohen, 1992, 93 agrees that this was a fixed rate.

[478] Graham, 2003, 89-91.

[479] Zweigg, 2003, 85. Early modern factory profits provide a valuable comparison, for which see Braudel, 1982, 343: one producing calicoes in Mulhouse made about twenty-five percent profit in 1770, but dropped down to 8.5 percent in 1784; a paper mill at Vidalon-lès-Annonay, whose profits stayed at or below ten percent from 1772-1800; a cotton mill at Augsburg brought 15.4 percent between 1769 and 1781; a silk manufactory in Crefeld whose profits varied between 2.5 and 17.25 percent in the five-year period of 1793-1797. In mid-fourteenth-century Florence, the wool manufactory of Antonio di Lando degli Albizzi averaged twenty-two percent annually from 1346 to 1350, and that of Francesco Del Bene averaged 11.7 percent from 1355 to 1370 (Goldthwaite, 2009, 272).

[480] Graham, 2003, 32.

keep it after his liquidation of other properties demonstrates that Arizelos did, indeed, exploit its profitability in the long term.

Whether Arizelos was maximizing profit in the administration of his estate is impossible to determine with absolute certainty, but it seems safe to conclude that his goal was to increase his estate both in the short and the long term. He operated his shoe workshop at a high rate of profit, and also employed the majority of his property for productive purposes. He then seems to have chosen to invest the profits from agriculture and slave manufacturing into mining *ergasteria* to make money, and once he was wealthy enough to be a liturgist, he did not invest his money in *philotimia* and honor by celebrating his state obligations,[481] but rather opted for long-term continued growth and profitability by liquidating productive visible assets and transforming them into *aphanes* loans. His profit-oriented choices with respect to acquiring and selling his mining *ergasteria*, and the further growth he desired to permit by avoiding liturgies suggests that the loans were for profit as well.

All the choices Arizelos is depicted as making are geared for profit. It seems that his investment in mining was a calculated choice to get wealthy,[482] as was the decision to exit this field as soon as he had acquired as much wealth from it as he could. He certainly displayed a profit-oriented attitude with respect to his decision to both enter and exit mining activities. He entered to make as much money as he could, and then he exited after he was afraid that his

[481] For the limits of *philotimia* as a motivation for liturgy performance, see Cohen, 1992, 198-201, who shows that it was only after they had tried to avoid liturgies and were forced to serve them against their will that many champions of *philotimia* then exploited them for the social esteem that they brought. For liturgy avoidance in classical Athens, see Christ, 2006, 143-200.

[482] Many of the largest fortunes known from classical Athens were made from activities in the Laureion silver mining region. See my discussion of mining fortunes in Chapter 5.

profits from these properties were reaching the point that he would then be called upon to serve liturgies. He liquidated his most conspicuously profitable assets, while simultaneously deciding to keep his profitable shoe workshop and slave textile manufactures, and invested the proceeds in loans, which could not be detected by the *polis*. And so he made a series of calculated choices to increase his estate by acquiring new, profitable properties when he had the money, and then transforming them to permit further long-term growth.

Arizelos maintained a well balanced portfolio, which was higher risk than when he started but still well balanced between high and low risk holdings. He kept some of his lower risk assets, while liquidating others and reinvesting them into higher risk loans. He started from a safe, low risk estate portfolio, made decisions to increase his profits, and then seems to have chosen the right mix of properties to allow him to continue to increase his profits in the long run. The move from lower to higher risk property shows that profit, not risk avoidance, dominated his decision-making process. Nevertheless, while risk-reduction is not explicitly stated as a motivation in Aeschines' account, this does not mean Arizelos was oblivious to it. He had a safe portfolio at first, and he did not just put all his money into maritime loans, but chose to keep some land and the slaves when he transformed his other property into loans.

Therefore, it seems that Arizelos was trying to permit long-term growth and profit by avoiding liturgies and keeping a balanced portfolio that was productive but not entirely concentrated into high risk holdings. As far as profit-maximization is concerned, he certainly seems to have run his shoe workshop to make as much money as it could, he seems to have gotten the maximum profit he could from his mining properties, and he then chose the precise mixture of properties to avoid liturgies and permit long-term growth, and also to make profit in high risk ventures while still maintaining lower risk holdings to ensure the long-term stability of his estate.

III. Demosthenes the Elder: high-profit and high-risk choices for long-term growth.

Demosthenes the Elder's estate is one of the best-attested from Classical Greece, [483] but also one of the most frustrating to interpret, as it is filled with uncertainties, ambiguities, and rhetorical manipulation. Nevertheless, Demosthenes the Elder 's decision-making process exhibits many of the same strategies seen in the case of Arizelos, and he also may be argued to have been aiming to maximize his profit in the long term. His decision-making process can be reconstructed through Demosthenes' narrative. Not only did he consistently invest his money in highly productive assets, but he also kept his money in *aphanes* form to avoid liturgies and permit continuous growth.

His estate consisted primarily of two slave workshops and loans, and is listed in detail by Demosthenes:

> Ὁ γὰρ πατήρ … κατέλιπε δύ' ἐργαστήρια τέχνης οὐ μικρᾶς ἑκάτερον, μαχαιροποιοὺς μὲν τριάκοντα καὶ δύ' ἢ τρεῖς, τοὺς μὲν[484] ἀνὰ πέντε μνᾶς καὶ ἕξ, τοὺς δ' οὐκ

[483] See Davies, 1971, 113-39 for a detailed discussion of Demosthenes' estate. See also De Ste Croix, 1953; Finley, 1973, 116-17; Millett, 1991, 163-71; Thompson, 1982, 68-71; 1978, 410-11; Amemiya, 2007, 31-34; Harris, 2002, 81-2.

[484] Bogaert, 1986, 49-66, argues convincingly that inserting into this passage τοὺς μὲν, which is present in manuscripts A and r but absent from the best manuscript S, is the most sensible solution to this passage, which has been variously interpreted and emended. Omitting the τοὺς μὲν is the next best solution, since it does not in itself affect the sense of the passage, but nevertheless creates enough ambiguity that it has exposed this passage to a

> ἐλάττονος ἢ τριῶν μνῶν ἀξίους, ἀφ’ ὧν τριάκοντα μνᾶς ἀτελεῖς ἐλάμβανε τοῦ ἐνιαυτοῦ τὴν πρόσοδον, κλινοποιοὺς δ’ εἴκοσι τὸν ἀριθμόν, τετταράκοντα μνῶν ὑποκειμένους, οἳ δώδεκα μνᾶς ἀτελεῖς αὐτῷ προσέφερον
>
> For my father left me two workshops each of significant production: thirty-two or thirty-three sword-makers, some worth more than five or six *minae*, and the rest not less than three *minae* apiece, from whom he received thirty *minae* in net profit each year; and twenty couch-makers, security for a forty *minae* loan, who yielded him a net profit twelve *minae* per year (Dem. 27.9).

The sword factory certainly predated the couch factory, and seems to have constituted the original source for the rest of his wealth.[485] This factory was managed by a slave, Milyas, who was perhaps also given a share of the profits as an incentive to maximize the factory's productivity, and was manumitted in Demosthenes the Elder's will (29.26).[486]

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number of unconvincing readings and emendations, none of which are entirely in accord with the rest of the evidence in the speeches about Demosthenes' estate.

[485] Plutarch, *Demosthenes* 4, citing a contemporary source, Theopompus, says that he was referred to by his contemporaries as the "sword-maker", indicating that this was how he made his wealth originally.

[486] Milyas is called an *epitropos* who administered (διῴκησεν) everything (27.19), while guardians were placed in charge of the factory and the slaves (ἐπιμεληθείς). The distinction here is between manager and owner, as is clear in Xenophon's use of *epitropos* for manager and *epimeleia* as the specific type of oversight and administration of the owner and master in the *Oeconomicus*. Thus, here is a very explicit division of responsibility between the owner/master and the slave manager. The drop in profits in the factory was clearly the result of the poor *epimeleia* of the guardians, in sharp contrast with the much more effective *epimeleia* of Demosthenes the elder. Milyas must have had a great deal of responsibility, but he could do little in the face of the guardians' mismanagement. Demosthenes the elder must have had an accurate idea of the profitability of his workshops, because it seems that he himself enjoyed the profits, rather than only receiving a fixed wage or *apophora*. Thompson, 1982, 68-71, has argued convincingly (against Francotte, 1900, 12, and Bolkestein, 1958, 63) that since Demosthenes himself bore the losses and therefore the risk from his factories, his father was receiving the profits from the factory and was not leaving all the profits to his overseer, Milyas. Cohen, 1992, 93, following Francotte and Bolkestein claims that Milyas would have paid a fixed fee and kept all the profits, but cites no evidence for this. At Dem. 27.22, the guardians claim

Demosthenes the Elder did not take a detached approach to his factory management as a *rentier*,[487] but took an active interest in its operation and in the acquisition of materials (see below), selling materials when it was more advantageous than stockpiling them (27.32), preferring to use them productively rather than letting them lie unproductive. The fact that he did not simply allow his materials to lie idle, but sold them if there was a good opportunity, demonstrates that he was actively considering the relative costs and benefits of storing materials for future production as opposed to getting better use from them by selling them when he had an interested buyer and was not currently using them for productive purposes.

Moreover, this sword factory was probably housed in his residence,[488] allowing close supervision, *epimeleia*. Installing a slave manager, Milyas, in charge of the *machaira* workshop shows that Demosthenes' father did not choose to run it casually, but to ensure that it was being run as well as possible. Milyas indeed ran this factory well, since it was highly profitable, bringing in thirty minae *ateleis*, net profit, beyond the costs of the maintenance and operations.

Milyas took the profits, but the loss was all Demosthenes', as Thompson rightly points out. Xenophon of course advocated sharing profits with slave managers to maximize profit and productivity (for which see my discussion in Chapter 3 above), this incentive-based profit sharing is also consistent with Pseudo Aristotle's advice to reward slaves with manumission as a *telos*, goal, to increase productivity (*Oikonomika* 1.5.6).

[487] It is clear that Demosthenes the elder kept books for the running of the estate (27.49), and it seems that he worked closely with Milyas, as both kept records (Milyas kept accounts at 27.19) and were actively involved in the finances of the workshops. The guardians' mismanagement illustrates by contrast Demosthenes senior's effective *epimeleia*. For Xenophon, *epimeleia* was one of the indispensible traits of a successful *oikonomos*, saying that on-site presence, "the master's eye" was the most important factor in determining whether an estate would operate at a profit or at a loss.

[488] Dem. 27.24, says that the couch makers for sure were in the house "οἴκοι", and then says they were taken out of the house "ἐκ τῆς οἰκίας". As Finley, 1985 [1951], 67 states, the *machaira* workshop was probably also located in the house since no workshop is mentioned. Factory materials are also said to have been sold "out of the house" by the guardians (27.32), and if the materials were in the house, the factories probably were as well.

This profit rate was about sixteen percent of the slaves' value per year.[489] Therefore, as with Arizelos, Demosthenes the Elder's factory approached Benjamin Graham's "special situations" (see above).

Rather than expanding this holding further, he decided to reinvest its profits into other forms, possibly to avoid diminishing marginal returns,[490] or perhaps because expanding the factory further would have attracted attention to its profitability and made him liable for liturgies. Since the sword factory was most likely the basis for the rest of Demosthenes the Elder's acquisitions, it seems that he decided to invest the profits from this factory in loans. The couch factory was one such acquisition, as it was seized as security for a non-friendly loan of 40 *minae*. This property was so profitable for Demosthenes the Elder, yielding 30 percent net (*ateleis*) profit on his initial investment that it must be considered that he intentionally made this loan for the purpose of acquiring the factory; [491] he was also able to use the materials he already had for

[489] The capital value of the *machaira* workshop must be subtracted from the total which Demosthenes gives for all the "productive" assets at 27.10 (4 T, 5,000 dr.), which also includes the value of the couch-making workshop and the talent lent at 12% interest. capital value, 3 Talents, 1,000 drachmas, producing 30 minae per year, or 15.8% annual return) See also Davies, 1971, 127, Amemiya, 2007, 33 and Osborne 2004, 272 on the factory profits, who all agree that 16% is approximately correct for the net profit rates of this factory. Osborne, 2004, 272, notes that the sword factory slaves would have been worth about 450 drachmas on average and brought in 90 drachmas net per year, making them able to repay their own cost within five years.

[490] Thompson, 1978, 410 suggests that Demosthenes the Elder sought to diversify because of the limited market for knives and swords, and went into the couch-making field to enable him to do double duty with his ivory supplies. Indeed, since he bought his ivory supplies in bulk and also sold such factory materials when it was advantageous, he may have known the owner of the couch factory as a customer for ivory, and perhaps agreed to lend against the security of the couch factory because he knew he could use the ivory for both factories and could therefore profit nicely from this opportunity in case of default. He may have agreed to make the loan in the first place *because* it could land him this factory, which he could integrate so easily into his present productive operations. This is all highly speculative, but is worth considering nonetheless. For the Greeks' awareness of diminishing marginal returns, see below.

[491] Davies, 1971, 127-29, says that the couch factory yielded under 20 percent net profit because its value was greater than 40 *minae* and other things also were used as security for the loan: "30 percent is 'extraordinarily high'".

his *machaira* factory for couch-making (27.31), and kept it within his house. Demosthenes the Elder therefore invested his sword factory profits into a higher risk form, loans, which in the case of the couch factory actually yielded him a higher profit asset after the borrower had defaulted.

Indeed, loans were Demosthenes the Elder's preferred investment with the profits from the sword factory, and they were also highly productive. The non-friendly loan that resulted in the couch factory was worth 40 *minae*, two-thirds of a talent, and the rest of the loans outstanding at the time of his death were listed by Demosthenes as follows:

> Ἀργυρίου δ' εἰς τάλαντον ἐπὶ δραχμῇ δεδανεισμένον, οὗ τόκος ἐγίγνετο τοῦ ἐνιαυτοῦ ἑκάστου πλεῖν ἢ ἑπτὰ μναῖ … ναυτικὰ δ' ἑβδομήκοντα μνᾶς, ἔκδοσιν παρὰ Ξούθῳ, τετρακοσίας δὲ καὶ δισχιλίας ἐπὶ τῇ τραπέζῃ τῇ Πασίωνος, ἑξακοσίας δ' ἐπὶ τῇ Πυλάδου, παρὰ Δημομέλει δὲ τῷ Δήμωνος υἱεῖ χιλίας καὶ ἑξακοσίας, κατὰ διακοσίας δὲ καὶ τριακοσίας ὁμοῦ τι τάλαντον διακεχρημένον.
>
> And he had a talent of silver lent out at the rate of a drachma (per month), the interest from which came to more than seven minae per year … and seventy minae in maritime loans, a bottomry loan with Xouthos, and also 2,400 drachmas in the bank of Pasion, and six hundred in that of Pylades, and 1,600 drachmas with Demomeles the son of Demon, and about a talent altogether lent out in sums of two-hundred and three-hundred drachmas (Dem. 27.9 – 11).

Amemiya, 2007, 33 agrees that the slaves' value was higher, adding the valid point that security was normally twice the value of the loan making15 percent profit for the couch factory by value. Therefore, the slaves yielded between 15 and 20 percent, but as a return on his initial investment, Demosthenes the Elder was bringing in 30 percent profit on this property, for whom12 *minae* clear profit actually was around 30 percent since his initial investment was only 40 *minae*. As Osborne, 2004, 272, notes, at the price Demosthenes the Elder paid, 200-drachmas each, the couch makers would have been able to pay themselves off in just over three years at 60 drachmas net annually.

Therefore, Demosthenes the Elder made the decision to invest his sword workshop's profits in loans – he did not keep them idle or invest them in land. The choice to invest in loans was important because it also allowed him to continually invest his wealth while hiding it from liturgies. He therefore invested his profits in a higher risk form for profit, showing that he made profit-oriented, not risk-minimizing, money-making choices. At least 7,000 drachmas were invested in high-yield (twenty to thirty percent interest) bottomry loans,[492] and possibly the rest of the 4,600 drachmas of sums listed immediately afterwards, though these may have been just bank deposits. Another talent was lent at 12% annual interest, making all his loans productive and yielding at least 12% with the exception of another talent perhaps lent at interest.

[492] The slave workshops, the 7,000 drachmas lent on bottomry and the talent lent at 12% interest must all be considered productive, as should the factory materials. As far as the bank deposits are concerned, it is unknown how much they received in interest per year but since they were considered to be loans to bankers, they seem to have yielded some sort of interest payments. Interest from bank deposits is a matter of debate, for which see Bogaert, 1968, 345-51; Millett, 1991, 238-41. Cohen, 1992, 111-15, and Shipton, 1997, 415-16, provide good evidence that bank deposits did, indeed yield interest. Further evidence that bank deposits yielded interest can be seen in the fact that they were considered to be loans (Cohen, 1992, 114-116). It is likely, however, that these sums were not simple deposits but were actually engaged in maritime loans. The text reads: "καὶ ταῦτα μὲν οἴκοι κατέλιπε πάντα, ναυτικὰ δ' ἑβδομήκοντα μνᾶς, ἔκδοσιν παρὰ Ξούθῳ, τετρακοσίας δὲ καὶ δισχιλίας ἐπὶ τῇ τραπέζῃ τῇ Πασίωνος, ἑξακοσίας δ' ἐπὶ τῇ Πυλάδου, παρὰ Δημομέλει δὲ τῷ Δήμωνος υἱεῖ χιλίας καὶ ἑξακοσίας. (Dem. 27.11)." Thus, the previously listed possessions at home (*oikoi*) are stated in the *men* clause, while the *de* clause is introduced by the word *nautika*, followed by the 70 *minae* deposit with Xouthos, and then in rapid succession the rest of the sums *epi* or *para* certain other individuals in the dative case. Therefore, since the sums all fall in the de half of a men-de construction, each listed in rapid succession, they are likely to be all *nautika*, though they may also be bank deposits. Pasion and Pylades were certainly bankers, and the rest may have been, though the sum deposited with Demomeles the son of Demon may have been a nautical loan since Demon is known to have lent on bottomry (Dem. 32). As Cohen has argued, Xouthos himself was probably a banker (Cohen, 1992, 122-25.), and so it is likely that the rest of the sums listed were also maritime loans in deposit with bankers or traders. Since Demosthenes defines a bank as "an enterprise yielding risk-laden profits from other people's money" (Dem. 36.11), maritime loans fit this definition perfectly (see the Syracusan banker making huge profits from his investment in an iron monopoly with the sums deposited with him). They may have acted as brokers finding opportunities for investors, since they knew all the traders (Pasion), and would be easy hubs of information for potential investors wary of giving their money to any random trader (for the dangers of lending to maritime traders, see Chapter 6 below). Therefore, since it is most likely that these sums secured some sort of interest, either as deposits or maritime loans, they should be considered productive. See Cohen, 1992, 115.

This last item, a talent "κατὰ διακοσίας δὲ καὶ τριακοσίας ὁμοῦ τι τάλαντον διακεχρημένον" is normally assumed to be interest-free,[493] an interpretation that has stirred up far less debate than it should. There is very little in the term διακεχρημένον that implies anything at all about interest or the lack thereof. Διαχράομαι in the sense of loaning money actually seems to be a *hapax legomenon*, for which the LSJ provides the innocuous definition of "to be lent out to different persons", and redirects the reader to the seemingly otherwise unattested form of διακίχρημι, for which only this passage is cited. Χράω, the root verb, is sometimes used of lending in a friendly way, but can also be used as a synonym for δανείζω, to lend at interest, meaning that there is ambiguity in the term *chrenai* (Millett, 1991, 28-30). Thus, it is entirely uncertain exactly what sort of loans these entailed, but it cannot simply be assumed that they consisted of interest-free *eranos* loans. [494]

[493] See, e.g. Foxhall, 2007, 43, and Millett, 1991, 168, who initially lists this sum as being perhaps lent out "(interest-free ?)", but then states unequivocally that they were "interest-free *eranos* loans" (170). This interpretation is also shared by Amemiya, 2007, 32, and Shipton, 1997, 116, n. 129, who says " 'loaned free of interest' is my translation of *diakechremenon*, a word which appears to imply a lending transaction without charge".

[494]I find it difficult to believe that this talent was lent on eranos loans, because, as Millett, 1991, 153-59, shows, *eranos* loans were a point of pride, an important responsibility for any good citizen, and Demosthenes would have secured the goodwill of the jury by emphasizing their *eranos* nature. But he does not do that. Rather, he uses the ambiguous term *diakichrenai*. Why such ambiguity in this passage when he is so explicit, precise and calculating in his discussions of interest in the rest of the speech? If this talent were lent on friendly terms, in *eranos*, why would Demosthenes not celebrate this fact to even better depict his guardians' squandering of the estate as despicable? Why would Demosthenes not say they were *eranos* loans when he mentions *eranos* loans in a different context in the same speech (25)? Theophrastus' 'Alazon', braggart, boasts of his five talents of *eranos* loans (*Char*. 5-6; cf. the selfish man, 'Authades', who is negatively depicted as grumbling about making *eranos* loans (*Char*. 15.7). I am inclined to think that these were interest-bearing loans whose true nature was deliberately obfuscated by the speaker to ingratiate himself to the jury by presenting his father as less profit-seeking than he actually was.

Rather, it may be that Demosthenes was exploiting the ambiguity in the term *diakichrenai* to obscure the interest-bearing nature of his father's small-time lending.[495] For someone so acutely aware of the effects money-lending at interest could have on a jury's perception, why would he mention these sums so quickly and give them such cursory treatment if they would have helped his case? When he is so calculated in his discussion of interest in other places?[496] He does not mention the interest rate of the certain maritime loan or the probable ones. Millett has suggested that Demosthenes may be lying in this passage, or obscuring the truth (Millett, 1991, 157). I think Demosthenes is intentionally exploiting the ambiguity in the term *chrenai* to present his father more favorably than as a high-interest moneylender, a deliberate obfuscation of his father's interest-bearing lending on a small scale. Likewise, I believe the deposits with bankers or bottomry are glossed over quickly in order to lessen his father's appearance as a money-lender

[495] Cohen, 1992, 121, n. 43, citing a parallel at Dem. 28.4, argues that this talent was lent at interest, saying that the preposition *kata* followed by a drachma amount refers to the interest rate, and that the figures 200 and 300 refer to interest rates of 20 and 30 percent on an unknown number of loans which made up the talent *diakechremenon*. Cohen's interpretation is intriguing, but the parallel he cites is for the payment of *eisphorai*, and his confidence that this *kata* refers to interest is somewhat ungrounded. it seems more likely that "κατὰ διακοσίας δὲ καὶ τρακοσίας" here is referring to amounts loaned: a parallel for borrowers of sums at 200 and 300 drachma intervals are also attested at the Temple of Nemesis at Rhamnous in the fifth century and Delos in the fourth century; there is another parallel for the use of κατὰ with amounts of loans rather than interest rates in Aristotle, *Nicomachean Ethics* 1121b 34.where he discusses *tokistai*, high-interest money lenders who loan "small amounts of money at high rates of interest": κατὰ μικρὰ ἐπὶ πολλῷ. Κατά refers to the amounts and ἐπί refers to the interest rate (as elsewhere in this speech at 27.9, 17 and 23). This parallel implies high-interest rates in these small loans, and may be a sign that Demosthenes Senior was engaged in not only lending of large amounts, but also small-time, high-interest loans, classing him among the most disdained types of money-lenders. Small-time lending at high interest was particularly odious (see Schaps, 2004, 185-6; Millett, 1991, 179-88,), and would find little sympathy with a jury.

[496] Demosthenes was aware of how odious the money-lender Nicobulus might be perceived, and wrote an elaborate defense of his trade in the speech he wrote for him (Dem. 37.52-54); likewise, he emphasizes the despicable nature of Stephanus' money-lending with a vivid depiction of his exploitation even of kin, and the clear use of the word *tokizein*, which unequivocally means to lend at interest. Moreover, to ingratiate himself to the jury even further, he offers many allowances to his guardians – he lowers the interest owed from the dowry to make himself seem less greedy (27.17), he allows the guardians half the profits from his father's factory when they should owe the full amount (27.18), and then again says he is reckoning small interest on unpaid profits (35), and concedes some expenses for maintenance (34) and *eisphorai* (37). He clearly seems to be trying to present himself as less greedy, and therefore more gracious, to the jury, with these allowances in this speech.

for profit. And so, Demosthenes does not actually lie here, but being so keenly aware of the jury's view of money-lenders, it seems that Demosthenes has craftily covered up his father's money-lending for profit by taking advantage of the ambiguity inherent in the term *diakichrenai*.

Another reason why I am inclined to interpret the passage above as a clever misrepresentation by Demosthenes to downplay the full extent of his father's lending at interest is that he also seems to have engaged in significant rhetorical manipulation to obscure the fact that his father was hiding his money from liturgies. Many scholars have argued that Demosthenes the Elder was hiding his money in *aphanes*, invisible form to avoid liturgies,[497] suggesting a strategy similar to that of Arizelos.

In the most natural place to list the liturgies his father had performed, at the end of the speeches, he does not do so, but rather makes an appeal to the jury based on his characterization of his guardians. This is even odder given the fact that he so readily boasts about the voluntary liturgies he himself performed later on in life.[498] Demosthenes does not mention his father's

[497] Korver, 1942, 21-22 notes that Demosthenes the Elder held only *aphanes*, invisible, wealth. Davies, 1971, 128-9, following De Ste. Croix, 1953, 55, n. 105, suggests that he kept much of his wealth in *aphanes* form to avoid liturgies since there is no evidence of his having served any, a conclusion with which Cohen, 1992, 200-201, n. 64 , and Engen, 2011, 99-100, agree. Moreover, it may be that he took some of this *aphanes* wealth and converted it into cash and factory materials to provide for his family after he died. Thus, it may be that his portfolio consisted of a much higher percentage of risky loans during his life than leading up to his death. Indeed, besides the house, its furnishings, and the sword factory, there is no *phanera ousia* in his estate besides the couch factory, which had been obtained from a loan of 4,000 drachmas. Thus, a loan of two-thirds of a talent was transformed into a productive workshop, and combined with the talent at 12% interest, and the 7,000 drachmas in bottomry, as well as the talent lent of unknown nature, along with the 4,600 drachmas in the banks (which may have been lent for bottomry loans as well), it seems that prior to the couch factory, Demosthenes the elder's estate consisted of 27,600 drachmas of loans, 33 percent of his entire estate. Therefore, it seems that his preference in the end of his life were to move a higher and higher percentage of his wealth into interest-bearing loans. The fact that he acquired the couch factory may have been by accident, or it may have also been an opportunity which he decided he could not pass up since it yielded such high profits.

[498] See Christ, 1990, 156, n. 41.

performance of liturgies even in contexts in which it would have been absolutely essential, and rather makes extremely oblique references to his estate's liturgical services. He notes that his estate was "accustomed to performing the trierarchy and to making large eisphorai": ὁ δ' ἐμὸς τριηραρχεῖν εἰθισμένος καὶ μεγάλας εἰσφορὰς εἰσφέρειν (Dem. 27.64), but this need not refer to anything more than the trierarchic *symmory* in which his guardians enrolled his estate (27.7), the liturgy they forced him to serve in order to be able to bring his suit (28.16-17), and the *eisphorai* which they themselves said that they paid from his estate (27.37). He goes on to say that his father left him sufficient property to pay *eisphorai* (27.66: προσεπίκειται δ' ἡ πόλις ἀξιοῦσ' εἰσφέρειν, δικαιώς, οὐσίαν γὰρ ἱκανὴν πρὸς ταῦτα κατέλιπέ μοι ὁ πατήρ), and he says his father left him "to be successor for you of the liturgies in his place", but does not mention these *eisphorai* when he lists the public services his family has performed. The phrasing of this statement is particularly careful and ambiguous while avoiding a strict lie, as it does not say that his father had performed the liturgies, just that he himself was going to perform them: ἐμὲ δ′ ὑμῖν διάδοχον ἀνθ′ αὑτοῦ τῶν λειτουργιῶν ἐσόμενον. Indeed, the phrase "ἀνθ' αὑτοῦ" could even be interpreted as "instead of himself". When given the opportunity to show that his maternal grandfather, Gylon, did not own money to the state treasury, he mentions that his uncle by marriage, Demochares, did not conceal his property out of fear of being forced to repay Gylon's public debts, but performed *choregiai* and trierarchies (28.3). In the same passage, when it would then be natural to mention the liturgies his own father performed, he does not list any, but rather says that his father: Αὐτὸς ὁ πατὴρ τὴν τ' ἄλλην οὐσίαν καὶ τέτταρα τάλαντα καὶ τρισχιλίας φανερὰς ἐποίησεν. "he made the rest of his property and the four talents three thousand drachmae *phanera*". No mention of liturgies performed by his father, but only a half-hearted claim that he made his entire fortune visible, which in fact is not correct, because it was only made visible because his guardians had reneged on the terms of the will in which the property had been listed. Had the guardians not mismanaged the property, the *demos* would not have known about his property at all, because it was only listed in the will, which would have remained private. Therefore he did not actually reveal his property, but kept it hidden, only to be revealed in case of a lawsuit. This corroborates Aphobus' charges that Demosthenes' father would not allow the estate to be leased, because of the risks of revealing its full amount to the *demos* (28.2, 28.7). He does not say that he should receive a favorable ruling because his father performed liturgies, but rather because he himself would "want to serve liturgies" in return for the *charis* he had received from the jury in the restoration of his estate (28.24). Aphobus, on the other hand, would not be willing to perform liturgies on behalf of the property which he denies having received, but would rather want to hide it to seem that he had been acquitted justly: Μὴ γὰρ οἴεσθ' αὐτόν, ὑπὲρ ὧν ἤρνηται μὴ λαβεῖν, ὑπὲρ τούτων ὑμῖν λῃτουργεῖν ἐθελήσειν, ἀλλ' ἀποκρύψεσθαι μᾶλλον, ἵνα δικαίως ἀποπεφευγέναι δοκῇ.[499]

[499] Therefore, Demosthenes here has transferred from his father to his guardians the "hiding" of wealth which his father committed and which he himself was trying to deemphasize for the jury, in a brilliant rhetorical turn. Indeed, he charges his guardians with hiding (ἀφανιζόντων) his money in 27.44, and then uses the same participle for Aphobus twice in quick repetition in 27.48, with the participle for stealing sandwiched between for emphasis (ἠφανικότα … κλέπτοντα … ἠφανικότα). In the second speech, he again repeats the same verb in 28.10, saying they had all hidden the will (ἠφανίκατε), and in 28.12 that Aphobus himself had hidden the slaves (ἠφάνικεν). He also says that Aphobus hid his money in 29.37 (ἀφανεῖς πεποίηκας), and again at 29.43 (ἠφάνιζεν). Thus, Demosthenes turns the guardians' charges indicting his father against them, emphasizing their own wealth-hiding: my father did not hide his wealth, but revealed it himself – it is you who are hiding my wealth! The repetition of "hiding" terms in these speeches shows just how prominently they loomed in Demosthenes' mind while he was planning his defense, and the fact that he focuses so fully on disproving his father's wealth-hiding seems to reveal a very defensive, and probably guilty, sentiment on the part of Demosthenes. His obsession with emphasizing his guardians' wealth-hiding here is a clever projection of his father's crime onto his enemies, a brilliant distortion of the facts of the case to serve his immediate purpose (For other distortions of the facts in Demosthenes' speeches, in particular his distortion of the difference of age between himself and Meidias, see Harris, *HSCP* 92, 1989, 123-4).

Since the loans were *aphanes*, the decision to invest in this form would have been more rational for Demosthenes the Elder than in any sort of *phanera ousia*, which would have been subject to liturgies. Whether engaged in cash production or invested in social capital, these loans were employed for productive purposes;[500] the decision to invest not in land but in loans demonstrates a desire to employ his cash productively, but without subjecting it to government demands. Even holding money in cash form would have been more rational than to invest it in land for a liturgy-avoider.[501] Therefore, hiding wealth in loans provided him both with the short-term profits of high interest payments, and with the ability to maximize his profits for long-term growth.

The shrewdness of his money hiding is illustrated by the fact that his estate had grown to be many times the requirements of liturgical payments out of the sight of the *demos*. Therefore, like

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[500] As Bourdieu, 2001, argues, the social returns from such non-market behaviors as friendly loans can and should be seen as investments in different types of capital, including social capital. Therefore they may have been seen as productive in the sense that they would bring a return in the future, though the form of this return would not be as certain or easily quantifiable as an interest payment in cash.

[501] The amounts of cash and materials for the factory are probably not an accurate representation of the amounts which Demosthenes' father typically kept on hand, since they represent the state of affairs at the time of his death. Like Diodotus (see my discussion of his estate in chapter 5), who left five talents of cash with his brother before leaving on a campaign from which he would not return (Lysias 32.4-15), it seems that Demosthenes' father had arranged his affairs in anticipation of his own death, and so the large amounts of cash and factory materials may have been acquired by him in order to ensure the smooth running of the factory under the guardians after his death. Millett, 1991, 169, refers to this sum as one which was "hoarded in [his] house", a sign of economically irrational behavior. However, he does not consider in this situation that this sum of cash may have been specially prepared by Demosthenes the elder to take care of his family in anticipation of his own death and is therefore not to be taken as an indication of how he would normally have used his money. On the contrary, this was a special situation in which he seems to have stockpiled cash and productive materials in advance to ensure the productivity of the workshops for his young son. He may have even liquidated some sort of productive property, perhaps loans at interest, in order to secure this large sum of cash for his family, and this may have normally been invested in profit-generating enterprises as part of his standard money-making practice. As yet another example of the types of arrangements that could be made by an estate owner at the end of his life, fathers normally tried to set aside their daughters' dowries before their deaths, for which see Cox, 1998, 119, n. 53, who cites numerous examples, including the arrangements made by Demosthenes the Elder and Diodotus: Lysias 19.14-15, 32.6; Dem. 27.5, 28.15-16, 29.43; 40.6-7, 20-22, 56-57; 41.3, 6, 26, 29; 45.66; 59.7-8; Plut. *Alc.* 8.1-5; [And.] 4.13; Isoc. 16.31.

Arizelos, who built up his fortune through *phanera ousia*, and then liquidated much of it in order to avoid liturgy payments and to allow for further growth, Demosthenes' father seems to have likewise attempted to permit the unimpeded growth of his estate by ensuring that it would never be subject to liturgies. In his liturgy avoidance, Demosthenes the elder's true attitude towards money making and profit maximization is revealed. He preferred to take the risks of being caught for liturgy avoidance in order to ensure the continued growth of his money-making property, which is entirely suggestive of a long-term profit-maximizing strategy.

A strategy aimed at long-term profit maximization is also consistent with the high proportion of his estate engaged in cash production; the vast majority of Demosthenes the Elder's wealth was concentrated in productive capital of some sort. The 6,000 drachma loan at 12 percent, the 7,000 drachmas in bottomry, the 4,600 in bank deposits or bottomry, 4,000 drachmas of capital in the couch factory, the 19,000 drachmas of value in the *machaira* factory, the 15,000 drachmas of factory materials, and the 1,500 drachmas for the half of the house engaged in craft production comes out to a total of 57,100 drachmas out of a total of 82,600, or 69 percent of his wealth engaged in cash production. If the uncertain talent out on loan is included, as is likely, 63,100 drachmas, or 76 percent would be engaged in cash generation. Moreover, this figure may very well be an underestimate since the 8,000 drachmas in cash may have been intentionally set aside by Demosthenes' father in anticipation of his own death, and very well may have been invested in loans or some other sort of productive property since he seems to have hidden much of his wealth. In this scenario, up to 71,100 drachmas out of 82,600 could have been productively engaged, or 86 percent. Indeed, the only property that can certainly be said to have been unproductive is the 10,000 drachmas worth of jewels, furniture, and *therapainai*, and probably also half of the house's value, 1,500 drachmas.

Demosthenes' father certainly wished to maintain his profits from factories and loans for the long-term. He made high rates of return on his properties, 16% from the sword factory, 30% from the couch factory, and between 12 and 30% on his loans. Rather than leaving his sword factory profits idle, he reinvested them in a higher risk form, loans, which simultaneously allowed him to maintain his productive factory, and also to receive additional profit from those profits in the long term, since *aphanes* loans allowed him simultaneously to invest this property at high rates of interest while ensuring its growth was uninhibited by liturgies.

IV. Ciron: a balanced portfolio of high and low risk properties.

Ciron's estate consisted of an expensive agricultural plot at Phlya worth 1 Talent, a house in the city which 2,000 drachmae and rented out to a tenant, and his own personal residence in the city worth 1,300 drachmae.[502] In addition, he also had wage-earning slaves, and not a few (οὐκ ὀλίγα) loans out on interest.[503] Ciron combined large agricultural possessions with slaves bringing in a steady income of cash throughout the year, in addition to loans at interest.

The emphasis which the speaker of Isaeus 8 places on the loans at interest (8 & 37), describing them as οὐκ ὀλίγα, suggests that they may have been substantial. Though their value is unknown, the size of the dowry which he provided for his first daughter, 25 minae or almost a half-talent (8), followed by a second dowry of 1,000 drachmas for her second marriage, suggests

[502] For Ciron, see Davies, 1971, 312-16 (8443). His estate is listed at Isaeus 8.35.

[503] The loans are said to have been for interest at 8.35: ἀφ' ὧν ἐκεῖνος τόκους ἐλάμβανε, and at 8.37: τοὺς τόκους.

that he had a large amount of liquid cash at his disposal, or at least the ability to generate large amounts of cash, even though the dowry was partly made up of clothing and jewelry (8).

Furthermore, he turned the more expensive residence he owned in the city to productive purposes by renting it out, living in the poorer one himself. Moreover, he seems to have even used his personal residence for productive purposes, since it seems to have housed his cash-generating slaves, as seen in other estates (Dem. 48, Dem. 27-8). Although his use of the *agros* is uncertain, it was located in the fertile deme of Phlya and probably produced food for his household, and he may have sold surplus produce for cash as well.

Overall, a concern with mobilizing the full extent of his assets for productive income-generation, and perhaps even growth seem to characterize Ciron's economic decisions. Thus, Ciron seems to have employed the full extent of productive assets that he owned to maintain a steady stream of cash: cash-generating slave manufacturers, interest-bearing loans, and the rented house show a major interest in producing cash income. Moreover, the fact that he paid a dowry of 25 minae for his daughter to marry Nausimenes, the son of Nausikydes,[504] who was the successful miller who raised himself into the liturgical class, suggests that he may have been trying to establish a long-term marriage alliance with this successful entrepreneur's son, perhaps to join the two families' fortunes. This amounts to more than a quarter of his attested property, a significant investment in his daughter's marriage.[505] The size of the dowry perhaps reveals a desire to expand his household by uniting his with that of the successful miller Nausikydes. This

[504] Davies, Xen. *Mem*. 2.7.6, Aristoph. *Ecclesiazusae* 426, Plato *Gorgias* 487c, Davies, 1971, 315. See below in chapter 7, where I argue that many marriage alliances, adoptions, and other kinship and family property decisions were geared specifically towards increasing personal material wealth.

[505] This is the largest percentage of the overall estate given as dowry known from the ancient Greek world, for which see Cox, 1998, 117-18.

choice certainly is consistent with a desire to invest in profitable opportunities, both in and outside of the market.

Furthermore, Ciron may have been trying to avoid liturgies, since he is not known to have served any, even though his property seems to approach the level of liturgies.[506] The dowry he gave with his daughter is perhaps suggestive of a much larger estate, as it is by far the highest percentage of dowry of someone's known wealth in ancient Greek history.[507] Therefore, he did have sufficient liquid wealth to mobilize a large dowry, most likely from the substantial amount of loans out on interest. Since the dowry did not comprise all his liquid wealth, there being large additional amounts lent out, it seems that Ciron's total wealth did, in fact approach, and likely even surpass the minimum level for liturgical service.[508] Therefore, it is likely that Ciron was practicing liturgy avoidance, a conclusion entirely consistent with the large amounts of liquid assets he held, and the fact that his *phanera ousia* sat comfortably enough below the minimum levels with some allowance made for money at loans and large dowries. Ciron chose to invest a large amount of his wealth in interest-bearing loans at the end of his life, and not into land, perhaps allowing him to profit doubly through making money and avoiding state demands. In conclusion, Ciron exhibits behavior similar to that of Arizelos and Demosthenes' father: a concern with long-term profitability and perhaps also uninterrupted growth through liturgy avoidance.

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[506] Davies, 1971, 312-16.

[507] Cox, 1998, 117-18.

[508] This seems to have been about 3 talents (Davies, 1971, xxiii-xxiv), though there was no absolute fixed minimum, the most relatively wealthy being selected as liturgists based on the known values of their wealth.

Unfortunately, it is impossible to determine the extent to which he was profit-maximizing, but he certainly seems to have been interested in cash-generating properties, and engaged the full extent of his property in productive purposes. Moreover, the fact that he invested much of his cash in interest-bearing loans at the time of his death shows that he was still invested in high risk, high profit activity at his death in order to increase his estate, and was interested in profitable acquisition, not risk avoidance. Moreover the decision to invest in loans and not in further *phanera ousia* is perhaps suggestive of a strategy similar to that of Arizelos, the avoidance of public demands by concentrating wealth in *aphanes* loans at interest. Finally, he seems to have pursued a profitable marriage alliance, further evidence for an interest in ensuring the growth and security of his estate. In the end, Ciron possessed a balanced portfolio of high and low risk assets, allowing for a steady return in the long term, and perhaps even long-term profit maximization, depending on the extent of his interest-bearing loans.

V. Stratocles: a balanced estate of high and low-risk properties.

Stratocles at his death owned land at Thria worth 2.5 Talents, a house at Melite worth 3,000 dr., and another at Eleusis worth 500 drachmas; he leased out the land at a rate of 12 minae per year (8%), and the houses at 3 minae per year (8.6%), bringing in 15 minae, or a quarter of a talent each year in liquid cash.[509] He also had 4,000 drachmas lent out at 18% interest, bringing another 720 drachmas per year. This property altogether was worth 22,500 drachmas (3 T, 4,500 dr.), and brought in 2,220 drachmas in cash per year, or just under ten percent. He also owned

[509] For the property of Stratokles and the rest of the known wealth of the Buselids of whom he was a member, see Davies, 1971, 87-88.

almost another talent's worth (5,800 dr.) of cash, furniture, sheep, and agricultural produce (11.43), suggesting that he was able to do quite well on his property and was bringing in large profits. He had also made interest-free *eranos* loans amounting to 1,000 drachmas (11.43).

Thus, out of his 4 talents and 5,300 drachmas,[510] at least 3 Talents, 4,500 drachmas was engaged in producing cash income. This is at least 76.8% of his estate engaged in generating cash income, and more than this perhaps, since he also owned sheep and other property. With such a high proportion of his wealth engaged in cash-generation, he clearly preferred to put his estate to productive use. Much of his money, two-thirds of a talent, was lent out at 18 percent annually, a very high interest rate generating large profits. Thus, he seems to have been concerned with bringing in a steady return of cash from his properties, and his estate seems to have been a balanced portfolio consisting of low-risk landed property and higher risk loans.[511] Investment guru Benjamin Graham's ideal portfolio, as seen above, averaged about six percent profit per year, and investments only approached twenty percent in "special situations". Stratokles' estate certainly meets those conditions, with a high percentage of property bringing in the sorts of profits that would make a modern investor happy.

Moreover, Stratokles administered the estate of his wife's brother, Theophon, his daughter's husband, for nine years after Theophon died (Isaeus 11.41), an opportunity so profitable[512] that Stratokles is said to have profited from it to the extent that he increased his own

[510] The speaker tries to sum his property up at 5 Talents, 3,000 dr. (Is. 11.42), but the numbers to not add up to this sum. Rather, it seems that he was including the 15 minae rent paid by the houses and land as well as the 20 minae of annual revenue from these properties added to the 720 drachmas from the loans. Including rents and interest as part of the estate's value once is shameless enough, let alone to include the rent payments twice in the value of the estate!

[511] Thompson, 1978, 406-7.

[512] Administering orphans' estates could be very profitable – see my discussion below.

holdings from below the level of liturgical payments to being worth five and a half talents.[513] To add to his property so substantially in such a short period of time suggests that he saw the administration of this estate as an opportunity to increase his own holdings substantially.[514]

Furthermore, like Ciron, Arizelos, and Demosthenes' father, Stratokles is not known to have served any liturgies,[515] and since his *phanera ousia* was sitting right about at the three talent liturgical lower threshold, it very well may be that he kept his landed property at that level in order to avoid liturgies. He did, indeed invest in *aphanes* loans after the administration of Theophon's estate, choosing loans over additional investments in land, so perhaps he was also trying to obscure the extent of his profits from his administration of this orphan's estate. Like Ciron, he also made the decision to invest much of his wealth at the end of his life not in land, but in loans.

Therefore, based on the available evidence, it seems that Stratokles may have indeed been aiming to maximize the long term profitability of his estate. The vast majority of his assets were engaged in profitable cash production,[516] at rates that surpass even those of modern investment portfolios. He balanced low risk properties that still brought in relatively high rates of return with higher risk loans that brought high profits, even at the end of his life. He may have even purposefully targeted Theophon's estate in arranging his daughter's marriage, and then

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513 Isaeus 11.42.

514 Such dramatic profits from estate administration are attested elsewhere: an estate worth three and a half talents was increased to over six talents in a period of six years by the administrator of the estate (Dem. 27.58).

515 Davies, 1971, 77.

516 The 4,900 drachmas of agricultural produce and other items shows that the agricultural plots were also used productively.

profited handsomely from administering the estate, so much that he entered the liturgical class. He perhaps even hid his full wealth from the *polis* to avoid liturgies, and is known to have had additional property whose full extent is unknown.

All these factors, combined with the fact that he was still investing his wealth in high risk high profit loans at the time he died, is highly suggestive of a strategy to maintain growth and perhaps even maximize profits in the long run. Long-term growth and profitability certainly characterize Stratokles' decision-making process and money-making strategies.

VI. Euktemon – the acquisition of cash-generating enterprises.

Like Demosthenes' father, Euktemon's estate in Isaeus 6 also provides difficulties for determining profit-maximization and risk-management, but his diversification also seems to follow the pattern of profit-oriented profit acquisition. He owned a farm at Athmonon worth 75 minae, a bathhouse in the Serangeion in the Piraeus worth 30 minae, a house in Athens worth 45 minae, goats with a goatherd worth 13 minae, two pairs of mules worth 13.5 minae, and an unspecified number of slaves producing crafts for the market (Isaeus 6.33). In addition, he also owned two *synoikiai*, apartment buildings, which would have been profitable enough on their own,[517] but they also seem to have served as brothels, one in the Kerameikos wine district run by a former prostitute, and another in the Piraeus run by a freedwoman (19), perhaps also a former

[517] Frier, 1980, 21-22, citing Aulus Gellius, *Attic Nights* 15.1.1-3 discusses the high risks and high profits that were understood to be associated with large urban multiple resident dwellings in Rome.

prostitute. The fact that brothel-keeping was considered one of the most shameful investments one could make shows that Euktemon did not let scruples stand in the way of profits.[518]

His diversified portfolio is most likely the result of timely opportunistic acquisition since the types of income producing properties that he owned are indeed consistent with a strategy of acquiring profitable possessions as opportunities arose. The slaves are explicitly described as producing goods for the *agora*, which shows that he had an interest in securing a steady cash income as well. Also, the bathhouse in Serangeion in the Piraeus was probably aimed at securing a monetary income,[519]and along with the slaves and *synoikiai*/brothels indicates a desire to expand beyond agricultural investments.

Moreover, the locations of the brothels are highly suggestive of a well-considered choice of investment in terms of providing a service which would have been in high demand in those areas and targeting a specific type of consumer who would have frequented those areas. The Piraeus was full of foreign and native sailors who had been at sea for long periods of time, as well as metic traders who lived in the port area for business purposes. Moreover, the wine-selling district near the Kerameikos may have also been chosen as the site of a brothel for similar reasons.[520] Thus, the choice of prostitution as an enterprise in these two locations should be seen

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[518] Theophrastus, *Characters* 6.5, describes brothel-keeping along with tax-farming and inn-keeping as the most shameful professions one could have; Aristotle *Nicomachean Ethics* 1121b34 agrees. See Millett, 1991, 179-82.

[519] For explicit references to the profits generated from a *balaneion*, bathhouse, see Isaeus 5.28-29. The fact that Euktemon's bathhouse was purchased by the banker Aristolochos suggests that it was a profitable investment (for this banker, see my discussion below, in Chapter 5). For the Serangeion, see Harpokration. This bathhouse has actually been found in the caves on the shoreline of the Piraeus, for which see the excavation report by Donaldson, *Hesperia*, 34 (1965), 77-8, and the forthcoming study by Carmelo di Nicuolo.

[520] If someone were purchasing wine for a party or a symposium and wanted to have prostitutes, or if one were already drinking and making merry in such an area, a brothel would have been a perfect way to capitalize off the

as an intentional strategy of making money based on providing a high-demand service to a target consumer base in a well-chosen location.[521] Even if Euktemon only drew profits money these *synoikiai* as a rentier, their prime locations reflect a well-considered choice of investment aimed at a specific target market group.

