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**University of Michigan  
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**Should Denmark Participate in European  
Monetary Unification?**

**An Economic Evaluation of the Danish Decision  
to Opt-out of the 1992 Maastricht  
Treaty on European Union**

**by**

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FACULTY COMMENTS

This paper assesses the costs and benefits of Denmark joining the proposed European Monetary Union, which could take place at the end of this decade. The approach taken is to employ macroeconomic data since 1980 to answer two questions: Does Denmark have an independent monetary policy; and Does Denmark need such a policy? The evidence presented suggests that for 1980-89 Denmark does indeed have such a policy, whereas the evidence from 1990 suggests that the cost associated with foregoing its monetary policy have been small. Specifically, it is argued that Denmark has been able to successfully deploy other policies to secure its macroeconomic objectives. These latter findings were established by examining the Danish economy's performance when its monetary policy was directed toward reducing the fluctuations in the Krone/Deutchemark exchange rate. Reducing such fluctuations required increases in Danish interest rates as German monetary policy tightened after the reunification of East and West Germany. This episode was used to assess the potential costs to Denmark of relinquishing its monetary independence.



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## INTRODUCTION

"By the end of the century, Europe will have a strong and stable single currency. This was the wish of its peoples and leaders in signing and then ratifying the Treaty on European Union." Thus begins the 31 May 1995 European Commission Green Paper on the practical arrangements for the introduction of the single currency as part of Economic and Monetary Union currently underway in Europe. This long-awaited green paper sets out the conditions for the transition to a single currency, i.e., the timetable and the scenario. The dates concern those of the Maastricht convergence criteria and the possibility or plausibility of a number of countries managing to meet them. The scenario concerns the logic chosen in respect of the various players involved, i.e., the States, banks, firms and households. There exists no historical precedent for this process of monetary union, in Europe.<sup>1</sup>

A monetary union between two or more countries means that those countries agree to maintain the same currency. In the European context, where before there were French and Belgian francs, Italian lire, Dutch guilders, German Deutschmarks, Danish krone etc., there would be after monetary union a single currency. Thus, when countries proceed to join a monetary union, they give up the possibility for their own currency to be separate from those in the other countries and *therefore give up the possibility of allowing the rate of exchange between their own currency and those of the other members of the union to vary*. Logically, this means that a 'single monetary policy' exists for the area of currency union as a whole, regardless of whether there is one monetary authority or more.

<sup>1</sup> There are cases where separate political entities formed a political union before adopting a common currency, and others where several sovereign countries standardized their coinage without establishing a common central bank. However, there are no precedents in which countries with histories of monetary sovereignty and long-standing central banks establish a common central bank with a single common currency.

<sup>2</sup> Mike Artis and Norman Lee, ed., The Economics of the European Union: Policy and Analysis (Oxford: Oxford University Press, 1994), 347.

For the case of Europe, the Economic and Monetary Union differs slightly from the discussion above since it implies: (i) a single market, where goods, services and factors circulate freely; (ii) irrevocably fixed exchange rates among participating currencies, and a single currency soon after; (iii) a single monetary authority implementing a single monetary policy; and (iv) binding rules on the size of budget deficits and public debt, and on the financing of deficits.

To achieve a monetary union within Europe, the Maastricht Treaty details a three stage approach. Stage I removes capital controls, reduces international inflation and interest rate differentials, and increases the stability of intra-European exchange rates. Stage II furthers the convergence of national economic policies and creates a temporary entity, the European Monetary Institute (EMI), to coordinate member-country monetary policies in the final phases of the transition and to plan the move to monetary union. Stage III establishes the independent European central bank and transfers to it the responsibility for conducting monetary policy. Upon inauguration of Stage III, exchange rates will be irrevocably fixed and national currencies will be replaced by the single currency.<sup>3</sup> Currently in Stage II, which began in January 1994, the EU is waiting for the Council of Heads of State to vote (by qualified majority) on whether to commence Stage **III**.

Opinions of economists and politicians vary with regard to "with whom?" or "when?" this monetary union will take place. Yet, it is clear that barring any future major political decisions such a union will occur. While at their summit in Cannes (June 1995), the European Union's heads of government stated their "resolve to prepare the transition to the single currency by January 1st 1999 at the latest in strict accordance..." with the Maastricht Treaty.<sup>4</sup> This implicit abandonment of the first target date for Economic and Monetary Union (EMU) in 1997 only shows the reality of member state's ability to attain

<sup>3</sup> Barry Eichengreen, "European Monetary Unification," Journal of Economic Literature Vol XXXI (1993),

<sup>4</sup> The Economist. 1 July 1995.

the convergence criteria. By making such a declaration, the political leaders allowed for continuation down the Maastricht path without casting blame at specific member nations for prohibiting union according to the Treaty.

Europe's leaders now must ensure that the second Maastricht deadline does not become as unrealistic, either economically or politically, as the first. The idea of all 15 members qualifying for union by this deadline remains unlikely. Therefore the most likely consequence will be a union divided into two classes-those within the currency union and those outside it. As outlined in Article 109j of the Treaty on European Union, the European Council will confirm, before 1 July 1998, which Member States fulfill the necessary conditions for the adoption of a single currency. Only Denmark and the United Kingdom of Great Britain and Northern Ireland have protocols established allowing for exemption from participating in this third stage of EMU. Granted this political "opt-out" clause and assuming qualification according to the convergence criteria, Denmark must carefully analyze the implications of participating in the monetary union. Currently the Danish government has given notice that Denmark will not participate in the union.

