An Analysis of Profitability Changes in Eight Capitalist Economies

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INTRODUCTION

The purpose of this paper is to illuminate long-run patterns of profitability behavior in the advanced capitalist economies since World War II. The paper is primarily empirical in content; using graphs I will analyze changes in the profitability of the manufacturing sector of eight capitalist economies — the "Big 7" plus Sweden.

The theoretical framework that informs my empirical analysis is that of Marxian crisis theory, which focuses on the rate of profit as the most critical variable reflecting and affecting the vitality of a capitalist macroeconomy. Alternative variants of Marxian crisis theory may be distinguished according to whether or not they attribute a primary role to the degree of capitalist class power in the determination of overall profitability. On the one hand, the "neo-Marxian" variant emphasizes the balance of power between capitalist and non-capitalist classes as an essential determinant of the distribution of income and the rate of profit in a capitalist economy; profitability is modeled as a positive function of capitalist class power. On the other hand, alternative variants of Marxian crisis theory — e.g., the theory of a falling rate of profit due to a rising organic composition of capital, and theories based on underconsumption or other forms of realization failure — focus on economic-structural forces that may depress profitability even when (and sometimes because) the capitalist class is powerful.

To contribute to our understanding of the actual behavior of profit rates in capitalist economies, as well as to assess the applicability of alternative variants of Marxian crisis theory, it would, therefore, appear useful to develop a way of determining the extent to which profitability changes are attributable to overall economic-structural changes as opposed to distributional changes that may be linked to the balance of class power. In this paper I will propose and implement an analytical device for assessing the extent to which profitability changes can be attributed to (a) changes in the overall economic environment and (b) changes in the outcome of distributional conflict between the capitalist class and the working class.

PROFITABILITY VS. REAL WAGE GROWTH

Neo-Marxian economic analysis depicts the capitalist economy as an arena in which conflicting classes compete for economic gains. The two most fundamental Marxian economic classes are of course capital and labor; these two classes enter into distributive conflict as capital seeks higher profits and workers seek higher wages.

In the case of capital, it seems reasonable to suggest that the primary economic objective is to maximize the after-tax rate of profit. Accordingly, I have compiled annual time series data from 1951 through 1985 for the after-tax net rate of profit in the manufacturing sector of each of the eight countries under study.[1] The extent to which capital is attaining its economic objectives is clearly represented by the *level* of the after-tax profit rate (to be denoted by r); an increase/decrease over time in r represents an improvement/deterioration in capital's economic position.

In the case of labor, an important — if not exclusive — objective is to maximize the after-tax real wage; accordingly, I have also compiled annual time series data from 1951 through 1985 for the after tax real wage rate in the manufacturing sector of each of the eight countries under study.[2] Since one expects that real wages will rise over time with the general productivity of the economy, the *level* of the after-tax real wage is not an adequate indicator of how successful labor has been in attaining its economic objectives. Instead, it would seem more appropriate to measure labor's success in terms of the *rate of change* of the after-tax real wage rate (to be denoted by g); an increase/decrease in g means that workers are doing better/worse than previously in respect to the economic benefits they derive from participation in the economy.

In order to illuminate the role of distributive conflict and the exercise of power in affecting postwar profitability trends, I present in Figures 1–4 a scatter plot of r and g for each of the eight countries under study. To make the plots more intelligible, and to reduce the effects of short-term fluctuations in the rate of capacity utilization, I have grouped the annual time series observations on r and g from the early 1950s through the mid-1980s into twelve consecutive three-year averages, beginning with the three-year period centered in 1952 and ending with the one centered in 1985. (From here on I will refer to particular years with the understanding that they represent centered three-year periods.) Figures 1–4 show a total of 11 observations for each country (beginning with 1955 so as to permit the calculation of g from the previous to the current three-year period), connected in sequential order by straight lines.