The percentage of Euktemon's property that was productive was very high. Unfortunately, there is no account of his non-productive property besides, perhaps, his 45 minae house. However, of his known property, at least 75% (the 75 minae farm, the 13 minae goat herd, the 13.5 minae pair of mules, and the 30 minae bathhouse) was productive in some sense, under the assumption that the house was not. Moreover, this is probably a vast underestimate, since the value of the two *synoikiai*/brothels and the slaves making crafts for the market were not listed and therefore could not be included in this calculation. The *synoikiai*/brothels themselves must have been worth about as much as his personal residence,[522] which would bring the total to 83% productive (221.5/266.5 minae), if they were both worth 45 minae apiece. Since this figure does not even include the craft-producing slaves, it could even be higher than this, though the slaves' value may be offset by non-productive property of some sort. Although precise quantification is impossible, the general impression provided by these rough calculations is that Euktemon was interested in acquiring and maintaining as many productive properties as

altered mindset and increased libidos which would have reduced normal resistance to excessive expenditure, and many a brothel may have gotten rich at the expense of its all-too-eager and willing customers.

[521] The decision to appoint a former prostitute as manager over the other prostitutes indicates that Euktemon wanted this establishment run well. For methods of profit-maximization among brothel owners and managers, see the strategies of Nicarete in Demosthenes *Against Neaira* (59.18-19).

[522] These properties may have constituted an even higher percentage of his overall wealth. Pasion owned a *synoikia* worth 100 minae (Dem. 45.28), and at least one other worth perhaps 26 minae (53.13): see discussion on Pasion below, in Chapter 5.

possible.[523] That he was interested primarily in financial gain and growth in the administration of his estate seems to be the overall conclusion which must be reached, though conclusions cannot be attained as far as strict profit-maximization is concerned.

Euktemon seems to have owned a balanced portfolio of *synoikiai*/brothels, land, a bathhouse, livestock, and cash-producing slaves. Diversification by acquiring profitable cash-generating enterprises as the opportunities arose seems to have characterized his choices as well. Like Ciron and Stratokles, few of Euktemon's assets were purely consumptive, most were profit-oriented, and some were high-risk, high-profit properties that must have been geared for long-term profitability.

VII. Adeimantos and the acquisition of profitable investments.

Like Euktemon, Stratokles, and Ciron, Adeimantos also possessed a balanced portfolio of high-risk and lower-risk properties, and his diversification again seems to have been the result of a profit-oriented strategy of acquiring profitable opportunities as they became available. Adeimantos' estate[524] consisted of plots of land at Xypetnaion and Kudimachos, the latter of which produced crops for sure, a slave manufacturer of spits, and an unknown number of slave shoemakers, one of which, Aristarchos, seems to have managed his own workshop.[525] His

[523] His decisions at the end of his life to liquidate his properties at the behest of a freedwoman former prostitute should not be taken as evidence for his economic decision-making during the rest of his life, but are said by the speaker of the speech to have been influenced by his senility.

[524] *Attic Stelai*, VI, 17-61, 116-17 (Pritchett, 270-73); Foxhall, 2007, 44-45.

[525] The workshop is said to have been the property "of Aristarchos", whose name is in the genitive: "[ἐκ τȏν Ἀριστ]άρχο τȏ σκυτοτ[όμο] (line 32).

pattern of wealth acquisition was to supplement agricultural holdings with slave manufacturers producing goods for the market. The shoe workshop reveals a cash-generating interest on the part of the owner, and the slaves may have been used as surplus agricultural laborers on the land plots in times of peak labor demands, as a way of maximizing their productivity for both ventures.[526] He also installed Aristarchos as slave manager at the head of the shoe workshop.

What is most interesting about Adeimantos' wealth, however, is the fact that he was an Athenian citizen who made the choice to acquire a substantial wine-producing estate on the island of Thasos. [527] This property seems to have been a significant money-making operation specializing in the famed high-quality wine of that island,[528] and contained 590 amphoras and 3 *choes* of Thasian wine, or 7,083 *choes*.[529] Although the sale-price of the wine is not preserved, there are prices for Thasian wine which will allow estimates to be made. At the bottom of the spectrum, Thasian wine sold for a drachma per liter,[530] meaning that Adeimantos' wine, a total of 5098 liters (Foxhall, 2007, 40) which was captured would have been worth 5,098 drachmas, almost a talent. On the other end of the spectrum, however, Thasian wine cost about 1 drachma

[526] See Osborne, 2004, for the use of slave manufacturers to offset periods of low productivity in the agricultural offseason.

[527] Acquisition of foreign properties is well-attested for Athenian citizens: see, e.g. Oionias, who owned 81 talents of land in Euboea, the largest landed holdings known from the ancient Greek world, and Axiochos in the *Attic Stelai*, and Xen. *Mem*. 4.3.1. Apparently Athenians had been so eager to snatch up land in the territories of their subject allies during the fifth century that the practice was explicitly forbidden in the Stele of Aristoteles. For the acquisition of allied land by Athenians during the fifth-century empire, see Moreno 2011. For a general introduction to the Stele of Aristoteles and the Athenians' imperial (or non-imperial) ambitions during the fourth century, see Cargill, 1981.

[528] Foxhall, 2007, 40, 81.

[529] *Attic Stelai* VI, 60-61; Fornara, 1983, 175 n. 12. For Thasos' wine, see Salviat, 1986; Brun, 2004, 94.

[530] Salviat, 1986. The prices I list here are, of course retail prices, and must be considered maxima, but they are the best evidence that exist for the price of Thasian wine in this period.

per chous,[531] which would mean that Adeimantos' wine could have been sold for as much as 7,083 drachmas, or well over a talent. Over a talent of good quality wine for export is clear evidence of a market-oriented money-making venture, and it appears that Adeimantos engaged in his Thasian wine-production specifically as a way to make money, to supplement his earnings on his other properties.

Indeed, vines took a great deal of intensive care in order to be successful and profitable,[532] and an operation of this scale must have been acquired for the express purpose of making money. Adeimantos also seems to have installed a slave manager on this estate, Aristolochos,[533] just as he did for his shoe workshop. Aristarchos' shoe workshop was listed in his own name,[534] which suggests that he may have awarded with some sort of prestige or financial incentives to operate the workshop at high productivity and profitability. Perhaps Adeimantos had a similar strategy in regards to the manager of the Thasian wine estate, trading a share of the profits for the assurance that the estate would be run profitably.

As far as the size of the Thasian wine farm relative to the estate as a whole, according to Foxhall's extrapolations for the total value of his properties from the rent they produced, 1,632 dr. 4 ob (lines 116-7), his entire estate would have been worth approximately 3 and a half talents

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[531] According to the prices in Boardman, 1986, 29, Lang, 1956 and 1976, 55-81. This price is about half that of Chian wine, but more than Attic (Amemiya, 2007. 69, lists some more wine prices).

[532] Burford, 1993, 133-5.

[533] *Attic Stelai* VI, 54-55.

[534] Cohen, 2002, 103, notes the importance of this observation.

if rented out at 8%.[535] If this is the case, then the wine operation in Thasos would have made up a huge proportion of his total property, demonstrating that although he owned a diversified estate, he also concentrated a great deal of his wealth into this highly profitable venture.

Therefore, the vast majority of Adeimantos' property was engaged in cash production for the market, and the bulk of his wealth seems to have been invested in this market-oriented wine farm. Moreover, Adeimantos seems to have been exploiting his property to its fullest, as evidenced by the large amount of oak and pine wood which was sold from his estate along with a few *pithoi* for 1,800 drachmas, over a quarter of a talent. As Foxhall suggests, this seems to be a sign of his exploiting his properties to their fullest, and it may be that this wood is a sign that Adeimantos was expanding his vineyard into previously uncultivated land.

The extreme specialization seen on his farm, which seems to have produced no other goods than wine, is indicative of an income-generating property first and foremost. The acquisition of a profitable opportunity seems to have been the motive for his choice to acquire this wine farm on Thasos. He most likely purchased this wine farm after his other properties, including the shoe workshop producing goods for the market. Therefore, Adeimantos' diversification was probably not motivated by an aversion to risk, but rather was the result of a profit-oriented strategy of acquiring profitable investments one at a time – his estate was probably lower risk before he purchased the wine farm on Thasos, indicating a desire to move into a higher profit, higher risk property.[536] Nevertheless, though most of his wealth was risked

[535] Foxhall, 2007, 40. The rent rates in the *Attic Stelai* seem to have been from the property leased out by the *Poletai* during the auction process.

[536] Wine production was risky because of climatic fluctuations affecting yield, and combined with the necessarily high labor inputs, was an ideal choice for large landowners trying to produce a profitable cash crop (Sallares, 1991, 297. Foxhall, 2007, 81). Wine production indeed was extremely profitable in the ancient economy. Cato (*De Agri*

on this wine farm, he still ended up balancing safer properties, in the slave manufacturers and other agricultural plots, with this higher risk property geared for profit.

VIII. Conclusions.

The sum weight of all these Greek diversified estate owners' actions suggests that self interested, long-term growth was the primary goal of their economic decision making and money-making strategies. Their choices reveal an overall pattern of profit-oriented strategies, rather than risk avoidance, in which higher profit and higher risk investments were acquired, rather than lower risk properties. Although Greeks did have an awareness of risk, as I discussed above in Chapter 2, risk does not figure prominently in the choices diversified estate owners made in their acquisition of new properties. Instead, profit seems to have been the main motive for their actions.

This is not to say that they did not evaluate risks at all, but rather that their acquisitions tended to be higher risk and higher profit than their current estate portfolios. In the case of Arizelos, his investment in mining properties and loans were higher risk than his agricultural properties and slave manufacturers. Demosthenes' father likewise invested his profits from the *machaira* factory into more risky maritime and other loans at interest. Adeimantos also seems to have diversified into a higher risk, but also higher profit investment, the wine farm at Thasos.

Cultura 1.1.7) says that a vineyard is the first choice in agricultural production if the land is amenable (de omnibus agris optimoque loco iugera agri centum, vinea est prima, si vino bono et multo est, secundo loco hortus inriguus, tertio salictum, quarto oletum, quinto pratum, sexto campus frumentarius, septimo silva caedua, octavo arbustum, nono glandaria silva), and Columella's demonstration of the profitability of vineyards has attracted a great deal of attention from ancient historians. Finley, 1973, 117 calls Columella's implied profits of 34% "nonsense"; Duncan-Jones, 1982, 33-59, nevertheless agrees with Cato's opinion that vines were more profitable than other crops, and calculates that 7-10% was the likely profit from viticulture.

Ciron and Stratokles likewise chose to invest in risky loans at interest at the end of their lives, rather than placing all their money in land. Risk-reduction was an automatic result of diversification, but this may not have been the primary motivation for the acquisition of these properties; indeed, diversification may have been an unintended result of the money-making strategies of these estate owners. The general tendency for Greek diversified estate owners to move into high risk, high profit enterprises suggests that profit, rather than risk avoidance, was their goal in acquiring new properties.

The acquisitive pattern seen in the sources is of individual properties added one at a time on the basis of profit. The fact that the estates which are attested are composed of different types of properties, many of which are small in size, suggests that these ventures may be the result of windfall acquisition, the taking of opportunities in a timely manner, for the purpose of making money. The rapid seizure of opportunities as a model for ancient Greek economic behavior has already been proposed by Lin Foxhall, who states that: "opportunities to acquire wealth-generating resources were seized as and when they appeared. These rich households aimed to maximize the opportunities for accumulating wealth over the long-term,"[537] and that "rich Athenians (and, perhaps, most wealthy Greeks) were opportunistic in their approach to acquiring economic 'enterprises' and resources … risks were most certainly taken in hopes of great profits by the rich who could afford to do so."[538] Although there may be some exaggeration in the former statement, I agree with Foxhall's overall interpretation. This model is not only in accordance with the modern notions of economic rationality, but also with Moses Finley's model

[537] Foxhall, 2007, 47.

[538] Foxhall, 2007, 52.

of the windfall nature of ancient property acquisition, and the evidence I have presented in this chapter. Demosthenes the Elder invested in loans as the opportunity arose, and received not only interest, but also his highly profitable couch factory; Arizelos decided to invest in mining *ergasteria* as the opportunity arose and made enough money to enter the liturgical class; Adeimantos made the choices necessary to acquire his export market-oriented wine farm at Thasos.

The pattern of seizing opportunities in timely manner among the wealthy of ancient Greece is well-attested in the short-term rental of properties by men of substance to supplement their already substantial holdings through the quick acquisition of productive assets. At Hellenistic Delos, for example, the majority of lessees of temple estates were from among the wealthy citizens of Delos, who leased estates as part of their acquisitive and personal wealth management strategies.[539] The competition for Delian Apollo's estates was fierce; wealthy families rushed to capture these profitable sacred leases to the point that rent prices were driven higher and higher over the years as a result of selling to the highest bidder.[540] For Attica, Osborne has shown that very wealthy men competed fiercely to snatch up even small plots of

[539] Osborne, 1988, 299-304.

[540] See Reger, 1994, 218-9. The leases at Delos underwent rapid increase to the point that lessees became indebted to the temple when they could not pay their leases. Some even borrowed just prior to, simultaneously with, or during their course of their leases, suggesting that they were investing this borrowed cash in profitable agriculture or animal husbandry. These were not low-risk leases. The profits they brought drove their prices up at an astronomical rate. They were profitable opportunities seized upon at the moment they became available in a region that was poor in agricultural land. This shows an eagerness to invest in profitable enterprise, especially by the wealthy.

land.[541] The motivation to lease such estates seems to have been for the quick profits that could be raised from their exploitation in the short term.

The leasing of orphans' estates was also a desirable opportunity, as attested by the large number of preserved *horoi* which testify to the mortgaging of property offered up on a spur-of-the-moment basis.[542] Administering orphans' estates could be very profitable – Demosthenes says that estates are known to have been doubled or even trebled by their guardians (Dem. 27.64). These opportunities would appear irregularly, so the impetus to act at the right time would have been of great importance, and many seem to have jumped at the chance of acquiring these investments, pledging their own property to do so. The speed with which large sums were able to be mobilized on landed property can be seen in the large values of property which were able to be mortgaged, over a talent in some cases (Finley, # 133).[543]

That agricultural land was also quickly snatched up in large amounts can be seen in the multiple talents individuals paid for some plots when the chance arose in the *hekatoste* (1 percent tax) inscriptions of fourth-century Athens.[544] In short, individuals were prepared to jump at the

[541] Osborne, 1988, 191-2 shows that not only was there no shortage of demand for land by wealthy lessees, but that this phenomenon was not restricted to Athens and Delos only, being well-attested at such smaller *poleis* as Thespiai, for example.

[542] For the leasing of orphans' estates, see Finley, 1985 [1951], 38-44; Osborne, 1988, 308-10, 313-19; 2002, 121; Thür, 2010. Orphans' estates were some of the best opportunities for profit when they arose, and perfectly exemplify the drive for timely acquisition of profitable opportunities. Nor were orphans' estates rare or of negligible value - up to 40% of the property in Athens' *timema*, property assessment, of 6,000 talents was in the hands of orphans and heiresses as dowry (Lambert, 1996, 257). For the Athenian *timema* in 378/7, see Polybius 2.62.7, and Philochorus FGrHist. 328, F 46. See Harding, 2008, 146-7.

[543] Contrary to the claims of Finley, 1985, [1951], 114-17, that Classical Athenians had no concept of collateral, mortgaging property as collateral did exist, for which see Isager and Hansen, 1975, 154-6; Thompson, 1978, 404-5.

[544] Lewis, 1973; Andreyev, 1974; Lambert, 1996.

chance to acquire these opportunities, and they very quickly made the decision to mortgage large amounts of their property so as not to let these leases slip away. And so, a quick response and a good information network could be essential in guaranteeing that one could capitalize on profitable opportunities before others got them. Some estate owners even seem to have jumped at *non-market* opportunities for profit, as in Stratokles' marriage alliance with Theophon which provided him with an extra estate from which to profit and bring himself into the liturgical class, and Ciron's marriage alliance with the wealthy miller Nausimenes.[545]

Since properties were seized precisely when they were perceived to be beneficial to their purchasers, it may be that diminishing marginal returns may have been a factor in causing expansion into new fields. From this perspective, it may be instructive to turn again to Xenophon's *Poroi* to gain a possible explanation for the logic behind such an action: an awareness of diminishing marginal returns:[546] οἱ μὲν ἀγροὺς κεκτημένοι πάντες ἔχοιεν ἂν εἰπεῖν, ὁπόσα ζεύγη ἀρκεῖ εἰς τὸ χωρίον καὶ ὁπόσοι ἐργάται· ἢν δ' ἐπὶ πλεῖον τῶν ἱκανῶν ἐμβάλλῃ τις, ζημίαν λογίζονται, "All who own farms could say how many yokes and how many workers are enough for their plot of land. And if someone adds more than is sufficient, they calculate it as loss" (4.5).[547] If, as Xenophon says, individuals had a sense of when a given property had begun to lose profit, which could be done on a simple month-by-month comparison of profits, then perhaps they did know when an investment had reached the peak of its productivity. If this is the case, then expanding into a new field which did not

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[545] I will discuss the non-market opportunities for profit through marriage alliances and the manipulation of kinship in Chapter 7.

[546] For the economic concept of diminishing marginal returns, see Blaug, 1997, 75-84.

[547] See Gauthier, 1976, 119-20, for a discussion of this passage.

compete with the resources of the other would have been the most sensible solution to the problem of how to continue growth.

Rather than investing further capital into already existing holdings to increase productivity, expansion into alternative fields may have been the easiest, most effective way for ancient Greek entrepreneurs to invest their money in additional income-generating enterprise. The ease with which one could invest small amounts of capital in a new field, and then decide either to abandon this new enterprise or to expand it based on its profitability, can be seen with slave manufacturing. Entry was very simple and low-risk, as a single slave could be purchased to enter into a new field of production, and expansion could also be accomplished through low risk incremental additions of a few slaves at a time.[548] This may explain the presence of a single flax worker and an embroiderer alongside the workshop of shoe-makers in Arizelos' estate. Perhaps he acquired these slaves as a way of gauging the potential profits of entry into another type of manufacture, and these two slaves represent the beginning stages of his expansion into another trade. The slave woman is explicitly said to have been making fine goods for the market, and so it may be that Arizelos wanted to increase his profits by entering a new field of manufacture and testing the market before committing a larger sum and expanding the operation. In this case, entry was as easy as buying a slave or two along with some materials. Indeed, such an approach would have enabled an evaluation of the profitability of a field of production without needing to perform complex theoretical calculations and then risking one's entire livelihood based on such guesswork. This is all speculative, of course, but the general model of incremental expansion

[548] Indeed, as Thompson, 1982, 74, has argued, the low capital costs of starting up a new enterprise made the incremental, experimental entry into new fields of production very easy. For a clear explanation of the economic concepts of entry and exit, see McCloskey, 1996, 126-42.

would have been the easiest way to acquire additional properties and gauge the potential profitability of new fields, as Xenophon says in *Poroi* that Greeks were able to do by adapting to fluctuations in relative price levels,[549] in a low risk manner. Gradual expansion would have been much safer than to expand all at once, and would have allowed for low-risk increased profitability.

Columella advocates experimentation to achieve the greatest profitability,[550] and experimentation is also central to the strategies of modern economic firms as well, especially when deciding on the best portfolio for profitability: "the problem becomes one of finding the best mixture of activities, which is much more complicated than merely ranking gross margins. In fact in such a situation there is generally no way of analyzing the best solution. Even today one basically has to adopt 'trial and error'."[551] Indeed, even modern firms have difficulty achieving true profit maximization even with the presence of complex accounting procedures and detailed market information.[552] Therefore, not just complex accounting, but experimentation and trial and error are still the necessary methods to achieve optimal profits even in business today. Since the need for experimentation is characteristic of both the modern and ancient economy, it seems that here also the individuals explored in this chapter may have been

[549] See my discussion above, in Chapter 2.

[550] Columella 1.4.5 strongly advocates experimentation as an important strategy for maximizing the profitability of a farm.

[551] Macve, 1985, 250. North, 1990, 79 agrees: "maximizing activity by the firm results from learning by doing".

[552] Even modern firms have difficulties in achieving true profit-maximization. Markides, 1995, 102-3, shows that many firms from the 1960s to the 1980s were investing in sub-optimal investment portfolios, meaning that they were *non*profit-maximizing (his emphasis); but also that even profit-maximizing firms overinvested in diversification in the 1960s "because the capital market provided them with wrong signals and incentives".

employing strategies similar to those of modern firms in their search for increased profitability as they sought to expand their productive wealth.

The passage I have just quoted by Macve raises another important issue in the analysis of diversification: diversification is an important strategy to achieve profit maximization by modern corporations. As Markides, 1995, 102 states, “if a firm is profit-maximizing, it should diversify up to its optimal limit (assuming it knows what this is), and then stop, otherwise its profitability and market value will suffer.”[553] Benjamin Graham’s *The Intelligent Investor* insists upon diversification as a central characteristic of successful portfolio policy (2003 [1973], 88-91.Therefore, in modern business, diversification is often necessary for profit maximization in the long term.

This corporate model demonstrates that diversification is not automatically a sign of a safety-first, risk averse mentality, but can also be a way to maximize profits, as part of economically rational money-making strategies. Moreover, since the estates preserved from ancient Greece are exclusively the property of the wealthy, it would be a serious methodological problem to assume that rich estate owners pursued the same economic strategies as peasants living at the subsistence level. Therefore, wealthy estate owners’ diversification in ancient Greece may have actually been more akin to long-term profit-maximizing strategies of modern corporations than to the risk-minimizing tendencies of peasants.

Indeed, for early nineteenth-century American farming communities, for which the application of market-oriented principles and mentality are often questioned just as they are for

[553] Markides, 1995.

ancient Greece, [554] some scholars have interpreted diversification not as a means of risk-avoidance, but long-term profit maximization: "American farmers behaved consistently with rational choice: they settled the best soils first, their mobility patterns maximized their human capital, they diversified against risk, they responded to prices … [and] proved to be economically responsive actors in a capitalist system."[555] Moreover, in his comprehensive study of property inventories taken at the death of many of the most important businessmen from seventeenth century England, Richard Grassby has shown that many of the most successful merchant capitalists had diversified portfolios of holdings in a variety of investments including loans, productive materials, land for rent, commercial stock, and trade:

> Most of the wealth of the business community was naturally concentrated in the hands of the older merchants and they, even in earlier periods, always distributed their capital widely, both to secure themselves against misfortunes in trade and to maximize their profits. Reserves of safe investments were needed to balance risky ventures in the absence of limited liability, to provide for emergencies, and to bring status and civic influence. The criteria for choosing between alternative investments depended on inclination, opportunity, need and yields.[556]

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[554] For the scholarly view for a transition from a non-capitalist to a capitalist market system in early nineteenth century American rural communities, see, e.g., Sellers, 1991; Dunaway, 1996; Brooks, 1996; Wermuth, 1998, 179-96. That the presence and extent of capitalism can be debated even in nineteenth century America demonstrates both how arbitrarily scholars can use the terms "market" and "capitalism", and also shows that even small quantitative differences, differences in degree, can be exaggerated to the point that they are described as qualitative differences, differences in type. Therefore, the presence or absence of capitalist behavior is largely a subjective judgment by each scholar: *quot* scholars, *tot* capitalisms.

[555] Atack, Bateman and Parker, 2000.

[556] Grassby, 1970, 94.

According to Grassby, diversification of low and high risk assets was done in accordance with profit-maximizing mentality more similar to the strategic decision making of modern business than to peasant subsistence models. The balancing of high risk with low risk properties in ancient Greek diversified estates closely resembles the composition of estates among English mercantile capitalists of the seventeenth century CE.[557] And so the patterns of diversification observed in many ancient Greek estates may have been analogous to those of seventeenth-century English merchant capitalists: a strategy of balancing investments in order to reduce risks and maximize profits. Diversified estates composition in ancient Greece follow similar patterns: in every case of a diversified estate from ancient Greece, lower risk properties bringing a steady return were combined with higher risk, higher profit investments.[558]

The desire to maximize profits is certainly suggested by the high rates of return that are attested for some of the properties belonging to ancient Greek diversified estates. As discussed above, the profit rates secured by Arizelos' shoe workshop, Demosthenes the Elder's couch and *machaira* workshops, Stratokles' rental properties and loans, are all in full accordance with the profits advocated by modern investment guru Benjamin Graham. Some even surpass the

[557] See Grassby's detailed discussion of the varieties of estate diversification in seventeenth century England.

[558] Thompson, 1978, 406-7, noted this pattern, referring to the "balanced portfolios" of ancient Greek estate owners. Millett, 1991, 166, has objected that these estates are more of a random mishmash of properties acquired in a manner that is "irrational" according to modern economic theory. The structural imperfections of the ancient Greek market economy, however, with asymmetries of information and the absence of centralized property registers, made windfall acquisition the rule for ancient property acquisition, because of the result of irregular, unpredictable receipt of information about profitable opportunities by word of mouth. Structural imperfections and information problems, however, do not make individuals' actions irrational – these individuals behaved rationally in response to the specific structural imperfections of their economic system.

expected profits that a reasonable investor could expect, and approach the “special situations” that occur, bringing outstanding profits of close to twenty percent a year. The fact that Arizelos and Demosthenes the Elder kept their highly profitable factories intact until their deaths demonstrates that they enjoyed the high returns of these relatively safe operations for a long period of time, and it may be concluded that they were maximizing their profits in the long term with the operation of these properties.

Furthermore, the full extent or vast majority of the diversified estates in this chapter was invested in profitable purposes rather than wasteful consumption,[559] which is suggestive of a desire to maximize not just profit, but also *wealth* in the long term. Almost all the estate owners studied demonstrated a long-term commitment to profitable enterprises while also avoiding excessive consumptive expenditures, as their estates consisted predominantly, and almost entirely, of productive assets. The overwhelming predominance of productive property in these estates, is also a sign that their owners designed them for profit in a manner akin to modern business, which should be expected since the *oikos* was the structure for all business in ancient Greece,[560] and as I argued above in Chapter 3, ancient Greeks saw a growing, increasing *oikos* as the ideal.

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[559] The estate owners such as Demosthenes the Elder and Arizelos who kept their factories in their houses are part of a well-established pattern in the literature, including Komon from Demosthenes 48 *Against Olympiodoros*, who owned two houses, including his private residence, both of which housed slave workshops. In Olynthus, the archaeological record reveals many houses that were completely filled with productive space. The full use of potential house space for production is consistent with a profit-maximizing strategy.

[560] But still the ancient Greek business was confined within the structure of the *oikos*, and the owner himself was probably the main factor in determining the profitability of the estate. As Xenophon says in the *Oeconomicus*, it is the master’s *epimeleia*, care, attention, that is the main difference in making an estate profitable: those that have effective owners are profitable, whereas those that have bad managers will suffer and lose money (See my discussion above, chapter 3). This is exactly the same as with modern corporations: the CEO is often the most

Probably the best evidence for a desire to make as much money as possible from an estate in the long term, however, is liturgy avoidance. A number of the estate owners I studied in this chapter certainly or likely engaged in tax evasion and liturgy avoidance by liquidating conspicuously profitable visible, *phanera*, assets and reinvesting them into *aphanes* wealth which could not be detected by the *polis*. Hiding wealth allowed for long term growth and continued profitability, and as such constituted an important strategy of estate management for those individuals who wanted to avoid the wealth diminishing effects of liturgies and ensure the potential for long term growth. The desire of many of the individuals explored in this chapter to avoid liturgies and allow for long term financial growth in their estates points to an attitude which was unequivocally acquisitive, and points to a strategy of maximizing wealth in the long term.

Loans would have been more risky investments, but this increased risk was more than offset by the fact that *aphanes* wealth permitted continued growth while eliminating the more dangerous risk of being called to serve liturgies. Liturgy avoidance was also a way to manage risk, by decreasing the chance that one's estate would be depleted by state demands. Investing in *aphanes* wealth to avoid liturgies and permit further growth was an important motive for diversification, and although it was certainly motivated by the desire to avoid the risks of

important factor in determining firm efficiency (Gabarro, 1985), except that the masters of ancient *oikoi* could not be fired and replaced with a more efficient replacement. Slave managers helped to offset the effects of this variation somewhat, but without the true separability of business and domestic assets, but businesses were still owned by the master within the kinship structure of the *oikos*. The lack of separability of business and personal assets was a major limiting factor in the growth of businesses as such, a major structural deficiency that would only be surmounted with the invention of corporate personhood and limited liability, which I will discuss at length in Chapter 8. For the lack of separability of business and household assets in the Roman world, see Conison, 2012, 72-78.

liturgies, it was not a risk-averse strategy. Rather, it was a calculated choice to *manage* risk in an intelligent way; investing in higher risk *aphanes* wealth in order to avoid the risk of being called to serve liturgies, which would have devastated the profitability and long-term growth potential of these estates.

Therefore, the overall pattern that emerges from these diversified estates is the skillful management of risk with an eye to continued, or increasing, long-term profitability. The fact that the owners of these estates operated their individual properties at high rates of return, while also concentrating the majority of their wealth into profitable enterprise rather than consumptive expenditures is a sign of economically rational estate management and money-making strategies. Not only do ancient Greek estate owners seem to have aimed at the maximization of profit in individual investments, but also the maximization of wealth in the way they operated their estates as a whole, strategies that are evidence of economically rational behavior. Therefore, it seems that there is enough evidence to conclude that the estate owners I have studied in this chapter did not pursue the safety-first, risk avoidance strategies of peasants, but rather behaved in an economically rational manner.[561]

The fluidity of the estate compositions of Adeimantos, Arizelos, Euktemon, Stratokles, and Demosthenes the Elder demonstrates that these estates were not static entities, but were rather in constant flux. Therefore, diversification was a relative situation, the result of a particular set of choices over a long period of time. Diversification often seems to have been the

[561] This is not to say that peasants' subsistence strategies are irrational, however, as Cohen, 1996, 71-73 refutes so convincingly, but rather that ancient Greek estate owners cannot be assumed to have followed subsistence strategies of risk minimization just because they lived in a pre-industrial, and therefore largely agrarian, economy.

result of a profit-oriented strategy, one that could change with market conditions as new opportunities arose. Indeed, many estates seem to have moved along a fluid spectrum between diversification and specialization depending on the choices made at a given time. That these estates exhibit signs of fluidity, changing in response to profitable opportunities and market conditions, is a sign that their owners may have been constantly trying to reassess the overall profitability of their estates, more in a manner akin to modern business,[562] rather than simply choosing a safe combination of subsistence goods and sticking with those.

Estate inventories are merely snapshots at a single moment in time, after many economic decisions have been made that have been lost for all time. From this perspective, Richard Grassby provides important methodological lesson for interpreting pre-modern estate inventories - the distinction between strategies at different times of one's life:

> "Nor do the inventories accurately reflect the pattern of wealth among the younger merchants. They embody the policies of men approaching death and concerned with producing regular, easy, and reliable forms of income for their dependents. Many a middle-aged rentier had been an active merchant in his youth … The ultimate disposition of a business estate is not necessarily a true guide to its origins" (1970, 94).

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[562] Corporations must constantly reassess the extent to which they are specializing or diversifying in response to changing market conditions. Hoskisson and Turk, 1990, 469, say that "Restructuring actually provides the firm with a number of opportunities to restore value that has been dissipated through excess diversification". According to the Wall Street Journal, almost half of North America's largest companies restructured their portfolios during the 1980s (Markides, 1995, 101), and fifty percent of Fortune 500 restructured from 1981-87, refocusing their portfolios from diversified holdings to the original, specialized form in which they had made their fortunes in the first place; this is in stark contrast to the situation in the 1960s, in which less than one percent of Fortune 500 companies restructured (Markides, 1993). Therefore, a successful strategy at one time might not be the best at another.

Thompson has already observed that many estates appear to be designed for safety of return and transmission to heirs at the end of their owners' lives.[563] This means that their compositions are not necessarily reflective of their owners' actions earlier in life, but only after final dispositions had been made.[564]As seen with Arizelos' temporary investment in his highly profitable mining *ergasteria*, and also Stratokles' nine year profit making from being guardian of Theophon's estate, often an estate owner would engage in his most profitable activities only for a short period of time. In Renaissance Florence, businessmen were only active as bankers for an average of 8.2 years,[565] meaning that one could use higher risk profit-maximizing behavior for the goal of reaching a certain level of wealth, after which would pursue a lower-risk policy. Hesiod's father engaged in risky maritime trade, made his fortune, and then transformed it into land, which he passed on to his sons; Nicobulus (Dem. 37) and the lender who delivers the speech *Against Apatourios* (Dem. 33.4-5) used high-risk maritime trade to make fortunes which they then invested in less risky money lending.[566] During one's life, *aphanes* wealth permitted for the fastest profits, but land was much safer for the transmission of property to heirs,[567] so

[563] Thompson, 1978, 406-7.

[564] Demosthenes' father and Diodotos are clearly depicted as making final arrangements for their families, and both set aside ready cash to help their families after their deaths. This demonstrates the problems in interpretations that see such sums as evidence of uninvested hoarding of cash (Millett, 1991, 169-70, Meikle, 1995, 160-62). This money was not piled up as part of standard practice, but was set aside purposely as an easily accessible reserve fund of ready cash for one's family. Athenian women and children were forbidden in engaging in transactions exceeding one *medimnos* of barley (Isaeus 10.10). And so, it would have been necessary to leave families enough liquidity to protect them.

[565] Padgett and McLean, 2011, 19.

[566] See my discussion of merchants and maritime money-lenders in Chapter 6.

[567] See my discussion of the difficulties in transmitting liquid assets across multiple generations Chapter 7.

these estates at the end of these lives might reflect the choice to reinvest in *phanera ousia* in order to pass on property safely to heirs.

Perhaps profit-maximizing strategies were used by many Greeks as a means to an end – to get wealthy - after which their owners may have diversified their wealth and investing in safer property to ensure its maintenance and transmission to heirs. In such cases, specialization could transform into diversification. And likewise, if a diversified estate owner began to profit from focusing on a single investment, diversification could easily become specialization. As we shall see in the next chapter, like modern corporations,[568] ancient Greek estates could swing back and forth between different ends of the spectrum from diversification to specialization, a dynamic process that is hidden in the static estate inventories themselves, but that can be reconstructed from the choices preserved in the source material. While in this chapter, I have argued that those with diverse, safe estates seem to have moved into higher risk, higher profit properties, in the next chapter I will demonstrate that the opposite trend occurred as well: those estate owners who made fortunes through the long-term specialization in high risk, high profit fields then diversified by acquiring lower risk properties clearly in an attempt to diversify and to reduce risk.

[568] Though Greek estates could behave like corporations in this respect, they did not have the ability to ensure their long-term business character. Long-term specialization could occur in ancient Greece, but since business was bound in a kinship structure, the *oikos*, ancient Greek estates did not have the immortality of modern corporations, and were bound to the life of a businessman and the whims of his heirs. Since a businessman needed to reinvest his assets safely to ensure their transmission at the end of his life, many business concentrations were probably dispersed at the end of a businessman's life, meaning that business continuity was always threatened when the owner died. Moreover, the legal separability of corporate and personal assets in the modern corporate structure helps to ensure the continued growth and specialization of a business today, since it can continue without being broken up and dispersed by heirs. This is an important qualitative, institutional distinction between the structure of business activity in ancient Greece and the modern world which I will discuss this further in Chapter 8.

Chapter 5: Money-making strategies and long-term profit maximization on specialized estates.

I. Introduction: all your eggs in one basket.

In 1885, in a speech to business students at Curry Commercial College in Pittsburgh, steel tycoon Andrew Carnegie famously advocated a policy not of diversification, but of uncompromising specialization: “Put all your eggs in one basket and then watch that basket. Do not scatter your shot … The great successes of life are made by concentration.” For Carnegie, specialization, not diversification, was the secret to maximizing profits.

In this chapter, I will argue that some of the best evidence for economically rational, long-term profit-maximizing strategies in ancient Greece can be seen in the Carnegies of that time. These were the individuals who specialized in a single field for the majority of their lives and made such tremendous fortunes that their exploits are still preserved to this day. By engaging in long-term specialization within a single highly profitable field, a number of business tycoons emerged in ancient Greece and brought themselves and their families wealth, status, honor, power, and eternal fame. The best evidence for ancient Greeks concentrating their fortunes into a single profitable field in the long term can be seen in silver mining and banking, and I will focus primarily on these fields. Indeed, silver mining and banking were the source of some of the greatest fortunes from ancient Greece, and it seems that the fantastic fortunes that were made in these fields were the result of a long-term profit-maximizing strategy by means of specialization.

This extreme specialization came at a price, however. Not everyone was able to achieve or maintain such success due to market fluctuations, warfare, and sketchy business practices, and the vast majority of fortunes that were able to persist across multiple generations were able to do so largely because their owners eventually transformed some of their assets into other fields: diversification. There is a clear pattern of specialized estate owners diversifying in an attempt to secure their fortunes against loss. Nevertheless, the properties that specialized estate owners chose to acquire as part of their diversification were still very profitable and often quite risky, revealing that they simultaneously chose to manage their risks while still trying to maximize their profits.

II. Nicias, Kallias, and long-term profit-maximization in silver mining.

In Aeschylus' *Persians,* when Persian Queen Atossa asks if the Athenians have enough wealth in their houses to carry on a war against the Great King, the chorus replied: ἀργύρου πηγή τις αὐτοῖς ἐστι, θησαυρὸς χθονός, "they have a fountain of silver; a treasure chest in the earth".[569]

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[569] *Persians*, 237-8.

There was a silver rush in southern Attica during the classical period. The amount of silver mined and coined was immense,[570] as were the private fortunes made in this highly profitable industry. The wealth from this fountain of silver did, in fact make it into the households of many Athenians, as Atossa asked. Thus, it should be no surprise that some of the best-attested strategies of long-term profit-maximization in ancient Greece belong to the individuals who specialized in this lucrative industry.

Nicias, who is best known for his tragic downfall in Thucydides' riveting account of the Sicilian Expedition, is one such individual. The tremendous amount of wealth attested for Nicias in the Laureion mines, 100 Talents,[571] was probably built upon the efforts of his father, Nikeratos, who left a fortune large enough for his three sons to be liturgical class members. It is not known exactly what sort of wealth Nikeratos had, but it seems that he raised his family out of obscurity into the Athenian elite through a lifetime of silver mining, and he seems to have enriched his family to such an extent that he laid the foundations whereby Nicias was eventually able to possess his fortune of 100 talents.

Moreover, Nicias himself seems to have followed his father's example of making his fortune through long-term specialization in the profitable silver mines of Laureion, as he owned very little real estate,[572] and his wealth consisted almost entirely of mining property.[573] At some point, his fortune collapsed to the point that his son Nikeratos (II) was said to have left a fortune

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[570] For recent estimates, see Kroll, 2009.

[571] Lysias, 19.47.

[572] Kron, 1996, 216 says he also owned a house and land worth 10,000 drachmas, but this may have been only acquired to be dedicated to Delian Apollo (Plutarch, *Nicias* 3.6).

[573] Plutarch, *Nicias* 4.2: τῆς οὐσίας ἐν ἀργυρίῳ τὸ πλεῖστον εἶχεν.

of only 14 talents.[574] As Davies argues, the most likely reason for such a precipitous decline was the collapse in the values of mining properties following the Spartan fortification of Deceleia,[575] Therefore, his wealth seems to have been so completely concentrated in mining operations that after the Peloponnesian War his estate lost more than 85% of its value.

Indeed, Plutarch says that Nicias' mining interests were risky, but also very profitable,[576] and Nicias must have known about the high risks and high return he could make from specializing in silver mining. This concerted effort at concentrating all his wealth in the Laureion mines for his entire life is highly suggestive of long-term profit-maximization, as he specialized in one of the most profitable wealth-producing activities known from ancient Greece and built a tremendous fortune from long-term exploitation of the mines. He followed in his father's footsteps, concentrating in the profitable field that had built his family's fortune in the first place for his entire life.

Moreover, his descendants seem to have realized how profitable mining could be and held on to the family properties in the Laureion mining region, and after Nikeratos II left only 14 talents at his death, his own son Nikeratos III stayed in mining and eventually attained the position of *tamias stratiotikon*, regaining his family's social standing and wealth through his own long-term working of the mines.[577]

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[574] Lysias, 19.47-8.

[575] Davies, 1971, 405-6. This also seems to have been the reason for the collapse of Kallias' mining fortune (see below).

[576] *Nicias*, 4.2: ἐκέκτητο γὰρ ἐν τῇ Λαυρεωτικῇ πολλά, μεγάλα μὲν εἰς πρόσοδον, οὐκ ἀκινδύνους δὲ τὰς ἐργασίας ἔχοντα.

[577] For Nikeratos II and III, see Davies, 1971, 405-6.

In an effort to maximize the return he could receive from his mines, Nicias also made one of the most expensive productive investments ever attested in ancient Greece when he purchased a skilled slave for for the price of one talent to supervise his operations.[578] This slave manager is the most expensive slave whose purchase price is preserved from classical Greece, and must have been well-known as a successful miner for Nicias to spend such a tremendous sum on him. Such a huge sum suggests that Nicias considered this slave manager to be an important investment in order to secure the highest possible profits from his mining operations.

In addition to his high-risk exploitation of the mines themselves, Nicias also possessed an enormous number of slave workers, 1,000 at least, whom he leased out to Sosias the Thracian at the rate of one obol per day apiece.[579]

> Νικίας ποτὲ ὁ Νικηράτου ἐκτησατο ἐν τοῖς ἀργυρείοις χιλίους ἀνθρώπους οὓς ἐκεῖνος Σωσίᾳ τῷ Θρᾳκὶ ἐξεμίσθωσεν, ἐφ’ ᾧ ὀβολὸν μὲν ἀτελῆ ἑκάστου τῆς ἡμέρας ἀποδιδόναι, τὸν δ’ ἀριθμὸν ἴσους ἀεὶ παρέχειν. ἐγένετο δὲ καὶ Ἱππονίκῳ ἑξακόσια ἀνδράποδα κατὰ τὸν αὐτὸν τρόπον ἐκδεδομένα, ἃ προσέφερε μνᾶν ἀτελῆ τῆς ἡμέρας, Φιλημονίδῃ δὲ τριακόσια.

578 Xen. *Mem*. 2.5.2: Νικίας δὲ ὁ Νικηράτου λέγεται ἐπιστάτην εἰς τἀργύρεια πρίασθαι ταλάντου.

579 Xenophon, Poroi, 4.14. According to Mussche 1998, 45, an inscription reading “SOSIA latom[ia]” dating to the late-5th or early-4th century in a Thorikos quarry might refer to this Sosias. It is not clear whether or not he was a slave entrepreneur or foreman, as Lauffer, 1956, 11, thinks. Austin and Vidal-Naquet, 1977, 319 n. 9, note that Sosias may have been a metic and that his role is unclear. See Lauffer, 1956, 77-81, for an in-depth discussion on Sosias.

> Once Nicias owned a thousand slaves in the silver mines which he leased out to Sosias the Thracian, for which Sosias paid one obol net profit for each slave per day, and always returned an equal number. And Hipponikos had six hundred slaves leased out in the same manner, which brought him a mina in net profit each day, and Philemonides had three hundred.[580]

These slaves, who would have been worth 30 talents at 200 drachmas apiece,[581] would have brought in a total of 10 talents of cash per year. This was a highly-profitable investment, then, that could steadily remain productive regardless of his fortunes in his own mining ventures.

Moreover, it seems that this enterprise was so successful that Nicias kept adding to his army of slave workers, as Xenophon says that everyone who possessed such slaves kept adding to their numbers, reinvesting their proceeds back into acquiring new productive slaves: καὶ νῦν δὲ οἱ κεκτημένοι ἐν τοῖς μετάλλοις ἀνδράποδα οὐδεὶς τοῦ πλήθους ἀφαιρεῖ, ἀλλ' ἀεὶ προσκτᾶται ὁπόσα πλεῖστα δύνηται. "And now no one of those who own slaves in the mines decreases their number, but always acquires in addition as many as he is able."[582] Nicias, indeed, with his 1,000 slaves, would be the perfect candidate to be one of these mine slave owners that Xenophon mentioned who always added to their numbers. It may be that he was continuously reinvesting his profits from mining into the expansion of his productive slave army. Increasing

[580] Xenophon, *Poroi* 4.14-15.

[581] This is only slightly higher than the average price of slaves sold in the *Attic Stelai*, 174 drachmas a slave, for which see Pritchett and Pippin, 1956, 276.

[582] Xenophon, *Poroi* 4.4.

his workforce indicates a desire to invest his profits into additional productive enterprise, which is highly suggestive of a long-term profit-maximizing attitude.

The investment in these slaves is not only an example of expansive production, but also diversification as a result of the initial specialization in mining and the attempts to expand mining in the first place. Nicias could choose to commit their entire slave workforce to mining, or lease them out for profit. The leasing of these slaves reveals a strategy to maximize the labor of the slaves when they were not being used for actual mining operations,[583] a flexibility that simultaneously enables profit maximization and risk reduction through diversification. These slaves were not a low-risk investment, however, and may have been among the 20,000 slaves that Thucydides says escaped to the Spartans after the fortification of Deceleia in 413.[584]

The low price of their rent and the large number of slaves suggests that Nicias was able to secure a local monopoly on rented labor by employing so many and renting them out for such a low price.[585] Securing monopolies was not unheard of in ancient Greece,[586] and it seems that

[583] The maximization of labor productivity and efficiency are all advocated by Hesiod, Xenophon, and pseudo-Xenophon (for which see my discussion above, in Chapter 3). Labor maximization can perhaps be seen in the prostitutes who served as textile weavers at the same time in Bau Z in the Kerameikos, for which see Knigge, 2005. The maximization of labor is seen as an important component of economically rational strategies for nineteenth century American farmers, for which see Bruegel, 2006, 537.

[584] As Davies, 1971, 406, also believes. See Thucydides 7.27.5 for the flight of slaves after the fortification of Deceleia.

[585] If the net return on these slaves was one obol per day, then it seems that this would have been a price on the low end of the scale, though it is unknown precisely how much the total cost would have been for maintenance. In any case, it is likely that even with maintenance, the price was probably much cheaper than the one drachma per day paid to workers on the Erechtheum in the late fifth century or the one drachma, three obols which is attested as being paid to unskilled workers on the Telesterion at Eleusis in 329/8 BCE, for which see Loomis, 1998, 111-113. Evidence for the costs of maintenance of soldiers and sailors in the late fifth century, the time at which Nicias was

many individuals saw them as a means of making huge profits. Aristotle mentions two monopolies in particular, one in oil pressing equipment by the philosopher Thales, and another in iron by a Syracusan man: [587]

> ἐν Σικελίᾳ δέ τις τεθέντος παρ’ αὐτῷ νομίσματος συνεπρίατο πάντα τὸν σίδηρον ἐκ τῶν σιδηρείων, μετὰ δὲ ταῦτα ὡς ἀφίκοντο ἐκ τῶν ἐμπορίων οἱ ἔμποροι, ἐπώλει μόνος, οὐ πολλὴν ποιήσας ὑπερβολὴν τῆς τιμῆς· ἀλλ’ ὅμως ἐπὶ τοῖς πεντήκοντα ταλάντοις ἐπέλαβεν ἑκατόν. τοῦτο μὲν οὖν Διονύσιος αἰσθόμενος τὰ μὲν χρήματα ἐκέλευσεν ἐκκομίσασθαι, μὴ μέντοι γε ἔτι μένειν ἐν Συρακούσαις, ὡς πόρους εὑρίσκοντα τοῖς αὑτοῦ πράγμασιν ἀσυμφόρους· τὸ μέντοι ὅραμα Θάλεω καὶ τοῦτο ταὐτόν ἐστιν· ἀμφότεροι γὰρ ἑαυτοῖς ἐτέχνασαν γενέσθαι μονοπωλίαν.

> A certain man in Sicily, when some money had been deposited with him, bought up all the iron from the iron mines, and afterwards when sea traders arrived from their voyages, he alone was selling, but without making too great an increase on the price.

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leasing his slaves out, indicates that two to three obols per day was typical (Loomis, 1998, 35), meaning that leasing slaves for the cost of one obol net profit per day plus maintenance costs would have been a bargain for Sosias, who would have been able to pay about half the rate of free labor for these slaves.

[586] Rosivach, 1994, 102-3, e.g., has suggested that long-term local monopolies existed for the animal breeders who supplied victims to certain sanctuaries. Monopolies secured through the help of the state or for the state itself are also well-attested for ancient Greece, for which see Gabrielsen, 2011, 216-50. Some examples of monopolies include the case in which Byzantium sold right to change money to a single bank (ps. Aristotle, *Oikonomika* 1346b), and the state-owned monopoly on lead from the Laureion mines proposed by Pythocles of Athens (ps, Arist. *Oik*. 2 1353a).

[587] *Para* is used in this passage for this deposit, and perhaps means that this man was a banker. See Cohen, 1992, 122-23 for *para* used for deposits with bankers. It is used at Dem. 27.11 for 70 minae deposited for maritime loans with Xuthus, and Demomeles, and also for a deposit left with the banker Eumathes in Isaeus fr. 18.