Logically, the question arises, is there a good economic case for Denmark to have a separate currency? Or, does Denmark increase its welfare by abolishing the krone and adopting the currency of the larger area of Europe? Many citizens tend to give positive answers to both these questions, however, the answers are not obvious. There are benefits *and* costs to a monetary union. The purpose of this paper is to discuss the economic issues of monetary union and its potential effects upon the Danish economy, and in doing so, to address the key question: is participating in EMU economically beneficial for Denmark?

Although the widely held view in official EU circles that the economic benefits of forming a monetary union outweigh the economic costs, this issue is still highly debated among economists in literature. Some have even gone so far to argue that building a European Economic and Monetary Union is likely to be costly from an economic

viewpoint but that this may be a necessary price to pay to achieve the superior benefit of Political Union.<sup>5</sup> To help understand the process of monetary unification, we will first discuss the background of the current attempt to further integrate the monetary affairs of Europe.

Next we will describe the arrangements agreed upon by the Maastricht Treaty, before discussing the rationale for EMU. Turning towards the economic considerations, we will examine the overall costs and benefits associated with EMU. Finally, we take a close look at Denmark and in particular, the role of the Danish Central Bank in setting its monetary policies. Analyzing the macroeconomic situation of Denmark, we will then describe the overall economic basis for the Danish decision to Opt-out of monetary union.

<sup>5</sup> Jose Vinals, "Building a Monetary Union in Europe," CEPR Occasional Paper No. 15 (1994), 3.

## Chapter I

### THE BACKGROUND TO MONETARY UNIFICATION

The rationale behind the Treaty of Maastricht and its pursuit of creating an Economic and Monetary Union in the EU by the end of the decade cannot be understood unless we link it with the numerous attempts by West European countries in the last 50 years to create a zone of exchange-rate stability. The origins of the current movement extend back to the founding of the Organization for European Economic Cooperation (OEEC)<sup>3</sup>.

While the Second World War had left large parts of Europe in ruins, the immediate consequences of the physical destruction were soon overcome and by 1948 industrial output attained again the pre-war level. This industrial growth was supported by the monetary systems put in place at the end of the war. However, the Bretton Woods agreements<sup>4</sup> remained irrelevant for many of the signatory countries because of another consequence of the war, namely the absence of an international financial system that could form the basis for a revival of multilateral trade.<sup>5</sup> This applied especially to Europe where most trade in the late 1940's was conducted through bilateral trade agreements. These agreements typically contained a bilateral line of credit which determined in effect by how much the bilateral current account could deviate from zero, since deficits in excess of the specified credit line had to be settled in gold. Most European governments used trade policy (quotas and high tariffs) to restrict imports from creditor countries unwilling to extend further credit in order to preserve their small gold holdings. A major drawback was the lack of transferability of the bilateral balances. Deficits with one

<sup>3</sup> The OEEC subsequently became the Organization for Economic Cooperation and Development, or OECD, in 1948.

<sup>4</sup> The Bretton Woods agreements created a system of fixed exchange rates that could only be changed with consent of the International Monetary Fund in cases of so-called 'fundamental disequilibrium.'

<sup>5</sup> Daniel Gros & Niels Thygesen, European Monetary Integration: From EMS to EMU (London: Longman Group, 1992), 4.

country could not be offset with surpluses against another country because there was neither an official compensating mechanism, nor foreign exchange markets, as European currencies were not convertible.<sup>6</sup>

### **European Payments Union**

One of the OEEC's first accomplishments, the European Payments Union (EPU), was established in 1950. Here countries pooled their international reserves and coordinated their policies with the goal of reestablishing current account convertibility. The EPU provided an escape from bilateralism because each month all bilateral deficits and surpluses were netted out into one overall net position *vis-a-vis* the Union. Monthly net positions were cumulated over time and only changes in the cumulative (starting in July 1950) net position of each member country with the Union had to be finally settled. Problems arose as countries that expected to be EPU creditors had an interest to obtain settlement in gold, while deficit EPU countries were interested in obtaining credit in order not to lose their precious gold or U.S. dollars. A compromise for the settlement of EPU balances established a system for mixing credit and gold payments as a function of the size of the EPU position relative to a quota assigned to each country. This quota equaled 15 per cent of the sum of exports and imports in 1949. A real test of the system could be expected if a country exhausted its quota.

This happened almost immediately after the system began operation. During the summer and autumn of 1950 the Federal Republic of Germany developed a large current-account deficit which soon exceeded its quota (which had been calculated using 1949 data when German foreign trade had not recovered to its pre-war level). Given its very low level of reserves, Germany would not be able to settle its deficit fully in gold as stipulated by the rules. This crisis was overcome quite rapidly through a combination of tighter German monetary policy, a temporary unilateral suspension of import

<sup>6</sup> Ibid., 5.

liberalization, and a special EPU credit to Germany. Although, with hindsight, it turned out that a tightening of monetary policy would have been sufficient to eliminate the German deficit, the additional policy measures were important because they showed that other countries were prepared to agree to policy measures that were not in their own short-term interests (and would even help a recent enemy) in order to save the system. With the EPU, the balance of payments position of each member country ceased to be a purely national problem and became a legitimate concern for all the other participants as well. This first crisis showed how the existence of an institutional framework that was valued by everybody could affect the outcome of a crisis. Member countries had to accept 'interference' in the management of their domestic policies if they wanted to remain in the system.