The graphs in Figures 1–4 permit one to assess the relative success with which capital and labor have achieved their presumed economic objectives over time. A move to the north/south represents a gain/loss for capital while labor holds its ground; a move to the east/west represents a gain/loss for labor while capital holds its ground. Movement in a northeasterly/southwesterly direction represents a harmonious situation in which capital and labor share gains/losses; while movement in a northwesterly or southeasterly direction represents a sharply conflictual change in which capital gains at the expense of labor or vice versa. In the case of the United Kingdom, for example, the movement from 1955 go 1964 reflects losses for both capital and labor; the movement from 1964 to

1967 represents a loss for capital while labor holds its ground; and the movement from 1967 to 1973 reflects a substantial gain for labor at the expense of capital.

The plots of r vs. g in Figures 1–4 display some interesting inter-country variation in patterns. Let us focus first on the periods of declining profitability (in all countries but Italy) from the 1960s up to 1982. In the United Kingdom, Canada and the United States there is a virtual vertical drop from 1964 to 1982, indicating that as r fell g remained constant (with some variation in intermediate years). In Sweden, West Germany and Japan the predominant movement from the early 1960s to 1982 is in a southwesterly direction, indicating that as r fell so did g. In France the decline in r began only in 1970; the drop is more or less vertical up to 1976, and then southwesterly to 1982. In Italy there is very little variation in profitability at all (with the exception of a drop in r in 1976); the movement from the early 1960s to the early 1980s is essentially westward, indicating simply a long-term decline in g.

Turning now to the (partial) recovery of profitability from 1982 to 1985, we find that the movement is northwesterly in the cases of France, Italy and Canada; vertical in the cases of the United Kingdom and the United States, and northeasterly in the cases of Sweden, West Germany and Japan. In the latter three countries we find r and g again moving in the same direction (in this case upward rather than downward); while in the first five countries g either stays constant or actually falls as r rises.

In general we find Sweden, West Germany and Japan distinctive in the extent to which improvement or deterioration in the overall economic environment is shared between capital and labor (movement along a northeast/southwest axis). In the United Kingdom and the United States — and, to a lesser extent, Canada — there is a general tendency for r to decline in bad times and to increase in good times more than g (movement along a vertical axis). In Italy there is little variation in r at all, but considerable variation in g (movement along a horizontal axis). In France there are three distinctive sub-periods of different behavior: little variation of either r or g until 1970; a sharp decline in r until 1976, and then a sharp decline in g into the 1980s.

DECOMPOSITION OF PROFITABILITY CHANGE

Study of the plots in Figures 1–4 suggests a potentially fruitful way to decompose change in after-tax profit rates from one period to another. Consider the change in r from 1955 to 1958 in Canada or in the United States, shown in each case as southwesterly moves in Figure 4. Evidently the overall economic environment in each of the two manufacturing sectors deteriorated during this period, for in 1958 lower levels of both r and g were achieved than in 1955. Had r remained in 1958 as high as it had been in 1955, then presumably g would have been even lower in 1958 than its actual value; and had g remained in 1958 at its 1955 level, then r would have been even lower than its actual value in 1958. In effect, we may envisage a "distribution frontier" for 1958 in r-g space which slopes downward from the northwest to the southeast, passing through the actually attained value of (r_{58}, g_{58}).

A pair of such distribution frontiers (DF_0 and DF_1) — for consecutive time periods 0 and 1 — is drawn for the general case in Figure 5, corresponding to

actually observed r and g points (r_0, g_0) in period 0 and (r_1, g_1) in period 1. In principle, we can characterize shifts in the position of the distribution frontier from one period to the next as a change in the overall economic environment, and we can characterize movements along a given distribution frontier as a conflictual change in the distribution of economic benefits from a given environment. The problem then becomes how to allocate a given overall change from (r_0, g_0) to (r_1, g_1) between environmental and conflictual components.