> Nevertheless, he made a hundred talents on his original fifty. And so, when Dionysios heard this, he ordered him to take his money away, and certainly not to stay in Syracuse, since he was discovering ways and means that were detrimental to his own affairs. This spectacle was the same as that of Thales, for both men had devised a way to secure a monopoly for themselves. (Aristotle, *Politics* 1259a, 23-33).

The story of Thales may be apocryphal, though the ironic motivation for securing his monopoly may have been invented *post factum* to better suit his status as a philosopher. As for the Syracusan man, on the other hand, there is no reason to disbelieve its truth, and it is of little surprise that Aristotle calls the attempt to secure of monopolies a universal principle of business,[588] since this Syracusan made 200% profit, 100 talents, on his 50 talent investment. Thus, securing timely, opportunistic monopolies was known to have occurred in ancient Greece.

Unfortunately, it is not certain whether Nicias was trying to build up a monopoly in the supply of slave labor, but the fact that he owned so many slaves which he rented out suggests that he did own a huge share of this market. Moreover, Hipponikos' army of 600 slaves, and Philemonides' of 300, both show that the mass rental of slave laborers in the Laureion region was profitable enough to be emulated on a mass scale, in which one could choke out competition through large quantity and low prices, and secure a steady stream of cash through monopolizing local markets for labor. Flooding the market with cheap slave labor would have had the effect of

[588] ἔστι δ' ὥσπερ εἴπομεν, καθόλου τὸ τοιοῦτον χρηματιστικόν, ἐάν τις δύνηται μονοπωλίαν αὑτῷ κατασκευάζειν. "And this is a general sort of thing in money-making, as we have said, if someone is able to secure a monopoly for himself." Aristotle, *Politics* 1259a, 19-21.

dropping prices for labor, and driving out competitors, especially small-time slave labor lessors and free wage laborers. Therefore, grabbing a large share of the market would have enabled these large-scale slave owners to get control over this particular market and achieve oligopoly or local monopolies.

The rate of return on these slaves would have been tremendous. Even at the rate of an obol net per day,[589] each of these slaves would have brought in 60 drachmas per year, about the third of their original purchase price.[590] To be able to pay for themselves in a period of three years made such slaves extremely profitable investments, bringing in a net profit of 30-33% of their capital value per year.[591] As seen above in Chapter 4, these profit rates are well above even what Benjamin Graham considers "special situations", those long-term investments that yield 20% annually. For Nicias to have so much of his money invested in these slaves, 33 talents' worth if they were 200 drachmas apiece, demonstrates a clear intent to invest a high proportion of his wealth in high- profit -generating slaves.

These slaves would have therefore amounted to one one-third of his entire fortune, a significant investment that would have amounted to diversification. Compared to prospecting in mines, this army of slaves seems to have been a steadier, lower-risk investment as a way of guaranteeing a steady profit from a more reliable source. Slaves were not always a low-risk

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[589] The obol per day was said by Xenophon to be net profit "ἀτελής", Xen. *Poroi*, 4.14-15. This is also how Demosthenes' father's profits from his factories are described (Dem. 27.9).

[590] For the price of the average slave, which was around 175-200 drachmas, see Pritchett and Pippen, 1956, 276.

[591] Osborne, 1995, 34, agrees.

investment, particularly those who worked in the mines who would be liable to run away or get sick and die, but because their contract stipulated that Sosias return the same number of slaves to Nicias at the end of each day meant that their agreement offset some of the risks inherent in owning mining slaves. Therefore, they were a lower-risk investment than mining that was still highly profitable regardless of Nicias' fortunes in his own mining operations, and as such represent a move to diversify to reduce risk while still maintaining high rates of profit. Thus, these slaves can be seen as a long-term profit-maximizing investment which could pay themselves off in only a few years and which could yield large amounts of cash on a regular basis. Therefore, Nicias seems to be an example of a long-term profit maximizer in his approach to his mining operations, his leasing of slaves, and his estate management overall.

In any case, it seems that Nicias' mining properties and slaves were so profitable that he continuously expanded their operation to secure greater and greater profits. And so, Nicias and his heirs represent an almost certain example of individuals choosing to enter and remain within a highly profitable field which enabled them to secure huge profits on a long-term basis. The choice to remain within mining is indicative of a consistent and continuous process of choice of the economic activity which would bring in the greatest possible return in the long-term. The concentration of wealth by Nicias in the mines and their subsequent decline in value reveal an all-in approach to estate management.

Lakkoploutos, "pit-wealthy", was how Kallias II, son of Hipponikos, was known, supposedly because he had gotten rich from discovering a cache of Persian gold in a pit following the battle of Marathon. [592] The *phthonos* (jealousy, envy) in this story is unmistakable, however, and it seems rather that this story was made up by elite rivals who were jealous of his wealth: Kallias was πλουσιώτατος Ἀθηναίων, "the richest of the Athenians",[593] so much so that centuries later Plutarch still called him "Kallias the Rich".[594] Indeed, the aristocratic bias against him and the true origins of his wealth are summarized succinctly by Cornelius Nepos: non tam generosus quam pecuniosus qui magnas pecunias ex metallis fecerat, "he was not as well-born as he was rich, since he made his huge fortune from the mines".[595] He is said to have been worth over 200 Talents ,[596] and seems to have been so successful in his lifetime of mining operations that his son Hipponikos was also himself described as *omnium Graeca lingua loquentium ditissimus*, "the wealthiest of all who spoke in the Greek language."[597] Therefore, it seems that the nickname, *Lakkoploutos*, actually refers to the mines that made Kallias wealthy, not the discovery of Persian gold, which was probably a false etymology attached out of *phthonos*.

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[592] Plutarch, *Aristides* 5.6. For this family's wealth, see Davies, 1971, 260-1. That Kallias I, son of Phaenippus and grandfather of Kallias II, is said to have been the only person who was willing to buy Pisistratus' property when he was banished from Athens (Hdt. 6. 121), shows that the family had money even before the mines, enough perhaps to enable horse-breeding during the sixth century (Hdt. 6.122, though this passage is considered to be an interpolation, for which see How and Wells, 1912, *ad loc*.).

[593] Plutarch, *Aristides* 25.4.

[594] "τὸν πλούσιον", *Pericles* 24.5.

[595] *Cimon* 1.3.

[596] Lysias 19.48.

[597] Nepos, *Alcibiades* 2.1; Hipponikos is also described as the "wealthiest of the Greeks" in Andocides 1.130, and Isocrates 16.31.

The evidence is sparse, to be sure, but the implications seem clear: mining provided wealth for Kallias and his son Hipponikos and both concentrated their wealth in this industry in the long term because it was so profitable. As noted above, Hipponikos himself may have also tried to secure a local monopoly on slave labor.[598] To become the richest person in the Greek world by one's own efforts is not an achievement to be dismissed lightly, and for a family to become so fantastically wealthy and famous from mining was probably the result of a concerted, long-term effort to build this fortune.

Hipponikos' own son Kallias III was also said to have been extremely wealthy when he inherited his wealth, but at his death in 387 was found to have been worth only 2 talents,[599] and was forced to play the part of the "begging priest" later on in life.[600] He owned property in the Laureion mining region at Nape in 367/6,[601] but otherwise his family's mining wealth seems to have disappeared. As for the collapse of the family fortune, the only plausible explanation in the absence of any other evidence seems to be that their mining properties dropped precipitously in value following the Spartan occupation of Deceleia in 413, and the almost complete abandonment of the Laureion mines for the next half century.[602]

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[598] As Xenophon, *Poroi* 4.15, says, he also had an army of 600 slaves which he rented out in the Laureion mining region.

[599] Lysias 19.48.

[600] Aristotle, *Rhetoric* 1405a19-20.

[601] Crosby and Young, 1941.

[602] Davies, 1971, 261. The devastation of the Laureion mining operations in the Peloponnesian War is well-documented. The Laureion mining region seems to have become almost entirely unused, with very little to no evidence for mining from the late fifth century down into the second quarter of the fourth century (for which see Mussche, 1996, 62-64, on Thorikos, the major mining town in the Laureion district, where the evidence for mining at the end of the fifth and beginning of the fourth century is almost absent).

Therefore, it seems that Kallias and his son Hipponikos had concentrated all or a majority of their wealth into the mines at Laureion and that they both pursued the profits from silver for their entire lives.[603] This seems to be good evidence for long-term profit-maximization, though the precise manner in which they ran their estates will never be known. Thus, Kallias and his son Hipponikos seem to have been perceptive enough to take advantage of new opportunities for profit and investment in the Laureion region. The investment in the 600-slave army also probably demonstrates a desire to constantly reinvest the profits from mining in productive form, slaves who could equally mine for the master or be leased out for profit.[604] The choice to expand his slave holdings continuously reveals a strategy that is simultaneously oriented towards ever-expanding profits as well as flexibility, as seen in the case of Nicias.

In conclusion, Nicias' and Kallias' families seem to have made and lost fantastic fortunes through specializing in silver mining. Long-term specialization in this highly profitable field was practiced by each family for multiple successive generations, to the point that their fortunes seem to have collapsed after the Peloponnesian War due to their excessive concentration in this one industry. Even their diversification into the supply of slave labor seems to have suffered the same consequences as excessive specialization. The decision to concentrate in a single highly profitable field for multiple generations even after a collapse in fortune seems to be indicative of

[603] Kron, 1996, 171-2, agrees.

[604] It would have been extremely difficult to acquire such a large number of slaves at a single moment, and therefore these large slave armies are most likely the result of a long process of continuously expanding their numbers. Xenophon's testimony that this continuous expansion is the pattern for mining slave owners is good evidence that Nicias, Hipponicus, and Philemonides were gradually adding to the numbers of their slaves over time and not acquiring them all at once.

a long-term profit-maximizing strategy. Nicias even made an extremely expensive investment in an expert slave manager of his mining operations in order to ensure the highest returns possible.

Moreover, Nicias' and Hipponikos' decision to acquire vast numbers of slaves to work in the mines may be indicative of their attempts to acquire the advantages of economies of scale, in which all aspects of the productive process are subsumed under their ownership. Alternatively, the acquisition of these slaves may be indicative of a move to a lower risk portfolio by acquiring lower risk properties, the opposite of the decisions made by diversified estate owners examined above in Chapter 4. These slaves were probably acquired for their own mining properties, but then their owners' flexibility and desire to maximize the returns on their slaves' labor seems to have led them to continuously expand these holdings in the long run. Increasing the number of these slaves simultaneously would have reduced risk by means of diversification into a lower risk property while also maintaining the high rates of profit that they are attested as having made.

Finally, they may have been able to secure local monopolies on the labor supply market in their respective regions, which would demonstrate yet another layer of strategy decision to invest in these slaves. Perhaps their goal in constantly reinvesting their surpluses in the acquisition of new slaves reveals that they were, in fact, trying to secure monopolies in slave labor, in which case these slave armies provide intriguing insight into some of the business strategies otherwise lost from ancient Greece. The desire to constantly reinvest surpluses in additional productive property certainly seems to be evidence for a long-term profit-maximizing strategy, particularly in the rates of profit that these slaves would have brought, and in the reduction of risk that would have resulted.

III. The silver rush in fourth-century BCE Athens.

Since news would have spread so quickly in Athens,[605] the successes of such individuals as Kallias and Nicias would have inspired others to try to strike it rich in the mines as well. Xenophon describes the mines at Laureion as inexhaustible, and mentions that more and more individuals were being drawn to them every day.[606] The archaeological record reveals an explosion in activity in southern Attica during the fourth century, when a large number of new mining and processing installations were built,[607] and even remote regions like the deme of Atene that were previously sparsely populated came under intensive cultivation.[608]

In its psychological impetus, this silver rush may resemble modern gold rushes, and perhaps even the rush to invest in the stock market in the early twentieth century and the housing market in more recent years. In the modern world, such a phenomenon of mass entry into a field based on the desire to repeat the successes of others has been described as "irrational exuberance" by behavioral economist Robert Shiller, since it is based on the (in hindsight) unrealistic expectation that one will be able to succeed in a field which is flooded with investors and whose prices have ballooned to unnatural and unsustainable levels.[609] To an individual unversed in macroeconomic theory trying to get the most return for his drachma, however, the

[605] Ober, 2008.

[606] *Poroi* 4.2-6.

[607] For the increase in archaeological sites in the fourth century in the Laureion region, see, e.g., Lohmann, 1993; Goette, 2000; Jones, 1982; Kakovogiannis, 1982; Young, 1956.

[608] Lohmann, 1993.

[609] Shiller, 2000.

successes of others in the mining industry would have been a type of information on the potential profitability of a field. Even those who do know economics will try to beat the market,[610] and the huge speculative bubbles that are known from the early modern to the modern world, the Tulip bubble in Amsterdam, the South Sea Company stock bubble,[611] and the more recent stock market and housing bubbles are all analogous to the silver rush in classical Athens, in which large numbers of investors entered a field to strike it rich, many of whom eventually saw their fortunes collapse. Therefore, the Athenian silver rush, based as it was on the desire to strike it rich following the example of others, was driven by the same psychological forces that created modern speculative bubbles.[612]

Indeed the huge fortunes that were made do seem to have motivated many others to enter mining; silver prospecting was open to a wide range of the population since only a small capital investment was required. Kirsty Shipton has shown that the low prices of mine leases in the *Poletai* records meant that the possibility of engaging in prospecting was open to a large section of the Athenian population.[613] The vast majority of the attested mine lessees are not known to be

[610] See Graham, 2003 [1973], for frequent reference to individuals who try to "beat the market" in the contemporary US.

[611] For the Tulip Bubble which gripped Holland during the 1630s, see Goldgar, 2007. For the South Sea bubble, see Dickson, 1967, 90-156. Paul, 2011; Dale, 2004. For the South Sea Company in general, see Smith, 2003 [1776], 945-7.

[612] There may have been bubbles that occurred in the ancient world, as well, which have not been studied systematically. For example, the rental market for estates at Hellenistic Delos, which I discussed above in Chapter 4, saw lease prices skyrocket rapidly, because of increasing demand. Moreover, Pliny the Elder, *Natural History* 13.29, recounts a certain "mania for tables" (mensarum insania) made of citrus tree wood from Mount Atlas which seized the men of Rome during the late Republic, describing the meteoric rise of prices, from one million to one million four hundred thousand sesterces, worth as much as entire Roman *latifundia*: "latifundii taxatione".

[613] Shipton, 2000.

members of the liturgical class and should be considered to be of the lower or middle wealth strata.

Vast fortunes were made in the high-risk field of mining by a number of Athenians. Euthukrates, for example, is said to have made 60 talents from mining.[614] Another man, Diphilos, is said to have made more than 160 Talents from mining, even more than the property of Nicias.[615] Even more astounding is the Epikrates who seems to have made 600 Talents from mining![616] There were also a large number of families which seem to have been raised into the ranks of the liturgical class through their mining efforts,[617] and so the mines of Laureion were so profitable that they were even a major source of social mobility in classical Athens. Though some of these figures might be exaggerations, they nonetheless communicate the scale at which Athenians expected fortunes from mining to be on, and are comparable to the fortunes owned by Kallias and Nicias.

Nor was it only in Attica that huge mining fortunes were made. The legendary wealth of archaic Siphnos was derived from its mines,[618] which were exhausted before the classical period. The mainland mines owned by Thasos brought in 200-300 talents of public revenue every year,

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[614] Hypereides, *Euxenippus* 4.34; Kron, 1996, 203.

[615] [Plut.] *Lives of the Ten Orators*. 843 d4-e1.

[616] Harpokration, s.v. *Epikrates.* As Davies, 1971, 182, demonstrates, this is likely the same man who made 300 talents from an unregistered mine (see below).

[617] See “*nouveaux riches”* section below.

[618] Hdt. 3.57.

not including what private individuals were getting.[619] It is likely that the private wealth made from just these mines was well over the 200 talents a year that went into the public coffers. With just the public share of the great silver strike of 483 in Attica, a fleet was able to be built. Silver mining profits were massive, and as Xenophon said, down to the mid-fourth century, at least, there was no sign that the profits to be reaped were slowing down in any way. Rather, increased expansion and exploitation characterized the workings of mines in the fourth century.

Although conclusions from the use of statistics in the evidence from the *Poletai* lists are extremely tenuous and must be used only with great caution, Errietta Bissa has argued for a number of general patterns in the exploitation of the mines and the ownership of mining properties which agrees with the observations on the balancing of risk and profit made above.[620] The poorer classes seem to have concentrated in prospecting, whereas the elite were more likely to concentrate their wealth in land, ore washeries, and cupellation furnaces than in just mining alone.[621] The reason for this is clear, since the processing and service properties preferred by the elite all required large capital costs, whereas prospectors could buy tools and a mining concession relatively cheaply, and could rent housing and slaves. Thus, it seems that many of the elite preferred to provide food, shelter, ore-processing facilities, cupellation, and slaves (such as those of Nicias, Hipponikos and Philemonides). This was indeed a lower risk approach, as Bissa shows, since the odds of profiting from prospectors needing food, shelter and slaves was better

[619] Hdt 6.46.

[620] Bissa, 2008. For other patterns of land exploitation and leasing in the Laureion region, see Osborne, 1985, 111-226.

[621] This is in line with the conclusions reached by Lohmann, 1993 on olive cultivation in fourth-century Atene expanding to cater to miners in Laureion.

than the chances of a single mine being productive. Therefore, many wealthy individuals preferred to choose the lower risk but still steadily profitable provision of services to miners.

Perhaps another risk-reducing measure can be seen in the fact that, as Hyperides states, many of the wealthy shared highly productive mines.[622] Mine owners seem to have spread their attention between different mines, some such as Thrasylochus of Anagyrous, who in 367 leased one mine for 1,550 dr, more than a quarter of a Talent, and another for 150 drachmas.[623] It seems that the variation in price was based on the mine's known productivity, meaning Thrasylochus chose to invest in one high-risk and one low-risk mine, making his risk balanced by combining a costly but successful with a cheap but uncertain mine. Thrasylochus seems to be have put most of his money into a sure return, while at the same time also risking a small portion in exploring a mine with greater uncertainty of return, but greater potential rewards.[624]

However, although many must have tried to balance or minimize their risk in their mining operations, the primary motivation to invest in the silver mining industry must have been profit, first and foremost.[625] A single property in the mining region would have been perceived as being able to yield much greater profits than renting out a house or agricultural land.

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[622] Hypereides, *Euxenippus* 4.35 ὃ ἠργάζετο μὲν ἤ[δ]η τρία ἔτη, μετεῖχον δ’ αὐτοῦ οἱ πλουσ[ιώ]τατοι σχεδόν τι τῶν ἐν τῇ πόλει. As Xenophon, *Poroi* 4.28-29 states, sticking with older, proven mines was a way to avoid the risks of complete loss that might come with an entirely new cutting.

[623] Shipton, 2000, 97 (table #1.4, and 1.6).

[624] This coincides with the recommendations made by Hesiod and pseudo-Aristotle not to risk all one's livelihood on high-risk ventures in the pursuit of profit, for which see my discussion in Chapter 2, above.

[625] Since there is no indication that silver mining *per se* brought honor and respectability, it must be concluded that profit was the primary motivation for entering this field. The wealth made from mining could bring honor and respectability, but devoting oneself to mining was probably not an end in itself.

Demostratus, whose family owned one such smelting oven in the Laureion region, exemplifies how specializing in a specific stage in the silver production process could raise a family out of obscurity into the liturgical class.[626] Thus, if a single smelting oven could enrich a family to the point of becoming liturgists, it would also be able to supplement an elite citizen's wealth handsomely as well. Indeed, as the low number of ore-processing facilities relative to mines and mine lessees demonstrates, each ore washery and smelting furnace would have served a large number of mines, and so would have been able to guarantee a relatively steady supply of customers for their services, amounting to a relatively reliable, steady return of profits. Also, Bissa notes that the profits from ore-processing would have been less visible to the state than those of agricultural fields or livestock, and so would have perhaps enabled their owners to hide their revenues from such properties, making them very attractive to wealthy individuals keen on avoiding liturgical demands.[627] Such a feature of mining properties would have added a further benefit far preferable to other types of *phanera ousia*.

Concerning the actual ore-processing operations, Paul Christesen has identified profit-maximizing techniques in the smelting of silver ore of the Laureion region. He begins with Conophagos' detailed chemical analysis of the lead-silver content of the Laureion ore and the costs associated with removing the silver, in which melting uncrushed ore would only yield 9 drachmas per ton, and the same ton of pre-crushed ore would yield 32 drachmas.[628] Thus, the ore-washeries which are so prevalent in the Laureion region, in which ore was crushed down to the size of 1 millimeter grains, were a sign that Athenian miners had succeeded in maximizing

[626] Davies, 1971, 139 (#3623).

[627] Bissa, 2008, 272.

[628] Christesen, 2003, 44-45, citing Conophagos, 1980.

the profit which they could yield from their ore. Indeed, the high lead content of the slag from the Laureion region is a sign that cupellation furnaces were being operated with the least amount of fuel possible, and in the firewood-bare southern regions of Attica, saving money on fuel would have resulted in greater profits than burning the extra fuel needed to squeeze every last drop of silver out of the ore. By crushing the ore before smelting, the costly fuel which was needed to run the fires would have been reduced dramatically, so much so that the savings would have more than covered the costs for maintaining such installations and the slaves who manned them. Therefore, innovation in the techniques of ore-preparation and cupellation resulted in the maximization of return from the silver ore.[629]

Furthermore, although many individuals probably tried to balance their profit-seeking with risk-reduction, mining also attracted some of the most reckless high-risk, high-profit seeking individuals in all of Athens. The aforementioned Epikrates who was decried by Lycurgus is probably to be identified with the Epikrates of Pallene who was charged with boring his own mine outside of its legal confines boundaries and may have made 300 talents in three years from this mine alone.[630] A certain Euthykrates seems to have made his 60 talents from

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[629] Innovations to increase efficiency and profits are unmistakable in the archaeological evidence of ore washeries from Laureion. From earlier examples in the early fifth century BCE that may have consisted only of a slanted stone floor (Mussche, 1998, 51; see also preliminary reports *Thorikos* 7, 40-110, and *Thorikos* 9, 12-62), to the most common fourth-century rectangular model, to the round, helicoidal ore washery found at Dimoulaki, innovation abounded in ore washery design. The familiar rectangular model was designed not only to sort lead-heavy from lighter stone quickly and continuously, but even to recycle water in the water-starved region of southern Attica. As Mussche, 1994, 211-215.), 214, states, after the highest-quality ores were mined in the Late Helladic period at Thorikos, trial and error was central to the innovation process of ore concentration; mining only became profitable again after the concentration (ore-crushing) process was discovered.

[630] Hypereides *Euxenippus* 4.35. The fragmentary nature of this passage makes it impossible to determine if Epikrates made the three hundred talents or if the “richest men” who had a stake in the mine made the 300 talents from it: φήναντος γὰρ Λυσάνδρου τὸ ᾿Επικράτους μέταλον τοῦ Παλληνέως ἐντὸς τῶν μέτρων τετμημένον, ὃ ἠργάζετο μὲν ἤ[δ]η τρία ἔτη, μετεῖχον δ’ αὐτοῦ οἱ πλουσ[ιώ]τατοι σχεδόν τι τῶν ἐν τῇ πόλει, ὁ δὲ Λ[ύσα]νδρος ὑπισχνεῖτ[ο τρι]ακόσια τάλαντα εἰσ[πράξει]ν τῇ πόλει τ[οσαῦτα] γὰρ εἰληφέναι

mining, and it may have been actually from illegal mining in an unregistered mine that he made much of his money.[631] The speaker of Demosthenes 42, *against Phainippos*, was another high-risk, high-reward miner who made a great deal of money from unregistered mine and was heavily fined as a result – for huge losses.[632] He says that he made a huge fortune in mining, and seems to have raised self into liturgical class through long-term specialization in extremely high-risk mining activities.[633] Philip and Nausicles said to have made their money from unregistered mines.[634]

These illegal miners and the great profits which they are charged with making are probably some of the best examples of profit-maximizing individuals, in that they decide to disregard institutional bounds in the form of social sanction and legal prohibitions in order to extract as much money for themselves as possible. The risks of being caught in engaging in illegal mining were enormous,[635] and to be willing to go to such lengths to secure wealth at the risk of citizenship indicates a mentality that was profit-seeking first and foremost. Though risky, these individuals clearly believed that concentrating in mining would maximize their profits.

ἀ[υτοὺς ἐ]κ τοῦ μετάλλου. The ἀ[υτοὺς that the editors have reconstructed at the end of this passage, referring to the antecedent οἱ πλουσ[ιώ]τατοι could also be read as ἀ[υτὸν, meaning that Epikrates was the man who had actually made the 300 talents from the mine. Therefore, it is possible that the 300 talent sum indicated by Lysander would have been the penalty for Epikrates alone and that he actually made these 300 talents, since Epikrates was the only one named as being indicted.

[631] Hyp. 4.34, Davies, 1971, 192.

[632] Dem. 42.3. Other individuals who are known to have engaged in illegal mining include Nausicles in Hypereides 4.34, and Davies, 1971, inv. # 10552 & 14384.

[633] See a discussion of this man in Osborne, 2002, 123.

[634] Hyp. 4.34.

[635] See e.g. the fines imposed on the speaker of Demosthenes, *Against Phaenippus*, and the prosecutions for illegal miners in Hypereides, *In Defense of Euxenippus*.

These individuals are, to be certain, extreme examples, but their actions reveal that the desire to maximize profits does characterize the behavior of some ancient Greeks. It was only the actions of those who broke the law that are preserved in the source material from ancient Greece, but this does not mean that their drive for profit was exceptional. Rather, they provide a window into the intentions of other law-abiding Greeks who invested in the mines as well, who were certainly far more common. Other Greeks in silver mining were also trying to make money, probably as much as they could, and as such these law-breaking individuals represent the most extreme manifestation, the tail end of a spectrum of profit-maximizing silver miners, most of whom acted legally. Indeed, as I will argue in Chapter 6 on maritime traders, it is often in the deals gone wrong that the best evidence for ancient Greek money-making strategies has been preserved, and although most Greeks would not break the law and risk their citizenship to make money, the actions of those who were willing to do so provides unparalleled insight into the overall aims of most ancient Greek miners: to make as much money as possible.

In the end, it seems that individuals such as Kallias, his son Hipponikos, Nicias, and many of the other high-risk miners who made tremendous fortunes from the silver at Laureion were likely long-term profit maximizers. Though the methods by which they themselves actually ran their operations will never be known, the aggregate evidence of high risk takers who concentrated all their wealth into the profitable mines fits the criteria for *homines oeconomici* who recognize that a specific field is more profitable than others and put all their money into that field to maximize their return. Moreover, even those who had an eye to risk management still seem to have been trying to maximize the returns they could achieve from their decision to enter this highly lucrative field. Furthermore, many of these individuals did so for their entire lives, indicating that they were concerned with long-term growth rather than just striking it rich and investing in land and comfortable retirement. Indeed, Nicias and Kallias at least seem to have so devoted themselves to specialized profiteering in the mines that the devastation of the Spartan occupation of Deceleia wiped out the vast majority of their fortunes. They did not stop once they made a sufficient amount of money to live in comfort, but even seem to have expanded their mining operations continuously until their fortunes collapsed. They kept their eggs in one basket and watched that basket, which allowed them to maximize their profits, but ultimately also destroyed their fortunes.

IV. Lysias' father Kephalos: manufacturing, market dominance, and an economy of scale?

In the field of manufacturing, I have already shown that Demosthenes' father's sword factory profits enabled his investment in money lending. He seems to have specialized in manufacturing before he made the move to diversify in loans. He certainly made a large fortune through his long-term investment in this workshop. The best evidence for long-term profit-maximizing strategies in the field of manufacturing, however, belongs to the Lysias' father Kephalos,[636] who moved to Athens during the *pentekontaetia*[637] and founded a massive shield factory.

[636] Davies, 1971, 587-90.

[637] This was the fifty-year period of Athenian imperialism and ascendancy prior to the Peloponnesian War.

Kephalos was persuaded to move to Athens by Pericles as his *xenos*, guest-friend. He was already wealthy when he left Syracuse.[638] He remained in Athens for thirty years,[639] and eventually became integrated with the highest segments of Athenian society,[640] even becoming a paradigm for the wealthy man in Plato's *Republic*,[641] in which he describes himself as being a money-maker (χρηματιστής) midway between his grandfather, who multiplied his wealth many times over (πολλάκις), and his father who decreased it. He himself is said by Plato to have increased his own inheritance, and to be content with leaving it a little greater for his sons (330b). His modesty as a money-maker, however, may be a Platonic invention, since his purpose in the dialogue is to articulate how money is seen as being useful to a wealthy old man on the verge of death (330d-331b). Since Plato's agenda in this work includes an attack on immoderate wealth-maximization (see above, Chapter 2), it can be safely assumed that he is exaggerating Kephalos' moderate attitude to wealth accumulation. Indeed, the family's wealth is said to have reached 70 talents prior to 404/3, making Lysias the richest metic in Athens.[642]

Whether he left Syracuse for the purpose of seizing an economic opportunity, or was forced to leave as an exile,[643] he eventually made the choice to build up and maintain a shield factory which eventually employed up to 120 slave craftsmen.[644] The choice to produce shields,

[638] [Plut] *Vitae Decem Oratorum* 835c.

[639] Lys. 12.4.

[640] Dion. Hal. *Lysias* 1.

[641] 328c-331d.

[642] *P.Oxy*. XIII, 1606, lines 30-155.

[643] [Plut] *Vitae Decem Oratorum* 835c.

[644] Lysias 12.19.

a much-needed product at a time of unprecedented demand during the *pentekontaetia* and the Peloponnesian War,[645] for the largest market in Greece, seems to be one which was calculated to provide a steady but also large return. Therefore, whatever his reasons for initially coming to Athens, Kephalos seems to have set up and maintained his shield factory for the purpose of securing long-term profit, maintaining it perhaps for thirty years until his death, whereupon he handed his factory over to his sons.

The fact that Lysias and his brother still operated the shield workshop after their father's death shows that both he and his sons were interested in the long-term operation and growth of this factory, a good strategy for long-term profit accumulation. Since Lysias and his brother were metics, resident foreigners, they were barred from owning land at Athens, and therefore maintaining the already successful shield factory was probably the wisest decision from a profit or wealth-maximizing perspective. Though they could have liquidated the property and reinvested it in other forms, the cost of doing so would be losing this profitable enterprise and risking all their wealth in less certain ventures.

It is unclear how many of the 120 total slaves confiscated by the Thirty Tyrants were actually employed in the factory (Lys. 12.19), but since no other major property holdings are listed, it seems certain that the majority of the slaves were involved in the shield factory. Since Lysias makes special note of the Thirty going to the factory to make a list of the slaves (12.8), and does not mention slaves being listed at any residence, it appears that the factory was the site

[645] Davies, 1971, 588, argues convincingly that Kephalos must have arrived in Athens no later than 451 BCE and died about 421.

of most of his slaves and that the factory slaves were numerous enough to need to be listed on paper. Even if each slave was worth as much as Demosthenes' father's most expensive slaves, 6 minae apiece (Dem. 27.9), then the maximum value of the slaves in Kephalos' factory would have amounted to 12 talents (72,000 drachmas), which is far below the total of 70 talents mentioned in *P. Oxy* XIII, 1606. Therefore, there may have been other property in the family aside from the shield factory, and this additional property seems to have allowed Lysias to aid the *polis* in the revolution of 403 by contributing money, shields, and maintaining three hundred men after he lost his workshop.[646] Since he was contributing shields after this confiscation, he may have had additional shield workshops, perhaps at Syracuse, his home city.

Even if it did not comprise all of Kephalos' property, the size of the workshop is much larger than the other workshops which are attested from ancient Greece, and so it cannot have been of insignificant value. In addition, Lysias' failure to mention any other items of comparable value confiscated by the Thirty indicates that the shield factory was the main component of the family's wealth. Lysias' father may have even attempted to establish an economy of scale[647] to capitalize on the advantages of increased production and market share. In the absence of other certain productive property, the five talents worth of cash confiscated by the Thirty may be an indication of the profitability of the factory.[648]

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[646] [Plut.] *Vitae decem Oratorum* 835f.

[647] For economies of scale, see North, 1986, 175-6; Clark, 1923; Young, 1928; Chandler, 1977, 281-3.

[648] Lysias, 12.19.

With a workshop of this size, it is difficult not to suppose that some sort of specialization of labor was used to increase efficiency, as is related for the well-known division of labor in a city shoe workshop in Xenophon's *Cyropedia*. According to Xenophon, a workshop as small as four could implement an effective division of labor in order to increase efficiency and make the best possible product:

> ἐν μὲν γὰρ ταῖς μικραῖς πόλεσιν οἱ αὐτοὶ ποιοῦσι κλίνην, θύραν, ἄροτρον, τράπεζαν, πολλάκις δ' ὁ αὐτὸς οὗτος καὶ οἰκοδομεῖ, καὶ ἀγαπᾷ ἢν καὶ οὕτως ἱκανοὺς αὐτὸν τρέφειν ἐργοδότας λαμβάνῃ· ἀδύνατον οὖν πολλὰ τεχνώμενον ἄνθρωπον πάντα καλῶς ποιεῖν. ἐν δὲ ταῖς μεγάλαις πόλεσι διὰ τὸ πολλοὺς ἑκάστου δεῖσθαι ἀρκεῖ καὶ μία ἑκάστῳ τέχνη εἰς τὸ τρέφεσθαι· πολλάκις δὲ οὐδ' ὅλη μία· ἀλλ' ὑποδήματα ποιεῖ ὁ μὲν ἀνδρεῖα, ὁ δὲ γυναικεῖα· ἔστι δὲ ἔνθα καὶ ὑποδήματα ὁ μὲν νευρορραφῶν μόνον τρέφεται, ὁ δὲ σχίζων, ὁ δὲ χιτῶνας μόνον συντέμνων, ὁ δέ γε τούτων οὐδὲν ποιῶν ἀλλὰ συντιθεὶς.

> For in small towns the same men make couches, doors, plows, and tables, and this same man also builds houses, and is happy if in this way he gets enough work to sustain himself. And so, it is impossible for the jack of all trades to do everything well. But in large cities, on the other hand, because of the great demand for each thing, one trade alone is sufficient for each man to live, and often not even a trade in its entirety. But one man makes men's shoes, and another, women's. And there are places where one makes a living just by stitching the threads of shoes, while another does only the cutting, another only trims the top coverings, and still

> another makes none of these parts but only fastens them together. And so, the man spending his time in the most specific work will also necessarily do this thing in the best manner.[649]

Therefore, Xenophon provides a valuable glimpse into the highly developed specialization of labor that existed in some of the large cities in ancient Greece, and the increased quality and efficiency that could come from such a division of labor within a single workshop. While there are no details about the operations in Kephalos' shield factory, because Xenophon describes how a shoe workshop of only four employees could achieve an effective division of labor, and that this type of specialization is typical of operations in large cities, it would not be too much of a stretch to suppose that a similar division of labor was achieved in Kephalos' much larger shield factory.

Although not approaching the large size of early Industrial Revolution late-eighteenth century woolen factories, which employed up to 8,000 workers as a time,[650] Kephalos' factory was certainly substantial in size. Adam Smith's famous discussion of a late-eighteenth century pin factory at the beginning of his *Wealth of Nations* is an appropriate examine. His observations of the undeniable advantages of the division of labor in this pin factory show how drastically productivity could be increased with a division of labor even with a workforce as small as ten, increasing production manifold:

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649 Xenophon, *Cyropedia*, 8.2.5.

650 Braudel, 1982, 330.

> I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day; that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.[651]

Therefore, Xenophon's observations on the division of labor within a fourth-century BCE shoe factory could easily be applied to a factory the size of Kephalos'. With up to one hundred and twenty workers, the benefits of achieving a division of labor with the large number of laborers could have approached those of an economy of scale, and perhaps could even aid in the creation of a monopoly.

Though maximization is impossible to measure, the size of the workshop demonstrates a desire to grow and expand, and could perhaps be suggestive of maximization in itself. Moreover,

[651] Smith, 2003 [1776], 11 (*An Inquiry into the Nature and Causes of the Wealth of Nations*, Book 1.1.3).

the volume of the production can be seen in the seven hundred shields which had been stockpiled at the factory to be confiscated by the Thirty (12.19). This is a large amount of capital to lay up, two and a third talents' worth at the price of shields attested from early Third-century Teos.[652] Such a stockpile is indicative of a strategy of continuous production in anticipation of future sale, perhaps in case of a military or political crisis, rather than production for orders. This stockpile of shields, along with the large number of slaves involved in the operation, is perhaps even suggestive of a strategy of continuous expansion, as in the case of Nicias and Hipponikos' slaves-for-hire, and is could indicate a desire to establish a monopoly or economy of scale. Unfortunately details are lacking, but it is likely that Lysias' father expanded his business over a long period of time in an attempt to secure profits, maybe even by dominating the market for shields in the most important market in the Greek world at that time. This is all speculative, but it is necessary to pursue the possibilities that this shield factory holds for economic strategies in ancient Greece.

At the very least, it seems safe to conclude that Kephalos' shield factory is a good example of specialization to secure long-term growth and profit, as well as the long-term maintenance of a profitable business beyond a single generation. This was clearly an extensive operation that was the result of a long-term commitment to grow and seize a large share of the market. It would have been important to have a large enough supply that if there were suddenly a rush to buy shields because of a sudden military or political crisis, the factory would have enough to weather the initial rush while the slaves made more shields. Since many Athenians

[652] SEG³ 958, line 31, quoted by Davies, 1971, 435 (quoting Pritchett, *Hesperia* 25 (1956), 307), preserves the price of 20 drachmas per shield, which is the best indication of shield prices at this time. 700 shields at 20 drachmas makes 14,000 drachmas.

would have already owned shields, this number may have also been made available for sale to foreigners. To have 700 shields stockpiled and over 100 slaves ready to build more is indicative of a desire to mass-produce to secure a large share of the market and be able to cash in at times of peak demand.

V. Bankers: high-risk specialization, and the attempt to diversify.

Euboulos of Bithynia was a mid-fourth century BCE banker who managed to secure for himself a tyranny over the cities of Assos and Aterneus, which he ruled first by himself, and then jointly with his slave and fellow banker Hermias.[653] It is not known exactly how banking enabled these men to become tyrants, but Fisher seems correct in saying that banking provided the means for upward mobility by which both Euboulos and the slave Hermias achieved their magnificent station.[654] Although most bankers in ancient Greek did not become tyrants, those who specialized in banking created some of the greatest fortunes known from that world.

Pasion the banker is perhaps the best-known businessman from ancient Greece,[655] and can provide excellent evidence for money-making strategies regarding a well-documented establishment. Although it is unknown how much money Pasion started with when he inherited

[653] For Hermias, see Strabo, 13.1.57, and Didymos *On Demosthenes* Col. 4, ll. 66-69 - Col. 5, 1-10, citing Theopompos *On Philip*, book 6. For detailed, up-to-date commentary, see Harding, 2006, 124-62.

[654] Fisher, 2008, 123-4. Fisher is also right that the claims that Hermias was a non-Greek eunuch may have been nothing but character denigration, and that the fact that he was a philosopher whose niece Aristotle wed, and also competed at the Panhellenic Games, suggests that he may have actually been Greek. Other scholars also believe that Hermias was Greek for other reasons, for which see Harding, 2006, 126.

[655] A full chronological survey of Pasion's bank and evidence for its function during the life of his son Apollodorus can be found at Isager and Hansen, 1975, 177-191 and 225-6. There is no evidence for the bank's functioning after the death of Apollodorus.

the bank from his own masters, by the time of his death it seems that he had amassed an impressive fortune, consisting of 50 talents lent out, probably at interest, and 20 talents of landed property.[656] However, of the fifty talents, eleven were actually borrowed by Pasion from the bank deposits against the security of his landed property and lent out at interest,[657] meaning that he had 39 talents of his own lent out, and eleven taken from bank deposits.[658]

Since it is unknown what the rates of interest were at which Pasion lent out his money, it is only possible to make very general observations regarding his moneymaking strategies. Nevertheless, the success of his operations can be seen in the fact that his own fame far eclipsed

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[656] Dem. 36.5.

[657] Dem. 36.6. The ἔγγειος οὐσία in 36.5 seems to be the γῆ and συνοικίαι in 36.6 against which Pasion borrowed the eleven talents from the bank. Davies, 1971, 431, also agrees that this is what his ἔγγειος οὐσία consisted of, pointing out that Pasion is known to have owned land in at least three demes (Dem. 50.8). Cohen, 1992, 130-34 tries to argue that the ἔγγειος οὐσία refers to loans on landed property in contrast with *nautika*. However, there is no evidence for these landed loans, and the existence of multiple *synoikiai* (36.6), along with landed property in at least three demes, seems to be what the ἔγγειος οὐσία is referring to. Moreover, that the ἔγγειος οὐσία excludes the ἀργύριον out on loan is even further reinforced by the πρὸς ταύτῃ in the δὲ clause, which refers to the feminine antecedent οὐσία: "in addition to this landed property, there was also his own money lent out, more than fifty talents". As Harpokration says in his definition of φανερὰ οὐσία, ἔγγειος οὐσία refers to visible property in contrast with ἀφανὴς οὐσία, which consists of cash and non-landed assets. Houses and land are summed up as φανερὰ οὐσία in Isaeus 8.35, after which loans are listed separately. Finally, the contrast between ἔγγειος οὐσία on the one hand and money on the other is very marked in Dem. 36.4-6; the former is included in a μέν clause, and the latter in a δέ clause. The examples in which the adjective ἔγγειος is used to refer to loans at landed interest is when it modifies a present or understood τόκος, such as at Dem. 33.3, 34.23, Lysias 32.15. The examples in which it stands by itself modifying οὐσία and clearly refers to landed property include: Dem. 30.30, 35.12, Xenophon *Symposium* 4.31, Plato *Rep.* 491d, 546a.

[658] 36.5: "ἀργύριον δὲ πρὸς ταύτῃ δεδανεισμένον ἴδιον πλέον ἢ πεντήκοντα τάλαντα. Ἐν τούτοις ἀπὸ τῶν παρακαταθηκῶν τῶν τῆς τραπέζης ἕνδεκα ταλαντ' ἐνεργὰ ἦν". It is not precisely clear what distinction was made between Pasion's personal loans and the deposits and loans that belonged to the bank. Apollodorus was only able to collect half of his father's outstanding loans twenty years after his death (see my discussion below), but the bank was able to keep operating nonetheless. Because Pasion was listed as owning eleven talents to the bank deposits (Dem. 45.29), there seems to have been some distinction made between his personal property and the bank deposits. On the other hand, Apollodorus tries to collect money that Timotheus borrowed "from the bank" (Dem. 49.4), and so he was also apparently responsible for collecting bank debts as well. It is possible that Apollodorus was misrepresenting or distorting the details in his presentation to the jury, but this is entirely uncertain. This is a difficult problem that requires in-depth investigation.

that of his masters and predecessors, and it should probably be assumed that he increased the total wealth of the bank significantly. He is known to have kept very detailed books,[659] and probably controlled the income and expenditures of the bank with great precision. To be able to amass such a large personal fortune shows that he must have made enormous profits from the bank and his own money lending activities. Moreover, to accumulate such a large amount of wealth suggests that he was acting in some sense to maximize his profits in the long-term over the course of his life. It would indeed be odd if he ran his business so meticulously and earned so much money without at least *intending* to maximize his profits.

He then seems to have invested huge amounts of his wealth in landed property, 20 talents' worth, a much less risky form than the banking and loans in which he had previously specialized. Nor is this to say that the landed property that he owned was entirely risk-free. In fact, much of his known ἔγγειος οὐσία consisted of *synoikiai*, apartment buildings or multiple residences,[660] one of which was worth 100 minae,[661] and another which was probably worth at least 2,600 drachmas since it was mortgaged for 1,300 by his son Apollodorus.[662] Therefore, he probably had at least two talents' worth of *synoikiai*, and possibly more.[663] Since *synoikiai* were

[659] Dem. 49.5, 52.3-6.

[660] Dem. 36.6.

[661] Dem. 45.28. This was left to his wife in his will as part of her very substantial dowry, which also included two talents in loans.

[662] Dem. 53.13.

[663] Perhaps also the *synoikia* inherited by Apollodorus in Dem. 36.33-35.

high-risk, high-profit properties,[664] it seems that these were acquired primarily for their profitability, rather than for their risk-buffering. In addition, it seems that he also owned at least two farms, one of which Apollodorus mortgaged for 3,000 drachmas,[665] making its value at around a talent. In addition, he may have owned Apollodorus' farm which was devoted to growing figs, olives, vines, and roses, all possibly grown for the market.[666] Therefore, the land he acquired was still productive and profitable while also functioning to reduce risk.

Finally, he also owned a shield factory, whose value was around 6 talents,[667] and which yielded a full talent per year in profits.[668] This could have made up six of the twenty talents listed as "*eggeios*" by Demosthenes, since it surely cannot be part of the 50 talents in loans. The fact that the shield factory brought in a full talent of profit a year shows that it was a very successful enterprise, and also suggests that Pasion may have been profit-maximizing its operation, but unfortunately these details are lost forever. Therefore, it seems that many of these landed properties, at least eight talents between the shield factory and known *synoikiai* alone, were highly profitable, and were not acquired just for risk-buffering.

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[664] Aulus Gellius attests that for Rome, urban apartment properties were highly profitable, but were also extremely risky. For an in-depth discussion, see Frier, 1980, 22-33.

[665] Dem. 50.13. See Foxhall's observation (2007, 114) that Apollodorus had olives and figs planted on this farm, though whether cash-generating or not is uncertain.

[666] Dem. 53.15-16.

[667] Davies, 1971, 433-4, estimates the total value at six talents by assuming comparable rates of return to Demosthenes' father's sword factory, and calculates the number of slaves, 60-70, who would have been worth approximately six talents if worth the same as Demosthenes' father's skilled slave workmen. Such estimates are, of course, of limited reliability, but are useful to provide rough, "ballpark" figures nonetheless.

[668] Dem. 36.11.

Of great interest is the fact that it was Pasion's choice to invest in these properties purchased after he became a citizen and had made his banking fortune.[669] Moreover, it is possible to determine the order in which he chose to acquire his various properties, as he seems to have purchased his shield factory from his banking and lending profits. The shields from this factory, then, helped him earn his citizenship, as it was awarded to him by the *demos* largely because of the gift of 1,000 shields which he gave to the state, along with the five trierarchies which he served at his own expense.[670] Based on the prices of shields from Keos in the early third century BCE, 20 drachmas, these shields would have been worth about 3 talents in total,[671] making this a significant act of benefaction. It is not known if Pasion was intentionally trying to gain his citizenship through his benefactions, but nevertheless he seems to have begun purchasing landed property once he received the ability.

Whatever the case, Pasion must have known that there would be tangible benefits to making the gift of 1,000 shields to the *demos*, and it is unknown what his precise motivation was for doing so, or what the market conditions were at the time for the sale of shields. In any case, he invested this stockpile of shields which he had at his disposal in political capital, and it ended

[669] On the other hand, it may be that some of these landed properties were acquired by him as a result of defaults on loans, but in any case he chose to hold onto them once they became his. It certainly seems that he was trying to diversify his property with the acquisition of these landed properties, and whether he was looking for security to offset some of his more risky money-lending and banking operations, or just looking to expand into other profitable fields is unknown. The alternative is that perhaps the market for money-lending had reached such a point of saturation that he needed to expand into other fields to avoid the costs of information gathering which would be required to continue to profit from money-lending. He may have reached a point of diminishing marginal returns from money-lending also, though this is just speculation. For an awareness of diminishing marginal returns in ancient Greece, see my discussion above, in Chapter 4.

[670] See Dem. 45.85, 59.2.

[671] Davies, 1971, 435.

up repaying him in the gift of citizenship and in the new opportunities for investment in land that this new status brought. This is definitely a productive use of property in the sense that it provides benefits other than just profit. Thus, he did not want his money to lie idle at a time when it could be invested productively,[672] just as when the general Timotheus approached him time and again to ask for loans. Demosthenes even explicitly says that Pasion preferred to help Timotheus with the expectation that his loan would be repaid both in money and in social and political favors and *charis*, rather than to hold onto an idle surplus of money.[673] Therefore, the opportunity cost of leaving money unproductive seems to have been an important consideration in these investments in political and social capital.

Thus, it seems that Pasion decided to invest in huge amounts of landed property after attaining his citizenship.[674] This choice of turning banking capital into land can certainly be seen as a risk-mitigating measure, and so it seems that he intentionally diversified his wealth in order to secure his money in investments which were more stable than banking. However, it is also true that the evidence for his new investments shows that the generation of cash and profit was still central to these properties as well.[675] The *synoikiai* and the shield factory were very profitable, and could bring in large profits on a regular, steady basis, along with cash-earning

[672] Pasion's desire to constantly keep his money engaged in productive activities is described by Demosthenes as "philergia" (36.5).

[673] Dem. 49.3.