As the terms of trade for European countries deteriorated and inflation picked up during the Korean War, a number of different countries - the Netherlands, the United Kingdom and France - developed deficits that exceeded their quota and had to take corrective policy measures if they wanted to receive favorable terms from the EPU. Germany, meanwhile, reversed its position, and ran a current-account surplus (that continued without interruption until 1981)<sup>9</sup>. By 1957-58 the cumulative EPU positions of most countries became large relative to their quota and the full gold settlement this involved meant that the EPU was no longer important for debtor countries. At the end of 1958 the participating countries agreed unanimously to dissolve the EPU and make their currencies convertible.

During the same period when EPU was established and developed, France, Germany, Italy, Belgium, the Netherlands, and Luxembourg created the European Coal and Steel Community (ECSC) in 1952, and, with the signing of the Treaty of Rome in 1957, the European Economic Community (EEC) in 1958. The main practical elements

<sup>7</sup> Ibid., 7.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid. 8.

of the Treaty of Rome were the customs union (the 'Common Market') and the Common Agricultural Policy (CAP). As the IMF fixed-rate regime appeared to be endowed with eternal life, the issue of exchange-rate regime is not mentioned in the treaties establishing the ECSC and the EEC, except for a brief reference, in Article 107 of the Treaty of Rome, that exchange-rate policies are to be regarded by members "as a matter of common concern".<sup>10</sup>

In 1962 the Commission of the European Communities drafted its first plan for monetary union, which included a deadline for completion within nine years. While ambitious for an organization in its infancy, the 1962 initiative succeeded by establishing a Committee of Central Bank Governors. The Treaty of Rome tasked this Monetary Committee 'to promote coordination of the policies of member states in the monetary field to the full extent needed for the functioning of the Common Market'<sup>5</sup> (Article 105). thereby implicitly recognizing the threat that exchange-rate instability can pose a threat to free trade.<sup>11</sup> The committee did not, however, develop an operational role until the 1970s.

The French devaluation of 1969 (of 11.1 per cent) was the first exchange-rate adjustment in the Community since the customs union and the Common Agricultural Policy had been established. It was preceded by almost a year of speculative pressures and one aborted effort to agree on a realignment in October 1968, ultimately vetoed by France.<sup>12</sup> This devaluation and the German revaluation (by nearly 10 per cent) one month later was a major test for the Community. The functioning of the customs union was not really affected by these exchange-rate changes, but the CAP required policy action if intra-EC exchange rates moved because the prices of many agricultural products are fixed in a common unit which was then called the European Unit of Account (the forefather of the European Currency Unit, or ECU).

<sup>10</sup> Alfred Steinherr, ed., 30 Years of Monetary Integration From the Werner Plan to EMU (London: Longman Group, 1994), 62.

<sup>11</sup> Ibid.

<sup>12</sup> Gros & Thygesen, 11.

Since the French and German governments did not accept the price changes that would have followed from the exchange-rate changes, the only solution was to let the common agricultural market split up and maintain different prices in different countries. A complicated system of Monetary Compensatory Accounts (MCA) was introduced to balance the price differences and thereby negate the exchange-rate induced price changes. These MCAs acted as tariffs and import subsidies and effectively compartmentalized national agricultural markets. The Community recognized this and the MCAs were therefore supposed to be temporary, but since exchange rates continued to move throughout the following two decades, new MCAs were created as the old ones were slowly dismantled.<sup>13</sup> Exchange-rate stability was desired to minimize this administrative burden placed upon the CAP.

Under Bretton Woods System, intra-European exchange-rates were indirectly pegged by their parity commitments to the U.S. dollar. Pressure for exchange-rate stabilization increased as this system unraveled. The EEC had no credit arrangements at its disposal to assist members suffering from exchange rate pressures. The only official arrangements available at the time were the conditional drawings from the IMF and the network of reciprocal swaps with the New York Federal Reserve.<sup>14</sup> As tensions intensified in 1968-69, the Commission presented in February 1969 a 'Memorandum on the coordination of economic policies and on monetary coordination in the Community', also known as the 'Barre Plan'. This plan sketched the skeleton of an EEC financing mechanism in which a 'building block' of mutual financial help was outlined. The Barre proposals gave rise to an internal debate which led to the decision by the European Council in December 1969 to reaffirm the wish to move forward to Economic and Monetary Union (EMU). Despite different priorities between nations, sufficient agreement was achieved to commission a major study by a group of high-ranking national and EC officials. In October 1970 this group, under the chairmanship of Pierre Werner

<sup>13</sup> Ibid., 12.

<sup>14</sup> Steinherr, 63.

(then Prime Minister of Luxembourg) produced a report that detailed how EMU could be attained in stages by 1980.<sup>15</sup>

### **The Werner Report**

This report set out the objective of closer union in much more exact terms. "Goods and services, people and capital will circulate freely and without competitive distortions, without thereby giving rise to structural or regional disequilibrium."<sup>16</sup> The group presented the argument that implementation of such a union will effect a lasting improvement in welfare in the Community and will reinforce the contribution of the Community to economic and monetary equilibrium in the world. "It (Economic and Monetary Union) presupposes the cooperation of the various economic and social groups, so that by the combined effect of the market forces and the policies elaborated and consciously applied by the authorities responsible, there may be achieved simultaneously satisfactory growth, a high level of employment, and stability."<sup>17</sup>

The Werner Report was remarkably specific with respect to the final objective of EMU. Monetary Union was to imply "the total and irreversible convertibility of currencies, the elimination of fluctuation in exchange rates, the irrevocable fixing of parity rates and the complete liberalization of movements of capital."<sup>18</sup> The report sketched a transition to take place in stages. During the first stage, governments would begin to coordinate their monetary and fiscal policies, while simultaneously limiting fluctuations in exchange rates. The second stage would further reduce exchange rate variability and price divergences. Entering the third stage participating nations would irrevocably fix exchange rates, remove capital controls and transfer control of monetary

<sup>15</sup> Gros & Thygesen, 12.