Clearly a movement in a northeasterly or southwesterly direction involves mainly a change in the overall economic environment, and a movement in a northwesterly or southeasterly direction involves mainly a change associated with distributional conflict; but we require a method of distinguishing the two possibilities more precisely. To accomplish this, we need to define a "conflict-neutral" point (r^*_1, g^*_1) on the new distribution frontier DF_1, which represents the values of r and g that would obtain in period 1 in the absence of any change in the state of distributional conflict between capital and labor. A reasonable way in which to define the conflict-neutral point is to locate r^*_1 halfway between r_0 and r^{**}_1, and g^*_1 halfway between g_0 and g^{**}_1, where r^{**}_1 and g^{**}_1 denote the values of r and g on the distribution frontier DF_1 corresponding to g_0 and r_0, respectively. The point (r^*_1, g^*_1) is duly indicated on Figure 5.

We may now decompose the movement from (r_0, g_0) to (r_1, g_1) into two steps: (a) an "environmental" move from (r_0, g_0) to (r^*_1, g^*_1), which measures the shift in the distribution frontier from DF_0 in period 0 to DF_1 in period 1; and (b) a "conflictual" move from (r^*_1, g^*_1) to (r_1, g_1), which measures the movement along the distribution frontier DF_1. In the example depicted in Figure 5, we have both an environmental deterioration and a further decline in r (and rise in g) associated with a conflictual movement in favor of labor. This method allows us to decompose the actual change in profitability $(r_1 - r_0)$ into one component of environmental change $(r^*_1 - r_0)$ and another component of conflictual change $(r_1 - r^*_1)$.

To apply this method to concrete cases of profitability change over time, it is necessary to generate an equation for the distribution frontier in each time period under analysis. Beginning with a macroeconomic distributional identity for the total income in the economic sector under investigation, it is possible to derive an expression for the after-tax net rate of profit, r, as a function of the rate of change (from the previous period) of the real after-tax wage rate, g. The derivative of r with respect to g yields the (constant) slope of the distribution frontier, and this slope can be used in conjunction with the one actually observed value on the frontier to derive the frontier itself.[3]

Using the above-described method for determining the locus of distribution frontiers and allocating changes in r to environmental and conflictual components, I have decomposed changes in the after-tax rate of profit r between 1955 to 1985 for each of the eight manufacturing sectors under study. With this decomposition it is possible to determine the extent to which profitability change between any two years is accounted for by changes in the overall economic environment and changes in the outcome of capital-labor distributional conflict. In particular, I have identified for each country four separate sub-periods (spanning the whole 1955–85 period) for which different directions of

profitability change, or different primary sources of profitability change, can be distinguished.

Table 1 displays the overall change in the after-tax manufacturing profit rate (Dr), as well as the components attributable to changes in the profitability environment (Dre) and changes in distributional conflict (Drc), for each of the four sub-periods in each of the eight countries under study. To highlight different sources of profitability change, I have added signs within parentheses to indicate whether Dre or Drc accounts for the largest share of the overall change in Dr. Thus, for example, the long-run decline in the after-tax profit rate in manufacturing in the United Kingdom from 1955 to 1982 was primarily accounted for by environmental deterioration from 1955 to 1964 and from 1973 to 1982, but between 1964 and 1973 it was almost entirely due to a distributional shift in favor of labor; the (modest) recovery of r from 1982 to 1985 was associated with a (modest) improvement in the profitability environment, slightly greater than the simultaneous distributional shift in favor of capital.

It is difficult to generalize about the results shown in Table 1, since the experience of each country has been somewhat different. But there are certain common features that do emerge. Not surprisingly, in every country there is evidence of significant environmental deterioration in sub-periods covering the 1970s; this reflects the diminished opportunities for profit-making and real wage growth afforded by a world capitalist economy in crisis. Each country (except for Italy) also shows improvement in this respect in the 1980s. In each country there have been times when distributional shifts favored capital and others when distributional shifts favored labor; in every country except Sweden and West Germany the most significant distributional shifts in favor of labor occurred in sub-periods covering part or all of the time span from the mid-1960s to the mid-1970s.