[674] It may be that much of this land was seized as security for defaulting loans, as Pasion was listed as owing eleven talents to the bank because Phormion did not have his citizenship to allow him to seize land from a citizen.

[675] Shipton, 1997, 409-10 also comes to this conclusion.

landed properties to supplement and support the bank,[676] which remained his primary investment. He also may have invested in land because he wanted to guarantee the transmission of his property to his heirs, which was much more difficult to ensure with *aphanes,* invisible, wealth .

Thus, while keeping most of his money in the bank and money-lending, he then decided to purchase more stable landed properties, and eventually handed the business over to his own slave and protégé, Phormion, renting it to him for an annual fee so that he could retire and enjoy his newfound citizenship and landed property, having risen from a slave to be one of the richest men in the ancient Greek world. This fortune had been built through the systematic practice of money-lending, which he pursued from the profits he made from the bank for the years up to his citizenship. After he became a citizen, he still concentrated most of his fortune in loans, but he was also able to acquire less risky land, which he was able to pass on to his sons, along with their citizenship. Thus, via long-term profit-maximizing through the bank, he was able to gain his citizenship, and then acquired less risky land for himself which also brought leisure, respite from his labors, and *kleos* (fame and glory). Pasion went from higher risk during his career to lower risk at the end, the opposite trend seen in the diversified estate owners explored in my last chapter.

Phormion is less well-known than his master, but it does seem that he continued his own bank after returning Pasion's to his son, Apollodorus.[677] Therefore, he continued to work in the

[676] Shipton, 1997.

[677] Dem. 45.64-6; see Davies, 1971, 435.

field which had been so profitable to his master, and his own successes are well-attested.[678] Unfortunately, few other details survive from the rest of his own economic activity, but his continued entrepreneurial spirit can be seen in the fact that he came to own trading ships (πλοῖα), which were detained at one time by the Byzantines.[679] Thus, he continued to be actively engaged in both finance and commerce after he was operating on his own, and took a different route than that taken by his master Pasion, becoming directly involved in maritime trade. Therefore, like Pasion he expanded his holdings beyond the bank and money-lending to include different types of property, perhaps to diversify to reduce risk.[680] However, merchant ships themselves were not low-risk investments, since they were always subject to the weather and liable to sink, so his diversification consisted of acquiring an additional risky, highly profitable investment which could bring a large return. Moreover, since he was likely engaged in maritime lending already, it could be that Phormion was trying to gain control over an even larger share of the trading market by purchasing these ships, and was able to capitalize on the business contacts that he had acquired from Pasion in addition to those he had made himself. Perhaps like Nicias' army of slaves, these ships allowed him to expand into another area within a sphere of economic activity already well-known to him, one in which he could have made considerable profits given the extensive contacts he had already made.[681]

[678] Dem 45.54 & 72.

[679] Dem. 45.64.

[680] It seems that Phormion (listed as Phormion from Piraeus in IG I² 1672 (Clinton 177), lines 62, 212, and 227) also supplied wood to the temple at Eleusis in 329/8, for which see Clinton, 2005, 194.

[681] Many of the known maritime traders from ancient Greece also engaged in money-lending, for which see my discussion below, in Chapter 6. Phormion's knowledge of the field would have made this an informed decision, one in which he could have determined the potential profitability from an educated standpoint. From this perspective, there may be something of path dependence in determining the choice he made. It may have even been that he ran into limits to concentrating his money in money-lending and banking, that he had reached the limits of his share in

Nor were Pasion and Phormion the only bankers to expand their holdings beyond banking. Blepaios was another rich[682] citizen[683] banker[684] who bought the contract for the *poloi* (poles) and *empolia* (plugs) for the columns of the *Telesterion* at Eleusis.[685] Also, he gave a 20 minae productive loan for the purchase of mining concessions (ὠνήν τινα μετάλλων).[686] Thus, he seems to have been engaged in risky loans in banking and in the mines, as well as lower risk but still profitable contracts for temple building. The evidence from the leases of the lands of Apollo at Delos adds additional evidence that many individuals in banking tried to diversify their holdings as well, in which at least three individuals attested as bankers supplemented their income with other money-making activities.[687] Diactorides[688] was a banker who also diversified his cash-generating activities, having leased temple land and a foundry, both of which were

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this market, and so decided to continue the growth of his money in a more promising new field. In any case, if he was diversifying to reduce risk, he did so with high-risk, high-return investments, and this matches the pattern seen above of diversification by acquiring highly productive properties. Therefore, the risk-reduction in this choice of investment would have lain in the act of diversification itself and not in acquiring assets which were seen as low-risk *per se*.

[682] Alexis in Athenaios 6.241c, says Blepaios is a rich man, "ploutos".

[683] As Cohen, 1992, 70, n. 44, states, Blepaios is known to have attended the assembly (Dem. 21.215), and therefore must have been an Athenian citizen.

[684] Dem. 21.215, Kirchner, 2876, Bogaert, 1968, 81-2.

[685] IG II² 1675, line 32. See Clinton, 2008 (vol. II), 149

[686] Dem. 40.52.

[687] In addition to the two discussed above, Pistes (Kent #192), who was also a banker, also was the lessee of the Sacred Lake.

[688] Kent #74.

probably profit-oriented investments.[689] Antigonos, son of Charistios, seems to have been a banker,[690] and was one of the best-attested individuals in the temple accounts, also appearing as a lessee of the landed estate Sosimacheia, as well as a harbor tax collector who became indebted to the temple treasury.[691] This shows that he was concentrated upon cash-generating opportunities to such an extent that he ended up becoming indebted to the treasury at Delos as a result of the arrears due from the taxes. Such risky action suggests that he was trying to reap profits from as many different profitable sources as he could, taking such great risks with his money to become indebted. The competitiveness of the bidding for such leases at Delos, along with the attraction of such leases for individuals trying to profit from such opportunities, makes it seem that Antigonos was an opportunistic individual seizing these profitable investments to increase his wealth in whatever way possible.

Thus, the evidence indicates that bankers often diversified their holdings by engaging in other types of profitable, cash-producing enterprise in addition to banking. Many of these activities were less risky than banking, but they were also clearly chosen to try to make profit, first and foremost. The pattern is one of timely acquisition of profitable opportunities as they became available. Thus as with the diversified estate owners of Chapter 4, the desire to expand into other profitable fields is prominent, and though risk-buffering may be the primary motivation for diversification, risk aversion is not evident. Pasion’s purchase of merchant ships and Antigonos’ tax-farming are both examples of additional risky investments bankers made for

[689] For the eagerness to profit from the leases at the Temple of Apollo at Delos, see my discussion above, in Chapter 4.

[690] Kent #23; *Inscr. Delos* 455 fr. B line 18 records a contract deposited with this man, suggesting he may have been a banker: See Cohen, 1992, 122-23 for *para* used for deposits with bankers.

[691] *Inscr. Delos* 442 A 155, D 20.

the purpose of earning cash alongside the bank. The returns from ship-owning and tax-farming could be substantial, and as Antogonos' debtor status shows, he seems to have engaged in such high-risk behavior that he ended up being listed as a temple debtor.

Other bankers show a similar desire to expand into other cash-generating enterprises, but were unable to escape the ruin that resulted from their initial high-risk specialization.[692] Aristolochos,[693] for example, who had been a successful banker, was also a citizen who owned an unknown amount of land[694] and purchased Euktemon's bathhouse for a half talent (c. 363).[695] This was a profit-oriented investment,[696] and may be a sign of diversification in order to safely invest banking profits, to diversify into a field yielding steady profits to minimize risk, or to fight against diminishing marginal returns. Aristolochos acquired his land at a time when he already owed money to people, so it seems that he was using bank deposits to purchase other

[692] Hipponikos, son of Kallias II, who I discussed above in my section on mining, is perhaps described as having owned a bank at Andocides 1.130-31: Ἱππόνικος δὲ ἦν πλουσιώτατος τῶν Ἑλλήνων, τότε μέντοι πάντες ἴστε ὅτι παρὰ τοῖς παιδαρίοις καὶ τοῖς γυναίκοις κληδὼν ἐν ἁπάσῃ τῇ πόλει κατεῖχεν, ὅτι Ἱππόνικος ἐν τῇ οἰκίᾳ ἀλιτήριον τρέφει, ὃς αὐτοῦ τὴν τράπεζαν ἀνατρέπει. If Hipponikos was the wealthiest individual in all of Greece and owned a bank, then this means that he had entered into other money-making fields that yielded big profits, and was an even bigger money maker and profit maximizer than argued above in the discussion of Hipponikos and his father Kallias at the beginning of the section on mining.

[693] See Davies, 1971 (1946), 60-61; Bogaert, 1968, 72-3.

[694] An *agros* is mentioned in Dem. 36. 50. The fact that he was a citizen demonstrates that he did not enter banking because he was legally restricted from making other types of investment, but rather because he made the choice to do so, and probably because it was profitable.

[695] Isaeus 6.33.

[696] For the profits of bathhouses, see my discussion of Euktemon in Chapter 4.

investments, land in this case.[697] He thus seems to have been using high-risk banking investments to try to diversify into agriculture and lower risk investments.

Risk-averse, however, Aristolochos was not. He was so invested in risky banking that his bank eventually went under, and he lost all his own property around 349.[698] He had been prosperous,[699] but had apparently overextended his assets and went bankrupt. Even his land purchases were made on borrowed money, a tenuous base that was ultimately unable to sustain his money-making activities. He had been a member of the liturgical class and had served several trierarchies jointly with a certain Antidoros of Phaleron, who may have been his business partner in the bank.[700] If this is the case, then Antidoros seems to have anticipated or somehow insulated himself from his partner's collapse, as he himself continued to serve as trierarch after Aristolochos lost his fortune. Aristolochos was so devastated by high-risk banking that his son was still beset by creditors' lawsuits after his death.

Heracleides was another banker engaged in high-risk lending who went bankrupt and was forced to go into hiding.[701] Likewise, Timodemos and Sosinomos risked their property in the

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[697] ὁρᾷς τὸν Αριστόλοχον … ποτ' εἶχεν ἀγρὸν, εἶτα γε νῦν πολλοί· πολλοῖς γὰρ ἐκεῖνος ὀφείλων αὐτὸν ἐκτήσατο (Dem. 36.50). "You see Aristolochos … once he owned land, but now many people own it; for he was in debt to many when he acquired it."

[698] Dem. 36.50-51; 45.64.

[699] Dem. 45.63.

[700] See Davies 1971, 35-36 and 60-61. For partners in business sharing liturgies, see Harpocration on *koinonikon*: "τάχα δὲ καὶ περὶ τῶν ἑκούσιον κοινωνίαν συνθεμένων ἐμπορίας ἤ τινος ἄλλου, ὧν ἕκαστος οὐκ εἶχε τὸ ὅλον τίμημα τῆς κοινῆς οὐσίας."

[701] Dem. 33.9.

banking field, and lost it all to creditors when their banks failed.[702] The reason for this may be seen in a detail preserved about Sosinomos' business practices in Lysias fragmentary speech *against Aeschines*. Here, the untrustworthy Aeschines was able to secure a loan from Sosinomos at the crushing rate of 36% interest. This was the same Aeschines to whom it was "less safe to loan than to sail to the Adriatic".[703] Thus, it may be the increasing riskiness of lending that eventually ruined Sosinomos, as he seems to have been engaged in extremely high-risk and high-yield loans to persons of questionable credit. As I discuss in Chapter 6, it was difficult to establish whether or not a borrower was trustworthy, and lenders were forced to rely upon personal networks and word-of-mouth assurances in order to decide whether or not to lend to a certain borrower. Information imperfections, imbalances, deception, and even outright fraud characterized the world of ancient Greek commercial lending and borrowing, and those engaged in this trade on the open market often found themselves manipulated by borrowers. Lending to less and less reliable borrowers thus seems to have played a major role in the failure of Sosinomos, and it seems that many bankers in ancient Greece were destroyed because of their willingness to lend to riskier and riskier customers in an attempt to capitalize on the huge profits available in money-lending.

Thus, it seems that banking was a field in which individuals engaged in long-term profit-maximization. While some, such as Pasion, Phormion, Euboulos and Hermias were very

[702] Dem. 36.50-51: καὶ τὸν Σωσίνομον καὶ τὸν Τιμόδημον καὶ τοὺς ἄλλους τραπεζέτας, οἵ, ἐπειδὴ διαλύειν ἐδέησεν οἷς ὤφειλον, ἐξέστησαν ἁπάντων τῶν ὄντων. "And Sosinomos and Timodemus and the other bankers, who lost all their possessions when it was necessary to pay back those to whom they owed money." For Timodemus, see Davies, 1971, 505.

[703] See my discussion above, in Chapter 2.

successful, others were less fortunate, and were ruined by their attempt to cash in on the potential profits to be made in banking and money-lending. Bank failures seem to have been fairly common in ancient Greece,[704] as there a number of examples preserved in the extant source material. These men seem to have been willing to take greater and greater risks, possibly in a market which was dominated by individuals like Pasion, forcing others to advance further and further into the risky pool of potential borrowers passed over by more careful bankers. To engage in such high-risk behavior certainly reveals an intent to make as much money as possible for as long as possible, and so this was a field in which the most obvious long-term profit-maximizing *homines oeconomici* can be seen in the evidence from ancient Greece.

VI. Diodotos: specialization in high-risk, high-profit money lending.

As Aristotle says in his discussion of *chrematistike*, money-making, in Book 1 of the *Politics*, that using money to make more money enabled one to increase his profits without limit, and to an extent that was contrary to nature.[705] Indeed, money-lending was one of the most profitable activities in the ancient Greek world, and it should come as no surprise that some of the best evidence for profit-maximization in a specialized estate comes from the activities of the merchant who turned to systematic concentration in maritime lending: Diodotos from Lysias' *Against Diogeiton*.

[704] Bogaert, 1968, 523, believed that the numerous bank failures can be blamed on a widespread banking crisis that occurred in fourth-century Athens. Cohen, 1992, 220, however disagrees, and I believe that the bank failures were not the result of a single banking crisis, but rather occurred because banking was congenitally fragile by nature. Even banks in the modern world are extremely precarious and prone to collapse.

[705] See my discussion of this passage in Chapter 2, above.

Brothers of the same father and mother, Diodotos and Diogeiton divided up their parents' *aphanes ousia* and shared the *phanera ousia* between them, and Diogeiton asked Diodotos to marry his daughter after the latter had made a fortune in trade (32.4). When Diodotos was called up for military service, he wanted his wife-niece and children to be taken care of in case of his death, so he gave his brother his will along with a deposit (*parakatatheke*) of five talents of silver (32.5), and left his wife 2,000 drachmas and 130 Cyzicene staters (32.6). He also revealed to his brother his fortune of seven talents and 4,000 drachmas in bottomry loans, along with 2,000 drachmas owed to him in the Chersonese (32.6), which apparently yielded interest in the form of grain (32.15). He also had at least 100 minae lent at landed interest (ἐγγείῳ ἐπὶ τόκῳ), and perhaps 2,000 more drachmas in cash or loans (32.15). There was also furniture of great value, but the precise amount is never stated.

It is not clear exactly how much landed property was owned by Diogeiton and Diodotos, but they may have had a house at Collytus, north of the Acropolis (14), one in the Piraeus (8) in which they resided together, and perhaps one more in the city (8). Besides this, however, there is no evidence at all as to how much landed property they may have owned together and inherited from their father. It may not have been very much, however, since the speaker does not mention anything explicitly in the extant portions of the speech. However, he says that if Diogeiton had leased out the estate or transformed its value into land to nourish the children from its income, they would have been as rich as anyone in Athens (23). The implication of this statement is that the land which the family did possess was not enough to support the children lavishly, and so it must have been miniscule in comparison with the *aphanes* wealth, which is why it is never given any importance in the speech.

The fact that Diodotos and Diogeiton shared their parents' *phanera ousia*, coupled with Diogeiton's desire to marry his daughter to his own brother, suggests that the two brothers viewed their estate as a shared asset and perhaps even considered each other as business partners. Rather than dividing up the estate, they shared property and even joined through this marriage in order to keep their property together.[706] The statement that it was Diodotos' trading wealth which caused Diogeiton to give him his daughter in marriage may imply that they engaged in business separately with their own shares of the *aphanes* wealth, but the fact that Diogeiton also engaged in trade at a later time may indicate that he was also in the business. In this case, the speaker's attribution of Diodotos' wealth to his own efforts may be designed to make Diogeiton look even more despicable, in that he was stealing his *brother's* hard-won gains which he had no part in earning.

At the very least, Diogeiton picked up where his brother left off, and sent a cargo of two talents to the Adriatic (32.25), an extremely risky venture.[707] This reveals an extremely high-risk, high-reward mentality, to place so much of his wealth (approximately 1/7th of Diodotos' property) in a dangerous venture in the hopes of making a large profit. He was successful in his risk, as the cargo yielded double what he invested, making 2 talents, 100% profit, in this one transaction. To risk so much money in a single transaction suggests that Diogeiton was interested in making as much money as he could as quickly as possible.

[706] Todd 1993, 204-5, agrees that this marriage was probably made to keep the money within the family.

[707] As noted in Lysias, *Against Aeschines*, 4, sailing to the Adriatic was considered very risky: "οἱ ἐν τῷ Πειραῖει διάκεινται ὥστε πολὺ ἀσφαλέστερον εἶναι δοκεῖν εἰς τὸν Ἀδρίαν πλεῖν ἢ τούτῳ συμβάλλειν". "Those who dwell in the Piraeus think that it is much safer to sail to the Adriatic than to lend to this guy."

Indeed, it seems that Diogeiton was trying to profit as much as possible from his brother's money, since he did not let out the estate or purchase safer, lower-profit land with which to support his grandchildren (32.23). He preferred instead to double his money on individual trading transactions to the Adriatic. Thus, by not purchasing land for the support of his orphans or advertising the full extent of his brother's estate by allowing it to be leased, he was both able to avoid additional liturgical demands, and was also able to use the liquid cash of his brother on high-risk trading ventures to bring himself large profits. This approach is reminiscent of that of Stratokles in Isaeus 11, who raised himself into the liturgical class through the profits he made from administering the estate of Theophon (see above in Chapter 4). Diogeiton was even more greedy, however, since he was taking such huge risks with his grandchildren's patrimony, whereas Stratokles seems to have kept the estate of Theophon intact.

Since Diogeiton was either his brother's partner or picking up where he left off, it seems that the high-risk, high-reward attitude which he took in this trading venture also characterizes his brother Diodotus' trading strategies judging by the fact that he made so much money from maritime trade. From the property listed above, he had 7 talents, 40 minae in bottomry loans, 2000 dr. lent in the Chersonese, and 100 minae also lent at landed interest; in addition to this, he left five talents in cash with his brother, and perhaps also 2,000 drachmas in cash and 130 Cyzicene staters for his daughter. The total of this wealth is 15 talents, not counting the Cyzicene staters, more than half of which, 51 percent, was engaged in bottomry loans. The enormous amount of money in bottomry loans suggests that maximization of profit was central in Diodotos' mind.[708] None of this money had been invested in land, and a much smaller sum (13

[708] As will be shown in Chapter 6 on maritime trade, maritime loans were some of the riskiest forms of investment in Ancient Greece, both for the risks of shipwreck and for the risk of being duped by an unscrupulous trader who could

percent) was lent on landed interest, so it seems that the extremely high rates of return from bottomry is what Diodotos most wanted. He therefore made the choice not to acquire additional land or *phanera ousia*, and to concentrate his money solely in the high risk worlds of maritime trade and lending.

However, he also left 5 talents in cash as a deposit for his brother; counting this deposit and the money left to his wife in cash, just over a third of his estate was not productively invested at the time of his death.[709] However, as was the case with Demosthenes the Elder above, the estate composition left by Diodotos at his death cannot be considered typical of his normal preferences for investing his wealth during his lifetime. He had been conscripted for military service and had time to arrange his affairs for his family in the case of his death, leaving the money as a deposit in cash that was explicitly said to be for the care of his family. It had been intentionally set aside at that particular time. Therefore, this was not money hoarded unproductively in the house, but was probably taken from some other use and then applied to this special purpose.

Thus, the 64 percent of his estate engaged in interest-bearing loans must be considered an absolute minimum for his normal practice in his lifetime. The five talents which he gave to his brother may have been engaged in additional bottomry loans, landed loans, or some other type of

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leave town with one's money and never return. Some people did engage in the higher-risk taking of opportunities in the open market, such as perhaps bankers, who may have acted as a risk-buffer for those investing in bottomry loans. By taking on the risk themselves, these banker/brokers are an interesting example of individuals engaged in very high-risk, high-reward profit-maximizing behavior. Rather than insulating themselves from risky opportunities through social networks, many of them seem to have engaged in such high-risk behavior to try to take advantage of any potentially profitable opportunity available.

[709] Millett, 1991, 169-70, has interpreted this cash as being a sign that he either could or would not engage the full extent of his wealth in productive activity.

productive enterprise.[710] It may have also been acquired through trading transactions, perhaps recently gained from a trading enterprise, as with the four talents which Diogeiton received in hand when his profits had returned from the Adriatic. Therefore, this cash was most likely engaged in some other type of productive activity during his lifetime, and was not hoarded because it could not be put to any purpose. Indeed, the ease with with Diogeiton was able to invest two talents in a single cargo load dispels any notion that perhaps Diodotos had not been able to invest this money productively. Indeed, the fact that he had two talents invested in landed loans shows that he was keenly aware of a wide variety of opportunities and could easily find a place to put his money to some productive use if he wanted.

Like Nicobulus in Demosthenes 37 *against Pantaenetus*, who was another maritime trader turned money-lender and invested his profits in a 45 minae loan on a mining property, Diodotos seems to have engaged in non-maritime loans to keep a large part of his money productive during the sailing offseason. If he had only engaged in bottomry loans, there would have been a significant portion of the year in which his money was sitting unproductively. Therefore, both men seem to have been open to other investment opportunities to keep their money as engaged in income-generation as possible.

The money whose use is known suggests that Diodotos would have had this money engaged in productive activities. Of the 9 talents and 40 minae whose use is known, 79 percent

[710] Without a full portfolio of his investments during his lifetime, it will be impossible to guess how he would have mobilized the huge amount of cash left as deposit for the care of his family after his death. This may have been engaged in further maritime loans, landed loans, or perhaps *phanera ousia*, but this will never be known. In any case, he is explicitly stated to have liquidated these assets for the express purpose of providing for his wife and children, and so the huge sum of unproductive cash left behind after his death cannot be taken as evidence for normal practice during his lifetime. Rather, the remainder of his wealth, invested in productive investments, should be seen as the typical way in which he chose to engage his money during his lifetime.

(46,000 drachmas out of 58,000 drachmas) was invested in high-yield, high-risk bottomry loans. This figure is probably much closer to the amount of Diodotos' wealth which was engaged in profit-maximizing behavior, though it may have been higher since the cash may have been engaged in high-risk trading transactions, as seen with Diogeiton. Indeed, it probably was engaged in high-risk activity since individuals are most likely to leave their safest assets to their widows and orphans,[711] and he already is known to have left two talents of landed loans for his family.

Since the portfolio which he left for his family was likely to have been the safest form into which it could be transformed, it must be concluded that his high-risk productive use of his wealth was probably higher than the 64 percent of which the maritime loans at his death actually consisted. Therefore, Diodotos seems to have preferred to invest as much of his money in high-risk, high-reward bottomry loans and trading ventures as he possibly could. Moreover, since he seems to have built up his fortune over time through trade and was choosing to invest most of these proceeds into bottomry, it seems that this was the strategy which he followed over the course of his entire adult life. Thus, Diodotos seems to have attempted to maximize his profits on a long-term basis through specializing in high-risk maritime trade and then concentrating his wealth in bottomry loans after he had made much of his fortune.

Nor is Diodotos the only individual known to have concentrated his money in loans to such an extent. The huge percentage of loans in Pasion's estate has already been discussed above. Brothers Nausicrates and Xenopeithes left a huge fortune of at least 80 talents (Dem.

[711] Thompson, 1978, 406-7.

38.20), almost all of which was in loans.[712] Demosthenes himself seems to have learned from father, and hid his wealth in *aphanes* form,[713] specializing in bottomry loans.[714] He is said to have been one of the wealthiest Athenians,[715] and so the full extent of his money-lending must have been immense. Even more extreme is the fortune of the philosopher Zeno, who is said to have had more than 1,000 talents invested in maritime loans![716] Although this last example is probably exaggerated, the overall weight of these fortunes shows that there were a number of individuals who concentrated their wealth into money lending at high rates of interest. That such systematic lending is known to have existed from ancient Greece is highly suggestive of a strategy aimed at long-term profit-maximization via specializing in high-interest loans.

VII. The *nouveaux riches* in classical Athens.

Although it is impossible to prove for certain whether or not profit maximization was pursued by individuals in ancient Greece, it seems from the discussion above that many seem to have at least tried to do so, and perhaps even succeeded. The success of so many individuals in their business and household management allowed for huge fortunes to be amassed, and it is this

[712] τὴν οὐσίαν Ξενοπείθης καὶ Ναυσικράτης ἅπασαν χρέα κατέλιπον, καὶ φανερὰν ἐκέκτηντο μικράν τινα, "Xenopeithes and Nausicrates left their entire fortune in loans, and they possessed only a little visible property" (Dem. 38.7). See also Thompson, 1978, 405.

[713] He is said never to have owned any *phanera ousia* himself (Deinarchos, 1.70).

[714] Cohen, 1992, 128. He is said to have kept most of his wealth in bottomry loans (Hypereides, *Demosthenes* 17; Plutarch, *Comparison of Demosthenes and Cicero,* 3.6). Nevertheless, he did perform some public liturgies (Davies, 1971, 136-7), and so was not hiding all his money, at any rate.

[715] Deinarchos 1.111.

[716] Diogenes Laertius 7.13.

financial success which perhaps is the best evidence for long-term profit maximization in ancient Greece. Through concerted efforts at accumulating wealth, social and political upward mobility were possible in ancient Greece, and in Athens especially. The political and social rewards alone were incentive enough for a long-term profit-maximizing strategy, and many scholars have identified the emergence of a class of *nouveaux riches* in ancient Greece.[717] Individuals who achieve wealth and status through their money-making successes are attested as early as Theognis, who says that poor men can become rich very quickly,[718] and shows that at least some people advanced socially in archaic Megara through wealth acquisition. Moreover, Solon's establishment of property classes allowed for social and political mobility through wealth acquisition as far back as early sixth-century BCE Athens.[719] Many families seem to have accomplished the difficult task of raising themselves into the liturgical class or into higher Solonian wealth classes through specializing in individual fields of production in the long term.[720]

Classical Athens, of course, preserves the best evidence for this social mobility. Nausikydes is said by Xenophon to have raised himself up into the liturgical class from his milling business.[721] He then converted much of his money into cattle and pigs, possibly as an

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[717] Connor, 1971; Finley and Pleket, 1976, 9; Davies, 1981, 68-72; Kron, 1996, 84-85 & 111-27; Mossé, 1962, 66; Lis and Soly, 2012, 36-42. A middle class seems to have sprung up as a result of social and economic mobility in the Roman world, for which see Mayer, 2012.

[718] *Elegies*, Book 1, 662-3.

[719] For Solon's property classes, see Rhodes, 1981, 136-49.

[720] See, for example, Raubitschek, 1949, 401, for the dedicator of the monument on the Athenian Acropolis who seems to celebrate his moving from the class of the *thetes* into the *zeugitae* in early fifth-century Athens.

[721] Xenophon, *Memorabilia*, 2.7.6.

investment in additional profitable property since his milling business was already so successful. Timodemos was a banker who became a citizen and liturgist; mining alone seems to have raised a number of families into the liturgical class. As Davies argues, Nicias' father Nikeratos probably made the money in the mines which catapulted his family into the upper strata of the Athenian political elite.[722] Demostratos, whose family owned a smelting oven in the Laureion region, seems to have raised his family out of obscurity into the liturgical class.[723] Diodoros son of Simos and his own son Simos seem to have become liturgists from their mining efforts,[724] as do a great many others.[725]

A new social and political elite emerged in fifth- and fourth-century Athens, represented especially by the individuals whose low origins and commercial success were insulted in comedy and public discourse. Kleon's father owned a workshop of slave tanners, which gave the family its fortune,[726] and his meteoric rise to the top of the Athenian political elite is perhaps the best-known example. Isocrates' wealth is said to have come from a workshop of slave flute makers,[727] just as Hyperbolos' father is said to have raised his family up with his lamp making business.[728] Anytos inherited a tannery and shoemaking workshop from his father which contributed to his

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722 Davies, inv. # 403.

723 Davies, inv. # 3623.

724 Davies, inv. # 3953.

725 See, e.g. Davies, 1971, inv. # 525, 2419, 3953, 4048, 4329, 4386, 4718, 5232, 9057, 9719), 14100, 14164.

726 Davies 1971, 318-9.

727 Davies 1971, 246.

728 Davies 1971, 517.

family's wealth.[729] Iphicrates' father was said to be a cobbler,[730] Agyrrhios' father was a carpenter,[731] and Phocion's father was a pestle-maker whose prosperity allowed his family to hold the generalship 45 times.[732]

The fact that such a large number of individuals are known to have advanced their families socially and politically through their economic successes is some of the best evidence for the occurrence of long-term profit-maximization in ancient Greece on a large scale. Even if these individuals were not able to get the absolute greatest return out of every venture, the fact that so many were able to accomplish impressive economic advancement over the course of their lives is highly suggestive of long-term profit-maximization. Though the actual day-to-day management strategies and operations of these individuals will never be known, the weight of the evidence of this class of *nouveaux riches* in the aggregate is indicative of long-term profit maximization by a large number of individuals in Athens and other Greek cities, from the Archaic period onward.

VIII. Conclusions

In conclusion, the best evidence for long-term profit-maximizing strategies in ancient Greece can be found in the impressive fortunes made by those individuals who specialized in the fields of silver mining, banking, and money-lending. Those individuals who specialized in these

[729] Davies, 1971, 41.

[730] Davies, 1971, 248 (inv # 7737).

[731] Davies, 1971, 279.

[732] Davies, 1971, 559.

fields for the majority of their careers and made their fortunes most clearly conform to the pattern of behavior outlined by the modern notion of economic rationality. Kallias and Nicias concentrated their wealth in mining and made some of the largest fortunes known from the ancient Greek world. Pasion and Phormion made their fortunes in banking even after they had the freedom to enter other fields, and only did so after they had acquired huge profits from their banks.

High-risk miners, who extended their profit-seeking efforts so much that they were willing to engage in illegal mining, and high-risk bankers who saw their banks fail after they overextended their resources, are some of the best evidence that exists for high-risk, profit-maximizing behavior, and the fortunes which were built from such practices are truly staggering. Though these individuals are an extreme manifestation of profit-maximizing strategies, they nevertheless provide invaluable insight into what motivated them to break the law: the desire to make as much money as possible.

Evidence that it was not just the law breakers who tried to maximize their profits can be seen in the emergence of a class of *nouveaux riches* that rose from the lower classes to the political and social elite from as early as the late Archaic period, as deplored by Theognis in sixth-century Megara. The fact that classical Athens saw a large number of individuals who rose from obscurity to the top levels of the political elite suggests that the desire to maximize profits was not just confined to a select few, but was rather widespread throughout all levels of society. In order for so many individuals to have been able to achieve such impressive economic gains suggests that many ancient Greek individuals were engaged in long-term profit-maximizing behavior to various degrees. Therefore, it was not only the fabulously wealthy, but also some of the poorer classes who exhibited this mentality.

Finally, in the field of trade and money lending, Diodotos seems to have engaged in high-risk, high-profit-seeking behavior his entire life, starting with trade, and then investing in high-risk bottomry loans, which dominated his wealth portfolio at the time of his death. It is the concentration of such a large percentage of one's wealth into such high-risk, high-reward ventures over the course of an entire lifetime that provides the best evidence for long-term profit-maximization in ancient Greece.

Moreover, the fact that most of the individuals investigated in this chapter engaged in these highly lucrative enterprises for their entire lives, and were even succeeded by multiple generations of their heirs, is highly suggestive of long-term profit-maximization. Some, such as Nicias and Hipponikos may have even tried to establish local monopolies in the renting of slave labor to others in the mines. These slave armies were likely first used for their own mining interests, but then were leased out probably to maximize labor productivity. The renting of slave armies on a mass scale demonstrates that they also recognized the new opportunities for profit which appeared after the mines became worked on an increasing scale, the same flexibility and opportunism which I argued for in the composition of diversified estates. The continuous expansion of these enterprises seems to demonstrate a desire to specialize to the point of controlling the market in a single field. Others, such as Kephalos perhaps even saw the advantages of establishing economies of scale, to secure a large share of the market on individual goods.

Ancient Greeks recognized the advantages of specialization,[733] but this excessive specialization was dangerous, and as I discussed above, seems to have caused the collapse of many fortunes. From this perspective, let us return to the quote by Andrew Carnegie with which I opened this chapter, in which he advocated concentrating all one's wealth into a single industry to make a fortune. In response to Carnegie's advice to put all your eggs in one basket, Jason Zweigg summarizes the realities of the modern economy succinctly:

> "… Nearly all the richest people in America trace their wealth to a concentrated investment in a single industry or even a single company (think Bill Gates and Microsoft, Sam Walton and Wal-Mart, or the Rockefellers and Standard Oil). However, almost no fortunes have been made this way – and not many big fortunes have been *kept* this way. What Carnegie neglected to mention is that concentration also makes most of the great *failures* of life … How many of the *Forbes* 400 fortunes from 1982 remained on the list 20 years later? Only 64 of the original members – a measly 16% - were still on the list in 2002. By keeping all their eggs in the one basket that had gotten them on the list in the first place … all the other original members fell away. When hard times hit, none of these people – despite all the huge advantages that great wealth can bring – were properly prepared. They could only stand by and wince at the

[733] There is no passage in which the specialization of labor is systematically linked with increased production to the extent that Adam Smith does in his pin factory discussion, but nevertheless the ancient Greeks do seem to have recognized that specialization led to productive efficiency. Plato, *Republic*, Book 2 opens with a lengthy account of the benefits of specialization of labor, which he sees as the foundation of the *polis* itself. As noted above, Xenophon, *Cyropedia*, 8.2, recognizes the increased efficiency of specialization of labor in an urban context, and also the impossibility of such extreme specialization in a rural community. Socrates in Xenophon's *Memorabilia* 2.7 lists a number of individuals who have made large fortunes from specializing in the production of one product.

sickening crunch as the constantly changing economy crushed their only basket and all their eggs."[734]

Like these Fortune 500 companies that refused to diversify, those high-risk miners and bankers who lost their fortunes due to their overspecialization in these highly risky fields paid the price for their profit-maximizing strategies. Some, like Archilochos, seem to have tried to diversify in the end, but by then it was too late. Nicias, Kallias, and others seem to have lost the majority of their wealth during the Peloponnesian War, [735] not having sufficiently diversified to protect themselves. This may explain why Nicias was so eager to make peace with the Spartans after the death of Cleon – he may have been losing money while the war was going on amidst annual Spartan invasions.

Nor was it only high-risk property owners who suffered from the Peloponnesian War, but even those who specialized in agricultural fortunes. Thucydides says wealthy Athenians, many of which were probably agriculturalists, suffered most from the war (8.48.1), where οἱ δυνατώτατοι …ταλαιπωροῦνται μάλιστα, "the wealthiest were particularly suffering", certainly must be in reference to their financial misfortunes. He also says that the Athenians were deprived of their entire *chora*, hinterland, after the fortification of Deceleia, which must have had

[734] Zweigg, Jason, commentary on Chapter 7 of Benjamin Graham. *The Intelligent Investor. Revised Fourth Edition* (New York, 2003), 185.

[735] Davies' theory that these fortunes suffered from the Peloponnesian War is definitely the best explanation for the precipitous decline in many fortunes between the fifth and fourth centuries BCE. However, evidence for collapse of fortunes may not actually always be from market or military disasters – they may also be the result of skillful hiding of wealth from the state. Similarly, charges of squandering an estate may actually have been directed against people who chose to liquidate assets to put them in *aphanes* form, as Gabrielsen, 1986, 108, notes.

disastrous consequences for Athenian agricultural fortunes, as they also lost their livestock and slaves (7.27). One of these wealthiest families to suffer from the war was the Alcmeonids, who seem to have lost a great deal of wealth due to their heavy concentration in agriculture.[736] The Old Oligarch confirms that agricultural estates suffered during the war when he says that the farmers and wealthy fawn upon the enemy, while the poorer classes do not since they have no property to lose.[737] Aristophanes' plays likewise contain numerous references to the plight of Athenian farmers who wish for the war to end.[738] Therefore, specialization of any kind, not only in risky fields, could put one's entire fortune at risk in the ancient Greek world that was so susceptible both to market fluctuations and losses through warfare.

The most successful individuals diversified in order to reduce the risks of their hyper specialization. Pasion was able to transmit much of his wealth to Apollodorus because he had diversified into landed assets – his money lending wealth was decimated after his death, as Apollodorus had only been able to collect about half of his father's outstanding loans.[739] Those specialized estate owners who diversified, then, were able to enjoy their gains in retirement and transmit their wealth to their heirs.

Even when they did diversify, however, it was almost always into high-risk, high-profit fields: Phormion into maritime trade, Pasion into high-risk, high-profit *synoikiai,* and Nicias and

[736] Davies, 1971, 384.

[737] Pseudo-Xenophon, *Ath. Pol.* 2.14.

[738] e.g., *Acharnians, Peace.*

[739] Dem. 36.36.

Hipponikos into their slave armies. Therefore, it was not risk aversion or avoidance, but rather risk management that best characterizes the economic decision making of the individuals I studied in this chapter.[740] In fact, risk was reduced by diversifying into highly profitable and often high risk fields.

Like the owners of diversified estates, then, the choices made by wealthy specialized estate owners I have discussed in this chapter were profit oriented, not risk minimizing. Therefore, the same profit oriented, risk balancing strategies were used by both diversified and specialized estate owners. Since the patterns of acquisition were similar, diversification and specialization should be seen as different stages in the same cyclical process in which one could diversify or specialize alternately in response to changing market conditions. The quest for profit thus seems to characterize both diversified and specialized estate owners' economic decision-making and strategies.

Diodotos and his brother Diogeiton show that it some of the best evidence for economic choice and business strategies may be found not in estate management, but rather in the realm of maritime trade. Whereas the evidence for profit-maximization that I have discussed in the last two chapters is largely indirect, when it comes to the field of maritime trade, there actually exists direct, unequivocal evidence for profit-maximizing strategies in ancient Greece. Many of the best-attested economic transactions from ancient Greece are recorded in the private lawsuits arising from disputes over bottomry loans and exchanges in sea commerce. It is in the details of

[740] Peasants living near subsistence level, of course, would tell a different story. This is an important point that must be emphasized, since most of the individuals I study here are wealthy. The poorer classes would, of course, be more likely to pursue safety-first, risk-minimizing strategies of production.

these deals gone wrong where many of the profit-maximizing and money-making strategies that are invisible in the rest of the extant source material may be found. Merchants and maritime lenders were some of the clearest examples of profit-maximizing businessmen in ancient Greece; they engaged in some of the highest risk and highest profit activities in ancient Greece, and their profit-seeking strategies will be the subject of my next chapter.

Chapter 6: Profit, Trust, and Deception in Ancient Greek Maritime Trade.

I. Introduction: Homer and the profit-hungry trader.

In book eight of the Odyssey, after Alkinoos bids the Phaiakians to show off their athletic skill to Odysseus, one of the youths, Euryalos, says to him that he looks more like a maritime trader than an athlete:

> οὐ γὰρ σ’ οὐδέ, ξεῖνε, δαήμονι φωτὶ ἐίσκω ἄθλων … ἀλλὰ τῷ ὅς θ’ἅμα νηὶ πολυκληῖδι θαμίζων, ἀρχὸς ναυτάων οἵ τε πρηκτῆρες ἔασι, φόρτου τε μνήμων καὶ ἐπίσκοπος ᾖσιν ὁδαίων κερδέων θ’ ἁρπαλέων. οὐδ’ ἀθλητῆρι ἔοικας.

> For I do not liken you to a man skilled in athletic games … but to one who plies his trade in his many oared ship, the leader of sailors who are traders, both mindful of his outward cargo and with a keen eye out for his return cargo and his greedy profits. You do not look like an athlete. (Homer, *Odyssey*, 8.159-164).

Odysseus is immediately insulted and reproaches the youth for his rashness, because he is of course proud of his athletic ability as a mark of his nobility. But for the ancient Greek economy, this passage is interesting for the insight it provides into seafaring merchants in the time of Homer. The maritime trader is depicted by Homer as having his mind on his cargo and being ever watchful for *kerdos*, profit. He is thinking about what is in his hold, and what he should replace it with in order to achieve his ultimate goal: *kerdos*. This passage is a useful point of departure because it shows that maritime traders were characterized first and foremost as seekers of *kerdos* even in the earliest surviving Greek literature.[741]

Like banking and mining, maritime trade provided some of the best opportunities for profit in ancient Greece. It is precisely the type of activity in which profit-seekers would have been operating since the profits were so great. No matter if one was a lender or borrower, financier or trader, engaging in maritime trade in the ancient Greek world was highly risky activity, and accordingly brought some of the highest profits. As Braudel has said for late Medieval and early modern Europe, the clearest signs of pre-modern capitalism are in maritime commerce,[742] and many scholars agree that some of the best examples of capitalists in ancient Greece were involved in maritime trade.[743]

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[741] This passage also demonstrates the prejudice against maritime traders that was widespread in the ancient Greek world, particularly among the aristocracy.

[742] Braudel, 1982, 403-08, and 428-33, says long-distance trade is where the big money was made in the early modern European economy, far more than in industry or agriculture: profits are reported as being 96.12% on average for the French India Company from 1725 to 1736; the *Saint-Hilaire* is said to have made 53% profit on a single voyage in 1777; the tobacco branch of the French *Compagne des Indes* reported profits of 500% in 1725, only to drop to 300% in 1728, and in the following year to 206%. The accounts of other voyages in the eighteenth century reported profits of between 140% and 180%. Jacob Cornelis Van Neck, one of the first Dutch adventurers to the spice islands of the East Indies was said to have made 400% profit on his first voyage in 1599 (Braudel, 1984, 212). Grassby, 1969, 725-7, shows that while profits for single voyages and even single years for the seventeenth-century British East India Company could be spectacularly high, between 320% and even 900% (!), the long-term profit rate was much lower when losses were figured in, more like 25-30%. For ancient Greece, it is not so simple to calculate rates of profit (Hasebroek, 1965, 11), but as Hasebroek has said, Greek maritime traders certainly went after the greatest profits they could (Hasebroek, 1965, 83). In Lysias, *Against Diogeiton*, the defendant is said to have made 100% profit on a trading venture to the Adriatic, having doubled (ἐδιπλασίασεν) his initial investment of two

In this chapter, I will present my final evidence for economic rationality in ancient Greece: profit-maximizing strategies in maritime trade. Some of the clearest signs of economic rationality are preserved in the maritime court speeches of fourth-century BCE Athens, and in spite of the problems of interpreting these documents, it will be safe to conclude in the end that ancient Greek maritime traders were ingenious in their quest for profit, and some even broke contracts and laws to maximize their returns. The political fragmentation of the ancient Greek world created a hazardous trading environment, however, because *poleis* could only enforce contracts within the bounds of their own territories, and the primitive mechanisms for verifying information and enforcing agreements enabled opportunistic fortune-seekers to engage in deceitful and exploitative behavior.[744] Indeed, it seems that the *polis* system itself, as an institutional structure, led to a volatile international market in commerce and finance, and individuals responded by restricting information and opportunities to trusted partners, and thereby distorted the free, open market. The risks of trade on the open market led many to protect

talents (δυοῖν ταλάντοιν) (Lysias, 32.25). This may be the result of forensic exaggeration, but such a profit would not have been impossible, since the Adriatic was known to be a highly risky place to sail (Lysias, *Against Aeschines* 4) and profits from such trading ventures would have been on the higher end of the scale. There certainly would have been opportunities for ancient Greek traders to cash in on particularly profitable windfall opportunities (see my discussion below). Indeed, the profits from typical ancient Greek trading ventures must have been high enough to repay the high-interest bottomry loans which funded maritime commerce, which were typically set at rates of 20-30%, and still have enough profit left over to justify risking one's life on the sea.

[743] Hasebroek, 1965, 7-9, also says that among the true capitalists in ancient Greece were the money lenders investing their capital in maritime loans. He restricts the term "capitalist" only to money-lenders, since he considers traders to be from the poor of ancient Greece. Traders-turned money-lenders are attested (Dem. 33.4-5, 37.54), however, and it seems that many poorer individuals engaged in trade and made their fortunes thereby. Engen, 2010, 95-97, agrees that the Greeks actually were entrepreneurs and capitalists who pursued profit first and foremost, using the terms "entrepreneur" and "capitalist" in accordance with Weber's use of the term, which is well-developed and well-conceived, and certainly applicable to ancient Greece (see my discussion of Weber on capitalism in antiquity above, in Chapter 1).

[744] For opportunism in economic transactions, see Williamson, 1975, 9-10, 26. Granovetter, 2001, 60, provides the following definition of opportunism: "the rational pursuit by economic actors of their own advantage, with all means at their command, including guile and deceit".

themselves through circles of trust, but even these could be penetrated by clever and unscrupulous individuals.

II. Zenothemis, unrestrained profit-seeking, and the perils of market trade.

Demosthenes' exciting account of the trader Zenothemis sometime between 354 and 340 BCE[745] is a vivid portrayal of how dangerous maritime commerce could be in the ancient Greek open market. According to the speaker, Demosthenes' uncle Demon, the defendant Zenothemis and his partner, the *naukleros*[746] Hegestratus,[747] duped multiple money-lenders in Syracuse into advancing sums against a single cargo of grain which they held in their ship. Borrowing multiply on the security of these goods was a clever trick that allowed them to raise an extraordinarily large sum of money (Dem. 32.4-9). They then sent this money away to their home *polis* of Massalia, with the intention of recovering it there after they had sunk the ship and freed themselves from their contractual obligation to repay the loans. It was the perfect scheme.

What they did not expect, however, was that they would be caught while trying to sink the boat. Fellow passengers, awakened by the sound of a drill boring through the hull of the ship in the middle of the night, rushed into the hold and caught Hegestratus with the drill in his hand. Hegestratus managed to make it onto the deck, where he attempted to escape in the life boat, but

745 For the date, see Isager and Hansen, 1975, 149. MacDowell, 2009, 272, suggests a date sometime in the 340s.

746 On the fuzzy distinction ancient Greeks made between *naukleroi* (ship owners or captains) and *emporoi* (maritime traders), see Finley, 1935; Reed, 2003, 6-14; Hasebroek, 1965, 1-8; Isager and Hansen, 1975, 64-66. See also Woolmer, Mark, forthcoming, "Naukleroi: ship owners, ship captains, or something else?"

747 Cohen, 2000, 136, believes Zenothemis was a slave. This is uncertain, as he is described as a *hyperetes*, "helper" or "underling". Whether Hegestratus was just the captain or also the shipowner is uncertain, since Greeks were ambiguous in their use of the term *naukleros*, but in any case he was Zenothemis' associate and boss.

drowned in the process. Zenothemis, though pretending not to be involved, nevertheless tried to complete the scheme by convincing the crew to abandon ship. Another passenger, Protus, who was trying to save his cargo, persuaded the crew with promises of gifts to save the ship, which made it safely to Cephallenia. Zenothemis then tried to prevent the ship from completing its full voyage to Athens, and when he failed in this, he changed tactics and claimed Demon's cargo as his own. Moreover, he was so successful in this false charge that he managed to gain the support of Demon's associate, Protus, who had originally opposed Zenothemis' scheme to allow the boat to sink. Without the speed of modern communications, it was only possible to prove the ownership of the grain by sailing to Syracuse and consulting that city's customs records to prove ownership rights. With the support of Protus and a group of scoundrels based in the Piraeus who apparently had experience with such schemes, Zenothemis managed to get possession of the grain, and Demon was forced to resort to self-help to seize the cargo.[748] Zenothemis filed a suit against Demon for the cargo, forcing Demon to respond with a *paragraphe* that the suit was inadmissible.[749]

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[748] For the specific legal process in this case, see Isager and Hansen, 1975, 144-47, who identify Zenothemis' suit as a *dike exoules*. The exact verb used for the seizure of the goods by Protus is *exagein* (ch.17-20), one of many verbs used for legal self-help in Athens, for which see Christ, 1998.

[749] This is at least how the speaker describes the events; the reality could have been different, but there will never be enough evidence to be able to judge the case based on unbiased accounts. An alternative explanation has been offered by Isager and Hansen, 1975, 141-3: if Zenothemis was telling the truth and the cargo really was his by right, then Protus may have actually been claiming the grain as his own, seeing an opportunity after Hegestratus died in the disaster at sea, which was actually due to a storm and not sabotage by Zenothemis and Hegestratus. If Protus had not picked up a cargo of grain in Syracuse, for which Demo had lent him money (14,20), then claiming the grain formerly owned by Hegestratus, and perhaps even trying to steal the contract (28), would allow him to appear as if he were not reneging on his obligations to Demo when he arrived at Athens. This narrative is reconstructed from the few details Demo does mention when summarizing Zenothemis' complaint against Protus (27-28). This is a possible alternative narrative, and in either case Protus appears to be an opportunistic scoundrel, breaking agreements for personal profit.