<sup>16</sup> Steinherr, 12.

<sup>17</sup> Ibid.

<sup>18</sup> Gros & Thygesen, 12.

policies of the member countries to an EC system of central banks modeled loosely on the U.S. Federal Reserve System.

Significantly, the group did not necessitate the adoption of a single currency as a requisite for monetary union. "It may be accompanied by the maintenance of national monetary symbols or the establishment of a sole Community currency. From the technical point of view, the choice between these two solutions may seem immaterial, but considerations of a psychological and political nature militate in favour of the adoption of a sole currency, which would confirm the irreversibility of the venture."<sup>19</sup> Similarly, the report was rather vague as to how the central monetary authority would be constituted and what its relationship to the political authorities would be.

In the non-monetary area, the group saw the need for a "Center of decision for economic policy; politically responsible to the European Parliament."<sup>20</sup> Considerable emphasis was placed on market related processes - the free movement of goods, services, people and capital. The report also stressed that factor mobility would have to be supplemented by public financial transfers to avoid regional and structural disequilibria from arising. However, the group again neglected specifically detailing the institutional features and procedures required to achieve union.

Radical as it was in its prescriptions for full EMU, the Werner Report was nevertheless endorsed at the political level and the ECOFIN Council (Economics and Finance Ministers) embarked on the first of the stages designed to be completed by the end of 1973. The objective of EMU in the demanding version was also endorsed by the Heads of State and Government of the original six members, and the three new entrants (Denmark, Ireland and the United Kingdom) in October 1972.

The Werner Report was never implemented despite the unanimous endorsement by the ECOFIN Council. The failure of the Werner Plan begins with the implicit reliance

<sup>19</sup> Steinheir, 12.

<sup>20</sup> Gros & Thygesen, 13.

<sup>21</sup> Ibid., 14.

on the Bretton Woods system which was collapsing at exactly the time the first stages of the Werner Plan were supposed to be implemented in 1973<sup>22</sup>. Inflation and unemployment were low so that neither fiscal nor monetary policy needed to be used aggressively to correct major disequilibria. Likewise, at that time capital mobility was still low and this gave domestic monetary policy some leeway.<sup>23</sup>

Some elements of the Werner Report were implemented in March 1972 when EC countries agreed to an arrangement, dubbed 'the Snake,' limiting bilateral exchange rate movements to 2 1/4 percent bands. However, policy convergence and coordination lagged behind. Thus when the first OPEC oil shock created different levels of unemployment across Europe, national governments came under different degrees of pressure to respond in ways that risked inflation. Some currencies devalued while others revalued, and some left the snake for short periods. Increasingly the arrangement proved incapable of delivering the exchange rate stability that was its central goal.<sup>24</sup>

### **European Monetary System**

The EMS was set up in 1979 following the decision of the July 1978 European Council in Bremen to set up a "zone of monetary stability in Europe."<sup>25</sup> Though modest compared to the Werner Plan, the EMS sought to stabilize exchange rates without requiring the elimination of international policy divergences either through the application of fiscal and monetary rules or by empowering the Community to coordinate national policies. Its central element, the Exchange Rate Mechanism (ERM), was designed to accommodate countries pursuing different policies. Countries were allowed to realign when policy divergences produced balance-of-payment disequilibria. Capital

<sup>22</sup> The collapse of the Bretton Woods system involved the ending of fixed parities, the floating of the major currencies against the dollar, and the ending of convertibility of the dollar for gold at a fixed rate.

<sup>23</sup> Gros & Thygesen, 15.

<sup>24</sup> Eichengreen, 1323.

<sup>25</sup> Andrew Britton & David Mayes, Achieving Monetary Union in Europe (London: Sage Publication, 1992), 9.

controls were still restrictive, thus allowing some leeway for countries to run different policies without immediately provoking capital movements in anticipation of realignment.

The EMS was seen as a clear step towards economic and monetary union through trying to achieve economic convergence as well as monetary control. The experience of the 1970s led to a general change in approach to macroeconomic policy, with an emphasis on monetary control primarily aimed at the control of inflation and a rejection of traditional 'Keynesian' policies of fiscal expansion to counter high unemployment. Thus an emphasis on joint monetary action had become the prime tool with fiscal cooperation as its necessary adjunct.<sup>27</sup>

The EMS system has not evolved quite as envisaged. The idea originally was that the currencies would fluctuate relatively freely inside the intervention limits. When the limits were reached, there would then be intervention by the central banks. In practice, action has been taken earlier and there has been intervention inside the margin, largely undertaken by the central banks in the countries approaching the lower edge of their band.<sup>28</sup>

Within the ERM, the counter-inflationary stance of German monetary policy is generally well known. The decision of countries to pre-commit themselves to a fixed exchange rate with Germany therefore constitutes a very visible commitment to low inflation, which is relatively straightforward for the private sector to monitor. The role of Germany as the low-inflation dominate partner of the ERM appears to be important.<sup>29</sup>

In the early period the ERM acted very much like a crawling peg with a number of realignments, often involving a devaluation of the French franc against the Deutschmark.