There are also a few interesting patterns that are common to subgroups of countries among the eight under study. In Sweden, West Germany and Japan, environmental conditions play a considerably more important role than distributional conflict in accounting for charges in profitability (in each case playing a dominant role in three out of the four sub-periods). This finding confirms the impression obtained in section 1 (from Figures 2 and 3) that improvement or deterioration in the overall economic environment tends to be shared between capital and labor in these countries, rather than benefiting or burdening just one of the two classes. In France and Italy the opposite is true: in only one of four sub-periods are environmental factors predominant in accounting for profitability change, while distributional changes (twice in favor of capital, once in favor of labor) are most important in three sub-periods. In the United Kingdom, Canada and the United States there is no sub-period in which the profitability environment improves significantly; in those few sub-periods when the after-tax manufacturing profit rate does rise, it is always primarily due to distributional shifts in favor of capital.

NOTES

1. These data were compiled together with Andrew Glyn as part of a larger joint project with Wendy Carlin on profitability and macroeconomic performance in the major capitalist economies. We first compiled estimates of before-tax profit rates, based primarily on published OECD figures for capital stock, value added, and factor shares (adjusted to remove the estimated labor income of self-employed persons from the "operating surplus" as a measure of profits); but in the case of France and Italy we relied mainly on Eurostat figures, and in all cases, we supplemented the data available from international agencies with data from national sources. We then calculated after-tax profit rates using estimates of the rate of direct taxation on net capital income: in the case of four countries (France, Sweden, Canada and the United States) we were able to make use of reasonably solid national estimates of profit tax rates in the manufacturing sector; but in the case of the other four (the United Kingdom, West Germany, Italy and Japan) we had to rely on OECD figures on profit tax rates in the entire corporate secotr, so the after-tax profit rates in these cases must be considered very provisional.

2. The after-tax real wage is defined here as the hourly real wage rate (exclusive of employer-provided pension and welfare benefits), minus an estimate of the amount of the hourly wage yielded in the form of direct income taxes and contributions to social insurance. The required underlying data were compiled primarily from published OECD national income accounts, supplemented by data from the BLS and national sources; personal income tax and social security contribution rates were estimated on the basis of economy-wide averages.

3. Space constraints prevent presentation here of the algebraic derivation of a distribution frontier, but this is done in the Appendix to the longer paper that is available on request from the author.
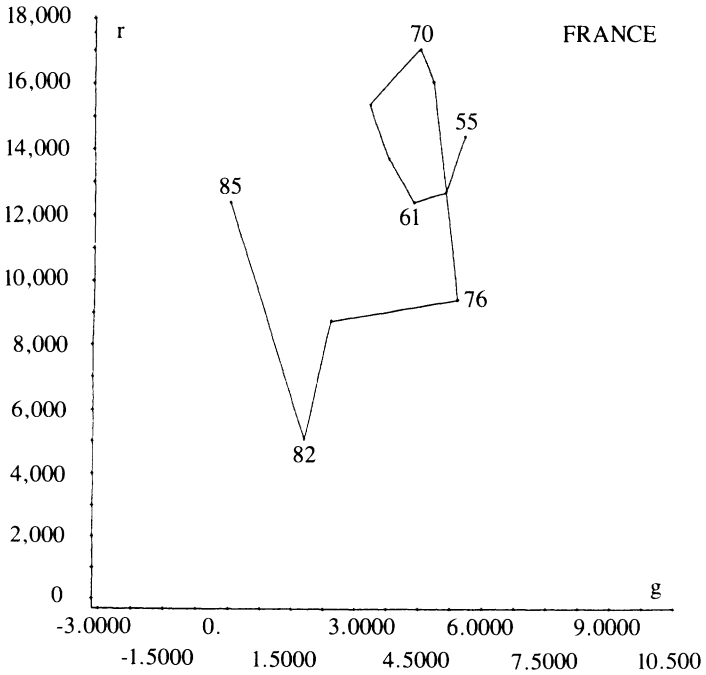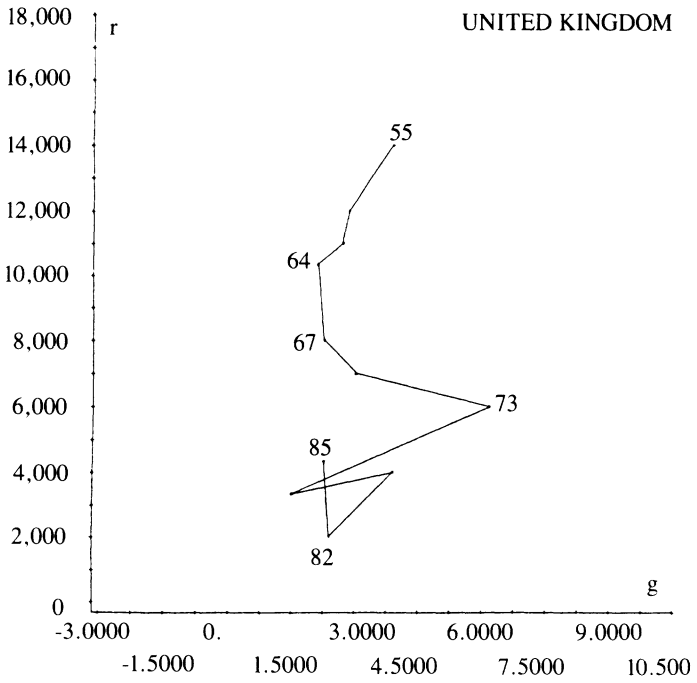
Figure 1