Although it will never be known if the speaker of Demosthenes *Against Zenothemis* was telling the truth, for this study the facts of the case are inconsequential. What really matters is the conditions of the trading world that it portrays, and the plausibility of the accusations. If the behavior of the actors could have been believable to an ancient Greek audience, then the rules of the system that is described by the speaker are probably accurate depictions of reality.

In this chapter I will argue that the actions of men like Zenothemis, while not typical, were common enough to impact significantly the nature of maritime trade in the ancient Greek market. Profit seeking was pursued to such an extent that many were willing to deceive, cheat, and steal in order to make money, often taking advantage of the information and transportation limitations of the ancient world in which they lived. Such behavior was widespread enough that it created an atmosphere of fear and distrust, causing others to protect themselves by forming circles of trust rather than be exposed to the perils of trade in the open market. Issues of trust and information were so significant, in fact, that opportunities came to be restricted to those with the right personal contacts, a significant distortion of the market into personalized networks as opposed to the notion of free, open market trade. These networks were not impenetrable, however. Many profit-seeking individuals were able to access these otherwise unavailable opportunities by exploiting the social pressure that emanated from these relationships. The social pressure that money lenders would have felt to maintain their status as approachable business partners could be exploited to convince them to make loans they would have otherwise refused.

After first exploring the strategies which maritime traders used to pursue and maximize profitable opportunities, I will then examine the types of measures which moneylenders took to protect themselves. I will finally describe the nature of the economic and social fabric in which traders operated, drawing upon comparative examples to illuminate the ways in which formalistic and substantivist elements could function within the same economic system.[750]

III. Price Sensitivity, flexibility, and versatility in an uncertain trading world.

One might not expect to find one of the best descriptions of maritime traders' profit-seeking behavior in Xenophon's *Oeconomicus*. Yet, in the midst of the dialogue between Ischomachus and Socrates about how farming could be profitable, Xenophon's Socrates provides a glimpse into the ways ancient Greek maritime traders identified and secured opportunities for making profits:

> λέγεις ... τὸν πατέρα φιλογέωργον εἶναι οὐδὲν ἧττον ἢ οἱ ἔμποροι φιλόσιτοί εἰσι. καὶ γὰρ οἱ ἔμποροι διὰ τὸ σφόδρα φιλεῖν τὸν σῖτον, ὅπου ἂν ἀκούσωσι πλεῖστον εἶναι, ἐκεῖσε πλέουσιν ἐπ' αὐτὸν καὶ Αἰγαῖον καὶ Εὔξεινον καὶ Σικελικὸνπόντον περῶντες· ἔπειτα δὲ λαβόντες ὁπόσον δύνανται πλεῖστον ἄγουσιν αὐτὸν διὰ τῆς θαλάττης ... καὶ ὅταν δεηθῶσιν ἀργυρίου, οὐκ εἰκῇ αὐτὸν ὅπου ἂν τύχωσιν ἀπέλαβον, ἀλλ' ὅπου ἂν ἀκούσωσι τιμᾶσθαι τε μάλιστα τὸν σῖτον καὶ περὶ πλείστου αὐτον ποιῶνται οἱ ἄνθρωποι, τούτοις αὐτὸν ἄγοντες παραδιδόασι.

> You are saying that your father was no less a lover of farming than merchants are lovers of grain. Indeed, because of their excessive love for grain, wherever they hear it is in the greatest

[750] "Formalist" and "substantivist" are terms that were originally coined by Karl Polanyi in his theories of the differences between modern economies, which are describable by "formal" economic theory, and pre-modern economies, which can only be analyzed through "substantivism", an anthropology-based approach to economic behavior. See my discussion above, in Chapter 1.

> quantity, they sail there for it, crossing even the Aegean, Black, and Sicilian seas. Then, having as much of it as possible, they carry it across the sea and … whenever they want money, they do not sell it at random wherever they happen to be, but sell it wherever they hear grain is most expensive, and to the people who value it the most. (*Oeconomicus* 20.27-8).

The four superlatives in this passage perfectly illustrate the maximizing strategies of maritime traders: they go wherever the *most* grain is (and by implication the *lowest* prices), they carry *as much as possible*, they sell it wherever it is *most expensive*, and to people who value it *the most*. Therefore, maritime traders want to buy grain wherever the supply is most abundant, since prices would be lower in these places, and do not haphazardly sell their cargo wherever is convenient, but purposely seek out the places where prices were highest, the most profitable opportunities. The superlatives in this passage suggest that maritime traders were motivated by the same profit-maximizing desires that have been seen in the previous chapters of this study, and are here clearly said to make their choices based on prices to maximize their own profits. The behavior described by Xenophon, which he attributes to all grain merchants, bears a striking relation to the maximizing assumptions of modern economic rationality.

The Mediterranean basin was not a fixed, predictable, static system, and a disaster (war, climate, disease) could turn an exporting region into an importing one, so relative prices were subject to rapid, unpredictable shifts and fluctuations.[751] As the Old Oligarch shows, there could

[751] Horden and Purcell, 2000, 152, building upon the work of Braudel, 1972, 328-32, Hopkins, 1978, and Garnsey, 1988, discuss the inter-annual variability in wheat yields that are known to have occurred in the Mediterranean: "years of glut and severe shortage follow each other in a Mediterranean microregion, not only with alarming unpredictability, but in a sequence that may be totally different from that of adjacent regions … all this could create sudden local demand that a microenvironment could not satisfy but local traders perhaps might." As Osborne, 1987, 31-34 shows, annual variations in rainfall throughout the Greek world could be quite drastic, some years receiving three times as much or as little as others.

be major variations in the supply and demand of different goods in different regions from year to year:

> νόσους τῶν καρπῶν αἳ ἐκ Διός εἰσιν οἱ μὲν κατὰ γῆν κράτιστοι χαλεπῶς φέρουσιν, οἱ δὲ θάλατταν ῥᾳδίως. οὐ γὰρ ἅμα πᾶσα γῆ νοσεῖ· ὥστε ἐκ τῆς εὐθενούσης ἀφικνεῖται τοῖς τῆς θαλάττης ἄρχουσιν.
>
> Those strongest on land bear with difficulty the crop diseases which Zeus brings, while those strongest by sea bear them easily. For the entire earth is not sick all at the same time, so that goods from a prosperous land reach those in control of the sea.[752]

This quotation reveals the variations in harvest that could occur from year to year, and could cause supply and demand to be in flux throughout the Mediterranean. With different places producing surpluses at different times, relative prices will shift, increasing in afflicted areas, and decreasing in those with an abundance of a certain good.[753] Even a single region suffering or prospering more than usual would provide unforeseen opportunities for profit for the skillful, attentive, and ambitious trader, who could make tremendous fortunes. Therefore the intelligent trader would need to adapt to the regional variations in price levels in order to make the most profit.

[752] Pseudo-Xenophon, *Athenaion Politeia*, 2.6.

[753] Price fluctuations could be dramatic, doubling or tripling the amount of profit which could be earned at a given time. Prices in 330/29 for barley and wheat more than tripled, being sixteen drachmas a *medimnos* when prices were normally five drachmas (Dem. 34.38-9). The arrival of the Sicilian *kataplous* (grain shipment) in Athens (Dem. 56.9) caused prices to drop in 324/3 (for the date see Isager and Hansen, 1975, 209; MacDowell, 2009, 284), and another supply-induced price drop is attested in Dem. 32.25. For the price fluctuations recorded at Delos from fourth century through the Hellenistic period, see Reger, 1994, 289-307; 1997. See also my discussion of supply and demand in chapter 1 and of Xenophon's *Poroi* 4.6 in chapter 2.

Specific opportunities of this sort include the times in which grain prices in Athens were more than triple their normal rate. While most other traders were selling their grain at Athens for sixteen drachmas a *medimnos* in 330/29, eleven drachmas above the normal rate, the speaker of Demosthenes 34 *Against Phormion* sold his grain at five drachmas a *medimnos*.[754] What this means is that every other trader who did not want to make a public benefaction for the Athenians (as the speaker did in this case), was able to make extraordinary profits, an extra eleven drachmas per *medimnos*! Of course, if prices at supplying regions also increased in conjunction with those in Athens, the profits would have decreased correspondingly, but if prices at the point of supply were similar to those of normal years, each merchant ship carrying entirely grain could make up to 33,000 drachmas, or five and a half talents, more than on a normal voyage.[755] To put this figure in perspective, at classical Athens three talents was enough to bring a man into the liturgical class. Therefore, the trader who successfully took advantage of regional changes in relative prices at the right time could make a fortune, and be set for life, from even a single trip.

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[754] 34.38-9. Isager and Hansen, 1975, 169 identify this crisis as the famine which occurred in 330/29, which they discuss in further detail at 201-202. MacDowell, 2009, 279, agrees.

[755] This figure is based on the calculations of Casson, who estimates that the typical merchant ship was able to hold about 3,000 *medimnoi*, or 120 tons (Casson, 1991, 171-2, n. 23). The best figures for average merchant ship size is supplied by a harbor regulations inscription from third-century BCE Thasos, which describes smaller ships as having a capacity of 80 tons (3,000 talents), while middling vessels carried about 130 tons (5,000 talents). Casson, 1991, 183-4 shows that the amounts of grain gifts from merchants to cities in the fourth century BCE also tended to be around 3,000 medimnoi, or 120 tons, most likely full shiploads of grain, a figure which corroborates the evidence for average merchant ship size from Thasos. Another ship from the second century is said to have carried 1,500 *metretai* of olive oil, which, along with the weight of the jars, comes out to just over 100 tons, right in line with Casson's estimates for grain. The 10,000-*phoros* capacity of the merchant ship set up by the Athenians for defense in the Syracusan harbor before the final naval battle of the Sicilian expedition in 413 is clearly said by Thucydides to be on the large side. See also Isager and Hansen, 1975, 57-59.

Some ancient Greek traders displayed great versatility in responding to the ever-changing price conditions of the Mediterranean market. For example, around 350,[756] the Phaselite brothers Apollodorus, Artemo, and Lacritus were contract-bound to purchase 3,000 jars of Mendean wine in Mende or Scione, and to carry them thence to the Bosporus (Dem. 35.10), where they were to pick up an unspecified return cargo to convey back to Athens. Upon reaching Mende, however, the brothers Apollodorus and Artemo only picked up 450 jars of Mendean wine, and no other cargo (35.18-20). They did not wish to keep their money inactive, however, as they lent out in Pontus much of the money they had borrowed, 100 Cyzicene staters (2,800 drachmas),[757] so it may be that their choice to purchase only 450 jars of Mendean wine was influenced by market prices. Rather than purchasing the required amount, or sailing to Scione, as the contract would have allowed, they instead chose to lend the money for a trading venture (35.36, the borrower is described as a *naukleros*), revealing a flexibility and versatility in response to unfavorable circumstances. Even more certain is the decision made by the trader Phormion in Demosthenes *Against Phormion* who did not purchase the amount stipulated in his own contract (Dem. 34.7), and, finding that prices were not favorable in the Bosporus due to war, he did not load a return cargo according to the agreement, either (Dem. 34.8-9, 22). Similarly, Lampis in the same

[756] For the date, see MacDowell, 2009, 262, who thinks it unlikely that the speech predates 355, and that it likely predates 348, when the Macedonians destroyed Olynthus, after which Athenians would not have likely traded with Mende and Skione. Isager and Hansen, 1975, 169-70, think the speech dates to sometime before 340.

[757] The Cyzicene stater was worth 28 Athenian drachmas in 327 BCE (Dem. 34.23). For the date, see Isager and Hansen, 1975, 169), and although the exact exchange rate between the two currencies is not known for the time of Demosthenes 35 *Against Lacritus* , the exchange rate from is the best general evidence for the relative value of the loan made by Apollodorus and Artemon in this instance. For a lengthy discussion of the relative value of the Cyzicene stater and the Athenian drachma, see Isager and Hansen, 1975, 163-66. Ancient Greek knowledge of the changing values of coin is fairly well-attested: Aristotle notes that the coinage changes in value (*Nicomachean Ethics,* 5.5.14), and can have its value altered by fiat by the state since its power is entirely a human innovation (5.5.11). See Ps. Aristotle, *Oeconomica,* Book 2 for a variety of monetary measures including the issuance of scrips at 1348b (Clazomenae), 1350a (Timotheus).

speech took advantage of an opportunity offered by Paerisades in the Bosporus to ship grain duty-free to Athens, but brought it to Acanthus instead (Dem. 34.36-7), breaking the law in order to make greater profits.

Therefore, even if it meant breaking a contract or a law, ancient Greek traders adapted to regional conditions and made on-the-spot decisions to avoid unprofitable deals and secure greater profits. Just as Xenophon depicts the producers of various crafts in the *Poroi* who switched fields of production based on the fluctuating profitability of goods (see above, Chapter 2), it seems that traders were extremely sensitive to price fluctuations and were able to respond quickly and change their course of action to secure the largest profits.

IV. Information networks to secure the greatest profits.

In the passage of the *Oeconomicus* quoted above, Xenophon says that merchants go wherever they *hear* (ἀκούω) the best opportunities are. The use of the verb ἀκούω perfectly illustrates the realities of ancient Greek maritime trade: the only way to know about the best opportunities was by word of mouth and written communication. Therefore, creating networks of contacts was necessary to receive information about the most profitable opportunities in the Mediterranean.

As Bang has argued for Roman merchants, it was not just the acquisition of profitable information, but the timeliness of the information that determined how profitable an opportunity could be.[758] If a trader allowed his competitors to beat him to an opportunity, it is likely that the price would both rise at the place of purchase as the supply decreased, and would drop at the place of sale. Therefore, profits would decrease at both the buying and selling ends of a transaction without timely action. Since merchants could only get the greatest profits by seizing profitable opportunities before their competitors, securing reliable information on opportunities and then capitalizing on them quickly was essential for guaranteeing the highest return.

In a well-known passage, the speaker of Demosthenes *Against Dionysodorus*, Dareius,[759] describes how the defendant created information networks with his partners, and thereby shared news about the greatest profits:[760]

> εἶτα πρὸς τὰς καθεστηκυίας τιμὰς ἔπεμπον γράμματα οἱ ἐπιδημοῦντες τοῖς ἀποδημοῦσιν, ἵνα ἐὰν μὲν παρ' ὑμῖν τίμιος ᾖ ὁ σῖτος, δεῦρο αὐτὸν κομίσωσιν, ἐὰν δ' εὐωνότερος γένηται, εἰς ἄλλο τι καταπλεύσωσιν ἐπορίον.

> Then, those remaining at home would send letters regarding the prevailing prices to those [partners] who were abroad, so that if grain became more expensive in your city (Athens), they would bring it here, but if the price dropped, they would sail to some other port (Dem 56.8).

[758] Bang, 2008, 137-8. Scholars on ancient Greece agree that timeliness was important: Meijer and Van Nijf, 1992, 31: "The success of traders was often dependent on chance and the capacity of an individual to leap at an opportunity".

[759] His name is preserved in Libanius' hypothesis and in a note at the end of the speech in the earliest medieval manuscript (MacDowell, 2009, 284).

[760] For the question of this speech's authenticity, see MacDowell, 2009, 285 who believes that the speech is, indeed, attributable to Demosthenes.

Demosthenes' words here closely echo of the way Xenophon described maritime traders in the *Oeconomicus*: they try to sell their goods for the highest price possible, and listen for news of the best opportunities. Stationing partners in key ports and then sending out letters about prices to their associates allowed Dionysodorus and his partners to place themselves in the best information hubs to alert each other about opportunities for higher profits (Dem 56.7-10).[761] In this case, they secured greater profits by selling Egyptian grain at Rhodes rather than Athens, which had seen a price drop after a shipment of grain arrived from Sicily. Without this information, the partners would have been forced to settle for a lower return at Athens. Instead, with partners stationed on the ends of the trade route between Athens and Egypt, the partners not only ensured that they could capitalize on profitable opportunities as soon as they became available, but also provided the information necessary to choose the best possible option.

Nor are Dionysodorus and his partners the only individuals from ancient Greece known to have placed business partners in key ports at the opposite ends of a trade route. The moneylender Chrysippus had a slave agent[762] working for him in the Bosporus, to whom Phormion was supposed to deliver the letters his master had sent concerning the agreement (Dem. 34.8). This may have been a situation in which two business partners, here master and slave, strategically stationed themselves at the opposite ends of a major trade route in order to capitalize on opportunities that might arise on either end. Similarly, a trader and customer of Pasion's bank left instructions for money at the bank to be paid to his partner when he arrived to

[761] For information networks among early modern European traders, see North and Thomas, 1970, 12-13.

[762] Evidence for business agents in ancient Greek is problematic at best, for which see Harris, 2013.

claim it at Athens (Dem. 52.3-5).[763] This was doubtless a means for permitting an associate to use the money however he thought advantageous without his partner's needing to stay idle or stationary to deliver it. If the right opportunity arose, it would be possible for a partner or agent at the other end of a trade route to capitalize on it promptly. Therefore, money, as with trading partners, could be stationed wherever it was most useful.

The strategy of using information imbalances to one's advantage may have, in some respects, even approached the situation in early modern European trade, in which information networks enabled short-lived monopolies to maximize profits. Braudel discusses how early-modern European merchants were able to "evade the free market, to eliminate competition by holding a virtual or actual monopoly, and to keep supply and demand so effectively separated that the terms of trade were entirely dictated by the middleman, who alone knew the state of the market at either end of the long chain." (Braudel, 1982, 416).[764] If a merchant could secure a monopoly on a given item, he had the ability to make extraordinary profits from having exclusive access to a given item in a given place at a given time. Such monopolies may have been short-lived, and constantly changed from place to place, but huge profits were possible in

[763] And so, since Pasion would have given up the deposited sum to the partner, banks were a way for partners to keep money at different ends of the trade routes to allow the other to able to seize upon opportunities as soon as he reached the other port. Such a technique would have also prevented the loss of this money in shipwrecks while travelling, and also could have served as a safety net in case of loss in a trading venture. Therefore, money was another moving variable that could be manipulated by trading partners to their benefit.

[764] In Lysias 22, *Against the Corn Dealers*, the Athenian *polis* interceded to prevent the control of supply and demand by middlemen who were attempting to profit as much as possible from hoarding grain and forcing customers to pay increased prices. In other words, these retailers were attempting to exercise control over supply and demand in order to be able to secure the greatest profit possible, and the *demos* understood what they were up to, and why (for this speech, see the classic work by Figueira, 1986, and the insightful discussion of Dunham, 2007, who offers a compelling interpretation of the forces in this speech, as according to the laws of supply and demand). This is a widely attested strategy to maximize profits, and is also attested in, and outlawed by, statements in the Babylonian Talmud (Sharfman, 2006). Such control over prices by hoarding and controlling supply is well-known, for example, among modern oil companies. As seen in Lysias 22 and Babylonian Talmud, the ancients knew that hoarding grain allowed traders to increase the price of grain by restricting supply, and that this was done to increase profits.

situations where merchants were willing to take risks and exploit a fruitful opportunity. As with Diogeiton, who is said to have made 100% profit on a trading voyage to the Adriatic, large profits could be made from even a single transaction on an especially dangerous trade route. Given that Greeks were said by Aristotle to have aimed at establishing monopolies in their business strategies (Aristotle, *Politics* 1.1259a 5-39), it is not unreasonable to assume that ancient Greek merchants would have attempted to secure monopolies, even if they were short-lived.[765]

Such monopolies may have resulted from the discovery of a new market, for example. Herodotus recounts how the seventh-century BCE trader Colaeus of Samos was blown off course past the pillars of Heracles to Tartessus on the Spanish coast, and was the first Greek trader to reach that place. The reward Colaeus made from discovering this new market was enough to dedicate as a tithe a bowl worth six talents at the Samian Heraion.[766] Sixty talents was the profit Colaeus made from this single voyage, and Herodotus says that Sostratus made even more

[765] That monopolies were sought after in maritime trade agrees exactly with the observations I made on the attempts at monopolizing certain fields in my chapter on *oikoi* designed for specialized production in a single field (see Chapter 5 above). Hasebroek, 1965, 153-58 shows that various *poleis* recognized the benefits of securing monopolies on certain goods, though even those of the state were temporary. For an example of a state monopoly in trade in ancient Greece, see, e.g., the efforts of Cleomenes the governor of Egypt, who affected prices throughout the Mediterranean after he monopolized the export of grain from Egypt (at Dem. 56.7, for which see Isager and Hansen, 1975, 205-6. Bissa, 2009, 220, shows that Cleomenes' monopoly was only made possible because of a shortage of grain in other poleis and because of his extraordinary control over the export of Egyptian grain. Bissa 2009, 226 says there are anti-monopoly sentiments in ancient Greece (citing Dem. 56.7-9, Aristotle, *Politics* 1.1259a5-33, but this is of course to ignore the Demosthenes passage's rhetorical context, and Aristotle's pro-monopoly prescriptions that the monopolies he mentions are positive examples to be imitated, and also his explicit statements that methods of securing a monopoly would be of assistance to statesmen who need to learn about state financial matters (*Politics* 1259a 35-39, 1.4.8). The monopolies cited by Aristotle in this passage are, of course, monopolies of private individuals. For monopolies in conjunction with the state, see Gabrielsen, 2011), 216-50. For monopolies created by the state, see Bissa, 2009, 97, 114-15, 229. See Bresson, 2008, 237-239 for a discussion of monopoly and monopsony.

[766] Herodotus 4.152.

money on a single venture. Therefore, securing a quick monopoly at the right time could create an instant fortune.

However profitable they may have been, it is the short-lived nature of such monopolies that needs to be emphasized for ancient Greece. As Hasebroek and Reed have shown, ancient Greek merchant partnerships were very small compared to their early modern counterparts.[767] As Bang has discussed for the Roman world, ancient merchants were not able to take the next step in exerting long-term control over such trading opportunities, an important difference between

[767] Hasebroek, 1965, 84, and Reed, 2003, 36-38, show that trading partnerships were typically composed of 2-3 members at most, and those at the higher end of the scale being family members. Ancient Greek trading partnerships never reached the point where they were able to exert control over the supply and demand of goods in the market, as happened in the early Modern period when the Dutch, for example, were able to control markets and store enough surplus goods in warehouses that they were able to not only weather price fluctuations, but even to determine the prices through their control over supply. Merchants' associations were relatively uncommon (Morley, 2007, 75-6). Dionysodorus and Parmeniscus were members of Cleomenes of Egypt's personal exchange network, a partnership which seems to have had several members, but in general family partnerships were probably the most developed associations, meaning that at best ancient Greek trade associations were as sophisticated as only the two most primitive exchange institutions of early modern Europe. Gabrielsen, 2007, and others have discussed trade partnerships in ancient Greece, but these mainly appeared later in the second century BCE, and do not seem to have embodied the same functions as a modern corporation, but were largely for mutual support and the performance of religious ritual. Merchants' associations (*koina*) for profit-seeking mentioned by Aristotle in 324/3 (Gabrielsen, 2007, 192), but these seem to be the small partnerships that are so well-attested in the sources. Even for the Roman period, partnerships of merchants do not seem to have attained a sophisticated state of development, but seem to have resembled Hellenistic Greek associations (Bang, 2008, 241-63). The level of sophistication reached by ancient Greek commercial partnerships is unlikely to have much exceeded that of late medieval and early modern Europe's *societas maris*, a partnership of two individuals for a single voyage, and the *compagnia*, centered upon the family, for which see Braudel, 1982, 434-6. For the evolution of commercial organizations from the simple partnership to the corporations, see Kindelberger, 1984, 195-212. Trade partnerships could nevertheless control large amounts of money: the speaker in Demosthenes *Against Phormio* and his brother gave a talent in cash to Athenian demos (34.38), and also imported 10,000 *medimnoi* of grain (8.3333 talents' worth) into the city of Athens (34.39), at least three average full ship loads of 3,000 *medimnoi* (Casson, 1991, 171-2, n. 23). At best, ancient Greek traders and financiers could have attained a level of development similar to the partnership system of fourteenth-century Florence, but there is no evidence of Greeks having gone that far or of making such innovations such as double-entry bookkeeping, or having reached the complex organization of the Florentine partnership system, for which see Padgett and McLean, 2006, and Goldthwaite, 2009, 64-82. For the significance of double-entry bookkeeping, see above Chapter 2. Limited liability partnerships and joint stock companies, of course represent the types of innovations of the early modern European economy which were never attained in ancient Greece (for limited liability corporations in early seventeenth century Florence, see Goldthwaite, 2009, 47). That ancient Greek trade partnerships were small, short, temporary, and dissolved upon completion of the contract does not mean that maritime commerce was unsophisticated in ancient Greece. On the contrary, the types of partnerships that are attested from ancient Greece almost precisely mirror those from early modern Venice, where the small, temporary association seems to have been preferred (Braudel, 1984, 131-2), while it was the leading commercial state in all Europe.

the ancient and early-modern period.[768] Their ability to assert control over markets was almost negligible in comparison with the great trading companies of early modern Europe, which could use force and had large numbers of personnel, and which also commanded the key points on *global* long-distance trade.

Still, ancient Greek traders had ways of trying to secure short-lived monopolies with specific regions. There is evidence that ancient merchants sometimes frequented the same areas, and became familiar with the demands for different goods in different regions.[769] This impression is borne out by the striking regional patterns of distribution of Corinthian *aryballoi* in the archaic period; different iconographic styles were so markedly concentrated in different areas that there seems to be a strong correlation between region and taste.[770] The distribution patterns are highly suggestive of a close relationship between consumer, middleman, and producer, in which the specific styles that were brought to each locale were purposefully transported to these places by merchants who knew what the people in those particular places wanted. Somehow information about tastes was being transmitted to merchants, who in turn bought for these target markets from producers, whom they also apparently informed of the market's tastes. Therefore,

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[768] Bang, 2008, 145, has noted how large commercial entities such as the British and Dutch East India Companies, with their large accumulations of long-term trading capital, were able to absorb market shocks and extend their control over individual markets to an extent not possible for the individual trader or small partnership.

[769] Morley, 2007, 31.

[770]See Shanks, 1999), for the evidence for the distribution of these pots, which he helpfully illustrates in pie charts (fig. 4.5).

it seems that the styles of much ancient Greek pottery, even in the archaic period, were being marketed for specific regions.[771]

Therefore, merchants still may have been able to control supply, demand, and information on a limited scale, though not to the extent possible in early-modern Europe. Indeed, the grain dealers in Lysias 22 *Against the Grain Dealers* were using precisely the same tactics as those described by Braudel to maximize the profit they received from their customers: they manipulated information and hoarded grain to force customers to pay more than they normally would have.[772] Moreover, the merchants' information networks discussed above, establishing business partners at key ports and exploiting profitable opportunities before one's competitors, fit all the criteria discussed for the establishment of monopolies in early modern long-distance trade: "The minimum qualifications for entry to these extremely profitable circuits were: to have sufficient capital and local sources of credit, to be well-informed and well-connected, and to have associates at strategic points along the trade route, who were a party to one's secrets."[773] Therefore, as seen in the strategies of Dionysodorus, who created networks of information with partners at important ports and attempted to capitalize on information to secure profits before his competitors, the same principles which were at work in early modern European trade were also used in ancient Greece, though on a lesser scale.

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[771] Osborne, 1996. Osborne, 2007, 285, remarks that Corinthian pottery seems to have marketed to specific consumers in the archaic period. Cf. Osborne, review of Shanks, *JHS* 121 (2001), 222.

[772] Figueira, 1989; Dunham, 2007.

[773] Braudel, 1982, 416.

V. A race against the clock: maximizing transactions to maximize profits.

Another way maritime traders could maximize their profits was to maximize the number of transactions they could complete per voyage. Since sailing speeds were slow in ancient Greece,[774] there would have been a limited number of trading journeys one could make during the safe sailing season of the ancient Mediterranean. As Cohen has observed, both borrowers and lenders would want a quick turnaround so they could receive their profits and then re-employ their money in new ventures as many times as possible.[775] Thus, for an individual concerned with maximizing profit, completing the most transactions possible during that short time would have been an important strategy.

One individual who tried to engage in as many transactions as he could in a single voyage was the ship captain Lampis in Demosthenes *Against Phormion*. He took on an additional load of 1,000 hides in Byzantium on his already overloaded ship, which then sank (34.10). This was definitely a full ship, since thirty people died in the wreck, and others, including Lampis, escaped. Lampis' decision to load his ship to the point that it would sink is a strong indication that he was trying to maximize the number of individual transactions he could make on this single trip, for the purpose of maximizing his profits.

[774] See Duncan-Jones, 1990, 7-29, for sailing speeds during the Roman Empire. Hesiod says that the sailing season is very restricted, only fifty days or so (Hesiod, *Works and Days*, 663-65), but the reality was that it was more like six months according to Isager and Hansen, 1975, 59; Casson, 1991, 100, agrees, and specifies the period from April to October. The most recent book on the ancient sailing season is Beresford, 2013).

[775] Cohen, 1989, 217, n. 48.

Such a high-risk, high-reward strategy is understandable since ancient Greek maritime loans acted as a form of insurance for the borrower.[776] Since the lender, not the borrower took on most of the risk in case of a shipwreck,[777] it made sense for a ship owner or captain to load his ship with as many goods as possible,[778] since he stood to make a substantial profit from such a trip, and with much lower risk than if he had provided all the capital himself.

Other examples of transaction-maximizing strategies are preserved from ancient Greek maritime court cases.[779] In Demosthenes *Against Dionysodorus*, the defendant and his partner Parmeniscus are charged with violating the terms of their contract which stipulated that they borrow money specifically to bring a cargo of grain to Athens from Egypt. The speaker, who was also the plaintiff and their money lender, describes the money-making strategies which the defendant and his partner used, selling the grain at Rhodes rather than Athens, and then using the profits to engage in more transactions: ἐλυσιτέλει πολλῷ μᾶλλον τοῦτ' ἢ δεῦρ' ἐπαναπλεῖν.

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[776] The debate over the role of maritime loans acting as insurance is well summarized by Engen, 2010, 94-95, who sensibly sees them acting simultaneously both as an insurance policy which spread risk, and also a profitable capital investment. Finley, M.I., 1985, 23, has identified maritime loans as "the earliest type of insurance, and not primarily a form of credit (141; 252, n. 82), with which his student Millett, 1983, 44, n. 17, disagrees. Todd, 1993, 337-40, finds De Ste. Croix's interpretation of bottomry as insurance "attractive", and who is correct in pointing out that "bottomry" loans only technically apply to cases in which the ship itself (or its cargo) served as security. See also the lengthy discussion of maritime loans in Isager and Hansen, 1975, 74-84. The classic work on the subject is still, of course, De Ste. Croix, 1974, 41-59.

[777] This is not to say that the ancient Greeks had a highly developed notion of risk as it is understood in modern economic literature and business practice, where spreading risk has created a thriving insurance industry which was absent in ancient Greece. The earliest documents known to have mentioned insurance were written by Genoese merchants beginning in 1343 and 1350, whence it spread to Flanders and Western Europe, and the first book written on insurance in Portugal in 1488, for which see Franklin, 2001, 273-78. Florentine businessmen began using insurance very soon after the Genoese, for which see Goldthwaite, Richard. *The Economy of Renaissance* Florence. (Baltimore, 2009), 98-103. For the later development of insurance, see Kindelberger, 1984, 184-6.

[778] See also Hesiod, *Works and Days* 643-5, who says "the bigger the ship, the bigger the profit": νῆ' ὀλίγην αἰνεῖν, μεγάλῃ δ' ἐνὶ φορτία θέσθαι. μείζων μὲν φόρτος, μεῖζον δ' ἐπὶ κέρδει κέρδος. For the sense of αἰνεῖν in this passage, see West, 1978, 318, who lists parallels exclusively of the compound ἐπαινέω, which are numerous, for which he provides the translation "politely decline"; see LSJ ἐπαινέω, for further examples.

[779] For the *dikai emporikai,* the ancient Athenian maritime courts, see Cohen, 1979; Lanni, 2006, 149-74.

ἐκεῖσε μέν γε ἀεὶ ὡραῖος ὁ πλοῦς, καὶ δὶς ἢ τρὶς ὑπῆρχεν αὐτοῖς ἐργάσασθαι τῷ αὐτῷ ἀργυρίῳ, "this was far more profitable than to sail back here (to Athens). For the sailing trip to that place is always seasonable, and it was possible for them to do business with the same money two or three times."[780] The speaker recognizes that his defaulting borrowers were trying to maximize the number of transactions they could make from a single loan: the shorter sailing distance between Rhodes and Egypt allowed the borrowers the opportunity to use the same money two or three times in the same period of time. Not only did they realize greater profits by breaking their contract and selling their grain at Rhodes, but they were also able to profit further by making more transactions, perhaps increasing their profits many times over.

Dionysodorus and Parmeniscus also rented ships while in Rhodes to allow them to make trips to Athens and engage in additional transactions without breaking the terms of their contract, while simultaneously freeing themselves from the repayment of their original loan since they could claim that the ship sunk (Dem 56.21-24). The speaker cleverly sees through their ploy, however, and provides a compelling retort that they would not have offered to repay the interest to Rhodes had the ship actually sunk (Dem. 56.32). In any case, it seems that the defendants did, indeed, rent ships to bring additional cargoes to Athens (Dem. 56.25), which demonstrates that these individuals were savvy enough to be able to avoid the technicalities of their outstanding contract while still using the borrowed money for profitable ventures, even if these brought them back to Athens. Why else would they have brought cargo to Athens in rented ships if not to engage in profitable enterprise?

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[780] Dem. 56.29-30.

Indeed, after they broke the terms of their contract, there was no reason for Dionysodorus and Parmeniscus to allow their borrowed money to lie idle. They even lent their creditors' money on maritime loans while they were also engaging in additional transactions in order to make more money (Dem 56. 17). This is yet another example of merchants' versatility and adaptability in the face of changing conditions. Not only did these individuals engage in transactions that violated their contract, but they also exploited the opportunity to lend their own borrowed money at the high rates of maritime interest. By doing so, they were able to use the money they borrowed for a second year (Dem. 56.4), receiving much greater profits from breaking their contract and using the money however they wished than by adhering to the terms of the contract. These individuals therefore seem to have cleverly exploited contract loopholes in order to engage in additional transactions to make more profits.

Nor were Dionysodorus and Parmeniscus the only traders known to have broken their contract and to have found alternative ways of using their money rather than letting it lie idle and unproductive. The trader Apollodorus, brother of Lacritus and Artemo in Demosthenes *Against Lacritus*, is also said to have lent the money he had borrowed for a maritime venture from Athens to Pontus to a fellow Phaselite ship owner, who was also a friend of his, apparently for a maritime venture (Dem 35.36).[781]

In both of these cases, therefore, the borrower recognized the opportunity cost of leaving money unproductive, and preferred to put this money to profitable use by lending it to other

[781] Apollodorus is specifically said to have lent the sum of 100 Cyzicene staters. Since the Cyzicene stater was worth 28 Attic drachmas in 327 BCE (see my discussion above), the best we can say is that the value of this sum in 350 BCE was approximately 2,800 drachmas, just under the 3,000 drachmas that were originally lent to them by the plaintiffs in this case (35.10).

traders, displaying remarkable resourcefulness and cunning. Therefore, ensuring that money was being used productively at all times, and being open to whatever opportunities for profit may arise were important profit-maximizing strategies as well.

Not just short-term profit-maximizing strategies, but also long-term wealth maximization was the goal of many of the *emporoi*, maritime traders, known from ancient Greece. The speaker of Demosthenes *Against Apatourios* was a merchant who made so much money from maritime commerce that he was able to set himself up as a stationary moneylender. He claims he had only moderate means, but it is clear from his actions that he had been able to establish himself as a large-scale money lender with the profits he made from a career at sea:

> ἐγὼ γάρ, ὦ ἄνδρες δικασταί, πολὺν ἤδη χρόνον ἐπὶ τῆς ἐργασίας ὢν τῆς κατὰ θάλατταν, μέχρι μέν τινος αὐτὸς ἐκινδύνευον, οὔπω δ᾽ ἔτη ἐστὶν ἑπτά, ἀφ᾽ οὗ τὸ μὲν πλεῖν καταλέλυκα, μέτρια δ᾽ ἔχων τούτοις πειρῶμαι ναυτικοῖς[782] ἐργάζεσθαι.
>
> For I, men of the jury, for a long time now have been engaged in business on the sea, and up to a certain point I personally took part in the dangers, but it is now just under seven years from the time when I gave up sailing and now having moderate wealth I try to do business in these maritime loans (Dem. 33.4).

This man had made enough money as a trader that he was able to devote himself solely to money lending, and the men to whom he was lending in this speech were known to him from time he had spent at Byzantium (Dem. 33.5), probably fellow merchants with whom he had perhaps had earlier dealings. For these individuals, Apatourios and Parmeno, approached him to seek a loan

[782] τούτοις ... ναυτικοῖς could refer to either “maritime loans” specifically, or to “nautical men”, but in either case a concentration in maritime loans is certainly meant.

to cover an earlier obligation (Dem. 33.6), apparently trusting him and knowing that they would in turn be trusted by him to a certain extent.

We also know of other merchants who became money lenders, such as Nicobulus, who made a loan on a silver ore washery and slaves in Demosthenes *Against Pantaenetus*. He also was a merchant who made enough of a fortune to concentrate on money lending: ὅστις δ' εἴργασται μὲν ὥσπερ ἐγὼ πλέων καὶ κινδυνεύων, εὐπορήσας δὲ μικρῶν ἐδάνεισε ταῦτα, καὶ χαρίσασθαι βουλόμενος καὶ μὴ λαθεῖν διαρρυὲν αὑτον τἀργύριον, "whoever has done business as I have, sailing and taking risks, and having been a little successful lends these profits, both wanting to do favors and to not lose the money itself as it slips away" (Dem. 37.54). This merchant turned lender also emphasizes the small size of the fortune he has made, but his humility is belied by the fact that he was able to make a 45 *mina* (4,500 drachma) loan to Pantaenetus (37.4), and to hire Demosthenes to write his court speech after the deal had gone awry.

The many other metic, resident foreigner, lenders known from ancient Greece[783] are perhaps the same type of successful merchants who gave up risking their lives on the high seas and turned their attention purely to financial transactions as money lenders. As the actions of Apollodorus in Demosthenes *Against Lacritus*, and Dionysodorus and Parmeniscus in *Against Dionysodorus* show, however, merchants hardly needed to retire to become lenders themselves, as they lent their own borrowed money to other merchants for commercial ventures. Nicobulus was also still engaged in maritime trade while he was lending money on a mining operation,

[783] See, e.g., Theodotus *isoletes*, in Dem. 34.44, 35.14; the Chian moneylender in Pontus at Dem. 35.52, though this person may be a trader also; the metic lender in Dem. 33.10.

since he went to Pontus after he made the loan and lost almost everything he had on this trading voyage (Dem. 37.6-10). Therefore, merchants were constantly in communication with each other, and seem to have cooperated to capitalize on opportunities as soon as they became available.

In such a dynamic system, in which merchants were money lenders and money lenders merchants, the lines between the two groups became blurred; it seems that, in the desire to engage money in as many transactions as possible at a given moment, the decision to lend or buy was made in response to the dictates of the market at a particular time and place. Merchants probably used money lending, and even the extension of money they themselves had borrowed to others, as a money-making strategy when arriving at a port with few opportunities for profitable purchase or sale. Those who became particularly successful in accumulating profits could then eventually slow down, reduce the number of voyages they made and gradually concentrate their efforts into money lending. Therefore, the long-term accumulation of wealth may have naturally pushed merchants into the position of money-lenders, who needed to remain stationary in order to attract prospective borrowers and collect their capital.

VI. Crime does pay: breaking contracts and laws to make more money.

There was an even more seditious, and even better attested, strategy for maximizing profit by maximizing the number of transactions one could complete on a single voyage or from a single loan: the dangerous practice of borrowing multiply on the security of the same goods, *epidaneisis*. This practice seems to have been relatively common, as it is attested in a number of speeches,[784] and was frequent enough to merit being mentioned in the only maritime loan contract preserved from ancient Greece:[785] ὑποτιθέασι δὲ ταῦτα, οὐκ ὀφείλοντες ἐπὶ τούτοις ἄλλῳ οὐδενὶ οὐδὲν ἀργύριον, οὐδ’ ἐπιδανείσονται, “They put down these goods as security, not owing anything on them to anyone else, and not borrowing additionally upon them” (Dem. 35.11). That this clause was included in contracts shows that *epidaneisis* have been a *de facto* reality of trade, even though it was *de iure* prohibited, and we know only of a few cases that were unsuccessful. The method used by partners Zenothemis and Hegestratus, who worked as a pair in tandem, each securing multiple loans against the security of the same goods, is an extreme example of this strategy. They were able to accumulate a great deal of borrowed money, though they planned simply to keep it, rather than to use it to increase the number of transactions they could engage in on a single voyage, which was apparently the goal of most instances of *epidaneisis*.

Epidaneisis was widespread enough that the Athenian state took a tough stand in deterring it by executing the son of a general who was found guilty of engaging in this practice

[784] See e.g., Dem. 35.52, 35.21, 32.4-5, 34.7. Isager and Hansen, 1975, 161-2, believe that this last example, from Demosthenes *Against Phormio,* was fabricated by the speaker/lender Chrysippus since it is uncertain that the two loans taken on later were for a roundtrip and consequently may have had lower security requirements, and since the later lenders were the shipowner and a fellow-traveler of the ship Phormio was travelling on, and would not have allowed him to put aboard less cargo than they knew he was obligated to load. Though they are correct in pointing out that Lampis did know about the previous loan made to Phormio by Chrysippus (at Dem. 35.9), this is not decisive proof, since Phormio could have lied to these later lenders about the full amount he had already borrowed. Therefore, this must remain a possible, and perhaps even likely, instance of *epidaneisis*. That the speaker made this accusation shows that at the very least the danger was real enough in the minds of the jury, and was known to have been practiced.

[785]The authenticity of the contract in Demosthenes 35, *Against Lacritus,* has been disputed in the past, but most scholars today believe it is authentic, MacDowell, 2009, 262; Isager and Hansen, 1975, 175-6; see Cohen, 1989, 214, n. 34 for older bibliography. This contract is a fascinating document, the only one of its kind from classical Greece, and so constitutes a significant source of information on ancient maritime trade. Its structure and terminology very closely resembles other contract details known from the Demosthenic corpus and papyrus contracts from Hellenistic Egypt.

(Dem. 34.50). Nevertheless, there were limits to how effectively the state could enforce contracts in ancient Greece (see below), and because of the difficulties in monitoring behavior in the market, many traders likely were successful in using *epidaneisis* to maximize the profits they could make on a single voyage.

Epidaneisis is an extreme example of the same high-risk, high-reward activity all traders and lenders chose to engage in when they entered maritime commerce, and I believe that this type of bad behavior provides an unparalleled insight into the economic mentality of maritime traders in ancient Greece.[786] The fact that borrowers often resorted to this measure clearly illustrates their desire to maximize the number of transactions they could complete per voyage. *Epidaneisis* was a clever trick thought up by desperate or unscrupulous borrowers in an attempt to make as much money possible.

As with the practice of *epidaneisis*, the maritime court speeches contain numerous other examples of individuals who chose to chase profits rather than adhere to contracts or laws. Although not everyone broke the law or contracts, it is equally true that not everyone who did so was caught, and so the bad behavior of these individuals can be used as a reliable guide for the goals and intentions of traders in general, even if the precise strategies pursued by the majority were less extreme than their criminal counterparts. As Dionysodorus and Parmeniscus show,

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[786] Some of the most interesting insights into the functioning of the economy and the interaction of individuals and institutions in ancient Greece have been made through focusing on criminal or unethical behavior. See, for example, the work on liturgy avoidance and the consequent prevalence of *aphanes* wealth at Athens. De Ste. Croix, 1953; Hasebroek, 1965, 88; Gabrielsen 1986; 1994, 53-60; Christ, 1990, 157-160; 2006, 143-204; Cohen, 1992, 194-201; and Engen, 2011, 98-99, all believe liturgy avoidance through investing in *aphanes* wealth was practiced on a large scale, enough to contribute to the expansion of the non-agricultural sectors of the entire Aegean economy (Engen, 2011).

breaking contracts could provide the borrower with opportunities for profit that would otherwise be lost by adhering to an agreement (see discussion above).[787]

Some business partners did more than just break terms of contracts; they even went so far as to completely turn on their associates to make greater profits. Personal profit is said to have caused partners to flip on each other, or lawsuit opponents to join forces and split the proceeds of their betrayal. In Isaeus' speech *On the Property of Dicaeogenes*¸ among the colorful characters is a certain Menexenus who agrees to betray his kin in return for personal profit in a side deal made with Dicaeogenes III (Isaeus 5.13); the latter in turn refused to repay a friend and associate of his, an Egyptian named Melas, keeping the money he had borrowed and ruining their relationship (Isaeus 5.40). In Demosthenes *Against Phormion*, the opportunistic Phormion is said to have convinced the ship captain Lampis to switch his testimony and perjure himself in return for a share of the profits (Dem. 34.35, 41, 46). Without Lampis' testimony, the plaintiff had no evidence to secure the verdict he needed to recover his money, which Lampis and Phormion split as a reward for their treachery. The two exploited a contract clause to make a profit together once Lampis, the main witness, ceased to support the plaintiff. Dionysodorus, as discussed above, also flipped on his lender, but in this case, it was to avoid lower profits following a drop in the price of grain when a shipment of Sicilian grain arrived at the Piraeus (Dem. 56.9). Dionysodorus here displays the price-sensitivity and the profit-seeking behavior which so clearly characterized the rest of his actions discussed above.

[787] In this way, they demonstrate that they effectively understood and acted upon the opportunity cost of adhering to or breaking the terms of the contract. In addition to Dionysodorus and Parmeniscus above, see also the contract- and law-breaking actions of Zenothemis and Hegestratus in Demosthenes *Against Zenothemis,* and in other speeches, e.g., at Dem. 34.36-7, 35.20, 32; 33.9.

No individual better exemplifies this profit-seeking price sensitivity, however, than Protus, Demon's business associate in Demosthenes *Against Zenothemis*. Protus was initially loyal to Demon, having borrowed money from him for a shipment of grain, and assisted Demon vigorously against Zenothemis who was claiming the grain for himself. Afterwards, however, he switched sides, and worked with Zenothemis against Demon:

> ὁ γὰρ Πρῶτος, ἕως μὲν ᾤετο τὸν σῖτον κέρδος ἐλθόντα ποιήσειν, ἀντείχετο τούτου, καὶ μᾶλλον ᾑρεῖθ' αὐτός τε κερδᾶναι καὶ ἡμῖν τὰ δίκαι' ἀποδοῦναι ἢ κατακοινωνήσας τούτοις … ὡς δὲ δεῦρ' ἥκοντος αὐτοῦ καὶ περὶ ταῦτα πραγματευομένου, ἐπανῆκεν ὁ σῖτος, ἄλλην εὐθέως ἔλαβε γνώμην.
>
> For Protus, as long as he thought that the grain would make a profit when it came, he clung to it, and chose rather to both profit himself and pay us what we justly deserved rather than join cause with these men … but when he had come here and was in business regarding these matters, the price of grain fell, and straightaway he changed his mind (Dem. 32.25).

Thus, a single price fluctuation made Protus flip. Whereas his grain was valuable while prices were high, once they fell he stood to make more profit by siding with Zenothemis against Demon, having come to an agreement with him in return for a share of the profits. As the main witness against Zenothemis, he was apparently persuaded into switching sides and sharing in the profits with Zenothemis, which would have been greater (all the proceeds, principal and gain, being pure profit) than if he had to repay Demon the interest from the lower profits he would have made from the lower price of grain. Protus escaped the jurisdiction of the Athenian *polis* (32.28), denying Demon the testimony crucial for his case.

Protus' betrayal provides fascinating insight into a phenomenon which is paralleled in the modern economy. Douglass North, a preeminent figure in the field of new institutional economics,[788] describes how people renege on agreements when it is more profitable to take money and run than to remain in good relationship with a partner, a sign of a profit-maximizing attitude:

> "Under what conditions will contracts tend to be self-enforcing? In a wealth-maximizing world, the answer can be stated very simply. Contracts will be self-enforcing when it pays the parties to live up to them – that is … the benefits of living up to contracts will exceed the costs … In the context of a wealth-maximizing world, where there are high costs of measurement and no form of enforcement is possible, the gains from cheating and reneging exceed the gains from cooperative behavior" (North, 1990, 55).

As North says, in a profit-maximizing world the profit maximizer will flip if the returns from reneging are greater.[789] The gains for cheating in this case outweighed the gains from adhering to the contract since the profits from the grain shipment dropped during the time of the dispute. Protus thus seems to have been trying to maximize the profit which he could get from a single transaction, even if it meant betraying a business partner.