<sup>26</sup> Eichengreen, 1324.

<sup>27</sup> Britton & Mayes, 10.

<sup>28</sup> Ibid.

<sup>29</sup> Mike Artis and Norman Lee, ed., The Economics of the European Union: Policy and Analysis (Oxford: Oxford University Press, 1994), 343.

The ERM subsequently shifted away from this characterization and adopted the features of a quasi-fixed regime. Realignments became less necessary, as national inflation rates began to converge. Capital liberalization began and was confirmed as an objective in the Single European Act of 1986. This Act committed the members of the Community to the creation of an integrated market free of obstacles to the unfettered movement of commodities, capital, and labor by the end of 1992.<sup>30</sup>

### **Delors Report**

The Single European Act launched the Internal Market project in 1986, and the term "Economic and Monetary Union" was inscribed for the first time in the Treaty of Rome. In June 1988, German Chancellor Helmut Kohl put EMU on the agenda of the European Council in Hannover. The participating Heads of State or Government restated the objective of EMU and entrusted a committee chaired by Jacques Delors and composed of the governors of the EC central banks and three independent experts with "the task of studying and proposing concrete stages leading towards this union."<sup>31</sup>

Reporting just one year later, the Delors committee established a number of important features. First, the Delors Report was *gradualist*, in that it specified an approach through three stages to full monetary union. In Stage One, all countries should be in the narrow fluctuation band of the ERM, with realignment still a feature of the adjustment process and all capital controls phased out. In Stage Two it was expected that the resort to realignment would take place 'only in exceptional circumstances' and that convergence of the economies would be substantially realized. The European System of Central Banks (ESCB) would be set up, and the margins of fluctuation might be narrowed in preparation for the final stage. In Stage Three exchange rates would become

<sup>30</sup> Eichengreen, 1324.

<sup>31</sup> Lorenzo Bini-Smaghi, et al., "The Transition to EMU in the Maastricht Treaty," Essays in International Finance No. 194 (International Finance Section, Department of Economics, Princeton University, November 1994), 4.

'irrevocably locked', and this would lead to monetary union. A European Central Bank (ECB), at the head of the ESCB, would be ready to conduct policy on its own initiative in Stage Three.<sup>32</sup>

Substantiating the 'gradualist' image of the Report, these proposals for transitional stages contained no dates, save for the initiation of Stage One, suggested for 1 July 1990. Despite being gradualist in this sense, however, the Delors Report dismissed the possibility of gradualism in another sense: it rejected the idea that a common currency should be created which could circulate in parallel with national moneys before being adopted as the *single* currency in Stage Three. Perhaps the most controversial aspect of the Report was that it introduced the idea that participating countries would have to agree to some constraints on their *fiscal* positions, as well as forgoing independence in monetary policy.

Compared to the Werner Report, the Delors Report called for more centralization of monetary control in the hands of a Community institution to prevent national central banks from executing directives in different ways and so undermining the common monetary policy. However, the Delors Report did not push for the central control of national fiscal policies as the Werner Report outlined. A final contrast between the two reports was the insistence of the Delors Report on the early introduction of a single currency to insure "the irreversibility of the move to monetary union."

<sup>32</sup> Artis & Lee, 358.

<sup>33</sup> Ibid.

<sup>34</sup> Eichengreen, 1325.

## Chapter II

### TREATY ON EUROPEAN UNION

In June 1989, the European Council endorsed the plan as a basis for the realization of monetary union; it decided to launch the first stage as outlined in the Delors Report, which did not require changes in the Treaty of Rome, on July 1, 1990, and to undertake preparatory work for an intergovernmental conference.

In December 1989 in Strasbourg, the European Council resolved to convene an intergovernmental conference for the end of 1990; its purpose would be to amend the Treaty of Rome in order to implement the second and third stages of EMU. The pace of integration within Europe had proved so great that the Treaty of Rome was viewed as inadequate; it lacked the legal framework necessary to support the union. A special Dublin Council of April, 1990, confirmed the Council's commitment to 'political union' and set up a parallel intergovernmental conference on the treaty provisions necessary to strengthen the democratic legitimacy of the union. It also set a deadline for both the intergovernmental conferences to complete their proposals in time for ratification by the member states before the end of 1992.<sup>35</sup> The Conference commenced work in December 1990, one year later producing draft amendments in the form of a treaty.

The result is a *Treaty on European Union*, signed on 7 February, 1992, otherwise known as the Maastricht Treaty for the name of the Dutch city in which it was signed. It emphasizes not just convergence to achieve EMU but cohesion and progress on other fronts (social, and legal institutions) and a determination to continue the process of creating an ever closer union among the peoples of Europe. "EMU is a stage in the process, not the end of it; not just because of the potential for widening (increased involvement at the European level) but because of the intention of deepening

<sup>35</sup> Britton & Mayes, 22.

(institutional integration) it further." To support this increased level of integration, the European Community (EC) changed its name to the European Union (EU).