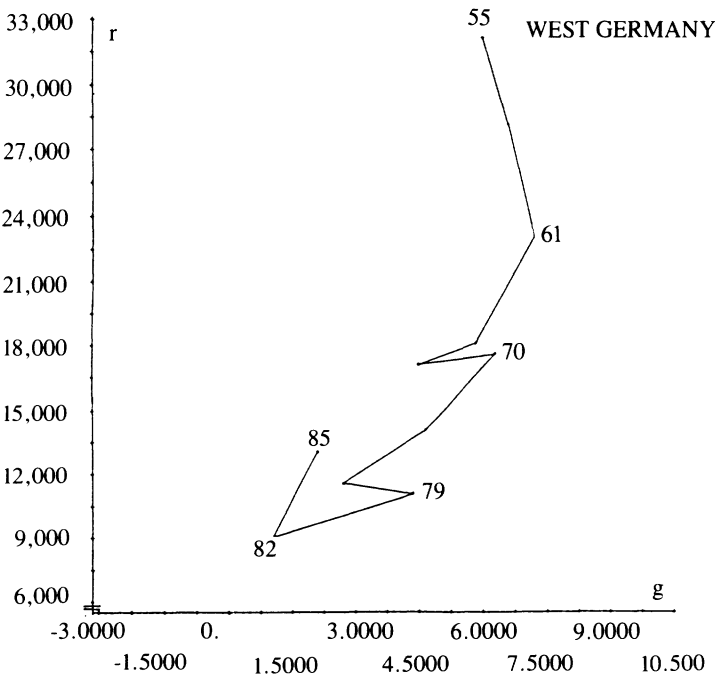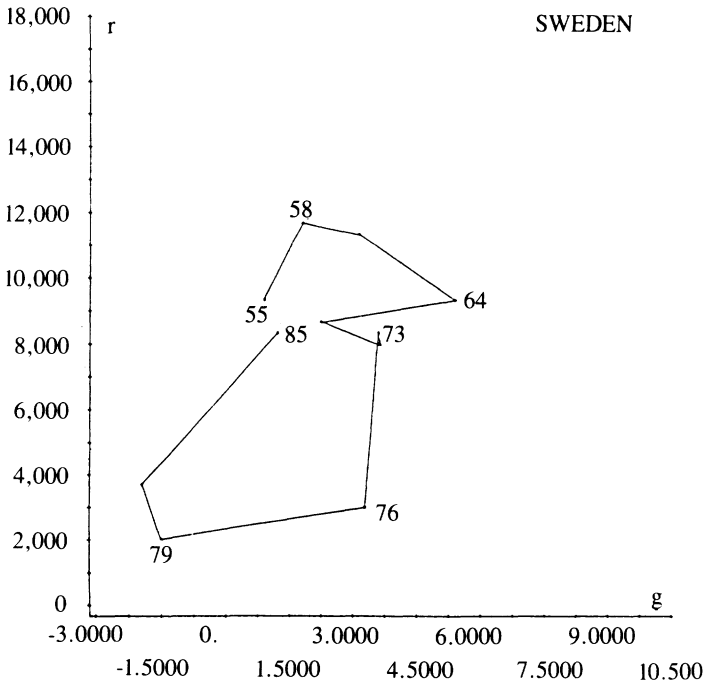