This behavior is precisely what is outlined by game theory in which actors weigh the relative costs and benefits of adhering to or breaking a relationship each time they play a

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[788] For the field of New Institutional Economics, see my discussion in Chapter 1.

[789] Perhaps Protus was even given the promise of future contacts with these scoundrels in the Piraeus, and so transfer to a rival personal network.

game.[790] In repeated games, the benefits of maintaining a connection are different than those in once-for-all games. It may be worthwhile to adhere to agreements in order to maintain a viable business relationship in the future. The last time these iterated games are played, however, the rules change, and cheating becomes more common since players know they will not need to have future dealings with the other players. For Protus, it was simply more profitable to renege on his agreement with Demon, and to terminate the relationship. Therefore, it appears that Protus and others were behaving exactly as the modern individuals studied in game theory: profit-maximizing individuals who act to serve their own best interest.

VII. Weak inter-*polis* contract enforcement: take the money and run.

Protus was able to take the money and run because of the lack of effective international contract enforcement in the ancient Greek world. Danger clouds every transaction when individuals perceive that they can cheat on contracts and escape with the profits. If contracts were self enforcing, this would not be a problem, but as Douglass North states, the problems of information and enforcement are still very real even to this day:

> "Game theory tells us that … when the parties acquire perfect information and the game both lasts indefinitely into the future and is played between the same parties, one can reach self-

[790] North, 1990, 56-57: "if the game continues indefinitely, it usually pays the parties to live up to the terms of exchange, because the gains from successive iterations exceed the benefits that could be derived from a single defection, from "running off with the profits." Note, however, that a game so conceived must be played in perpetuity. If there is an end to the game … then indeed the discount rate may enter in to determining whether it is worthwhile to continue to cooperate. The smaller the probability of continuing for another round, the greater must be the payoffs to sustain an equilibrium; also the greater the possibility of short-run gains, the greater must be the payoffs. " North's discussion in this section is based upon Axelrod, 1984. The first comprehensive work on Game Theory was Von Neumann and Morgenstern, 1944, for which see Leonard, 2010. For a lucid account, see Davis, 2012.

> enforcing solutions. But needless to say, these assumptions not only are strong but are simply not observed the real world. The inevitable conclusion that one arrives at in a wealth-maximizing world is that complex contracting that would allow one to capture the gains from trade in a world of impersonal exchange must be accompanied by some kind of third-party enforcement" (North, 1990, 57).

Thus, in a wealth-maximizing world reneging is profitable when third-party enforcement is unavailable, and, as Protus demonstrates, it seems that cheating in contractual obligations was facilitated by weak mechanisms for the enforcement of contracts in ancient Greek maritime trade. Although procedures for enforcement could be powerful *within* a city, as in the case of the death penalty inflicted by the Athenian *polis* on the general's son in *Against Phormion*,[791] when it came to international enforcement of contracts, there was something of a free zone in which individuals could be confident enough to escape punishment.

The *polis* system itself, being a fragmented set of distinct political units, was therefore a significant barrier to the stability of international markets, since there were no effective permanent mechanisms for the enforcement of interstate contracts. The institution of the *polis*, then, as a political framework, fostered a hazardous international market system, due to each *polis*' autonomy.

[791] Dem. 34.50. The Athenians also threatened capital punishment for residents of Attica shipping grain to ports other than Athens, and to lend money for voyages to any other port (Dem. 34.37, 35.50-1; Lycurgus 1.27). See Cohen, 2005, 299, and Todd, 1993, 321.

As soon as one left a city's enforceable territory, he entered a grey area in which he was largely immune to legal action.[792] "Even in time of peace it was easy to avoid payment of legal obligations, for there was no international court in which they could be enforced, and the countless city courts were prejudiced, and unreliable" (Hasebroek, 1965, 87).[793]

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[792] In short, by leaving a polis' territory, one could escape third party enforcement. Ephraim Lytle provides evidence for the limits of *polis* enforcement with respect to fishing rights; although fishing in harbors and inland waterways was regulated by the *polis*, the open sea was rather seen to be the common property of all, and *poleis* were not willing or perhaps able to extend their enforcement of fishing rights to the open sea. Lytle, 2012. Morley, 2007, 64-70 says enforcement only pertains to within a city's limits. On the limits of international law, see Todd, 1993, 329-32, who shows that Athenian legal jurisdiction did apply to the Athenian empire during the fifth century, which was merely considered an extension of the Athenian *polis*, but beyond that it is difficult to say that any sort of international enforcement occurred in ancient Greece.

[793] Enforcement and punishment were major problems in ancient Greek *poleis*, which did not have a modern police force, and therefore private individuals often needed to take the initiative in policing offenders, for which see Christ, 1990; Hunter 1994, 120, 134, shows that enforcement lay mainly in the hands of citizens, who were required to resort to self-help to prosecute criminals.. The *polis* was so much less permeated with enforcement structures than the modern world, that some have gone so far as to say that its society was a stateless community in which the ability to use force was not monopolized by a central agency but was rather fairly evenly distributed among the members of the community (Berent, *CQ* 50.1, 257-89 (2000). Berent, 2000, 260-61 claims that without a central agency with exclusive claim on the use of force, the Athenian *polis* was essentially a stateless society (for which see also Cartledge 1999). For the lack of a police force in Athens, see Badian, 1970, 851; Finley, 1983, 18-20; Todd, 1993, 79-81). The conclusion of the debate over whether the Greek *polis* was a stateless society must be similar to that of the economy as a whole: it was and was not a stateless society, for which see Hansen, 2002. Nevertheless, Harris shows convincingly that in Athens there were limits to self-help, and state officials were often responsible for the enforcement of laws and for the punishment of offenders (Harris, 2007, 161-9). In Athens itself, enforcement by Athenian officials included deals made in the *agora* or *emporion* (Harris, 2007, 161-7). As Chrysippus, the speaker of Demosthenes *Against Phormio* states, the *polis* had an interest in protecting lenders, since they were the ones who provided funds for trading enterprises (Dem. 34.51), including for Athens' important grain supply; the speaker of Demosthenes *Against Dionysodorus* warns the court of the importance of making a judgment that will demonstrate to merchants and money-lenders that Athens will protect those who make contracts in deals to and from Athens (Dem. 56.47-51). The Athenian state did, in fact recognize the importance of effective contract enforcement for maritime traders (Cohen, 2005, 298-9). The *nautodikai* in Athens, the forerunners of the *dikai emporikai*, are attested as early as 445 BCE, (MacDowell, 1978, 229-31), showing that the Athenian *polis* already recognized and tried to correct some of the dangers of maritime trade during the mid-fifth century BCE. As Cohen shows, *Ancient Athenian Maritime Courts*, (Princeton, N.J., 1973), 76; 2005, 302, quoting Dem. 33.1, imprisonment was the penalty for defendants in the *dikai emporikai* until they repaid the amount owed, and shows, through Dem. 35.46-47, that failure to pay penalty resulted in imprisonment. Imprisonment was also the punishment for failing to post bail for *dikai emporikai* (Dem 32.29). Imprisonment was also the punishment for theft (Harrison, 1971, 177), demonstrating how seriously the *polis* took maritime contract law. The *dikai emporikai* are explicitly said to have been restricted to contracts made in Athens or for a voyage to the Athenian market (Dem. 32.1, 34.42). Since the *demos* had forbidden residents of Athens from making loans on voyages that did not carry grain to Athens (Dem. 35.51), a large percentage of loan contracts made in Athens would have been enforceable in the maritime courts. Still, in spite of these regulations, there were limits to the ability of the Athenian *polis* to enforce contract right even *within* the city of Athens. The Eleven, for example, were not concerned with private contract enforcement, but only with the arrest of thieves, kidnappers, pickpockets, and the repossession of state property (Aristotle, *Ath. Pol.* 52). For the *dikai*

The majority of traders in the ancient Greek world seem not to have been resident metics, but rather itinerant *xenoi* (foreigners) who travelled from place to place, making up a community of international wandering merchants.[794] Therefore, the very people that third-party state enforcement was meant to target were precisely those who were most difficult to track, and the majority of those who were likely to break contracts were also the most mobile, against whom such enforcement would be highly ineffectual.

Ancient Greek maritime trade was, to a certain extent, a world of impersonal market exchange (see my discussion of personalistic networks below), but one that had only limited third party enforcement. Therefore, through private initiative,[795] the market had expanded beyond the bounds within which it could protect itself. The market system was, in fact, more sophisticated in this respect than the political and legal institutional infrastructure in which it was embedded. In the end, Hasebroek is correct to say that protection for traders was "inadequate",[796] since the impersonal market, the actions of ancient Greek traders had grown beyond the bounds of the polis.

If one could only escape *polis* jurisdiction, one could avoid state enforcement and keep the money. In Demosthenes *Against Apatourios*, a single passage describes how two separate individuals tried to escape *polis* enforcement for the contracts they were involved in:

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emporikai in general, see Reed, 2003, 89-92; Lanni, 2006, 149-74; Cohen, 1973; Isager and Hansen, 1975, 84-87; Todd, 1993, 334-37; MacDowell, 1978, 231-4; Cohen, 2005, 291.

[794] Reed, 2003, Engen, 2010, Isager and Hansen, 1975, Hasebroek, 1965.

[795] See Bresson, 2007, chapter 8, on private initiative driving the ancient Greek economy.

[796] Hasebroek, 1965, 21.

οὐ πολλῷ δὲ χρόνῳ μετὰ ταῦτα τῆς τραπέζης ἀνασκευασθείσης, καὶ τοῦ Ἡρακλείδου κατ' ἀρχὰς κεκρυμμένου, ἐπιβουλεύει οὑτοσὶ τοὺς τε παῖδας ἐκπέμψαι Ἀθήνηθεν καὶ τὴν ναῦν ἐξορμίσαι ἐκ τοῦ λιμένος.

And not long after these things, when his bank was ruined and Herakleides at first went into hiding, the defendant was planning to send the slaves out of Athens and to remove the ship from the harbor (Dem. 33.9).

The collapse of Herakleides' bank caused the banker himself to go into hiding, and his debtor, Apatourios, who had borrowed from Herakleides to cover an earlier, overdue loan (Dem. 33.7), responded by trying to remove the security for this defaulted loan, his ship and its slave crew, physically outside of the jurisdiction of the Athenian *polis*.

By escaping the legal jurisdiction of the Athenian state, one could enjoy his property and profits with little fear of reprisal, which could only come in the form of *sula*, a measure of self-help. The ability to flee *polis* enforcement can be seen in Andocides' exile after he was convicted of defiling the sacred Herms,[797] and it is entirely germane to note that while in exile he was able to support himself by engaging in maritime trade. Zenothemis at first was certainly trying to flee the jurisdiction of both the Syracusan and Athenian *poleis* by escaping with the money to his

[797] The limits of *polis* enforcement can be seen in the rules for exile as punishment for certain crimes, including murder. One could not reenter the ἀγορὰ ἐφόρια, "border market", as seen in Dem. 23.37, and plausibly reconstructed in Drakon's Homicide Law at IG I³ 104, ll. 27-8 (ἐφορί[α]ς). Those who were convicted of treason (προδοσία) could not be buried within the borders of Attica (for which see Todd, 1993, 274, and MacDowell, 1978, 175-9. The fourth-century Ephebic Oath (Tod, *Greek Historical Inscriptions* II, l. 19) mentions ὅροι τῆς πατρίδος "borders of the fatherland", so there was certainly a border for Attica that was conceptualized by this time. See Ober, 1985, and Munn, 1993, for the archaeological evidence for the borders of Attica. The odd trial in Phreatto (ἐν Φριαττοῖ, Dem. 23.78-79) was a way for the Athenians to allow exiled individuals convicted of homicide to stand trial without crossing the boundaries of Attica by pleading their cases from a boat to the judges who sat on the shore. These same individuals would be liable to arrest if they were seen in temples or the *agora* (Dem. 23.80), and so, though the whole of Attica was off-limits for them, they were most likely to be seen and arrested in a public place. For a comprehensive discussion of exile, see Forsdyke, 2005.

home town of Massalia. Aphobus, Demosthenes' guardian, managed to keep his profits from embezzling his nephew's estate by physically escaping from the jurisdiction of the Athenian courts, and settling down as a metic in Megara. If he had ever returned to Athens, of course, he would have been subject to *polis* enforcement, but only if he were careless enough to get caught.

This sort of difficulty in the enforcement of long-distance trade beyond the jurisdiction of a specific government was also characteristic of the early modern European economy. Braudel has spoken of the "impunity allowed by overseas trade – which was beyond supervision, given the distances between the points of sale and the individuals concerned in such exchanges" (Braudel, 1982, 416). Therefore, pre-modern maritime commerce was a dangerous world, which only became safer with the development of more sophisticated legal and monitoring methods in the modern West.

Even when one was within *polis* jurisdiction and third-party enforcement was possible, as in the case of the Athenian maritime courts, some of the individuals in the speeches trusted to deception and procedural trickery to avoid prosecution, to the point that they even returned to Athens after they had broken the law by violating the terms of their contracts.[798] Rather than trying to hide, some, like the brother traders Apollodorus and Artemo in Demosthenes *Against Lacritus*, returned to the city where they had made the agreement, apparently not fearing the possibility of state enforcement:

[798] The legal system in Athens was not comprehensive enough to protect against many of the tricks that could be employed in attempts to circumvent legal institutions. When Aphobus encumbered his land with debts so that Demosthenes could not recover the money owed to him, it was clear that he understood that using this trick would give him added time to remove his property and also make it more difficult for Demosthenes to collect his losses, according to Demosthenes at any rate (Dem. *Against Onetor* 1 & 2). When Demosthenes' guardians forced him to serve a trierarchy in order to be permitted to bring his suit against them, they were using this as a means of discouraging him from taking legal action.

ἐπειδὴ γὰρ ἀφίκοντο δεῦρο, εἰς μὲν τὸ ὑμέτερον ἐμπόριον οὐ καταπλέουσιν, εἰς φωρῶν δὲ λιμένα ὁρμίζονται, ὅς ἐστιν ἔξω τῶν σημείων τοῦ ὑμετέρου ἐμπορίου … καὶ τὸ μὲν πλοῖον ὥρμει ἐνταῦθα πλείους ἢ πέντε καὶ εἴκοσιν ἡμέρας, οὗτοι δὲ περιεπάτουν ἐν τῷ δείγματι τῷ ὑμετέρῳ.

For when they arrived here, they did not sail into your harbor market, but rather put into the thieves' harbor,[799] which is outside the markers of your harbor market … and the ship was anchored there for more than twenty five days, while these men themselves were walking around in your sample market (Dem. 35.28).

By anchoring their ship in an illegal harbor, and then making their way into the market by foot, these brothers avoided detection and snuck back into the city where they had made the contract they violated. In the sample market, the *deigma*, the money lenders who had originally financed their trip, Androcles and Nausicrates, confronted them and demanded repayment. The brother of the borrowers who had stayed behind in Athens, Lacritus, responded by exploiting a loophole: that the ship which was carrying their cargo had been wrecked (Dem. 35.29-31), nullifying the original contract (35.11). The only hope the money-lenders had was to win their case in court by proving that the contract had not been followed.

Exploiting loopholes and technicalities in contract wording was a favorite trick of some of the more clever and unscrupulous. Dionysodorus and Parmeniscus also exploited the wording of their own contract to be able to keep the money and continue trading, likewise claiming that

[799] Isager and Hansen, 1975, 171-2, say the λιμὴν φωρῶν was a "pirate's harbor", not a "smuggler's harbor". Whatever the case, the point of the speaker's description is to show that the defendants were avoiding harbor officials and duties to try to illegally circumvent legal institutions to profit for themselves.

their ship sank (Dem. 56.21), and using this excuse to continue to trade at Athens with rented ships; Demosthenes, however, ingeniously seems to have exposed a fatal flaw in their argument, as they allegedly offered to repay the interest on the cargo from Egypt to Rhodes, though not from Egypt all the way to Athens; but they would not have been liable for any interest at all if the ship had actually sunk (Dem. 56. 31-32). Phormion also returned to Athens to continue trading after breaking the terms of his own contract, exploiting a clause which gave the borrower the right to repay the loan to the *naukleros* Lampis rather than the original lender; rather than actually paying Lampis, however, the two made a deal to split the money and then take their chances in the Athenian court should the issue ever arise (34.18, 35).

With the information problems of verifying the claims of these men, it was only their own mistakes that enabled them to be prosecuted. Phormion was found to be in violation of his contract prior to the ships' sinking, and likewise for Apollodorus and Artemon. Dionysodorus, as discussed above, was subverted by agreeing to repay the interest on part of the voyage when no interest would have needed to be paid in the event of the ship's destruction.

In the latter case, the deal offered by Dionysodorus to Dareius to repay the interest from Egypt to Rhodes is probably an accurate reflection of the ways contract violators would make good with their lenders. In the modern corporate business world, resorting to the courts is often the last resort in conflict resolution; side deals made between the companies in the absence of lawyers is the preferred way of resolving disputes to cut costs of litigation and the deterioration of relations between the two firms which would inevitably result.[800] Therefore, it may be that

[800] Granovetter, 2001 [1985], 62.

Dionysodorus was resorting to a common strategy in trying to resolve this conflict with a compromise outside of court.

Moreover, even when the state did have the ability to enforce its laws, the slow pace of legal procedures often permitted individuals to whisk away disputed property prior to the judicial action itself.[801] Phaenippus took advantage of the time delay in the matter of his *antidosis* to sell the property in question, making a large profit while converting his produce to *aphanes*, or invisible, form (Dem. 42). Aphobus, the guardian of Demosthenes, similarly took advantage of the time involved in the legal procedures taken against him to liquidate his property, emptying the wine vats on his property, and perhaps also taking away his wards' manufacturing slaves with him to Megara, where he took up residence as a metic in order to enjoy his wealth outside of the reach of the Athenian law courts. Apatourios attempted to sneak away from the Piraeus his ship and slaves which were about to be seized as security on a loan default, and after he failed, he resorted to arbitration to further delay the legal measures being taken against him. (Dem. 33.14-22).

Clearly all these men thought that they could escape the law courts of Athens, and were so confident in their abilities that they even stayed in or returned to Athens after violating their contractual obligations. The plaintiffs in these cases were forced to resort to hiring Demosthenes to write speeches for them in order to be able to overcome the trickery of their borrowers.

[801] Long protracted delays existed for other types of actions (Cohen, 2005, 301, note 58 for examples), but for maritime cases, the delays were eliminated, as part of the *dikai emmenoi*, cases to be settled with one month's time. In the Athenian maritime courts, foreign defendants required to post pretrial bail or securities, and if they didn't they would go to jail (Cohen, 2005, 301). The *dikai emmenoi* reveal that the Athenian *polis* recognized the enforcement problems that encumbered maritime trade and attempted to resolve such conflicts in a quick and efficient manner.

This is not to say that there were no mechanisms for the enforcement of maritime trade contracts in ancient Greece. As North states, in the absence of effective third-party enforcement, it was still possible for lending and merchant businessmen to police their own ranks to a certain extent.[802] Indeed, if a merchant double-crossed a lender, there would be no way for that person to be able to engage in a business deal with that lender or anyone else who hears about the contract violation. Apatourios was slandered in the *emporion* by his former creditors who were trying to dissuade others from lending to him in their attempts to seize his ship and slaves (Dem. 33.6). Also, the money-lenders in the Piraeus in Lysias *Against Aeschines* were on the whole unwilling to lend to Aeschines, on account of the bad reputation he had acquired.[803] Demosthenes himself recognized the costs and benefits of ruining one's reputation for short-term gain: πολλῶν χρημάτων τὸ χρηστὸν εἶναι λυσιτελέστερον ἐστι "being honest is more profitable than a great deal of money" (Demosthenes 36.52). Therefore, the long-term benefits of remaining honest were definitely known to the ancient Greeks, many of whom certainly forewent the possibility of a quick profit to maintain long-term business relationships.[804] Reputation could be a powerful incentive to adhere to agreements.

[802] North 1990, 55: "ostracism of merchants who reneged on agreements … provide[s] incentives to parties to live up to agreements. Reputations, depending on the costs of information, provided parties in long-distance trade and impersonal exchange a mechanism to enforce agreements."

[803] Lysias fragment 38.4 (Gernet and Bizos, 2003.

[804] For the awareness of reputation as being important in business, see the trader in Demosthenes *Against Phormio*, who made benefactions to Athens to get secure a good reputation (34.38-40). The same man is astounded that Phormio did not gather witnesses when he was supposedly repaying the loan in the Bosporus as his contract permitted, because it would have secured him a great reputation for honesty in business dealings (34.29-30). Demosthenes also says πίστις ἀφορμὴ τῶν πασῶν ἐστι μεγίστη πρὸς χρηματισμόν, "trust is best capital of all for money-making" (36.44), and πολλῶν χρημάτων τὸ χρηστὸν εἶναι λυσιτελέστερόν ἐστι, "being honest is more profitable than a lot of money" (Dem. 36.52), In Demosthenes *Against Apatourios* lenders are said to have slandered their borrower in the *emporion* to ruin his reputation, in order to deny him new lines of credit 33.7-8. Aeschines in Lysias *Against Aeschines* had certainly acquired a bad enough reputation among money lenders in the

But what if, as in the example of Protus above, one cared more for profit than for reputation? In this case, there would have been little incentive to live up to one's agreements since the alternative provided more material return. Gossip and reputation were of course important for individuals who were concerned with keeping a good name, such as stationary moneylenders, but for those who may have been engaging in trade only as a short-term means of making money, it may have been more profitable to engage in deceptive behavior and then invest the profits into activities whose participants were entirely different from those members of the trading community who were aware of that individual's reputation. Zenothemis and Hegestratus clearly did not care more for their reputation amongst Syracusan lenders than the cash which they then had at their disposal in Massalia. Conversely, one could remain in the field of maritime trade, but change the cities in which one operated, or, as in the case of Zenothemis and Hegestratus, work cooperatively, and exploit the same money-lenders through an unknown associate.

In short, those individuals who did not care about a bad reputation were precisely those who were willing to exploit the imperfections of state enforcement in the open market. If one has already made a bad name for himself among the residence merchants and lenders of a given city, it is almost inevitable that he will leave the jurisdiction of this city as a matter of course. Therefore, for such individuals the limited third-party enforcement of cities would have carried little or no force anyway, and it is this lack of effective enforcement that characterizes much of ancient Greek mercantile trade behavior.

Piraeus that they would not lend to him. For the importance of reputation in policing even the behavior of modern firms, see Williamson, 1975, 108.

Perhaps many turned to trade as a means of making a quick profit, only to leave after they had made a small fortune. Zenothemis and Hegestratus certainly seem to have been treating their borrowing scam as a means to make money in a short-term stint in maritime trade. As Padget and McLean have shown for Renaissance Florence, many of the individuals who took up banking only engaged in this trade for a short period of time, on average only 8.2 years,[805] to make money quickly and then retire when they had made their fortune. Hesiod's father made his fortune in maritime trade but then bought land and retired. The merchants-turned-money-lenders discussed above likewise stayed in trade long enough to make their fortune, whereupon they retired. Therefore, as seen in the discussion of game theory above, individuals would have been more willing to honor a business relationship if they had an interest in maintaining contact in the long term, and much less so if they perceived that they were dealing with someone for the last time.

Without effective state enforcement of international contracts, businessmen were left to their own devices to try to recover their property through the institution of *sula*,[806] the forcible seizure of property from a debtor in another *polis*. This option, of course, was available, but it required tracking the cheater down and bringing enough force to be able to realize the reprisal effectively. Moreover, it seems that some cities did not share the right of reprisals with each other (Dem 35.13), and so there would have been safe havens for cheaters to hide even from *sula*. Therefore, there were limits to the enforcement that the state could provide, and in the end individuals were forced to rely on themselves to protect their interests.

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[805] Padgett and McLean , 2011, 19, n. 44.

[806] The authoritative work on *sula* is still Bravo, 1980. For a more recent treatment, see Lintott, 2004.

VIII. Contracts, friends, and family: protecting oneself on the open market.

Money lenders faced great risks when they handed their money over to maritime traders, who could do whatever they wanted with the money once they had it in their hands. The speaker of Demosthenes *Against Dionysodorus* describes the difficult position money-lenders faced every time they lent their money, as they were faced with an information problem due to the uncertainty that a borrower would repay the loan: [807] "the borrower has the advantage over us in every respect".[808] Since the character of a borrower might not be known,[809] the speaker continues, there is only one objective means to trust that loans might be repaid, namely the maritime court of Athens: τῷ οὖν ποτὲ πιστεύοντες καὶ τί λαβόντες τὸ βέβαιον

[807]A money borrower was in a much better position regarding information asymmetry than the lender of money, who would be forced to evaluate the trustworthiness of his potential business partner. A useful analog can be seen in the information uncertainties that arose based on the quality of coinage in the Athenian *agora*. In the case that a buyer had more than one type of coin, whose quality might be unknown (counterfeit, etc.), information asymmetries would arise in favor of the seller of goods (the receiver of money), for which see Johnstone, 2011, 12-13.

[808] ἡμῖν τοῖς τὴν κατὰ θάλατταν ἐργασίαν προῃρημένοις καὶ τὰ ἡμέτερ' αὑτῶν ἐγχειρίζουσιν ἑτέροις, ἐκεῖνο μὲν σαφῶς εἰδέναι, ὅτι ὁ δανειζόμενος ἐν παντὶ προέχει ἡμῶν. λαβὼν γὰρ ἀργύριον φανερὸν καὶ ὁμολογούμενον, ἐν γρμματειδίῳ δυοῖν χαλκοῖν ἐωνημένῳ (Dem. 56.1).

[809] Given the high risks for everyone trying to make a fortune in maritime commerce, merchants and financiers alike sought to reduce their exposure to risk and improve their bargaining position by gathering information (Morley, 2007, 33). Information problems with dealing with unknown or not well-known partners in maritime trade can be usefully conceptualized in light of Geertz' description of the bazaar economy of Suq: " The usual maxims apply here as elsewhere: sellers seek maximum profit, consumers maximum utility; price relates supply and demand in the bazaar information is poor, scarce, maldistributed, inefficiently communicated, and intensely valued …The level of ignorance about everything from product quality and going prices to market possibilities and production costs is very high, and much of the way in which the bazaar functions can be interpreted as an attempt to reduce such ignorance for someone, increase it for someone, or defend someone against it" (Geertz, 1979, 29)". In the bazaar market of Suq, time needs to be spent in any search, and sometimes cementing a bond with an old contact is better than the time it would take to find a more profitable one. Granovetter, 1985, 62-3 agrees with Geertz and shows how even in the corporate worlds of the United States and Japan in the 1980s, the information costs associated with finding new contacts in the open market actually cause businessmen to associate with known partners and create long-term trading relationships with a few trusted partners. Thus, even the two most sophisticated corporate economies in world history are strongly and deeply embedded in personal networks and social relations. That the same phenomena existed in ancient Greece attests to the similar nature of the market economy at that time. As Granovetter notes: "the embeddedness argument stresses instead the role of concrete personal relations and structures (or 'networks') of such relations in generating trust and discouraging malfeasance" (1985, 57).

προιέμεθα; ὑμῖν, ὦ ἄνδρες δικασταί, καὶ τοῖς νόμοις τοῖς ὑμετέροις, "And so, trusting in what and taking what as surety do we lend our money? In you, men of the jury, and in your laws" (Dem. 56.2). This speaker recognizes that there is no guarantee that a borrower will return his money, and that in such a situation, the only recourse a money-lender might have would be to the law courts of Athens. Therefore, a money-lender would want to ensure that he could turn to the courts in case his money were stolen, and so contracts were written to give the lender something tangible to use to recover his money with state enforcement. With the advent of the Athenian *dikai emporikai*, a new level of enforcement was introduced, in which a written document could be used to support claims to private property.

Trust and problems of trust are what led the ancient Greeks to resort to written contracts in the first place, since they allowed for state enforcement through the law courts.[810] The speaker of Demosthenes *Against Phormion* says that lack of trust caused the defendant's lenders to make two contracts with him (ἀπιστοῦντες at Dem. 34.32). The money lender Demon in Demosthenes *Against Zenothemis* had an agreement, but no contract with Protus, and was then unable to produce written documentation to prove his ownership over the cargo he was claiming in Athens. Not having a written contract deposited with a third party exposed Demon to Zenothemis' attack when Protus escaped, since he was the star witness for Demon's case. Though state enforcement was not perfect, it was not even available without a contract, and so as a rick-reducing measure to avoid the treachery of business partners, lenders resorted to written contracts to decrease the chances of losing their money entirely. With a written contract, one

[810] So says Aeschines in *Against Timarchus*: τὰς συνθήκας τῆς πορὸς ἀλλήλους ἀπιστίας ἕνεκα ποιούμεθα, ἵνα ὁ μὴ παραβὰς τὰ γεγραμμένα δίκην λάβῃ τῷ ψήφῳ παρὰ τοῦ παραβάντος (Aeschines 1.161).

could prove his property rights in court, and was therefore permitted to resort to self-help, which was effective within the bounds of *polis* jurisdiction.[811]

Lenders still wanted to engage in highly profitable bottomry loans, and they were still willing to take the risks on the ship sinking or the borrower escaping. Maritime trade was highly risky however one was involved. But lenders did make attempts to reduce these risks as much as possible in order to increase the chances of making a profit. Thus, it should come as no surprise that the speaker of Demosthenes *Against Apatourios* says that his co-lender wanted him to arrange things so that they were "as safe as possible", ὡ̓ς ἀσφαλέστατα, for him (33.8). The desire for safety to offset risk was a central consideration for ancient Greek investors in general (see above, chapter 2), and so it should come as no surprise that contracts were a means of increasing the safety for the lender relative to his risks.

There were a number of ways in which contracts were written to reduce the risks for the lender.[812] First, security tended to be about twice the amount of the loan,[813] to ensure the lender that there would be ample property backing up a loan. Second, there were clauses that gave contracts precedence over laws in the cities in which the participants would be transacting

[811] As Harris, 2007, 173, n. 50, points out, in private suits, plaintiffs in Athens were allowed to seize defaulting debtors' property (see e.g. Dem. 21.11; Theophemus and Euergus engage in a particularly forcible act of seizure at Dem. 47.52-61), which shows that self-help was, indeed possible and effective within *polis* jurisdiction as long as the defaulting party could be found. Goods are seized in a dispute over the security in a maritime trade at Dem. 32.20, even without the authority of a written contract.

[812] Another way of ensuring trust by borrowers was to leave one partner behind in Athens, like Lacritus and Dionysodorus, while the other partner went with the ship. This enabled the lender to prosecute the partner who stayed behind in case of contract violation. Lenders also countered by sending representatives with the ship, or by sending letters to partners on the other side of a trade route (Dem. 34.8). These examples show pretty clearly, however, that these measures were also imperfect.

[813] Dem. 35.18, Dem. 34.6

business, to prevent any legislation from annulling the borrower's responsibility.[814] Third, clauses were introduced allowing the lenders *praxis*, power to collect, both in the city of the original contract[815] and sometimes also in the destination city,[816] to permit the lenders to take action without resorting to the legal system. Fourth, to increase the lender's trust in the borrower, penalties were also written into contracts in case of infractions. [817] In *Against Dionysodorus*, the borrowers Dionysodorus and Parmeniscus wrote a clause penalizing themselves double the repayment price if they violated the contract's terms. Finally, many contracts specified the amount of *tokos*, "yield" or "interest" which the borrower was to repay upon completion of the voyage,[818] ensuring a high profit for themselves, and laying the risk of loss upon the borrower.[819]

Because borrowers wanted to be able to pursue the most profitable opportunities possible (see above), some contracts even had flexibility built into them. In the contract preserved in Demosthenes *Against Lacritus*, this flexibility can be seen in the increased interest that is

[814] See the clause stating that nothing will be "more authoritative" (*kurioteron*) than the agreement in the contract at Dem. 35.13; Cohen, 2005, 298-9, Phillips, 2009, 96-7. This clause is also found in numerous papyrus contracts, including *P. NYU* 3.15-16, *P. NYU* 468 R.11, *P. Eleph*. 1.13-14, *P. Tebt*. 104.39, *P. Oxy*. 1273.37.

[815] In the contract at Dem. 35.12. The praxis clause is known from other contracts in the Demosthenic corpus at 34.27, 56.45; for the *praxis* clause in Egyptian papyrus contracts, see Wolff, 1941.

[816] For a clause giving lenders originating in Athens the right of *praxis* in the Bosporus, see Dem. 34.27.

[817] Penalties were often built in to contracts see, e.g., Dem 34.33, the time limit (ὑπερημερία) in Dem. 47.51, at Dem 33.6 (time limit), and at Dem 35.13 (time limit and interest raise), as well as the penalty of paying double in Dem 56.20, 38.

[818] See Cohen, 1992, 44-46, for a discussion of the Greek term *tokos*, which he prefers to translate as "yield" rather than "interest". The distinction between the two translations is of great interest for both Greek and English concepts of return on such investments, but is largely inconsequential for the purposes of my analysis in this study.

[819] Borrowers were protecting themselves, too, against big loss, which is why they took all the illegal measures I discussed above to protect themselves against unfair deals rigidly imposed by contracts in the face of changing market realities. As discussed above, Apollodorus the Phaselite trader is said to have lent the money he originally borrowed for his own trading voyage to a friend and fellow Phaselite *naukleros*, doubtless because they were part of the same friendship and business partner networks. The speaker who indicts him, Androcles, attributes this rascality and knavery to the Phaselite people in general, who he says are involved in the most *dikai* in Athens of any other people, Greek or non-Greek (35.1-2).

specified for a voyage after the rising of Arcturus. This clause is a penalty, but also gives the borrower extra time in case he needs it. The borrower's choice can also be seen in the fact that that although an outward cargo is specified (3,000 jars of Mendean Wine, 35.10), the return cargo is not specified (35.10-13), and referred to only vaguely as *chremata*, goods. Therefore, the borrower's choice was built into the contract itself, as it was in Demosthenes *Against Phormion*, where the contract gave the defendant the option of paying Lampis, the ship's *naukleros*, rather than the money-lender in Athens (Dem. 34.34-5), freeing up Phormion to be able to make another deal in the Pontus region if he wanted.

The main way in which this was done was not through contractual wording, which could help only in case of the trader's returning to Athens where the contract could be used in the maritime courts, which did have true enforcement power. Nor did individuals depend on private reprisals and *sula*, which were only resorted to in the most extreme cases. Rather, it was through the creation and maintenance of trusted networks of business associates and personal contacts that individuals were best able to protect themselves in the world of ancient Greek maritime trade.

Since contracts and state enforcement were imperfect, however, a better way to protect effectively against potentially dangerous strangers in the open market was to buffer oneself through the creation of long-term business partnerships with trusted individuals, whether friends or family. It is hardly a coincidence that many of the trading partnerships we encounter in ancient Greece involved family members,[820] and many of the other business deals recounted in

[820] See Reed, 2003, 37, n. 14 for trading partnerships among family members: catalog nos. 11 & 12, 19 & 20, 31 & 32, 49, 51 & 52; 11 & 12: Chrysippus, the speaker of Dem. 34, and his brother had a large trade partnership (Dem. 34.38-9); 19 & 20: Artemon and Apollodorus were the brother-traders (Dem. 35); 31 & 32: Megacleides and Thrasyllus of Athens were brother traders (Dem. 52.20); 49: A Megarian trader who was granted *proxenia* and

the ancient Greek sources often were made between trusted business partners.[821] Slaves were some of a master's most trusted partners (Lampis, Midas, Pasion, Phormion), and could attain positions of prominence in these circles of trust. National groups of merchants probably formed important networks of information,[822] and often seem to have worked together, including the Phaselite compatriot and friend to whom Apollodorus lent his borrowed money when he reached Pontus (Dem. 35.36).[823]

Even bankers, who (as I argued above in Chapter 4) often made high interest loans to high-risk individuals to capitalize on highly profitable opportunities, sometimes seem to have protected themselves through trust, perhaps requiring introductions by known associates.[824]

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asylia sometime around 390-78 BCE and probably in business with his sons (IG II2 81); 51 & 52: Hiero and Apses of Tyre, traders who were father and son. Though these may have been non-Greeks they fit the pattern nonetheless; Diodotus and Diogeiton are probably involved in some way (Lys. 32); Xenopeithes and Nausicrates were brothers who operated a money-lending business together (Dem 38).

[821]At Dem. 33.5, the borrowers are said to be well-known to the lender: τούτοις δὲ τοῖς ἐκ Βυζαντίου καὶ πάνυ οἰκείως χρῶμαι διὰ τὸ ἐνδιατρῖψαι αὐτόθι, "with these men from Byzantium, I am very much familiar from the time I spent there".

[822] Compare the Byzantine traders who work together at Dem. 33.5.

[823] Bang, 2008, 241, agrees that merchants did try to form social networks to protect themselves against the vicissitudes of commercial life. These communal merchant organizations tended to be restricted to the sharing of information, mutual help in foreign lands, guarantee of burial, conviviality, and cultic activities. As in ancient Greece, they never developed into corporations. Foreign trading communities in particular served to forge contacts, vouch for new members, and performed other community strengthening activities. *Collegia* of cities' merchants were found in many *poleis*, and were in particular associated with cults (250). These associations also adjudicated private conflicts to police their members and maintain social order within the association (262-3).

[824] Hasebroek, 1965, 87, agrees: "the lending business of the Greek banker seems to have been largely confined to the occasional accommodation of personal friends, and his deposit business was no doubt equally restricted." The wide range of friends that Pasion is said to have had, however, shows that the term "friend" in this instance is rather inclusive, perhaps referring to trusted business associates. In this respect, bankers' and other merchants' reliance upon personal introductions for new contacts resembles the practice of expanding networks of contacts in *xenia*, or ritualized guest-friendship, and so may actually be derived from and related to the expansion of guest-friendship networks in the ancient Greek world. For introductions through intermediaries in guest-friend relations in ancient Greece, see Herman, 1987, 47. In this respect, the social fabric of ancient Greek trade was similar to that of even early American rural communities: "Hasbrouck's early customers came from the neighborhood, and strangers hailing from beyond required an endorsement from a resident and partner-in-trade. Reputation thus pre-ceded economic interaction (Bruegel, 2006, 550).

Pasion seems to have required unknown borrowers to be vouched for by current customers in at least two known occasions (Isoc. 17.4, Dem. 52.4), and is said to have accumulated a wide network of friends in his business (Isoc. 17.2). *Pistis* is explicitly said by Demosthenes to be the foundation for Phormion's business success (Dem. 36.44), and so trust was an important part of banking, which seems to be the most impersonal and open of ancient business practices. Since bankers were actively involved in maritime finance,[825] they were also exposed to the risks of defaulting borrowers,[826] and so would have been wise to protect themselves.

Therefore, merchants and money-lenders certainly, and even bankers possibly operated within personalized networks of contacts, and so cannot be said to entirely conform with the principles of free market competition that are central to Neoclassical models of simplified economic behavior.

Such market distortions are not solely characteristic of ancient Greece, however, but are also prevalent in the modern economy. Mark Granovetter has shown the importance of personalized contacts in modern American and Japanese corporate dealings,[827] and just as in pre-

[825] Bankers' active involvement in financing trade has been argued persuasively by Cohen, 1992, 121-86, who, according to Reed, 2003, 39, is correct, though too optimistic about certain examples at Dem. 27.11, which are in my opinion actually quite well-argued for, unless they are perhaps business partners (see my discussion of bankers, above in Chapter 4). See also Thompson, 1983, 55 n. 12. For earlier works which denied the role of banks in maritime finance, see Reed, 2003, 39, n. 24. Bankers financing trade are attested at, e.g., Dem. 33.4-7 (to finance credit purchase of ship), and 49.35-36 (banker finances merchandise bound for Athens). Perhaps up to half of the total value of known bank loans in ancient Greece was for trade, for which see Shipton, Kirsty, 2008, 111 This would make great sense since many merchants were said to be the customers of the banker Pasion (Dem. 52.3).

[826] Defaulting borrowers were especially dangerous for bankers, and are known to have caused the collapse of banks in ancient Greece (Dem. 45.64).

[827] Granovetter, 1985, has shown that the modern economy was more "embedded" than scholars such as Polanyi have allowed, and makes a strong case that the embeddedness of pre-modern economies was in fact a characteristic of all economic systems. For Polanyi on "embeddedness" and the evolution of the self-regulating market, which he does identify as operating in ancient Greece, see Polanyi, 1944, 43-76, 1957, 64-94, 243-270. See Braudel, 1982, 225-9, for a very compelling discussion on the problems with Polanyi's qualitative distinction between modern and the pre-modern economies. Institutional economist Thorstein Veblen, in his classic work, *The Theory of the Leisure*

modern economies, relationships are used to control information costs and deal with problems of trust. The use of personalistic networks is therefore not a sign of primitive economic development, but rather a feature of free market capitalism in general.

Another historical parallel can be seen in Renaissance Florence, where business was very much channeled through networks of personal contacts:

> In their riskiest business climates, Florentines tended to close ranks within intimate social relations for their strongest credit connections. Since Florentine families in international business were spread geographically all over Europe, some of the heaviest early fifteenth-century flow of international finance throughout Europe coursed through upper-class Florentine families' veins, making them very wealthy indeed (Padgett and McLean, 2011, 26).

Again contrary to the Neoclassical model of impersonal markets, in fifteenth-century Florence personalistic markets predominated, which exhibit different features than the neoclassical model of the open, free market economy; rather than perfect information free to all, information is

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Class. (New York, 1899), of course shows that economic behavior is culturally conditioned both in ancient and modern economies, and that the modern United States is just as embedded in social relations as the pre-modern. Bruegel, 2006, 550 shows how personalistic networks also existed in nineteenth century American farming economy: "At least four Kinderhook merchants dealt with well-to-do Ephraim Best's produce during the 1840s and early 1850s; Best remained loyal to each of them, the idea of "playing the (market) field" had not entered his mind…These long-term relations stand in marked contrast to the ideal type of economic transactions (of which shopping in supermarkets may be the best illustration because it happens in an instant and does not threaten the preservation of anonymity)." Geertz's discussion of the bazaar economy of Suq (1979) stresses the costs of acquiring information, and that relationship forming was not necessarily anti-profit maximizing or economically irrational – rather, it was the result of the difficulties of trust and information acquisition. The time needed to find new potentially more profitable contacts could be better spent doing something else, like making deals. Granovetter, 2001 [1985], 62-64 shows that even modern firms tend to prefer repeated, long-term relationships with known contacts rather than incurring the high costs of gathering more information on new potential partners. The problems of information that Geertz had demonstrated for the bazaar economy of Suq are therefore equally applicable to the ancient Greek and modern economies.

restricted, and shared among a limited number of individuals.[828] Restricting information and money to trusted contacts also seems to have concentrated and channeled the increased profits that also accompanied such privileged access to profitable opportunities. In these networks, restricting information was a way for sellers to maximize their own profits, which would be magnified and channeled among the group thanks to the exclusiveness of the information. As Osborne has argued the land leased by corporate groups in Attica seems to have been largely restricted to the actual group members who controlled the lease auctions, because they restricted the news of these opportunities to themselves and other privileged insiders.[829]

Therefore, economic transactions served to cement personal contacts, rather than to make them impersonal, leading to an economic system strongly embedded in social relations, where cooperation was just as important as competition. Thus, the invisible hand of the economy did not create a purely free, open market for all – instead, self-interested profit-maximization within a world of little government enforcement of contracts created a market system in which trust problems restricted the open-market of impersonal exchange. Rather, the creation of networks of trusted contacts to reduce risk restricted access to opportunities to people who were part of these information networks. Individuals seeking opportunities on the open market were therefore deprived of many of the most lucrative opportunities, which were restricted to certain circles. Therefore, separate channels of information existed independently of each other, each operating within different social networks. Access to these different information channels was restricted only to group members. Gaining a place in these restricted networks was a difficult task since it

[828] Padget and McLean, 2011, 46.

[829] Osborne, 1988.

often required a member of the group to introduce a new member and to risk his own reputation by bringing in someone new who could threaten the cohesiveness and safety of the group as a whole.[830]

Therefore, economic imbalances and asymmetries would have resulted from the creation of these social networks, and would not have opened up opportunities to all, but rather would have restricted access to profitable opportunities to those who were able to penetrate the group in one way or another. This is the heart of Polanyi's notion of embeddedness, the social fabric of economic activity.

Perhaps we can go further by applying Bruegel's insights into the social dynamics of economic relationships in early American farming communities, whose substantivist nature he describes in detail.[831] Bruegel demonstrates how economic behavior was socially embedded and then goes on to describe how the nature of these social bonds provided both an important structure, as well as an impetus for, this economic behavior. Here Polanyi's emphasis on the concept of "embeddedness" can be seen in its full force:

> Of course, they were built on, and engendered, trust. But regular interaction also kept up pressure and the threat of sanctions. The cost of leaving a long-term relationship included a monetary as well as an intangible dimension. The inability to meet expectations put reputations at risk. The stigma diminished one's capacity to enter new partnerships … Finally, long-term relationships in trade appeared convenient to partners-in-trade, but while

[830] Bourdieu, 2001, 104.

[831] Bruegel, 2006.

trust accrued over time (though one might want to see the evolution of outstanding debts as time went by), pressure emanated from personal relations.[832]

Social pressures drove economic exchange. Since there was pressure to meet expectations in order to maintain one's reputation and relationships, and thus to ensure the future ability to enter new partnerships, this social pressure may have been a significant factor in the decision-making process. The desire to maintain one's reputation as a receptive, approachable businessman may have affected the process of calculation and choice, on a level which does not appear in the source material, and cannot be measured quantitatively.

With social pressure and the necessity of maintaining business relationships, individuals are operating under constraints not purely economic in character, namely prices and profits. Rather, the need to appear as a ready and willing potential trade partner, who will generally be open to the opportunities for exchange which are presented, is of the utmost importance in such socially embedded trade conditions. If a businessman does not maintain his reputation as a trading partner receptive to new opportunities presented by partners, he may deprive himself of future opportunities for profit, since his partners, once refused, may turn to another contact when similar situations arise.

Moreover, since balanced reciprocity and favors are part of any social relationship,[833] the refusal to provide a favor for a business associate may be interpreted as a hostile act, and may jeopardize the future business opportunities available with that individual and perhaps others if they hear of a reluctant business partner. Therefore, reciprocity in the sense argued for by

[832] Bruegel, 2006, 551-3.

[833] For the notion of balanced reciprocity, see Sahlins, 1973, 219-30.

Polanyi, within an embedded, substantivist setting, could then affect individuals' behaviors in the disembedded, formalist market. Both the embedded and disembedded spheres are seen to be functioning in ancient Greece, just as they operated together in the rural communities of the early United States, and still do today in the modern economy. So for those who did care about their reputation, and who were more likely to be fixed in a single location, the social pressure to engage in transactions and remain a viable business partner would have been powerful.

As Bourdieu has argued, social capital is necessary to maintain one's standing as an active, viable player in the social network of economic interactions of which that person was a member:

> "The profits that accrue from membership in a group [834]are the basis of the solidarity that makes them possible … material profits … and symbolic profits … It is the product of an endless effort … to produce lasting, useful relationships that can secure material or symbolic profits … the network of relationships is the product of investment strategies … aimed at establishing or reproducing social relationships that are directly usable in the short or long term" (103).

Staying connected with social networks required an investment of time and effort which is a necessary cost to maintain the flow of information about and access to profitable opportunities provided by these relationships of trust. Therefore, the economic aims of a disembedded market system can be met through action within the social fabric of an embedded system. The two types

[834] Cf. Osborne, 1988, on leasing bodies in ancient Greek corporate groups dominating and restricting the circulation of information in order to profit from the leases themselves, the same way as these Renaissance Florentine merchant bankers.

are not necessarily mutually exclusive, and are instead two poles on the spectrum of over- and under-socialized emphases in economic analysis.[835]

> Exchange transforms the things exchanged into signs of recognition and, through … the recognition of group membership that it implies, re-produces the group … It reaffirms the limits of the group … beyond which the constitutive exchange – trade, commensality, or marriage – cannot take place. The reproduction of social capital presupposes an unceasing effort of sociability, a continuous series of exchanges in which recognition is endlessly affirmed and reaffirmed.[836]

An unceasing effort of sociability, a continuous series of exchanges, is what Bourdieu says sustains the social capital needed to maintain membership in such groups. This, combined with Bruegel's notion of social pressure emanating from these relationships, illuminates some of the social aspects of economic networks. Social ties were a way of guaranteeing future economic exchange. Conversely, the economic primacy of these social relationships demonstrates the types of investments that were necessary to make it in a hazardous trading environment: investments in the membership of a group as a form of protection against the dangers of the open market.

Because maintaining these relationships required constant effort, the social pressures which the networks created could also be taken advantage of by unscrupulous, profit-hungry borrowers; the need to maintain reputation and to maintain trading contacts in order to secure long-term financial success could be exploited by traders in search of funds. Personalistic market networks could be penetrated and exploited very easily from the margins, and such an act of

[835] Granovetter, 2001 [1985].