As discussed above, an idea that for years had been relegated to academic debate and to ritual declarations at European meetings suddenly took off. In little more than three years, it advanced to the point of being completely delineated and embodied in a legal text signed by twelve governments. This exceptional result was achieved against the backdrop of rather special circumstances; the following three conditions are viewed as the most important:<sup>37</sup>

- *Political leadership.* In the 1980s, the major European countries were governed by men and women whose cultural inheritance and background inclined them toward the idea of European unity.
- *Intellectual climate.* The development of policy ideas supporting "minimum government" and economic deregulation made it possible in the 1980s to further the integration of the Community without entailing a major confrontation with national sovereign prerogatives.
- *Inner logic of integration.* The chain of developments from the creation of the EMS in 1979, to the disinflation of the early 1980s, the adoption of the Internal Market in 1986, the early liberalization of capital movements in 1987-88, and the relaunching of EMU in 1988 was also driven by the logic of what came to be called the "inconsistent quartet," that is, the impossibility of reconciling free trade, full mobility of capital, and fixed exchange rates with autonomous national monetary policies.

### **The Need to Compromise**

The Community has been rather good at meeting deadlines in recent years, as the progress on agreeing the 279 measures to implement the 1992 program witnesses, and the

<sup>36</sup> Ibid., 23.

<sup>37</sup> Bini-Smaghi, 6.

completion of the agreement on schedule at the Maastricht Council was no exception<sup>38</sup>. However, the eagerness to meet the timetable and the short notice for the proposals on political union have meant, that there are rather more loose ends and untidy features to the agreement than might have been expected. The most obvious of these relates to the 'social chapter' of the treaty, which the UK refused to agree to and hence has been adopted as a separate protocol by the other eleven members. Derogations have been common in the past to permit specific member states to delay implementation of Community rules that gave them particularly difficult problems. However, this appears to be the first time that a country has been able to opt-out of an area of legislation entirely.

The monetary union component of the treaty has not been immune from such compromises. Separate protocols for the UK and Denmark allow monetary union to take place without either country participating. The UK will only join if a positive vote in the House of Commons has enabled the UK government to accept entry into stage three; such a vote has to take place before the discussion in the European Council, i.e. before the end of 1996. Denmark obtained in Maastricht a similar protocol, recognizing that Denmark may need to hold a referendum prior to participation in EMU; notification will have to be given as in the UK case, prior to the decisive discussion in the Council<sup>40</sup>. Like the other member states, Denmark participates fully in the second stage, but with the Edinburgh decision, Denmark has notified that it will not participate in the third stage. Reversing this decision requires another referendum in Denmark.

### **Stages**

Monetary union, as in the Werner and Delors proposals, is intended to take place in three stages. But where the previous reports depicted the transitional stages in rather schematic terms, the Maastricht Treaty is specific about their features.

<sup>38</sup> Britton & Mayes, 29.

<sup>39</sup> Ibid.

<sup>40</sup> Gros & Thygesen, 391.

In the *Stage One* (which began on 1 July 1990), the EMS countries abolished all remaining capital controls. It also marked the reduction of international inflation and interest rate differentials, and the increasing stability of intra-European exchange rates. Member countries strengthened the independence of their central banks and brought domestic laws in accordance with the treaty. However, less progress was made in achieving convergence of inflation and interest rates and their underlying determinants. As mentioned above, the exchange rate crises of 1992-93 led to the reimposition of some capital controls. Since then the wider bands in the ERM has helped to an increase in exchange rate stability, which was the primary objective of the EMS in the first place.

*Stage Two* started on 1 January 1994. A new institution, the European Monetary Institute (EMI), was created. It will operate only during this second stage, and is in a sense the precursor of the European Central Bank (ECB). Its functions are limited, and are geared mainly towards strengthening monetary cooperation between national central banks and preparing the stage for the ECB.

If during *Stage Two* the Council of Ministers decides (by qualified majority) that a majority of member countries meet the preconditions for monetary union (see criteria below), it may recommend that the Council of Heads of State vote (again by qualified majority) on whether to inaugurate *Stage Three*. To prevent the indefinite continuation of *Stage Two*, the Maastricht Treaty requires the Heads of State or Governments to meet no later than 31 December 1996 to assess whether a majority of EU members satisfy the conditions for monetary union and to decide whether to set a date for the beginning of *Stage Three*. If no date has been set by the end of 1997, *Stage Three* will begin on January 1st, 1999. In the latter case, *Stage Three* may proceed with the participation of a minority of EU countries.

At the start of *Stage Three*, the exchange rates between national currencies will be irrevocably fixed. In addition, the ECB will start its operations by issuing the European currency (named the *ecu*), which will become a currency in its own right. Member

country's central banks will transfer the responsibility for conducting monetary policy to the ECB. The transition to this final stage of monetary union, however, is made conditional on a number of 'convergence criteria'.

### **Convergence Criteria**

The Maastricht Treaty spells out criteria which a country must satisfy in order to be eligible for EMU membership. Specifically, the EC policy makers worried that admitting countries whose monetary and fiscal performance greatly differs from that of the rest of the Community would lead to destabilization in the union and subject the ECB to inflationary pressure. This fear led the framers of Maastricht to specify four preconditions for participating in the monetary union: (1) inflation performance, (2) fiscal consolidation, (3) interest rates, and (4) exchange rate stability. Each of them can be questioned on economic grounds, however, currently they exist as legal requirements of the process of unification, and therefore must be satisfied before a member nation is allowed to participate. A country can only join the union if:

- its consumer price inflation rate is not more than 1.5% higher than the average of the three lowest inflation rates in the EMS,
- its government debt deficit is not higher than 3% of its GDP, and its government debt has moved significantly towards the norm of 60% of its GDP,
- its long-term interest rate is not more than 2% higher than the average observed in the three low inflation countries,
- it has not experienced a devaluation during the two years preceding the entrance in the union.<sup>41</sup>

<sup>41</sup> Treaty on European Union.