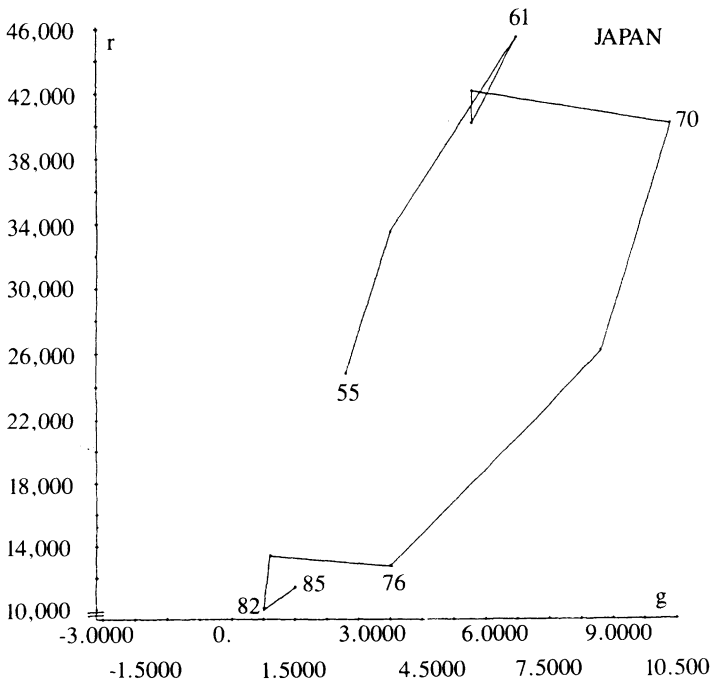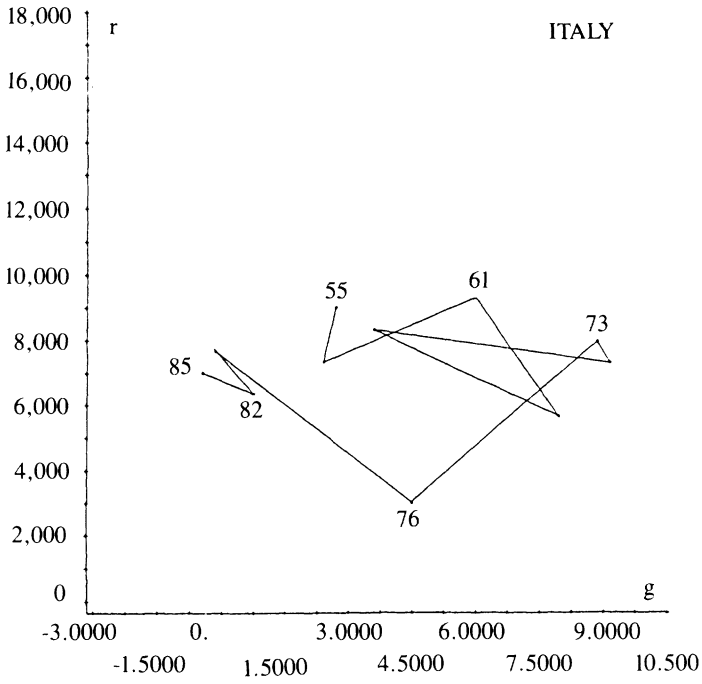**Figure 2**