[836] Bourdieu, 2001, 104.

deception could even win the favor of a trader's competitors, meaning that through damaging a link with one network, one could glide automatically into a new network of business contacts.[837]

In these situations, where lenders were approached by friends and repeated business partners,[838] the added social pressure for maintaining the relationship and one's reputation may have been a significant factor in their decision to agree to make these loans. Thus, the deceptive borrowers were taking advantage of the pressure of social relations within the economy to manipulate the decision-making process of the lenders, who feel the pressure to comply due to their desire to remain viable, active businessmen in the trading community. This was an economic drive, to maintain or to increase one's standing in the trading community by showing that one was receptive to new opportunities and new potentially profitable partnerships. But social factors strongly affected the economic sphere in this respect, in that the necessity of maintaining reputation and relationships seems to have forced these men to make arrangements which may not have been entirely ideal. Thus, the social fabric of economic trade was a driving force in the economy, and the calculations were not merely numerical. Their ultimate goal may have been financial, but the means to maintaining and ensuring economic gain in the future was a careful, calculated assessment of the social pressures and opportunities in the market, and so monetary calculation had to go hand-in hand with social calculation at all times.

In Demosthenes *Against Lacritus*, the borrowers used the lender's mutual acquaintances to penetrate their personal trade network so secure a loan which otherwise may not have been

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[837] Such as seems to have happened when Protus sided with Xenothemis and the group of scoundrels in the Piraeus in Demosthenes *Against Zenothemis*.

[838] Whenever a loan is made to unscrupulous borrowers, it is exclusively the borrowers that approach the lenders. See, e.g., Dem. 33.6, 35.6, and 56.5. It may be that these borrowers approached these lenders knowing that they could dupe them.

accessible. Lacritus and his brothers were introduced to their prospective money-lender through the latter's friends, men who were known quite well to him.[839] They otherwise probably would not have been able to secure this loan, as the lender was a stranger, but presumably by exploiting the trust accumulated by an acquaintance of their own, they were able to use this person's trust to penetrate the lender's circle of trust at the margins. Therefore, as Granovetter points out for the modern business world: "while social relations may indeed often be a necessary condition for trust and trustworthy behavior, they are not sufficient to guarantee these and may even provide occasion and means for malfeasance and conflict on a scale larger than in their absence."[840] In short, social networks may have been a necessary means of protecting oneself, but they were not a sufficient means, and even the most close-knit network could be penetrated by free market opportunism at the fringes. Thus, the market could still find its way into these carefully-protected networks of trust.

This is as far as one can go with the evidence, but nevertheless it fits entirely the situation as presented by Bruegel for farmers in the early American Republican, and Bourdieu and Granovetter for the modern economy in general: problems of trust led to the formation of personal business relationships which were mutually beneficial and restrictive. The very social fabric of these relationships, however, exerted pressure to maintain them, leading perhaps to less-

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[839] ἐγὼ γάρ, ὦ ἄνδρες δικασταί, αὐτὸς μὲν οὐδ' ὁποστιοῦν ἐγνώριζον τοὺς ἀνθρώπους τούτους. Θρασυμήδης δ' ... καὶ Μελάνωπος ... ἐπιτήδειοί μοί εἰσι, καὶ χρώμεθ' ἀλλήλοις ὡς οἷόν τε μάλιστα. οὗτοι προσῆλθον μοι μετὰ Λακρίτου τουτουί, ὁπόθεν δήποτε ἐγνωρισμένοι τούτῳ οὐ γὰρ οἶδα, καὶ ἐδέοντό μου δανεῖσαι χρήματ' εἰς τὸν Πόντον (Dem. 33.6).

[840] Granovetter, 2001 [1985], 58. Granovetter continues by showing that the potential for malfeasance is actually increased in relationships of trust: the potential for malfeasance is always present in the market, but the *level* in the market is much lower in comparison with breaches of trust within social networks (58-60). Cf. Aphobus in Dem. 27-29.

than-ideal deals for some individuals. These social networks therefore were a distortion on the free, open market, but were nevertheless penetrable at their margins, and therefore did permit some of the free trade of Neoclassical market models to operate alongside, and also overlap with these personalistic networks.

IX. Conclusions.

In conclusion, unrestrained profit-maximizing behavior led to a distortion of the market in ancient Greece. While some tried to seek profit without regard for future reputation or the maintenance of contacts, others tried to maintain their long-term success in the highly profitable field of maritime commerce by protecting themselves against the dangers of free, impersonal trade in the open market. The result of these risk-reducing measures was a distortion of the market, in which opportunities were not open to all, but were rather restricted to individuals operating within personalistic networks. Therefore, instead of the perfect markets of neoclassical economics, characterized by free information and open competition, ancient Greek markets were distorted by kinship-centered partnerships which restricted the availability of information to members of protected circles of trust.

These networks, however, were not impenetrable. Rather, they were constantly in danger of being exploited at the fringes, where trust was weakest and where the problems of information and social pressure were most powerful. Although networks of business contacts could help to decrease the costs of loss, since they cushioned a businessman from exploitation, there was still a problem of trust which pervaded the lives of every ancient Greek businessman. Therefore, ensuring that these networks of contacts were as plentiful and as trustworthy as possible would have been of the utmost importance.

The market economy of the Greek world, as seen in international maritime commerce, had developed faster than the political and legal infrastructure beneath it. Personal initiative and enterprise, indeed an entrepreneurial spirit, had pushed the sphere of maritime commerce beyond the public structures for enforcement permitted by the political system of the *polis*. The market had become as sophisticated as it could have become within the peculiar economic world of the ancient Greek *polis*. Legal institutions were always a step behind the truly opportunistic and imaginative figures seen in the maritime court speeches of fourth century Athens. If traders had just adhered to the rules governing trade, the market economy would have been perfectly suited for its institutional underpinning.

But this is not what happened; the drive for profits led to ever more imaginative and innovative strategies to surpass the bounds imposed by the law and contracts. The boldness with which individuals pursued profit is remarkable, and the aggregate behavior of ancient Greek traders created an expansion of the commercial sector of the ancient Greek economy and other sectors which depended upon commerce, such as finance and manufacturing. This expanded market economy was hazardous, however, since the reckless drive for profit maximization had pushed international trade to a point that it could not be policed by individual *poleis*. Therefore, the politically fragmented Greek *polis* system, as an institutional structure, was by its very nature unable to intervene in, and therefore stabilize, the international markets of commerce and finance that had been created through the private initiative of individuals.

In the next chapter, I will delve further into the institutional structure of the *polis*, by exploring the difficulties ancient Greeks encountered in establishing and protecting property rights for their *aphanes* (invisible, non-landed) assets. Indeed, the lack of effective mechanisms to prove property rights for non-landed assets created insurmountable problems for the long-term accumulation and maintenance of commercial and financial capital.

Chapter 7: *Aphanes* Wealth and Barriers to the Long-Term Accumulation of Liquid Capital in Ancient Greece.

I. Introduction

In the last chapter, I demonstrated that the institution of the *polis* created major difficulties for enforcing international maritime loan contracts in ancient Greece. In this chapter, I will further expose the limitations the *polis* imposed on the accumulation of wealth by demonstrating that there were significant institutional barriers to the long-term maintenance and accumulation of *aphanes* (liquid, non-landed) capital.

First, the widespread practice of liturgy and tax avoidance deprived much *aphanes* wealth of government protection,[841] which made the safe transmission of *aphanes* fortunes to heirs extremely difficult. Second, the invisibility of liquid assets significantly hampered the protection and enforcement of property rights of such assets even when they were entitled to government

[841] The Greeks often thought in dichotomies, and divided the world into binary oppositions (for which see Lloyd, 1966, 15-171.), which also applied to their conceptions of wealth and property (see, e.g., Cohen, 1992, 46-52, for the bipolarization of financial terminology in ancient Greece), and the Athenians, at least, divided wealth into two types, visible and invisible wealth: *phanera* and *aphanes ousia*. What these terms actually meant can be seen in Harpocration's entry on *aphanes* and *phanera ousia*: ἀφανὴς οὐσία καὶ φανερά. ἀφανὴς μὲν ἡ ἐν χρήμασι καὶ σώμασι καὶ σκεύεσι, φανερὰ δὲ ἡ ἔγγειος. For a detailed exploration of the actual bounds between invisible and visible property, see Gernet, 1956; Finley, 1985 [1951], 54-56; Gabrielsen, 1986; 1994, 53-60; Cohen, 1992, 193-4. As Todd, 1993, 242, and Gabrielsen, 1994, 57, show, there was sometimes fluidity between the definition of visible and invisible property, such as with furniture and slaves, depending on the context.

enforcement, which left them susceptible to embezzlement and dissolution. Third, money-lending fortunes often disappeared after the death of the original lender, since borrowers often refused to repay their creditors' heirs. Many of the largest fortunes known from ancient Greece were decimated because they consisted of *aphanes*, liquid assets.

Institutional shortcomings were primarily responsible for the difficulties in maintaining and transmitting *aphanes* wealth across multiple generations, which created serious limitations for the long-term accumulation of financial and commercial capital in ancient Greece. Moreover, as far as financial wealth, money-lending, was concerned, the territorial limits to *polis* enforcement of contracts was a major impediment to the development of a stable, international financial market.

II. Liturgy avoidance, and the lack of government protection for *aphanes* wealth at Athens.

It has long been recognized that the liturgy system in Classical Athens severely depleted the private fortunes of wealthy individuals, [842] and many were able to avoid these state demands

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[842] It was no secret how expensive a liturgy could be, as a trierarchy could amount to as much as a third of a liturgist's entire fortune; Davies 1981, 83, n. 10, has collected numerous references to the devastation of property by liturgical demands in classical Athens. For the costs of liturgies, see Davies, 1971, xxi-xxii; Christ, 2006, 172-76, and Cohen, 1992, 196. Gabrielsen, 1994, 105-169. The financial pressure of liturgies is well-illustrated by the famous passage in Xenophon's *Oeconomicus* 2.5-8, in which Socrates enumerates the many monetary demands the Athenian *demos* placed on its wealthiest members. Even *philotimia* was not enough to reimburse many for what they perceived to be an unwanted expense. See the limits of *philotimia* in Cohen, 1992, 199-200, who shows that even those who claim pride for their liturgical service actually tried to avoid these liturgies initially, or to recover their money which they had overspent. Christ, 2006, 178-84, argues persuasively that the desire for such honor is a complicated matter, and was not likely preferred to the money itself. The understanding that individuals would prefer *not* to serve liturgies if possible can be seen in the existence of the *antidosis* procedure at Athens. *Antidosis* permitted someone chosen for liturgies to nominate another richer person to serve instead, and challenge that person to an exchange of property, if that person does not wish to fulfill the duties. The speaker of Demosthenes 42 *Against Phainippos* wants to avoid them as does Phainippos who quickly liquidates his agricultural produce as soon as he

by keeping their wealth in *aphanes*, invisible form, rather than *phanera*, or visible assets that could attract the attention of the *polis*.[843] By keeping one's wealth in loans, manufacturing slaves, cash, or bank deposits, wealthy Athenians could benefit from highly profitable investments while simultaneously allowing their property to grow hidden from public obligations.[844] Though liturgy avoidance by investing in *aphanes* wealth was a profitable

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hears that his property is being challenged by the *antidosis* procedure. Therefore, the *demos* itself recognized that liturgies would often not be willingly or happily embraced, but would rather be perceived as financially burdensome or ruinous. For the number of individuals subject from the fifth century to the fourth century, and the procedure whereby liturgists were selected, see MacDowell, 1978, 161-4; Rhodes, 1985, 1-19; Gabrielsen, 1994, 68-84, 173-217; Christ, 2006, 148-154. The minimum property requirement for liturgies seems to have been about three talents, for which see Davies, 1971, xxiii-xxiv. For liturgy exemptions, see MacDowell, 1978, 161-4, Harrison, 1971, Vol. II, 232-8, Gabrielsen, 1994; Christ, 2006, 151-3.

[843] In the absence of central property records in the Greek *polis*, individuals were able to obscure the full extent of their wealth by investing in property that was difficult or impossible to track. Loans, mining, manufacturing profits, overseas trade, and bank deposits were all forms in which to hide money. Unlike land which could be easily seen with the naked eye, these types of property could all be hidden away in a box, a house, a written entry in a book, or, least detectable of all, a verbal agreement. Since the *demos* could not and did not intrusively try to ascertain the full extent of citizens' wealth, the Athenian state was forced to rely upon citizens' declarations of their own wealth, their *timemata*, in order to determine how much money it could realistically ask from each citizen for the *koinon* (for *timemata* at Athens, see De Ste Croix, 1953). As one might expect, scholars agree that *timemata* seem to have been fairly regularly undervalued, and that liturgy avoidance was a major the reason for these low declarations. The *antidosis* procedure, of course, would have made it difficult to be ostentatiously wealthy while still avoiding liturgies, so there were institutional mechanisms that helped the *polis* prevent tax evasion from becoming too widespread. For the unreliability of citizens' *timemata*, see Gabrielsen, 1986, 99-100, Christ, 2006, 193.Thus, the Athenian polis did not know the full extent of its citizens' wealth (Gabrielsen, 1986, 99-100). Frier and Kehoe, 2007, 135, rightly point out that the centralized public registries of property records which have developed in modern western nations were largely absent in ancient Greece. Most other scholars are in agreement that public property records were not sufficient to determine accurately the full extent of private individuals' holdings: Gabrielsen, 1986, 99-113, Christ, 2006, 193.

[844] For earlier scholarship on and estimates of the full extent of tax-evasion and liturgy avoidance, see De Ste Croix, 1953, 37-38, who believes that at least half the total value of Athenians was undeclared, a conservative estimate compared to that of his predecessors. Davies 1981, 88-89, nn. 3-6; Hasebroek, 1965, 88; Gabrielsen 1986; 1994, 53-60; Christ, 1990, 157-160; 2006, 143-204; Cohen, 1992, 194-201; and Engen, 2011, 98-99, all believe that liturgy avoidance was practiced on a large scale. For the various means which could be used to conceal wealth, see Christ, 2006, 191-8. Even land could be hidden, as Theopompos is said to have done which a *chorion* in Isaeus 11.47; As Gabrielsen, 1994, 56-7 says, purchasing a house or plot of land outside of one's deme of residence was also an effective way to hide one's wealth. Property is also said to have been sold in order to avoid liturgies (Isaeus 4.3, 7.71, 11.48; Dem. 5.8; Aeschines 1.101). Plato describes those who desire to hide wealth in their houses and to expend it on personal pleasures (*Republic* 8.548a-c), and says that the stingy (*pheidolos*) man is the worst for a city, because he is not willing to spend money on the city for the sake of honor (*Republic* 8.554e-555a). Plato identifies

strategy in the short term, such an approach was not ideal for the long-term maintenance and transmission of property to one's heirs, as the following example of the famous orator Demosthenes' father's estate demonstrates.

The three speeches entitled *Against Aphobus,* which Demosthenes wrote and delivered himself, describe how his father appointed the defendant, Aphobus, and two other men as guardians of his estate to ensure its safekeeping for his son after his death. Instead of preserving his estate, however, the guardians embezzled it almost completely, and shamelessly used the property for their own purposes. This situation could have been avoided if Demosthenes' father had arranged to have his estate leased officially through the Archon, who was responsible for protecting orphans' rights.[845] In this case, the Archon would have presided over a public auction in which the highest bidder was given the right to administer and even profit from the property, and would have ensured that the guardian restored the orphans' property in full when they came of age.

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such men as being primarily those concerned with making money for themselves, who act like oligarchs for their own benefit as opposed to that of the city, with the implication that they were common. As Cohen, 1992, 200-201, notes, Isocrates, Meidias and Demosthenes all avoided liturgies, as did speaker of Lysias 3. Isocrates concealed his wealth at Isocrates 15.4-5, and Stephanus is said to have concealed his wealth in a bank to avoid liturgies and profited thereby (Dem. 45.66). Isaeus says that Dicaearchus resisted liturgies (5.36), and Hypereides charges Pasicles and Phormion with avoiding taxes (Isager and Hansen, 1975, 191). Juries may have even assumed that wealthy people were hiding their money. See e.g., Isaeus 11.47-50 where the speaker is trying to convince court that he wasn't trying to conceal his wealth to avoid liturgies. Kron, 1996, demonstrates that a large percentage of wealthy Athenians held their money in manufacturing, money-lending, or commercial trading enterprises, rather than land.

[845] That the process of orphan estate leasing was entirely voluntary, see the lengthy discussion by Finley, 1985, 234, n. 10. For the Archon's jurisdiction in this matter, see Aristotle *Ath. Pol.*, 56.7. For the process whereby one would approach the Archon to begin the formal leasing process, see Isaeus 6.36-7, the new Hypereides fragments as discussed by Thür, 2010, and Finley, 1985, 41-44. For more details on the process, see also Harpocration on *misthosis oikou* and *apotimema*, and Rhodes, 1981, 629-3. For guardianship in general, see Harrison, 1968, 99-115.

But Demosthenes the Elder refused to allow his estate to be leased (Dem. 28.7), and preferred to entrust it to private guardians; if the estate were leased through the Archon, the property's full value would have been disclosed, and it seems that he was hiding his wealth from the state to avoid liturgies. A number of scholars who have studied this case in detail have concluded that Demosthenes the Elder was, indeed, hiding his wealth from the state in *aphanes* form.[846] As Vincent Gabrielsen observes, refusing to lease an estate with the Archon would have allowed it to stay in *aphanes* form, and enabled one's heirs to continue to profit from the estate by avoiding liturgies themselves.[847] Demosthenes' guardians left the property unleased so they could enjoy the profits themselves, as Demosthenes recognizes (Dem. 30.6).

Indeed, other than the house itself, the entire estate was either *aphanes* or could easily be hidden.[848] The cash profits from the factories were invisible, as were his loans and bank deposits. The furniture, the dowry, and the slave workshops could be hidden in the house, making it impossible for the *demos* to know about their existence. Demosthenes says that the couch factory slaves, at least, were in the house itself,[849] and although it is not known where the

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[846]There is no evidence that Demosthenes the Elder ever performed any liturgies for the Athenian *polis* though he possessed a fortune which was many times larger than that required for liturgical service. In fact, since Demosthenes' guardians later enrolled the estate in the same "tax bracket" as the citizens in Athens who were the wealthiest (Dem. 27.7), there should be ample evidence of his liturgical service. And yet there is none, not even in the places where Demosthenes should have mentioned them; and all this despite Demosthenes' assertions to the contrary. John Davies (1971, 128-9), following Geoffrey De Ste. Croix (1953, 55, n. 105), suggests that he kept much of his wealth in *aphanes* form to avoid liturgies since there is no evidence of his having served any. Engen, 2011, 99-100 and Cohen, 1992, 200-201 agree.

[847] Gabrielsen, 1986, 105-6.

[848] The estate is listed in full at Dem. 27.9-11.His property consisted of a house, two slave-operated workshops or factories, a number of bank deposits and money lent at interest, furniture, and cash.

[849] Finley, 1985 [1951], 67, concludes that the slave manufacturers must have worked and lived in Demosthenes the Elder's house, since no actual workshop is mentioned. Lysias' father seems to have kept his slaves on the same compound. The couch makers are said to have been left in the house, οἴκοι, at Dem. 27.24, and to have been

sword factory was housed, it seems that Demosthenes the Elder was able to hide the profitability of this enterprise from the *polis*.[850]

And just as Demosthenes the Elder was able to hide his wealth from the state, so also did Aphobus and the other guardians.[851] Even Demosthenes' brilliant oratorical skill was to no avail, as Aphobus fled to Megara with the money and slaves, and the fortune was dissipated. Since the property was all moveable, it could not be recovered once it was scattered, whereas land would have been very easy to restore.

In the end, Demosthenes was left with only the house, fourteen slaves, and thirty minae in silver (Dem. 27.6), barely one talent out of a total of about fourteen (Dem. 27.11). Even with a favorable ruling in court (30.2, 8), Demosthenes was not able to recover his estate, since Aphobus cleaned out his own property (30.28), fled to Megara (29.3), and left his landed property encumbered so that Demosthenes had difficulty even in claiming that (Dem. 30-31).

Wealthy individuals could try to help their heirs avoid liturgies by passing wealth along to them in *aphanes* form,[852] and it seems that Demosthenes' father tried to do the same. This strategy ultimately failed, however, since even members of his own family could not be trusted to safeguard his son's inheritance, and the Athenian *polis* was powerless to protect wealth that

removed from the house, ἐκ τῆς οἰκίας, at Dem. 27.25. Factory materials are said to have been sold out of the house itself (27.32), suggesting that both factories were also located there.

[850] According to Theopompus, (as cited by Plutarch, *Demosthenes* 4.1), Demosthenes the elder was known as the *machairopoios*, "the sword maker", and was known to have a workshop and slaves, but whatever public knowledge there was of his factory, he was nevertheless able to avoid liturgies. It is unclear whether his occupation was widely known during his lifetime or developed later as a slur on Demosthenes' upbringing.

[851] Demosthenes says that his guardians have hidden his father's slaves (τοὺς ἀνθρώπους ἠφάνικεν at 28.12, and ἀφανεῖς πεποίηκας at 29.37).

[852] Christ, 2006, 193; Gabrielsen, 1994, 60-7; Gabrielsen, 1986, 106.

was illegally hidden. This fortune, comprised primarily of manufacturing slaves and loans, was dissipated among the guardians, and unable to be maintained beyond a single generation. Therefore, *aphanes* wealth hidden for the purpose of liturgy avoidance was not protected by government enforcement,[853] and the mobility of liquid assets made it possible for an entire *aphanes* fortune to be dissipated irrevocably.

III. Difficulties in enforcing property rights for liquid assets.

In the case of Demosthenes' father, the property had been hidden from the Athenian *polis* for the purpose of liturgy avoidance, but even *aphanes* assets that were *not* hidden for tax evasion encountered the same difficulties in proving and enforcing property rights. This type of situation is described in detail in Lysias *Against Diogeiton*. Diodotus and Diogeiton, two brothers who were probably partners in a lending and trading business, seem to have wanted to keep their money within the family, so Diogeiton gave his daughter to Diodotus in marriage.[854] Diodotus is said to have made a great deal of money from maritime trade, and his large fortune of more than fifteen talents was mainly concentrated in *aphanes* maritime loans.[855] This union

[853] For the importance of contract enforcement, see North, 1990, 54-60, and my discussion below.

[854] Although Reed, 2003, 120-121, and Bravo, 1977, 3-4, point out that the evidence for the brothers' precise business relationship is problematic, this may be nothing more than the result of the distortions made by the speaker for rhetorical effect. Both Diodotus (32.4) and Diogeiton (32.25) are known to have engaged in *emporia*, maritime trade, and so they either cooperated in this business, as they are known to have shared their father's *phanera ousia* at least (32.4), or else Diogeiton inherited his brother's trading business. In any case, the marriage arrangement was most likely a deal to keep the money within the family, for which, see Todd, 1993, 204-5.

[855] When Diodotus was called up for military service, he wanted his wife/niece and children to be taken care of in case of his death, so he gave his brother his will along with a deposit (*parakatatheke*) of five talents of silver (32.5), and left his wife 2,000 drachmas and 130 Cyzicene staters (32.6). He also revealed to him his fortune of seven talents and 4,000 drachmas in bottomry loans, along with 2,000 drachmas owed to him in the Chersonese (32.6),

consolidated the brothers' assets within the family, and prevented the money from leaving in the form of a dowry or through inheritance.

In the process, the property rights of Diodotus' children to their patrimony became obscured, since Diogeiton was left in control of their estate after his brother's death. Diogeiton did not hide all of his wealth from the *polis*, since he is known to have served liturgies (Lys. 32.24-26), [856] but like Demosthenes' father, he also did not want to lease out the estate after his brother's death so that he could act as guardian himself and reap the profits from keeping the property in high-yielding *aphanes* form. When Diodotus' children came of age, Diogeiton refused to restore to them the money which their father had left since he was making such large profits from their estate.[857]

The children were then forced to sue their uncle for their estate, which consisted almost entirely of cash and loans. The *aphanes* nature of their father's wealth, which Diogeiton controlled after his death, made it extremely difficult for them to establish their property rights,

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which apparently was interest in the form of grain (32.15). He had also at least 100 minae lent at landed interest (ἐγγείῳ ἐπὶ τόκῳ), and perhaps 2,000 more drachmas in cash or loans (32.15). There was also furniture of great value, but the precise amount is never stated. It is not clear exactly how much landed property was owned by Diogeiton and Diodotus, but they may have had a house at Collytus, north of the Acropolis (14), one in the Piraeus (8) which was co-habited by them, and perhaps one more in the city (8). Besides this, however, there is no evidence at all as to how much landed property they may have owned together and inherited from their father. It may not have been very much, however, since the speaker does not mention anything explicitly in the extant portions of the speech. However, he says that if Diogeiton had leased out the estate or bought land to nourish the children from its income, they would have been as rich as anyone in Athens (23). The implication of this statement is that the land which the family did possess was not enough to support the children lavishly, and so it must have been miniscule in comparison with the *aphanes* wealth, which is why it is never given any importance in the speech.

[856] Diogeiton is known to have performed a *syntrierarchy*, so he did not try to avoid liturgies entirely, but the full extent of his and his brother's money was still hidden from the government.

[857] At Lysias 32.25, for example, he is said to have risked two talents of the children's property on a trading venture to the Adriatic and made one hundred percent profit, which he kept for himself.

however, and they were left to the mercy of the courts and to hope that their case was successful. Without the written documentation they provided, there would have been no way to prove how much money they were owed, and it is not certain that their documentation was even accepted as evidence by the court.

This case further demonstrates the tenuous nature of *aphanes* wealth, and the ease with which an unscrupulous guardian could hide the assets under his control. Diogeiton would have been able to profit from and keep any money that was not proven to belong to the heirs, and even if the courts had required Diogeiton to pay back the money, he could have fled from the city with the money as had Aphobus, depriving the children of their patrimony. On the other hand, if the property in question had been in land, Diogeiton would not have been able to make off with the property, and even if he had kept the profits from their estate during his guardianship, the productive capital, the land itself, still would have been preserved.

Another case which demonstrates the difficulties in enforcing property rights for *aphanes* assets in ancient Greece concerns the estate of wealthy money-lending brothers Nausicrates and Xenopeithes in Demosthenes' speech *Against Nausimachus*. These brothers, like Diodotus and Diogeiton, seem to have been business partners, and left an enormous fortune in outstanding loans when they died. After the death of the first brother, Nausicrates, Xenopeithes did not want his property leased publicly with the Archon, but administered it himself (38.23), just as Diogeiton did with his brother's money. Moreover, as in the case of Demosthenes' father, because Xenopeithes did not allow the estate to be leased, and the full amount was never revealed to the state, which created complications in securing government protection.[858]

When Xenopeithes died, the brothers' combined fortune was so great that the estate guardians were able to purchase enough farms and *synoikiai*, apartment buildings for the heirs to serve liturgies (38.7, 25), and still have eighty talents leftover that they claimed they were never paid (38.20). The only guardian who is discussed in detail administered the estate for sixteen years (38.12), and was sued by the heirs for eighty talents (38.8, 20) three or four months before his death (38.10, 13). They came to a settlement with him for three talents (38.20, 24), but he died very soon after, and left all his money with a guardian for his own son, the speaker, who was also sued by the plaintiffs when he came of age.

After the death of Nausicrates and Xenopeithes, the trail of the money becomes very shady – all that is known is that there were outstanding loans of an unknown amount, which were administered by two consecutive series of guardians. That the plaintiffs brought suit for eighty talents shows that a considerable amount of money was left unaccounted for, and the three talents that they received in the settlement, in addition to their recent victory in another lawsuit (38.2, 28), suggests that their claims were valid.[859] How much wealth existed in total and how much was embezzled by the guardians will never be known. Moreover, since the first guardian himself appointed a guardian for his own son, the embezzled money passed through two consecutive guardianships, which further complicates the issue.

[858] Xenopeithes did not allow the estate to be leased, but not entirely to avoid liturgies, since as Davies, 1971, 416-18 (inv. # 11263), notes, he seems to have been victorious *choregos* for the boys dithyramb in the Thargelia.

[859] The speaker never denies that his father embezzled the money; his defense is only based on the fact that a release for liability had been granted when the first settlement had been made. Dem 38.5, 8-9, 18.

Therefore, even if not hidden from the *polis* for the purposes of tax evasion, *aphanes* wealth could be difficult to transmit from one generation to the next. Neither Diogeiton nor Xenopeithes hid the full extent of their estate, since both are known to have served liturgies, and so their wealth would have been protected by the *polis*. Even with the availability of third party *polis* enforcement, however, the difficulties of proving and enforcing property rights over invisible assets dissipated their fortunes nonetheless. The property that their guardians had transformed into landed assets was successfully transmitted to the heirs, while the property that remained *aphanes* was lost. Therefore, even with a favorable ruling in court and the availability of state enforcement, it was often difficult or impossible to enforce property rights for non-landed assets.

IV. Money-lending and the intergenerational dissipation of financial capital.

The fact that the heirs' guardians were responsible for collecting the outstanding loans that made up their patrimony created serious problems for Nausimachus' and Xenopeithes the Younger's claims to their money-lending fortune. It was not clear if the guardians ever collected on the loans, or if they were never repaid. This point deserves special emphasis, since it may not have been rapacious guardians who were to blame in this case, but rather the difficulties in tracking down the loans that were owed to the estate.

The uncertainty surrounding the repayment of outstanding loans after a moneylender's death may have resulted in the loss of much financial capital over multiple generations; for example, the heirs themselves are not able to prove whether or not their guardian was able to recover a particular loan in the Bosporus (11-12).[860] Once a money-lender died, there would have been little incentive for borrowers to repay a guardian or heir who may not even have wished to continue the business relationship.[861] Indeed, it would have been more profitable simply to keep the money and not repay whoever came to collect it.[862] This is especially true for loans contracted with individuals from other *poleis*, who were outside of the jurisdiction of the *polis* where there contract was made, and therefore could escape state enforcement even when it was justified.[863] Eighty talents would have been an enormous sum of money to collect, especially if it had been lent to a large number of borrowers, and it may have been the borrowers' refusal to repay that decimated this money-lending fortune.

The difficulty in collecting debts after a money-lender's death also severely depleted the fortune of Demosthenes' most frequent client, Apollodorus, the son of the banker Pasion.[864] In many of his extant speeches, Apollodorus describes the problems he had in recovering the money owed to him after his father's death. By 350 BCE, twenty years after his father's death,

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[860] Of course there would have been no way to prove that this debt was ever collected without physically hunting down former borrowers, which was impossible for the Athenian *polis*.

[861] See North, 1990, 54-57, who notes that in Game Theory experiments, whereas individuals will honor agreements if they know that they will have repeated dealings with another person in the future, whereas they are much more likely to renege on agreements if they know that they will never have to deal with that person ever again.

[862] The way a former business partner might behave can be seen in the case of Demosthenes the Elder's loan to a certain Xouthos, who borrowed 70 minae for a bottomry loan (Dem. 27.11). After Demosthenes the Elder's death, Xouthos is said to have colluded with Aphobus to destroy the contract and split the money between themselves (Dem. 29.36). Here, Xouthos did not maintain his business relationship with the heirs of Demosthenes' father, but rather chose to terminate the relationship after his death, divide up the money with the guardians, and make off with the cash, which would have been more profitable to him than delivering the principal with interest to the heirs.

[863] Hasebroek, 1965, 87, observes that "even in time of peace it was easy to avoid the payment of legal obligations, for there was no international court in which they could be enforced, and the countless local city courts were prejudiced and unreliable."

[864] For the life of Apollodorus, see Trevett, 1992.

Apollorodorus had managed to track down only twenty talents, roughly half of his father's thirty-nine talents in outstanding loans (Dem. 36.20, 36, 41).[865] Apollodorus was himself responsible for tracking down and collecting each outstanding loan, and was forced to resort to the courts if his efforts were unsuccessful, which was frequent. Borrowers who were convicted and refused to pay the money ordered by the court could always be made debtors to the state through the procedure of *dike exoules*, but this required two rulings in court.[866] As for the loans that were owed by foreigners not resident in Athens, Apollodorus would have had to resort to *sula*, personally finding and physically seizing a debtor's property overseas,[867] or catch that person if he happened to return to Athens.

There was always a danger that loans would not be repaid in ancient Greece. In Lysias *Against Aeschines*, Aeschines received multiple lines of credit, and lenders were afraid they would not be repaid. In Isaeus *On the Estate of Dicaeogenes*, the despicable Dicaeogenes would not even repay his friends (Is. 5.40). Theophrastus' Selfish Man expects that even an *eranos* (friendly, interest-free) loan would not be repaid (*Characters* 15.7). Demosthenes says explicitly that banks fail because of men who borrow money and do not repay their creditors: καὶ μὴν διὰ τούτους τοὺς ἄνδρας αἱ τράπεζαι ἀνασκευάζονται, ὅταν ἀπορούμενοι μὲν δανείζωνται καὶ οἴωνται διὰ τὴν δόξαν πιστεύεσθαι δεῖν, εὐπορήσαντες δὲ μὴ ἀποδιδῶσιν, ἀλλ'

[865] At the time of his death, Pasion had thirty-nine talents in outstanding personal loans (36.5), and Apollodorus had recovered only twenty talents by 350 (36.36). For the date, see MacDowell, 2009, 110. For a full account of Apollodorus' wealth after his father's death, see Davies, 1971, 438-39.

[866] For the *dike exoules*, see Todd, 1993, 103, 145. The attested cases of this law's use are in Osborne, 1985b, 57.

[867] For a recent treatment of *sula*, see Lintott, 2004. The most extensive and authoritative treatment of this fascinating institution is still Bravo, 1980. *Sula* was not available in all other *poleis*, however, as is clear in the clause in the contract in Demosthenes 35 *Against Lacritus* referring to *poleis* in which the right of *sula* was not permitted to Athenians (Dem. 35.10-13).

ἀποστερῶσιν, "Indeed, it is because of these men that banks fail, whenever being in need they borrow money and think it is right that they be trusted because of their reputation, and then when they are prosperous they do not repay, but deprive their creditors (49.68)."

Some *poleis* even seem to have refused to provide state protection to enforce the repayment of loans, including Italian Locri, where the law forbade the use of written contracts in loan agreements.[868] Plutarch mentions that the Knossians tended to keep the money that they borrowed (*Greek Questions*, *Moralia* 303C), and Plato in his *Laws* so disapproves of money lending for interest that he declares his ideal city should not provide state protection to enforce loan contracts (742C). The sum weight of these passages is that there was no overriding consensus among ancient Greeks that loans should be repaid at all, or that *poleis* should provide state protection for enforcing loan contracts.[869] This lack of unanimity even in the formal institutions of ancient Greek *poleis* seems to stem from an underlying conflict of attitudes regarding the repayment of loans, which were conceptually based in gift-giving culture.[870]

Therefore, it was not just unscrupulous guardians who could devastate an *aphanes* estate,[871] but former business partners as well. Some of the largest fortunes in ancient Greece were built from money-lending, and it is clear why someone would invest heavily in loans. And yet, recovering unpaid loans after the death of a lender seems to have been a major problem, as can be seen in the case of two of the largest lending fortunes known from classical Greece: that

[868] Millett, 1991, 42-44, citing Zenobius *Prov.* V.4.

[869] This is not to say that most *poleis* did not enforce loan contracts, as is so well attested for Classical Athens in the *dikai emporikai*, for example.

[870] See Millett, 1991, 27-36, for a detailed explanation of the gift-based origins of loans in ancient Greek thought.

[871] Executors and guardians were not always dishonest, including, e.g. Eumathes in Isaeus F. 15 (Thalheim).

of Pasion, and that of Nausicrates and Xenopeithes. The ease with which financial fortunes could be devastated demonstrates that the institutional structure of the ancient Greek world created barriers to the development of a stable international market in finance.

Land, therefore, seems to have been much more attractive from the perspective of intergenerational transmission of property. Perhaps, then, land was not only desirable for the prestige it brought, but its attractiveness was also rooted in economic realities. Cato the Elder famously opened his *De Agri Cultura* with the contrast between safe, dependable agriculture and risky, dangerous commerce, and it seems that ancient Greeks indeed recognized the comparative safety of land since interest rates on land were much lower than interest rates on maritime loans.[872] When it came to the transmission of wealth across generations, however, an additional element made land even safer; *phanera* assets were simply not susceptible to the same dangers of dissolution and embezzlement that plagued *aphanes* wealth.

It was much easier to maintain and accumulate wealth across generations in landed form than in liquid assets. Indeed, the wealth that Nausimachus' and Xenopeithes the Younger's guardians had transformed into land and apartment buildings was transmitted to the heirs, while the property that remained *aphanes* was lost. Pasion may have invested so heavily in land at the end of his life because he wanted to guarantee the transmission of his property to his heirs; as noted above, half of his *aphanes* wealth was still unrecovered twenty years after his death. The ease of transmission to one's heirs was therefore another advantage of owning land in the ancient Greek world, in addition to the other benefits of security and prestige, and would have made

[872] Christesen, 2003.

owning land a very attractive alternative to *aphanes* wealth especially at the end of one's life.[873] Nevertheless, since land was not able to be hidden from liturgies and taxes, it also faced limits to its long-term accumulation that were unavoidable.

V. Conclusions.

In classical Athens, and ancient Greece in general, no matter what choices an individual made, his wealth was threatened. If one chose to keep it *phanera*, it was liable to liturgies and *eisphorai*; if he chose to keep it *aphanes*, it suffered from the lack of government protection if it was hidden for liturgy and tax-evasion. Even when it was not hidden illegally, the very fluidity and mobility of *aphanes* wealth made it difficult to track down and recover, even with state enforcement. Because of the difficulties in proving property rights over loans and other liquid assets, in addition to the limits of *polis* jurisdiction for the enforcement of contracts,[874] the ability to rely upon third party state enforcement for agreements was significantly hampered.

Therefore, the classical Greek world seems to have been an institutional environment that was not conducive to the long-term accumulation and transmission of liquid capital from generation to generation. Transmitting wealth in liquid form exposed fortunes to the potential depredation of business partners and guardians after a businessman's death. The only alternative was to invest in land which itself was subject to government demands during one's lifetime,

[873] Thompson, 1978, 406, argues that landed property was probably chosen at the end of estate owners' lives for low-risk income and to ease the transmission of wealth.

[874] The limits to *polis* enforcement can be seen, for example, in fishing rights, which did not extend into international waters, for which see Lytle, 2012.

which also depleted fortunes.[875] Thus, there was a variety of forces constantly threatening long-term accumulations of capital in ancient Greece.

Ancient Greek institutional structures therefore limited the long-term growth of commercial and financial fortunes, and restricted liquid capital accumulations largely to the lifetime of a single businessman.[876] The difficulties in maintaining commercial and financial capital accumulations for multiple generations would have been a serious impediment to the development of the non-agrarian sectors of the economy, since the commercial and financial fortunes were not able to grow in the long term without being dispersed or transformed into other types of more secure wealth, namely land, which was itself in danger from liturgies. Therefore, business wealth in ancient Greece was often confined to the lifetime of the businessman himself, or else needed to lose its commercial or financial character in order to be transmitted to heirs. This combination of forces seems to have been devastating for the long-term accumulation of business capital.

[875] As noted by Hasebroek, 1965, 88. The tax system, in the form of liturgies and *eisphorai*, was not only crippling in its demands, but also created insecure property rights for wealthy individuals, who could not predict how much of their wealth would be secure from government demands in any given year.

[876] For example, the best-attested privately-owned bank from Classical Greece, that of Pasion, is not known to have lasted much more than about fifty years. He is first certainly operating a bank in the 390s, and the last testimony regarding the bank is a comment made in 339 by Hypereides (fr. 160-63) referring to Phormion and Pasicles; there is no evidence of the bank's existence after Apollodorus. For a full chronological discussion of Pasion's bank, see Isager and Hansen, 1975, 177-91, 225-6; Mathieu and Brémond, 1963, 1, 68.

Chapter 8: The Limits of Kinship Legal Structure on Ancient Greek Business Development.

I. Introduction.

In this chapter I explore the consequences of a major qualitative difference between the ancient Greek and the modern economy: the lack of a legally-recognized corporate institutional structure for business assets. This institutional reality has been identified by a number of ancient economic historians, but none have explored the full implications that the lack of corporate personhood had for the accumulation and continuity of business fortunes in the ancient world.

I will argue that without the legal notions of corporate personhood and corporate immortality, ancient Greek business capital was trapped within the institutional bounds of the *oikos*, the household, and affected by the life cycle of its owner. Because kinship institutions provided the legal structure for ancient Greek business, it was difficult or impossible to maintain business capital accumulations across multiple generations for the following reasons.

First, since all business fortunes legally belonged to private individuals, when an estate owner or businessman died, his fortune would be divided by heirs within the system of partible inheritance that dominated the ancient Greek world.

Second, even when a single heir inherited business capital, it was never guaranteed that he would wish to continue the family business, which was often liquidated or neglected. Business assets would eventually be subject to the whims of disinterested or prodigal heirs, instead of being maintained by salaried employees or business partners, which is allowed by corporate personality and immortality.

Third, when a business owner died, there was no guarantee that his former business partners would want to continue a business relationship by dealing with the heirs to his estate. It could be many years before the heir came of age and there would be no way to predict if an heir would want to continue his father's business. Therefore, it often made more sense for business partners to terminate a relationship than to wait and see if their dead partner's heir would want to continue the partnership.

Without a corporate structure to guarantee continuity, therefore, the life cycle of a business owner becomes the most important factor affecting business longevity. An estate or business owner's death was a moment of crisis for many fortunes, and most ancient Greek businesses were doomed to be ephemeral and fleeting. In this respect, ancient Greece shares important similarities with other pre-modern business, including Renaissance Florence and early-modern England, and it seems not to have been until the invention of corporate personality and immortality that the bounds of pre-modern business development were surpassed.

II. The lack of legal recognition for corporate personality in ancient Geeece.

There is no evidence for corporations or permanent companies in Ancient Greece. As I showed above in Chapter 6, there were business partnerships that grew into privileged information networks particularly among friends and family, but they do not seem to have grown into corporations or companies as in early modern Europe.[877] In no case does any ancient Greek business partnership approach the sophistication of Renaissance Italian companies. Even Roman *collegia* and *societates publicorum*, tax-farming associations, did not approximate the status of modern corporations.[878]

The reason for this seems to be partly one of conceptualization. The ancient Greeks never conceived of or allowed themselves to develop a legal category of the corporation. As Weber says in the *Protestant Ethic*, there was no legal separation of household and business assets in ancient Greece.[879] As Edward Harris argues, the Greeks do not seem to have made the conceptual leap whereby they would have been able to imagine business assets being an entity unto themselves: "since the Athenians did not distinguish clearly between the activities of the oikos and those of the ergasterion, it is not surprising that they did not develop the legal notion of corporation or partnership."[880] As Harrison puts it, "the Athenians never achieved the convenient

[877] Hasebroek, 1965, 84, and Reed, 2003, 36-38 demonstrate that ancient Greek maritime trading partnerships typically consisted of 2-3 members and that family partnerships were those on the higher end of the scale.

[878] Roman *collegia* seem to have been primarily social organizations, but according to Jonathan Scott Perry's lecture at the Association of Ancient Historians 2013 Annual Meeting in Columbus, OH, Roman *collegia* had an economic function also – buying land together, and speculating on future gains. For a recent overview of *collegia,* see Perry, 2011.

[879] Weber, 2009, 8.

[880] 2003, 82. Finley, 1973, 144 agrees, saying there was no need for the Greeks to apply the concept of the corporation into market activities: "its non-extension into other spheres of activity reflects the absence of a need,

fiction of regarding such a group of joint owners as a single person juristically".[881] In the same vein, Paulin Ismard has surveyed the full evidence for collective personhood and has demonstrated the limits to the Athenian juridical notion of collective associations, arguing that there is no evidence that there was a juridical category of legal personhood for collective associations in Athenian law. [882] Businesses were always conceptualized as belonging to a household, the private property of a single individual, rather than being owned by a group of business partners as a collective.

There were some Athenian corporate groups, however, including phratries, demes, and religious organizations such as *orgeones*, that seem to have been recognized as legal entities that could own property and be subject to *eisphorai*, just like individuals,[883] though these were largely political associations that were part of the democracy in Athens.[884] Therefore, it was not only individuals that had legal personality in ancient Greece.[885]

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specifically the need to pool capital resources, to transcend the financial capacity of any individual to produce marketable commodities, to carry on commerce, to lend money."

[881] 1968, 242.

[882] Ismard, 2007. Jones, 1999, 35, agrees: "at no time prior to the end of the classical period did Athens witness the emergence of the notion of an association as a 'legal person'."

[883] Todd, 1993, 249. For joint ownership in classical Athens, see Harrison, 1968, 239-43. Some religious organizations were considered as administering the property of gods (see, e.g., IG II² 1289, which mentions property of the god "kthmata theou"), meaning that gods were notionally recognized as legal property owners. Religious groups may have therefore been seen as merely administering the property of the god, rather than having rights to the ownership of property themselves as a collective.

[884] Todd, 1993, 297.

[885] MacDowell, 1989, shows, however, that Athenian law did not even recognize the *oikos* as a legal entity, and therefore demonstrates the limits to the Athenian notion of corporate personhood.

Indeed, the Athenians did have legal proceedings called the *dikai koinonikai,*[886] which seems to suggest that there was some category of collective group or association that was recognized by law and had *dikai* dedicated to it, though it is not certain precisely what these *dikai* dealt with. The only evidence that sheds any clue on the types of corporate bodies that were treated by the *dikai koinonikai* is provided by Demosthenes, when he says in his speech *On the Symmories* that the estates "τῶν κοινωνικῶν" are exempt from the trierarchy: "ἐὰν γὰρ τοῦτ' ἀποδείξητε τὸ πλῆθος, ἡγοῦμαι, τῶν ἐπικλήρων καὶ τῶν ὀρφανῶν καὶ τῶν κληρουχικῶν καὶ τῶν κοινωνικῶν καὶ εἴ τις ἀδύνατος ἀφαιρεθέντων, ἔσεσθαι χίλια καὶ διακόσια". "For if you point out the full number, with the [estates of] heiresses, orphans, cleruchies, associations, and the disabled subtracted, it would be one thousand two hundred."[887] Therefore, it seems that these associations, whatever their nature, were legally recognized by the Athenian *polis* and were exempted from performing trierarchies.[888]

Precisely what constituted the entities described as "τῶν κοινωνικῶν" is very difficult to determine with any certainty, and it is best to begin with Harpokration, who glosses Demosthenes' use of the term in this very passage as follows:

[886] Known only from Aristotle, *Ath. Pol.* 52.2. εἰσὶ δ' ἔμμηνοι προικός, ἐάν τις ὀφείλων μὴ ἀποδῷ, κἄν τις ἐπὶ δραχμῇ δανεισάμενος ἀποστερῇ, κἄν τις ἐν ἀγορᾷ βουλόμενος ἐργάζεσθαι δανείσηται παρά τινος ἀφορμήν· ἔτι δ' αἰκείας καὶ ἐρανικὰς καὶ κοινωνικὰς καὶ ἀνδραπόδων καὶ ὑποζυγίων καὶ τριηραρχικὰς καὶ τραπεζιτικάς. οὗτοι μὲν οὖν ταύτας δικάζουσιν ἐμμήνους εἰσάγ[ον]τες, οἱ δ' ἀποδέκται τοῖς τελώναις καὶ κατὰ τῶν τελωνῶν, τὰ μὲν μέχρι δέκα δραχμῶν ὄντες κύρι[οι], τὰ δ' ἄλλ' εἰς τὸ δικαστήριον εἰσάγοντες ἔμμηνα. Here Aristotle only says that they are one of the *dikai emmenoi*, to be completed within a month's time, though others argue that they were held on a monthly basis: see Todd, 1993, 334-5.

[887] Dem. 14.16.

[888] Gabrielsen, 1994, 85-90, Christ, 2006, 152.

> *Κοινωνικῶν:* Δημοσθένης ἐν τῷ περὶ τῶν συμμοριῶν. κοινωνικοὺς ἂν λέγοι τάχα μὲν τοὺς ἀνέμητον οὐσίαν ἔχοντας ἀδελφοὺς, ὧν ὁ μὲν πατὴρ ἐδύνατο λειτουργεῖν, οἱ δὲ κληρονόμοι τῶν ἐκείνου καθ' ἕνα τριηραρχεῖν οὐκ ἐξήρκουν· τάχα δὲ καὶ περὶ τῶν ἑκούσιον κοινωνίαν συνθεμένων ἐμπορίας ἤ τινος ἄλλου, ὧν ἕκαστος οὐκ εἶχε τὸ ὅλον τίμημα τῆς κοινῆς οὐσίας.
>
> Of associations: Demosthenes in the speech *On the Symmories*. One could perhaps say that *koinonikoi* are brothers sharing estates that they have not divided. Though their father had been able to serve liturgies [with this property], the heirs of that man were not sufficient in their individual inheritances to serve the trierarchy. But perhaps they are concerned with those who agree to a voluntary partnership for trade or something else, of which each person does not possess the entire value of the shared property.