## **European Central Bank**

The Maastricht Treaty and the Delors Report depart from previous blueprints for European monetary union in the importance they attach to the creation of a central bank dedicated to price stability. Price stability is identified in the treaty as the paramount goal of policy. It is the European System of Central Banks (ESCB), composed of the national central banks and the European Central Bank (ECB), that has the objective of maintaining price stability. The treaty refers to it as the ECB's "primary objective." Without prejudice to that objective it has to support the Community's general economic objectives within a clear framework of free market principles. Constitutional procedures of the ECB clearly insulate Europe's new monetary authorities from political and economic pressures to pursue other objectives. The ESCB has four tasks: (1) to define and implement monetary policy; (2) to conduct foreign exchange policy; (3) to manage the member states' foreign exchange reserves; and (4) to promote smooth payments systems.<sup>42</sup>

The ECB is the executive organization in the system. It and all of the national central banks are given independence from the institutions of the Union and member state governments in the exercise of their functions. A six-man Executive Board, appointed by the Heads of State and Governments, runs the bank directly for a single term of office (eight year term limits). Different rules, with the same intent, apply to other members of the ECB's Governing Council, the body that will formulate the monetary policies that the Executive Board implements.<sup>43</sup> The ECB is responsible for the note issue, open market operations, setting of minimum reserve requirements and other aspects of monetary control, although they may be exercised through the national central banks.

To insulate monetary policy makers from political pressure for inflationary finance, the treaty incorporates the limits on central bank financing of budget deficits. Forbidden from providing credit to the EU or to national, state, and local governments,

<sup>42</sup> Britton & Mayes, 26.

<sup>43</sup> The Executive Board will be comprised of the president, the vice-president, and four additional members to be appointed by "common accord" of the heads of state or government. The Governing Council will include, in addition, the governors of the national central banks of the participating countries.

the ECB is prohibited from 'bailing-out' countries experiencing fiscal crises. All this implies a very independent European Central Bank.

### **Implementation**

Unless the Maastricht Treaty is amended by the Heads of State or Governments, the third stage will commence no later than 1 January 1999. At that date, the monetary union will be a reality: exchange rates between national currencies and against the ECU will be fixed irrevocably. The European Central Bank will be operational and will conduct the single monetary policy; the ECU will be a currency in its own right; the foreign-exchange markets will fix its value against third currencies, for example the dollar and the yen.

While the specific transition scenario has yet to be determined, the following reference scenario for moving to the single currency has the support of the European Commission. The changeover must be as short as possible so as to mitigate the risks of confusion that would weaken the credibility of the process and the determination of operators to carry it through. It must proceed in a number of well-defined phases, with substantial progress being made during each successive phase. It must minimize the costs by avoiding arrangements that call for costly transitional measures that would become rapidly redundant. Lastly, it must inspire public confidence and allow individual to become familiar with the single currency. A three-phase reference scenario is presented which corresponds to the letter, spirit and logic of the Treaty (Table 1).

## Introduction of a Single Currency

| Phase A<br>Launch of EMU  | Phase B<br>Start of EMU  | Phase C<br>Single currency fully introduced   |
|---|--|---|
| <p style="text-align: center;"><u>Start of phase:</u></p> <ul style="list-style-type: none"> <li>• List of participating Member States</li> <li>• Date of start of EMU announced</li> <li>• Deadline for the final changeover to the single currency</li> <li>• Setting up of the ESCB and the ECB</li> <li>• Start of production of notes and coins</li> </ul> | <p style="text-align: center;"><u>Start of phase:</u></p> <ul style="list-style-type: none"> <li>• Fixing of conversion rates</li> <li>• ECU becomes a currency in its own right</li> <li>• Monetary and exchange-rate policy in ECU</li> <li>• Inter bank, monetary, capital, and exchange markets in ECU</li> <li>• New government debt issued in ECU</li> <li>• Corresponding wholesale payment systems in ECU</li> </ul> | <p style="text-align: center;"><u>Start of phase:</u></p> <ul style="list-style-type: none"> <li>• ECU notes and coins introduced</li> <li>• Banks have completed the changeover</li> <li>• Notes and coins denominated in national currency are withdrawn</li> <li>• Public and private operators complete the changeover</li> <li>• Only the ECU is used</li> </ul> |
| <p style="text-align: center;"><u>Throughout the phase</u></p> <p>Stepping-up of preparations and implementation of measures that will, if possible, have been adopted beforehand:</p> <ul style="list-style-type: none"> <li>• Legal framework</li> <li>• National steering structure</li> <li>• Banking and financial community changeover plan</li> </ul>    | <p style="text-align: center;"><u>Throughout the phase</u></p> <ul style="list-style-type: none"> <li>• Banks and financial institutions continue the changeover</li> <li>• Public and private operators other than banks proceed with the changeover</li> </ul>   | <p style="text-align: center;"><u>Throughout the phase</u></p>  |
| 1 year maximum  | 3 years maximum  | Several weeks   |

**Table 1.**<sup>44</sup>

<sup>44</sup> European Commission, "One Currency for Europe," Green Paper on the Practical Arrangements for the Introduction of the Single Currency (31 May 1995).