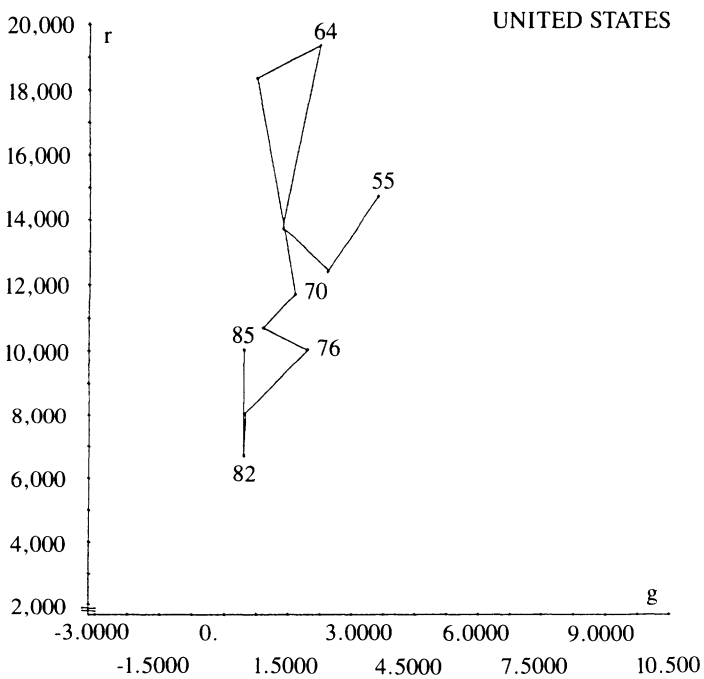Thomas E. Weisskopf
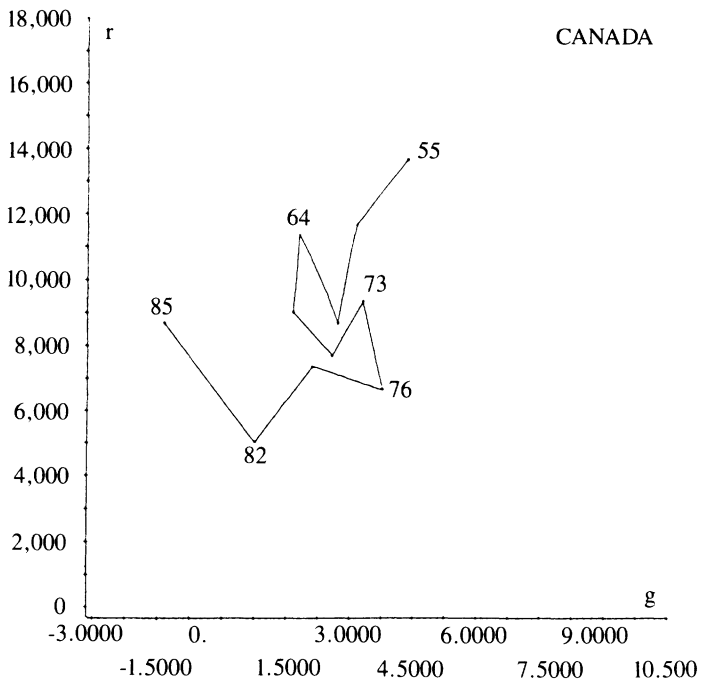
Figure 3