Scholars are as divided as Harpokration in their interpretation of this passage, and while some follow his former interpretation, others prefer the latter.[889] It seems that brothers sharing an inherited estate may not be possible, however, as MacDowell has shown that there is no evidence of the estates being owned jointly by two adult brothers in Athens.[890]

It is unknown what exactly these associations were that Demosthenes mentions were exempted from the trierarchy, but it is most likely that he is referring to associations[891] like demes and religious groups such as *orgeones*, which are known to have been subject to *eisphorai*, the irregular tax which the *demos* demanded of its richer members.[892]As far as

[889] For the scholarship on this vexed question, see Ismard, 2010, 63-64.

[890] MacDowell, 1989, 12.

[891] For corporate associations in ancient Athens, see Fisher, 1999; Ismard, 2010.

[892]A lease published by the deme of Aixone in 345/4 BCE stipulates that if an *eisphora* on the leased land is demanded by the polis, the Aixonian demesmen, and not the lessee, will pay it (IG II² 2492, ll24-27). This same

taxation purposes were concerned, some corporate groups were treated like individuals in the fact that they could not only own and lease out property, but could also be made subject to the same types of taxation as individuals, the *eisphora*. It was probably these same groups that were exempted from the trierarchy.[893] Since they were legally recognized by the state as being juristic entities that could own property and pay *eisphorai*, there would have been a need to create special laws that prescribed limits to the financial demands that could be imposed by the *polis*. Indeed, those groups that would have needed to be specially exempted from the trierarchy would have been precisely those that were already subject to other state demands. Therefore, in the absence of further evidence, it is most likely that the groups referred to by Demosthenes are the demes and religious organizations that were occasionally subject to *eisphorai*. Such groups, and disputes arising over membership or member responsibilities, are probably what were governed under the *dikai koinonikai*,[894] therefore, and there is no good reason to think that corporate business entities, for which we have no evidence, were the subject of these proceedings.[895]

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clause and sentiment are stated in other leases made by demes in the fourth century, including IG II² 2496, ll. 25-27 (dated to the second half of the fourth century), where the deme of the Piraeus holds the lessee liable for an *eisphora* up to the amount of seven *minae*, and also in IG II² 2498, ll. 7-9, where the same demesmen will pay the *eisphora* of a leased piece of land in 321/20 BCE. The fact that the same deme sometimes paid part of, and other times all of the *eisphora* suggests that this may have been open to negotiation as part of the leasing process for each piece of land. In 306/5 BCE, the *orgeones* of Egretis stipulate that they, and not the lessee, will pay the *eisphora* due to the *polis* for the piece of land in question (IG II² 2499, ll. 37-39).

[893] Gabrielsen, 1994, 88, agrees that these were the groups most likely denoted by *ta koinonika*.

[894] Jones, 1999, 36, agrees.

[895] The Solonic law of associations, however, which is preserved in the *Digest* 47.22.4, as quoted by Gaius, includes partners going abroad for maritime trade agreements along with deme, phratry, naukrary members, *orgeones*, dining clubs, and burial societies. This grouping suggests that perhaps some business associations were conceptually covered by the *dikai koinonikai*.

Even if the *dikai koinonikai* could have included business agreements, the Athenian *polis* seems to have been concerned with enforcing individual contracts and agreements, as in the maritime courts, and not with recognizing the status of a collective group. As David Phillips shows, it was the agreement, "whatever is agreed upon" by individuals, which was able to be enforced by law in Classical Athens, not the status of the parties as a collective entity. [896] Moreover, Edward Harris has demonstrated that the Athenians did not recognize business partnerships as possessing assets collectively as a corporate group. Rather than collective ownership and liability, Athenian law only permitted action to be taken against an individual who broke the terms of a contract, and it was only from that individual's personal property that suit could be made, not the property of a collective group.[897] Therefore, legal personality was never achieved by ancient Greek business associations.

There were certainly informal business partnerships, *koinoniai*, that existed in ancient Greece, which Aristotle mentions in the *Nicomachean Ethics*:

> αἱ μὲν οὖν ἄλλαι κοινωνίαι … τοῦ συμφέροντος ἐφίενται, οἷον πλωτῆρες μὲν τοῦ κατὰ τὸν πλοῦν πρὸς ἐργασίαν χρημάτων … συστρατιῶται δὲ τοῦ κατὰ τὸν πόλεμον, εἴτε χρημάτων εἴτε νίκης ἢ πόλεως ὀρεγόμενοι.
>
> And so the other partnerships aim at some advantage; like sailors on a sea voyage for the purpose making of money, and groups of soldiers for gains of warfare, whether aiming at money, victory, or a city (Aristotle, *Nicomachean Ethics*, 1160a14-20).

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[896] Phillips, 2009.

[897] Harris, 1989.

Here he mentions fellow sailors who join together in *koinoniai* to go after profit, but these were not corporations, but rather just business agreements, temporary partnerships, as the larger context of Aristotle's discussion reveals. Aristotle includes these temporary sailing partnerships within his very broad discussion of the types of associations people can make. His definition of *koinoniai* includes everything from the *polis* to the relationship between two people,[898] all of which are bound together by the bond of friendship, *philia*, which is the focus of this passage.[899] It was not the law that held them together, but rather friendship and common advantage; they were voluntary, informal agreements that were temporary, and terminated upon their completion.

Therefore, the Greeks never combined two fundamental concepts, the business agreement and corporate group, in order to create the juridical notion of a corporate business entity. As Todd shows, the notion of 'corporate body' is spelled out clearly in English law as a juristic person, and there is no evidence that any such entity existed in ancient Greece; indeed, as he states, "the distinguishing feature of a modern corporation is the perpetual succession of its officers, such that an opposing litigant can and must sue the present occupants of such posts for the misdoings of their predecessors; this has no parallel in Athens."[900] Without combining the concepts of corporate personhood and economic partnership, the ancient Greeks were never able to create economic organizations similar to modern corporations.

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[898] As Ismard, 2007, 61 notes, Aristotle uses the terms *koinon* and *koinonia* to refer to a vast range of very different associations, and therefore does not have any terminological precision with regard to these groups. In *Eudemian Ethics* 1242a 1-2, he uses adjectival form *koinonike* in the broadest sense, distinguishing loosely-defined ties of friendship from kinship, companionship, and political bonds: λέγονται δὲ φιλίαι συγγενικὴ ἑταιρικὴ κοινωνικὴ ἡ λεγομένη πολιτική.

[899] The larger discussion is *Nicomachean Ethics* 1159b25-1160a20. For an in-depth discussion of this passage, see Millett, 1991, 114-15.

[900] Todd, 1993, 297.

Nor should this come as a surprise, as the modern corporation was the end result of a long series of institutional innovations over the course of many centuries. Early-modern companies initially received their status as legal entities from royal charters, then later in England from Acts of Parliament.[901] Eventually Parliament passed acts which enabled corporations to be formed through registration rather than legislation,[902] and formalized its definitions of what would be a legally-recognized corporate entity, including notions of corporate personality and limited liability.[903] A long series of institutional advances were needed to bring about the legal notion of corporate identity and limited liability.[904]

As Edward Harris demonstrates, the Athenians never developed the notion of corporate liability;[905] if a person was wronged in a deal with a group of business partners, he could only take legal action against the individual who violated the contract agreement, and could only receive compensation from that individual's personal property and not from the property of the business group as a collective. The unique combination of corporate personality and limited liability which characterizes the modern firm cannot have been achieved by the ancient Greeks. As Paul Davies articulates so well, recognition of a company as a separate legal person facilitates

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[901] For an extended discussion and definition of royal- and Parliament-chartered joint stock companies, see Adam Smith, *The Wealth of Nations* (1776), Book V, Part III, Article 1st (Smith, 2003, 930-962). See also Braudel, 1982, 439-55; Kindelberger, 1984, 196-212.

[902] See, e.g., the Joint Stock Companies Act of 1844, the Joint Stock Companies Act of 1856, and the Companies Act of 1862.

[903] For an early definition of corporations that emerged around the time of Adam Smith, see Stewart Kyd's *A treatise on the law of corporations* (1793-4). For limited liability in English law, see Kindelberger, 1984, 202-4. The Limited Liabilities Act was passed in 1855.

[904] Smith, 2003, 931, argues that the concept of the corporation was conceptually akin to the monopolies of trade corporations and guilds of the medieval period, and so the notion was somewhat peculiar to early-modern Europe.

[905] Harris, 1989.

limited liability (because it helps distinguish the assets of the firm from personal assets), and the transferability of a shareholder's stake in the company to another person, which can be done without affecting the operation of the company.[906] The Greeks had no conception that wealth could belong to a partnership or venture that was separate from that of the individuals who comprised it. The property of the group was never legally distinguished from that of the partners' *oikoi*, and therefore the corporate bodies of the modern world could never have been developed.

The highest level of sophistication Greek business partnerships seem to have attained was equal to that of the medieval *commenda* (also known as *societas maris*), which was a temporary partnership made for maritime trade, an enterprise that lasted only for the duration of a single voyage, and was limited to a single transaction. [907] By the early fourteenth century, Renaissance Florentines had begun to develop a new type of business organization:[908] the *compagnia*¸ a sedentary firm in which partners, *compagni*, made written agreements to be associates and

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[906] Davies, 2010, 31.

[907] For the *commenda* and some of the earliest antecedents to the modern corporation, which can be traced to fourteenth-century Genoa, see Braudel, 1982, 440-44, and Kindelberger, 1984, 195-6.

[908] For the development of the firm in the *compagnia*, or partnership system, in Renaissance Florence, see Goldthwaite, 2009, 64-79. This is not to say that the *compagnia,* the partnership system completely superseded the *commenda* and *societas maris*, the temporary partnerships that were still dominant at Venice, but each of these forms of business organization coexisted throughout the Renaissance, for which see De Roover, 1968, 237-8. Indeed, partnerships still exist in modern economy and are still often the preferred form of business organization in some situations (Davies, 2010, 3). The family *compagnia* was the structure for the Acciaiouli, Alberti, Bardi, Medici, and Peruzzi banks of fourteenth to fifteenth century Florence, all of which were much larger and more sophisticated than any attested ancient Greek bank, and so provide an upper limit in the sphere of private banking. Padgett and McLean, 2006, argue that the Florentine partnership system which emerged in the fourteenth century was the first organization that truly set the stage for the later development of early modern companies and corporations, and these partnerships provide a useful upper limit for thinking about the development of ancient Greek private business associations. The first true predecessors of the modern corporation were the royally-chartered joint stock companies. The Swedish king created the first chartered commercial company when he granted the Stora Kopparberg mining company its charter in 1347. The first English joint stock company was the Muscovy Company, which was founded in 1553, and it was followed by the British East India Company in 1600. Two years later, the Dutch East India Company (V.O.C.) was founded, which became the first major multinational corporation.

contribute capital towards longer-term business enterprises which usually lasted from three to five years. These agreements specify each partner's contribution to the capital; how his share of the profits was to be determined; the name of the firm; its duration; its activities; its managers; it excludes partners from engaging in other business ventures; and forbids the withdrawal of capital before the denoted end date. John Padgett and Paul McLean argue that the Florentine partnership system was an extension of the concept of the municipal guild to the international sphere,[909] and as such was the first organization that truly set the stage for the later development of early modern companies and corporations.

These early Florentine firms, unlike ancient Greek business partnerships, did possess some of the characteristics of the modern corporation in the sense that they consisted of a "nexus of contracts."[910] Another respect in which these firms in Renaissance Florence resembled the modern company was that they also included the concept of limited liability, the *accomandita*, in which outsiders could invest in a partnership and share profits while in case of loss be liable only for the amount they initially invested, which was first recognized by Florentine legislation in 1408, though it seems to have been used infrequently until the sixteenth century.[911] This partnership system, like the double-entry bookkeeping that is associated with it, was never

[909] Padgett and McLean, 2006.

[910] As described by Padgett and McLean, 2006, in their analysis of the firms of Florence from the perspective of multiple network theory. For the theory that the firm consists of a nexus of contractual obligations between individuals, see Jensen and Meckling, 1976. For a list of theories about the firm and an explanation of the different types of firms and corporate business entities that exist in the modern economy, see Alchian and Demsetz, 1972.

[911] Goldthwaite, 2009, 67, 466-7. See also Braudel, 1982, 438-9.

achieved in classical antiquity, and therefore provides a useful point of reference for thinking about the absolute upper limits of sophistication of ancient Greek business associations.[912]

But the Greeks did understand the principle behind corporate, collective business arrangements and the benefits that could arise from entering into cooperative ventures with others. Xenophon says that private individuals often pooled their resources in individual economic ventures to reduce risk, and recommended that the Athenian *polis* apply this same principle in a corporate state mining venture:

> εἰσὶ μὲν γὰρ δήπου Ἀθηναίων δέκα φυλαί· εἰ δ’ ἡ πόλις δοίη ἑκάστῃ αὐτῶν ἴσα ἀνδράποδα, αἱ δὲ κοινωσάμεναι τὴν τύχην καινοτομοῖεν, οὕτως ἄν, εἰ μία εὕροι, πάσαις ἂν λυσιτελὲς ἀποδείξειεν, εἰ δὲ δύο ἢ τρεῖς ἢ τέτταρες ἢ αἱ ἡμίσειαι εὕροιεν, δῆλον ὅτι <ἔτι> λυσιτελέστερα ἂν τὰ ἔργα ταῦτα γίγνοιτο. τό γε μὴν πάσας ἀποτυχεῖν οὐδενὶ τῶν παρεληλυθότων ἐοικός. οἷόν τε δὴ οὕτως καὶ ἰδιώτας συνι-σταμένους καὶ κοινουμένους τὴν τύχην ἀσφαλέστερον κινδυνεύειν.
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> “There are ten tribes of Athenians. And if the polis gives an equal number of slaves to each of them, the tribes can share their luck in making new cuttings. In this way if one discovers silver, it would be profitable for them all, and if two or three or four or half discovered silver, it is clear that these same works would be even more profitable. In nothing that has come to

[912] Likewise, the bill of exchange had not been invented in ancient Greece, so Renaissance Italy is an important point of comparison by which to demonstrate precisely what the ancient Greeks did and did not achieve in the economic sphere. Like Padgett and McLean, 2006, 1473, I am not arguing for a teleological view of the development of the corporation as part of views of natural evolution and the metanarratives of progress associated with the “rise of the West”. Rather, the innovations which separated the Renaissance Italians and early modern Europeans from their predecessors were unlikely, the product of a particular time and place.

pass would it be likely that all of the tribes would fail. It is also possible for private individuals to take risks more safely, by uniting and sharing their luck in this way".[913]

Xenophon here clearly understands the basic principles behind corporate ventures, in which individuals pool their resources in order to share profits and risks, using their collective efforts as a way of avoiding the risks of failure, and simultaneously increasing the chances of their success through cooperation. The words he uses, "risk", "safety", and "sharing luck" are reminiscent of the thought process that recurs in ancient Greeks' discussions about their money-making activities, which I discussed above in Chapter 2.

The Greeks therefore seem to have recognized the advantages of pooling their resources to share risks and profits from a single investment, and some private individuals did, indeed enjoy the benefits of collective ventures. One example perhaps is mentioned by Hypereides in his description of the shared exploitation of a particularly productive silver mine:[914] ὃ ἠργάζετο μὲν ἤ[δ]η τρία ἔτη, μετεῖχοṿ δ' αὐτοῦ οἱ πλουσ[ιῳ̣]τατοι σχεδόν τι τῶ[ν] ἐν τῆι πόλει, "[This mine] has been worked for three years, and just about the richest people in the city have a share in it." Therefore, it is possible that ancient Greeks understood the benefits of collectively pooling their risk in order to make more secure profits and actually applied this principle to their money-making operations in some instances.

Nevertheless, the ancient Greeks never developed a legal notion of limited liability, or of corporate personhood. As Paul Davies states, the five core features that characterize modern companies are: separate legal personality; limited liability; centralized management; shareholder

[913] Xenophon, *Poroi,* 4.30-32.

[914] Hypereides, *For Euxenippus* (4.35), (column 44, lines 18-23).

control; free transferability of shares.[915] Of these five features, the only one which the ancient Greeks could have ever achieved was centralized management. Ancient Greek Business ventures never advanced beyond the stage of the temporary partnership, agreements between individuals that were limited to the time of a single transaction, the same basic level of business organization that reigned supreme until companies developed in Renaissance Florence.

From this perspective, as Finley notes,[916] there simply may have been no need for the Greeks to extend the notion of corporate personhood into economic partnerships. The Greeks were able to serve their needs with the structures already at their disposal. Indeed, the Athenians used the same basic economic institutional structures that created the unprecedented commercial brilliance of Renaissance Venice. The budget of Venice in the fifteenth century rivaled that of even the largest national kingdoms of Europe, and this was largely based on the commercial economy the Venetians had built on the basis of temporary partnerships. [917] So this does not mean that a sophisticated economic system could not develop in the absence of corporations, and the Greeks were able to create a vibrant commercial economy with the temporary partnership

III. Partible Inheritance.

The point of the preceding discussion is that in Athenian law, business assets became the personal property of heirs, and not business partners. Therefore, ancient Greek business

[915] Davies, 2010, 29.

[916] Finley, 1973, 144.

[917] For the commercial successes of Venice during this period, see Braudel, 1984, 119-132. Venice's commercial successes were, of course, encouraged and strengthened by the maritime empire it had acquired starting in 1204 with the Fourth Crusade.

accumulations were legally subject to the widely-practiced tradition of partible inheritance. Classicists will be familiar with the devastating effects of the institution of partible inheritance as described by the poet Hesiod in his seventh-century BCE poem *The Works and Days,* where Hesiod describes how he and his brother Perses entered into a dispute regarding the division of their father's property after he died. His father had been a merchant but purchased land in Boeotia with his profits in order to retire in safety and comfort. This land, however, was not able to survive his death intact. The historicity of Hesiod's account is questionable, but the processes which he reveals regarding the effects of partible inheritance on a piece of property are not. The principles of Hesiod and Perses' inheritance dispute operated at a larger scale and affected all Greek wealth accumulations, including business assets.

When business is contained in the structure of the household, the end of a businessman's life becomes a moment of crisis. Without corporate immortality, business assets would be dispersed by partible inheritance. The devastating effects of partible inheritance on estates is well-attested in a number of societies,[918] and it is easy to see that a single plot of land could quickly lose its value as it was parceled out among heirs, and then again among their own children. As Hernando De Soto puts it so well: "farmers in many developing countries … must continually subdivide their farms for each generation until the parcels are too small to farm profitably, leaving the descendants with two alternatives: starving or stealing."[919] Hodges states that classical peasants were constrained by multiple inheritance systems, unlike the single heir

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[918] Wolf, 1966, 73-77, says that families are often not able to hold onto plots of land for more than two or three generations because of partible inheritance, and many families resort to elaborate schemes, including altering the form of the family unit to counteract its destructive effects.

[919] 2000, 57.

system which dominated in Western Europe.[920] Within Classical Athenian estate inventories, the effects of partible inheritance can be seen clearly; fragmented land holdings are the dominant pattern, and although dispersed land holdings are often regarded as a risk-reducing strategy, they can also be the unintended consequence of estate fragmentation.[921]

As far as ancient Greek business is concerned, the detrimental effects of partible inheritance can be seen in the examples of two of the largest money-lending fortunes from ancient Greece that were cut in half after a single generation through partible inheritance.[922] First, Nausimachus and Xenopeithes from Demosthenes 38 *Against Nausimachus,* would have had to share their father and uncle's estate of 80 talents of outstanding loans if they had been able to get their hands on the money they were owed. Moreover, Apollodorus and Pasicles, the sons of the best known banker from ancient Greece, Pasion, were legally required to share the fortune in loans that were outstanding at the time of their father's death. Apollodorus, however, who was the older brother and therefore took responsibility for collecting the loans, kept more than his own fair share (Dem. 36.36), and the enmity that arose between himself and Pasicles meant that he and his brother were not likely to cooperate in the continuation of their father's money-lending business.

Nevertheless, we know that brothers could cooperate sometimes, and share their inheritance in common to maintain the family business past their father's death. Lysias and his

[920] 1988, 132.

[921] See, e.g., Davies, 1988, 75-6.

[922] In both cases, guardians and business partners embezzled and kept money that was owed to the estate, so these estates did not reach their appropriate heirs intact in the first place, and in addition the funds were split after they were divided up by the heirs.

brother Polemarchus brother also shared their inherited business,[923] probably because it was the most profitable choice – the shield factory they inherited was staffed by about 100 slaves – the largest known manufacturing business known from ancient Greece - and there was probably no way to profitably subdivide this factory – their father Kephalos was the richest metic, resident foreigner, in Athens, and it seems that his sons did not want to ruin this profitable business. Plus, the fact that they were metics meant that they were barred from owning land and restricted to non-agricultural investment opportunities. Their father's shield factory was extremely profitable, and since they were only legally able to invest in manufacturing or commerce, the restrictions on their economic choices would have made it more attractive to continue the family business.

Brothers Diodotus and Diogeiton in Lysias' speech *Against Diogeiton* are a good example of the types of arrangements that brothers could make regarding their inherited property. They shared their father's *phanera*, visible, property, but divided up the *aphanes* wealth which they inherited. (Lys. 32.4). Though they could cooperate if they wished, they could also go their separate ways, so if brothers were willing to go into business together, the family business would survive for that generation. There are some indications that the two perhaps cooperated in business ventures,[924] but this would have been entirely voluntary, each able to do whatever he wanted with his share of the inheritance. Diodotus, in turn, had two sons (Lys. 32.4), who would have each received half of the property when, and if, they overcame Diogeiton's efforts to keep their money. Therefore, brothers could still cooperate after they divided their inheritance, but the

[923] As described in Lysias' speech *Against Eratosthenes*.

[924] See my discussion above in Chapter 5.

estate would have been legally recognized as being fragmented regardless of whatever sharing schemes were contrived.

The effects that partible inheritance had on business continuity in Renaissance Florence, moreover, are useful for considering the similar problems for business longevity in ancient Greece. As Raymond Goldthwaite states for Renaissance Florence, brothers rarely wished to cooperate in continuing their entrepreneur father's business, and there was little continuity in many types of family business because of partible inheritance.[925] There were some exceptions, such as the great banks of the Bardi, Peruzzi, and Alberti in the fourteenth century, but these banks seem to have come up with clever ways of using kinship structure to continue business, and by the fifteenth century there were few businesses that lasted more than two generations.

Athenian law even had ways of forcing the division of property if private means proved unsatisfactory. The *dike eis dateton hairesin* seems to have been designed for the express purpose of legally dividing property which had been functionally or even notionally shared by some *de facto* agreement. As Harrison believes, this type of suit was probably originally designed to facilitate the division of estates between brothers who were inheriting a piece of property that had been left to them by their fathers.[926] Therefore, the sole ownership of property was given priority in Athenian law, and the Athenians designed measures to force division when there was any ambiguity.

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[925] Goldthwaite, 1980, 63-64. For partible inheritance in Renaissance Florence, see Goldthwaite, 2008, 72, 550, 570, 587; Najemy, 2006, 7; Kuehn, 2008, 3-81. By the sixteenth century, however, the notion that a patrimony should be kept intact came to become dominant in Florence, and estates became less fragmented (Goldthwaite, 1980, 63).

[926] Harrison, 1968, 243.

IV. Bad Heirs.

Just as devastating as partible inheritance was the fact that frugal, hard-working parents were often followed by disinterested, lazy or prodigal heirs.[927] Timarchus, for example, is said by Aeschines to have liquidated his entire inherited estate - plots of land, a profitable manufacturing workshop and slaves - just to satisfy his base pleasures.[928] Aeschines raises an alternative explanation for why Timarchus sold off his family's property – in order to invest the proceeds in the silver mining industry, a suggestion which he raises only to dismiss.[929]

We will never know if Timarchus really squandered all his family's property or if he instead tried to reinvest it in an alternative, profitable form. For the purposes of this study it is not what he actually did, but what he could do – he could either reinvest the family fortune in something new, or he could squander it entirely. Without the guarantee of business continuity provided by a corporate business structure, wealth accumulations in ancient Greece were in danger of being instantly liquidated as soon as their owner died. Once a property came into an heir's hands, it could be maintained, sold piecemeal, or, as Timarchus is said to have done with his family's plots of land and businesses, in one fell swoop. All it took was one bad heir to squander years of built-up capital, and this reality demonstrates the danger that a kinship-based ownership structure posed for ancient Greek business development and longevity.

[927] Wolf, 1966.

[928] Aeschines, *Against Timarchus* 42, 101.

[929] Aeschines, *Against Timarchus* 105.

Indeed, Greek literature is filled with heirs who were said to have squandered their inheritance.[930] Pheidippides in Aristophanes *Clouds* is the perfect example of the type of son whose interests and extravagance were in stark contrast to the thrift and industry of his father. Apollodorus, the son of Pasion, was said to have been wasteful and spendthrift with his patrimony, as he was more interested in his own social and political advancement than in continuing the family business. Pasion's bank is not known to have lasted much more than about fifty years. Pasion is first certainly operating a bank in the 390s, and the last testimony regarding the bank is a comment made in 339 by Hypereides (fr. 160-63) referring to Phormion and Pasicles.[931] This is the best attested and most successful orivate bank known from Classical Greece, and it is not known to have outlived Apollodorus. Apollodorus was not interested in running the bank, but rather seems to have been interested in military, political and social success.[932]

Many ancient Greek sons are known not to have followed in the footsteps of their fathers' business.[933] Indeed, a father's commercial activity could be the target of attacks by opponents in the political arena or in law court speeches. A number of those individuals I have described as belonging to a sort of Athenian *nouveaux riches* (see above) were the sons of successful bankers, manufacturers, or traders, while they themselves decided to pursue military or political careers which were enabled by their fathers' success.

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[930] See, e.g., in addition to Timarchus and Apollodorus, Kallias III (Davies, 1971, 261), and Xanthippus, Pericles' son. Millett, 1991, 64-68 has a very useful list and discussion.

[931] For a full chronological discussion of Pasion's bank, see Isager and Hansen, 1975, 177-91, and 225-6. There is no evidence of the bank's existence after Apollodorus. Mathieu and Brémond, 1963, 1, 68.

[932] For Apollodorus' lack of interest in running the bank and his extravagant spending, see Trevett, 1992, 167-179.

[933] Exceptions include, of course Nicias' family, as well as Kallias', which I discuss above.

V. Tricks for business continuity

It seems that many ancient Greek businessmen recognized the danger that would befall their businesses when their sons inherited their property, and even tried to make arrangements to guarantee the continuity of their businesses through special arrangements. Indeed, Pasion faced a conundrum at the end of his life: how to guarantee the continuity of his bank after his death with a disinterested heir about to inherit his fortune? His solution was to give his wife in marriage to his partner Phormion, who would continue operating his master's bank as stipulated with a leasing arrangement written into the will until his heirs came of age. Though Apollodorus and Pasicles would have inherited the bank eventually, Pasion seems to have thought that marrying their mother to Phormion would make it more likely that the brothers would allow him to continue to manage the bank.

The surest way to guarantee that an interested manager would continue to run the family business effectively was to manipulate kinship relations to ensure a business partner would control the business after the owner's death. Pasion certainly manipulated kinship, giving his wife in marriage to Phormion, and leaving him in charge of the bank, and his solution seems to have worked fairly well, as Phormion continued to manage and profit from the bank after his former partner and master's death.

Nor was he alone in this stratagem to guarantee his business's continuity, but Demosthenes mentions a number of other bankers who gave their wives away in marriage to their slave partners and successors to continue their businesses:

Σωκράτης ὁ τραπεζίτης ἐκεῖνος, παρὰ τῶν κυρίων ἀπαλλαγεὶς ὥσπερ ὁ τούτου πατήρ, ἔδωκε Σατύρῳ τὴν ἑαυτοῦ γυναῖκα, ἑαυτοῦ ποτὲ γενομένῳ. ἕτερος Σωκλῆς τραπεζιτεύσας ἔδωκε τὴν ἑαυτοῦ γυναῖκα Τιμοδήμῳ τῷ νῦν ἔτ' ὄντι καὶ ζῶντι, γενομένῳ ποθ' αὐτοῦ. καὶ οὐ μόνον ἐνθάδε ταῦτα ποιοῦσιν οἱ περὶ τὰς ἐργασίας ὄντες ταύτας, ὦ ἄνδρες Ἀθηναῖοι, ἀλλ' ἐν Αἰγίνῃ ἔδωκεν Στρυμόδωρος Ἑρμαίῳ τῷ ἑαυτοῦ οἰκέτῃ τὴν γυναῖκα, καὶ τελευτησάσης ἐκείνης ἔδωκε πάλιν τὴν θυγατέρα τὴν ἑαυτοῦ.

That banker Socrates who, after being freed by his masters, just as [Apollodorus'] father [Pasion], gave his wife in marriage to Satyrus, who had been his slave. Another man in banking, Socles, gave his wife to Timodemus, who is still alive today, and had once been his slave. And not only do men in this business do these things only here, but also in Aegina Strymodorus gave his wife to his slave Hermaios, and when she died he gave him his daughter.[934]

Therefore, not only in Athens but in Aegina also, a number of ancient Greek businessmen recognized the danger that their businesses would be in after their deaths and took precautions to ensure that their partners would remain in control.

When business was legally the property of individuals in an *oikos,* kinship bounds had to be manipulated to ensure business continuity; otherwise a business would be left to the whims of heirs. Nevertheless, no matter what tricks were used, the bank would ultimately remain in hands of an heir who may not have been so keen on running the banking business himself. Apollodorus, for example, does not seem to have wanted to be a banker at all, and leased it out to

[934] Demosthenes, *For Phormion*, 36.28-29.

Phormion and other individuals after it became his property.[935] Rather than administering it himself, he allowed others to profit from the bank in return for a fixed rent. The men who rented out the banks knew exactly how much money they were responsible for delivering to the owner each year, and the rest seems to have belonged to them. With corporate personality and immortality, management and operations are able to continue unaffected by, or at least shielded from, the detrimental effects an owner's death could have for businesses when kinship institutions are a business's legal structure. No matter how creative the attempts at guaranteeing business continuity by marrying slave partners to one's wife**,** sooner or later a disinterested heir would gain control of the family business.

VI. Unwilling Business Partners.

Moreover, there was no guarantee that business partners would wish to continue a business relationship with an heir, who may have no desire to continue the family business. It might be several years until the heir could even assume control of his estate, by which time it would have been more profitable to deal with others.

There are cases in which business partners seem partly to blame for the dissolution of an estate after its owner's death, and the financial fortunes of Pasion on the one hand, and Nausicrates and Xenopeithes on the other, serve as examples to illustrate this point. Both Pasion and the brothers Nasucrates and Xenopeithes left huge money lending fortunes, two of the largest known from ancient Greece. As long as they were alive, they carried on a thriving

[935] Dem. 36.11-13. Apollodorus even chose his father's shield factory over the bank when he was given the choice.

business, but as soon as they died, their financial fortunes were destroyed. Apollodorus spent twenty years trying to track down and recover the outstanding loans owed to his father at his death, and was only able to collect half of the original 39 talents. It was almost certainly former borrowers who refused to repay him, whether because he was unable to track them down, or because they were unable to verify who he said he was, or because they simply refused since he was unlikely to continue the former business relationship.[936]

Nausicrates and Xenopeithes' heirs were also unable to recover more than a few out of the eighty talents owed to them. In this case, the guardians of their estate may have also been to blame for embezzlement, but one of the loans in particular that was in question was made to the Bosporus, and it was impossible for the heirs to prove whether their guardians had collected it or not. Indeed, as far as international loans were concerned, unless a borrower willingly came to repay an heir, it would have been necessary for heirs to go overseas and personally find a debtor. This would have been a logistical nightmare in the ancient world, especially since an heir who was not already a partner in his father's business would not even know what his father's borrowers looked like, and paying the money to go overseas would have been possibly more costly than simply not collecting on the loan.

VII. Conclusions.

No matter how assiduously or successfully an ancient Greek property owner built up his estate, the kinship, *oikos*, structure of ancient Greek business eventually would disperse or

[936] In Game Theory, the less likely a person is to deal with a potential partner or adversary in the future, the more likely they are to cheat or renege on an agreement. For a succinct summary, see North, 1990, 56-57.

dissolve his business assets. Rather than partners and managers to guarantee the continuity of a business venture, it was heirs who would get their hands on business fortunes. Whether it would eventually be dispersed through partible inheritance or transformed by sons who so often do not want to follow in the footsteps of their fathers, ancient Greek business capital was put in danger with every new generation.

This combination of institutional forces was devastating for the accumulation and maintenance of business capital across multiple generations. Without the immortality of corporate personhood, ancient Greek estates were bound to see their business character dispersed, dissolved, or transformed sooner or later. The long-term stability and continuity that we associate with business today was simply not possible within the structural bounds of ancient Greek kinship. It would take a long line of institutional innovations over the course of many centuries to bring about the types of corporate entities that we see in the economy today. Indeed, it seems that only with the legal recognition of corporate personality and immortality were businesses able to escape the trap of a kinship legal structure.

Moreover, the short-lived nature of business may be a common feature of family-based businesses in the pre-modern economy more broadly, prior to the development of corporate personality and immortality. As Richard Grassby has shown, inheritance often spelled the end for merchant capital businesses in seventeenth century England, for which heirs were detrimental: "Though the main branch of successful families rarely continued in business for more than three generations, junior branches maintained continuity in many towns; businesses passed to relatives with the skill to run them, rather than to incompetent heirs."[937] Heirs were

[937] Grassby, 1970, 103.

responsible, according to Grassby, for the dissipation of many English merchant fortunes at that time,[938] and it was only by keeping money in corporations that commercial capital was able to avoid the effects of a kinship structure for business.[939] Likewise, in Renaissance Florence, Raymond Goldthwaite has argued that wealth shifted hands with great frequency because of partible inheritance, and that business fortunes were characterized by extreme fluidity and mobility.[940]

Also, in Renaissance Florence, even the great Medici bank lasted only 97 years, from 1397-1494, and one of the reasons for the collapse of this bank was the fact that it remained in the family and eventually encountered poor management in the person of Lorenzo after Cosimo and Piero had maintained the original bank through sustainable policies. De Roover believes that the Medici bank suffered greatly because of its kinship-based structure. Already with the succession of Cosimo de' Medici, the tactful business sense of his father , Giovanni di Bicci, which had caused the meteoric rise of this brilliantly successful bank, was lost, and the forces which would lead to the collapse of the bank were already taking effect.[941] Despite Cosimo's overall competence in the other aspects of his life, his skill as a banker did not compare to that of his father, and later generations of the Medici would accelerate the decline of the family enterprise. Eventually, Lorenzo the Magnificent, who devoted himself to higher, more aristocratic and honorable pursuits, was so uninterested in the operation of the bank, that he left

[938] Grassby, 1970, 105-7.

[939] Grassby, 1970, 107.

[940] Goldthwaite, 1980, 64-66.

[941] De Roover, 1963, 358.

administration of these sordid, mundane matters to agents, whose mistaken policies (exacerbated by external factors) eventually led to the collapse of the bank .[942]

Therefore, without an administration comprised of business partners and managers who would outlive an owner and have a vested interest in continuing operations without interruption, business fortunes were constantly at the mercy of an heir. Heirs could do whatever they wanted with business capital, and could either continue the business or spend its value on horse-racing, military ventures, or some other object of conspicuous consumption. Or they could squander it on drinking, gambling, and prostitutes.

Even if heirs were business-minded, however, each business operation in ancient Greece normally consisted of small, easily sold and transferable elements (slaves, tools, workshops) – what Marx would refer to as circulating capital, rather than 'fixed capital' which characterizes modern industrial machinery.[943] Therefore, as with the case of Demosthenes' guardians, who almost certainly invested his estate's value in their own business ventures, it would have still been possible and perhaps even necessary for business-minded heirs to liquidate a business venture a little at a time, piece by piece. Aphobus and his fellow guardians seem to have believed that they would get more out of Demosthenes' estate by selling off the sword and couch factory slaves a few at a time to make money, and left a smaller, gutted operation for the heir. Heirs who

[942] De Roover,1963, 361-75.

[943] An exception is perhaps mining works, such as those of Nicias. The continuity of his family's ventures in mining, therefore, may be a product of the larger capital investments of which their family's mining fortune consisted of in comparison with smaller items of capital, which characterized most ancient Greek business operations. Nevertheless, the thousand-slave army which Nicias had accumulated would have been easily liquidated, though it may have taken some time.

saw better opportunities for profit, or needed the money for anything else, could easily sell off part of an operation to raise cash whenever necessary.

As I argued above, ancient Greek estate owners and maritime traders often preferred flexibility, because of constantly changing market conditions. Ancient Greek businesses, which consisted of moveable components – livestock, ships, slaves, small tools, workshops – were perfectly suited to allow for quick liquidation when cash was needed for anything else. If an heir was interested in making money, it would sometimes make more sense to transfer productive value from one operation to another. Therefore, even good business sense would have contributed to the ephemeral, fleeting nature of ancient Greek business, which seems to have been characterized by fluidity, fragmentation, and impermanence, as opposed to the continuity, growth, and stability that are associated with modern corporate business entities.

Chapter 9: Conclusions.

I. Summing it all up.

In this dissertation I have argued that the ancient Greeks were not constrained by a pre-rational economic *mentalité*, but rather seem to have behaved in an economically rational manner. The evidence of their economic decision-making process reveals that they balanced concern for profit and risk in their approach to economic matters. Many estate and business owners seem to have been aiming at wealth maximization in the overall operation of their properties, and in this respect they cannot be said to have lacked economic rationality, but rather fit the modern definition with all the same qualifications that can be applied to the economic behavior of modern individuals.

Indeed, ancient Greeks in general seem to have considered the *oikos*, household, which provided both the physical location and the structure for business in ancient Greece, as something that should be increased. The desire for growth can be seen in both theoretical discussions of *oikonomia*, estate management, by philosophers and poets, and also in the real-life examples of the estates preserved in the Attic orators of the fourth century BCE. The guiding principle of estate management seems to have been the acquisition and consolidation of profitable opportunities, a pattern which recurs repeatedly.

The attested monetary returns on many of the ancient Greek estate and business properties I studied would satisfy even the expectations of modern investment theory. Even the estates that seem to be designed for long-term stability of return were making profits that are in line with the soundest investment advice in the modern world. In many cases the profits that ancient Greeks received from their business operations far exceeded the most desirable returns of modern investment portfolios, and are evidence of successful management strategies.

The money-making strategies of ancient Greeks are entirely consistent with a desire to maximize profits. Strategies by maritime traders, whose likely actions are presented in maritime court speeches, are undeniable evidence of short-term profit maximization. Estate owners who concentrated all or the majority of their fortunes into highly profitable fields such as silver mining, maritime trade, money lending, and banking provide the best examples of long-term maximization strategies. Some individuals may have even aimed at establishing monopolies or economies of scale. Some individuals were so opportunistic in their pursuit of profit that they created a hazardous market system which was replete with deception, fraud, and distrust. Others responded by creating personal networks of trusted individuals, protecting themselves from the risks of dealing with strangers in the open market. These networks of trust seem to have restricted information about profitable opportunities to trusted individuals, which distorted the operation of the free market of Neoclassical economic theory, which assumes that information is widely available and that opportunities in the market are open to all. Therefore, profit-maximization was pursued to such an extent that even structure of the free market was affected.

Indeed, as I argued in Chapter 5, it was not only the very rich who exhibited signs of economic rationality and profit-oriented behavior, but also some of the lower classes as well. The fact that a class of *nouveaux riches* individuals rose from obscurity to wealth and fame in both archaic Megara and classical Athens demonstrates that long-term profit-oriented money-making and wealth maximizing strategies were practiced by some of the poorer classes as well. Some of the traders I discussed in Chapter 6 do not seem to be wealthy individuals, but they engaged in economically rational, profit-maximizing behavior nonetheless. Therefore, it was not only among the upper crust that this mentality can be found, but to a certain extent throughout all levels of Greek society.

Therefore, it was not a lack of economic rationality that limited the development of the ancient Greek economy. Rather, it seems to have been primarily institutional and technological factors that were responsible for the upper limits to economic development in ancient Greece. Although the effects of technological constraints are easy for the modern scholar to visualize, institutional barriers are more difficult to conceptualize. By following the trail of money in business transactions and in the transmission of estates across generations, however, it is possible to expose the institutional structures that affected the accumulation and continuity of business capital in ancient Greece.

The political fragmentation of the ancient Greek world limited state enforcement to within the bounds of individual *poleis*, leading to unstable international markets in commerce and finance. Though the availability of enforcement would have made internal *polis* markets less fragile than international commercial and financial markets, even these internal markets, including Athens, seem to have suffered from the difficulties in establishing property rights for non-landed assets. In a pre-modern economy, where much business was conducted informally, and in which there was little documentation and no investigative police force, the problems with establishing and enforcing property rights for non-landed assets would have been substantial. In the modern world, though markets in international commerce and finance are still volatile, there are at least more sophisticated property rights systems and enforcement mechanisms that lend more stability than an ancient Greek *polis* could.

Moreover, the lack of legal recognition for corporate personality meant that business capital was doomed to be trapped within the bounds of a kinship institutional structure, the *oikos*, and could never grow to become a legal entity, which is characteristic of modern firms. Consequently, business capital accumulations were always threatened by institution of partible inheritance which dominated the Greek world. Those business fortunes that were not immediately broken up after a single generation were bound to be reinvested or squandered by disinterested heirs. Large size was not unattainable, as Nicias' operations in the Laureion district demonstrate, but there was no guarantee of long-term business continuity without corporate management, and business capital was always at the whims of heirs.

This combination of institutional forces meant that business accumulations in ancient Greece were ephemeral, small-scale, and prone to easy dissipation. Therefore, business capital shifted hands frequently, and was characterized by fluidity and mobility rather than continuity and stable growth. Therefore, ancient Greek business entities were impermanent, had little fixed capital, and were therefore easily fragmented, liquidated, and transferable.

In these respects, ancient Greece's economy shared many traits with other pre-modern economic systems. In the personalistic nature of markets, the devastating effects of partible inheritance on business fortunes, the difficulties in maintaining businesses across multiple generations within a kinship institutional structure, and the extreme fluidity and mobility of wealth, ancient Greece's economy bears important resemblance to Renaissance Florence and early-modern English merchant fortunes. Ancient Greece, therefore, was not much unlike other pre-modern economic systems, even those two millennia later.

The conditions for business development were not perfect in the ancient Greek world. Though individuals could and did pursue sophisticated strategies for making money, and many impressive fortunes were built, there was no way to guarantee the long-term continuity of businesses or even estates. Therefore, the two most fundamental social and political institutions of the ancient Greek world, the *oikos* and the *polis*, created unforeseen, and unintended, structural limitations to the long-term accumulation and maintenance of business capital. These limitations were insurmountable without a long series of institutional innovations, which ultimately emerged only in the early-modern period.

This is not to say that the institutions of the ancient Greek world were entirely antithetical to economic development, however. Indeed, city-states provided important protection for business and commerce in their own markets, and therefore promoted economic development within the bounds of their territories and in the short term. Ancient Greeks were able to engage in sophisticated economic transactions, and many individuals amassed impressive fortunes from their commercial, financial, and manufacturing enterprises. Nevertheless, this same institutional structure contained built-in limitations to long-term economic growth and development, and without the institutional and technological innovations of early-modern Europe, the ancient

Greeks were unable to break through the limits to economic development that constrained all pre-modern economies.

Indeed, the institutional structure of the ancient Greek world channeled and shaped individual economic behavior in such a way that it might even appear that they were guided by an entirely different, and seemingly irrational economic *mentalité*. When the institutional constraints and obstacles are brought to the fore of the analysis, however, it seems that the ancient Greeks did behave in an economically rational manner, but were forced to respond to the limitations of their world in ways that might seem to be different from the behavior of modern individuals.

It was not a lack of innovation or ingenuity that prevented the Greeks from creating a better environment for business fortunes. Nor was it a lack of rationality or some sort of deficiency in *mentalité*. Such views are Eurocentric and teleological, seeing the modern economy as the inevitable result of a rational approach to economic matters. Rather, it was actually an improbable, unlikely combination of innovations that created the modern economy, and which were the unique product of specific historical circumstances.

Economic rationality seems to have existed in ancient Greece, but was ultimately unable to translate into a more sophisticated economic system. Institutional and technological factors were largely to blame. The ancient Greeks did not even have the sailing technology to navigate the Atlantic, and therefore their markets were largely confined to the Mediterranean basin, to put their economic achievements in perspective. Within the constraints of their time and place, they developed what was likely in many ways the most sophisticated economic system to that point in world history.

II. Where do we go from here?

In this study, I have argued that examining individual behavior through the lens of economic rationality can yield otherwise unattainable insights into other aspects of an economic system, such as the role institutions. By following the trail of money in business deals and estate management, I have been able to expose institutional factors which were antithetical to the long-term accumulation and maintenance of business capital; through the lens of economic rationality, it is possible to reveal previously unseen institutional forces that affected the economy in unintended ways. There is a great deal of promise in continuing this line of research in order to bring to light the hidden processes that affected the accumulation of business capital by individuals.

Moreover, examining how ancient Greek individuals in turn responded to the institutional constraints of their economic system can shed further light on the complication interactions between rational individuals and the larger structures that created obstacles to, or opportunities for, their economic ambitions. The formation of personal networks, for example, is one way that individuals responded to the hazardous conditions of the free market in ancient Greece. Additional studies on the types of economic networks that were made both among friends and relatives within *poleis*, and between merchants, consumers, and producers in the international market, would be most informative.

The nature of markets within and between different *poleis*, and the extent to which the Greek world functioned as an economic system as a whole, are other important areas of future research. What were the geographical limits of different types of markets, and to what extent did these markets penetrate into less commercialized areas? Also desirable would be a study on the interplay between market-oriented and subsistence-oriented regimes that seem to have dominated different parts of the ancient Greek world. To what extent did economic behavior in ancient Greece change based on one's proximity to highly commercialized *poleis*? Studies comparing the way modern national economies function (both internally and in their interactions with other national economies), and the way the ancient Greek world functioned as a single economic system (geographically and culturally bounded), and in relation to external economic systems (of Scythia, Anatolia, and the Near East, for example).

In addition, how the economic rationality of the people influenced the formation of legal and political institutions is another important connection that needs to be explored in great depth. Since institutions are typically created for the benefit of the groups that have the power to create them, it would be informative to study precisely which people most benefit from different *poleis'* laws. A number of interesting questions could be addressed. How did the economic rationality of power-holding groups, and the institutions they created for their own benefit, affect the development of business and markets in ancient Greece? Did economic rationality in some cases prevent further economic development by favoring groups who controlled some aspects of the economy at the expense of others? Was the emergence of a commercial and financial elite in ancient Greece perhaps impeded by problems in maintaining business fortunes? Did poor property rights protection, combined with the lack of an international free market in land (land ownership being restricted to citizens of each *polis*), make commercial fortunes especially precarious by nature? Or, in highly commercial *poleis* with little land/scarce land, such as Aegina, Chios, Rhodes, and Samos, were traders able to surmount limits to land ownership come to control land and trade simultaneously? Did merchants infiltrate the ranks of the landed aristocracy by competing with them for land ownership? Did they intermarry with the elite to solidify their positions, and create an alliance of land and money?

Furthermore, the precise nature of the difference between ancient Greek and modern western economic *mentalité* needs to be explored in greater depth. There has been a great deal of recent research in cognitive science on the mental frameworks that shape decisions, and increased attention on the ways Greeks conceptualized their economic behavior in comparison with other cultures might prove fruitful. Although the ancient Greeks and modern westerners both seem to share economic rationality, there were certainly many other respects in which ancient Greek cultural notions of the universe and their place within it differed from that of modern individuals. The ways that the agrarian world in which they lived, and the level of institutional and technological development which they had achieved, differ from the life of a modern westerner immensely, and there must have been some demonstrable distinctiveness of economic behavior that could be said to be associated with the notion of *mentalité*. Moreover, the ways individuals manipulated and negotiated such structures would also provide the opportunity for comparative work with other historical societies.

This study will serve as another step towards integrating ancient economic history, which has long been isolated from that of later periods, back into the accounts of the rise of the modern economy that culminate with the Industrial Revolution. With a focus on institutions and individual behavior, economic historians will be able to write ancient Greece and Roman into a continuous economic history of Europe that follows a New Institutional Economics approach. The similarities between my analysis of ancient Greek behavior and Peter Bang's study of the same phenomena in the Roman period are not accidental; New Institutional Economics allows for continued comparative studies between ancient Greece and Rome, and also between Greco-Roman antiquity and the later periods of western economic history. Future studies would doubtless demonstrate that Ancient Greece fell not only temporally, but also developmentally, somewhere midway between Neolithic Revolution and the modern West in the development of institutions, the law, the state, and technology.

Finally, if economic rationality is not exclusive to, or the cause of, the industrial-capitalist economic system of the modern West, then it must be examined in other pre-modern and non-western historical contexts. It may even be that economic rationality, as an elemental means-to-ends process, is universal to all human beings. If this is the case, then cultural, ecological, institutional, and technological factors will prove to be the most significant differences between human economic behavior in various historical socities. Relativism will therefore come to take on a new significance, and economic rationality will not be seen as a distinguishing factor between the modern West and the rest of humanity.

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