Figure 4

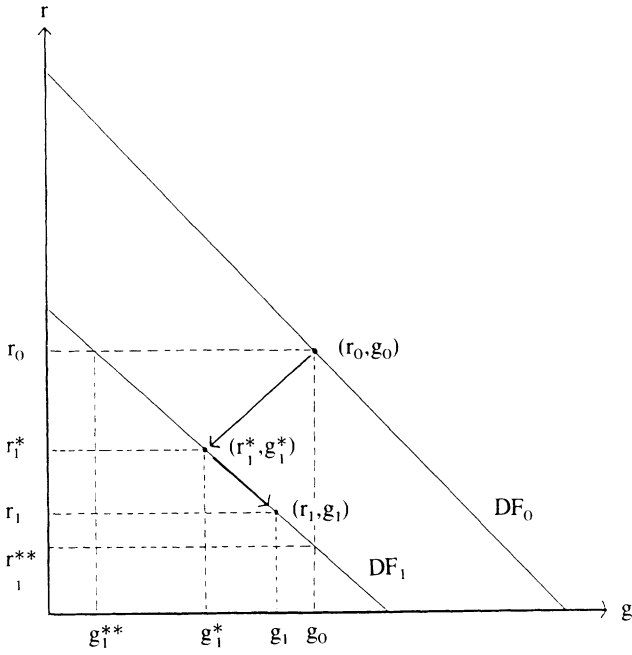**Figure 5**
Distribution Frontiers and Profitability Change

Table 1
Components of Manufacturing Profitability Change

Country	Sub-period	Dr	Dre	Drc
UNITED KINGDOM	1955–64	− 3.9	− 3.1 (−)	−0.8
	1964–73	− 4.4	− 0.2	−4.2 (−)
	1973–82	− 3.8	− 3.7 (−)	−0.1
	1982–85	+ 2.4	+ 1.1	+1.3 (+)
FRANCE	1955–70	+ 2.7	+ 0.6	+2.1 (+)
	1970–76	− 7.5	− 3.2	−4.3 (−)
	1976–82	− 4.5	− 4.4 (−)	−0.1
	1982–85	+ 7.3	+ 2.7	+4.6 (+)
SWEDEN	1955–58	+ 2.3	+ 1.7 (+)	+0.6
	1958–64	− 2.3	+ 0.8	−3.1 (−)
	1964–79	− 7.3	− 6.5 (−)	−0.8
	1979–85	+ 6.2	+ 3.9 (+)	+2.3
WEST GERMANY	1955–61	− 8.9	− 3.5	−5.4 (−)
	1961–70	− 5.5	− 3.3 (−)	−2.2
	1970–82	− 8.7	− 7.6 (−)	−1.1
	1982–85	+ 3.9	+ 2.6 (+)	+1.3
ITALY	1955–73	− 1.0	+ 3.1	−4.1 (−)
	1973–76	− 5.0	− 5.5 (−)	+0.5
	1976–82	+ 3.3	− 1.0	+4.3 (+)
	1982–85	+ 0.7	− 0.4	+1.1 (+)
JAPAN	1955–61	+ 20.5	+ 13.7 (+)	+6.8
	1961–70	− 5.3	+ 0.3	−5.6 (−)
	1970–82	− 30.1	− 22.9 (−)	−7.2
	1982–85	+ 1.1	+ 1.1 (+)	+0.0
CANADA	1955–64	− 2.6	− 3.0 (−)	+0.4
	1964–76	− 4.4	− 1.2	−3.2 (−)
	1976–82	− 1.9	− 2.3 (−)	+0.4
	1982–85	+ 3.7	+ 0.9	+2.8 (+)
UNITED STATES	1955–64	+ 4.7	+ 0.5	+4.2 (+)
	1964–76	− 9.2	− 5.3 (−)	−3.9
	1976–82	− 3.6	− 3.3 (−)	−0.3
	1982–85	+ 3.5	+ 1.7	+1.8 (+)

Note: Dr measures the overall percentage-point change in the after-tax rate of profit in the manufacturing sector; Dre and Drc are the components attributable to environmental and distributional factors, respectively. The sign in parentheses indicates the predominant component in the overall change, as well as its direction.