## Chapter III

### THE RATIONALE FOR EMU

Turning 15 segmented European markets into an integrated economy whose constituents can specialize fully in producing goods and services in which they have a comparative advantage and in which factors of production can flow freely to wherever they reap the highest returns is hard to challenge on efficiency grounds.<sup>45</sup> But does an integrated single market necessarily require a single currency and a European central bank to achieve these benefits?

It is argued that separate currencies pose a significant barrier to commodity- and factor-market integration. Conversion costs and the uncertainty associated with the possibility of changes in currency prices represent the primary reasons for such a barrier. National currencies necessarily imply exchange rate uncertainty, and exchange rate uncertainty discourages cross-border transactions, according to this argument.<sup>46</sup>

Yet the evidence that exchange rate uncertainty or variability discourages international trade is far from conclusive. Jeffrey Frankel (1992) considers various determinants of the volume of trade in a cross section of countries, concluding that the effect of exchange rate uncertainty, while present, is quite small.<sup>47</sup> This is logical as foreign exchange forward markets permit trader to hedge currency risk at low cost.

Service life of many kinds of plant and equipment exceeds the term to maturity of forward contracts. Thus, exchange rate uncertainty should have a larger effect on cross-border investment than on trade. Robert Morsink and Willem Molle (1991) report some evidence that exchange rate uncertainty depresses direct foreign investment among EC

<sup>45</sup> Eichengreen, 1327

<sup>46</sup> Ibid., 1327.

<sup>47</sup> Ibid.

countries. Yet this argument can cut both ways. Firms with liabilities denominated in several currencies may wish to have assets whose returns are denominated in several currencies as well. They may set up plants to produce the same product in different countries to hedge against exchange risk.<sup>49</sup> In either case, exchange rate uncertainty factors into firms future planning, and this risk is not completely covered with existing forward exchange markets.

While current studies concerning exchange rate variability are inconclusive, we can argue that, if it does not effect trade or investment, then adopting a single currency is not necessary for efficiently fulfilling the desires of a single market. However, assuming the existence of exchange rate variability on trade and investment, why not simply minimize this variability by stabilizing exchange rates between European currencies?

This is the basis behind the EMS. As EU countries conduct nearly two-thirds of their trade with one another, the success of the EMS in stabilizing intra-European exchange rates goes a long way toward minimizing exchange rate variability for the relevant countries.

During the 1980s, extended periods of exchange rate stability delivered many of the benefits of fixed rates, while periodic realignments redressed serious competitiveness problems. This stability, however, was possible only because capital controls protected central banks' reserves against speculative attacks motivated by anticipation's of realignment. Capital controls took a variety of forms, ranging from taxes on holdings of foreign-currency assets to detailed regulation on the uses to which foreign currency could be put. All of them represented obstacles to completing the internal market.<sup>50</sup>

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<sup>48</sup> Ibid.

<sup>49</sup> Strategically, exchange rate risk is only one of many factors in determining the optimum location for firm operations. While the costs of hedging against this uncertainty will vary between firms, one can conclude that exchange rate variability increases the risk faced by firms. This reduces the efficiency with which investable resources are allocated and, by lowering the return of capital, should depress the level of investment.

<sup>50</sup> Eichengreen, 1328.

The Single European Act mandated the elimination of capital controls, and this was strengthened with the Maastricht Treaty. This undermined the viability of the EMS. Speculative crises can be characterized as self-fulfilling. Speculators observe that national authorities have an incentive to change their policies (the use of the exchange rate can sometimes be the least-cost instrument to adjust the economy after some disturbance). They also know that this can be done only by dropping out of the EMS. They then expect that this will happen, and they start a speculation. In so doing, they force the authorities to drop out of the system.

This self-fulfilling nature of speculation has led some economists to propose the reintroduction of capital controls, thereby reducing the amount of funds that can be mobilized by speculators.<sup>51</sup> However, it is doubtful that capital controls would have prevented the disintegration of the EMS.<sup>52</sup> The absence of capital controls certainly affected the timing and the dynamics of the disintegration of the EMS, but it did not fundamentally alter its instability, which resulted from the credibility and the liquidity problems of rigidly fixed exchange rate systems.<sup>53</sup> After all, the Bretton Woods system collapsed for essentially the same reason, despite the fact that capital controls existed at the time of its collapse.

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<sup>51</sup> Paul De Grauwe, *The Economics of Monetary Integration* (Oxford: Oxford University Press, 1994), 125.

<sup>52</sup> At the start of the 1990s, and especially after 1992, Europe was hit by a severe recession. Very quickly this created a conflict between Germany on the one hand, and Britain and France on the other hand, about the appropriate interest rate policy to be followed in the system as a whole.

Things were complicated by the fact that the German unification of 1990 had led to large increases in government spending which created inflationary pressures in Germany. As a result, the Bundesbank gave complete priority to combating inflation by a restrictive monetary policy. The recession in the UK and France, however demanded a looser monetary policy. UK and French authorities, feeling that the German policy stance was hurting their economies, pressured the German authorities to relax their monetary policies and to reduce the interest rates.

This policy conflict did not remain unnoticed by the speculators, and they began speculating against the pound sterling and the French franc. In September 1992, this led to the withdrawal of the pound sterling from the ERM. One year later, the intensity of the recession in France and the increase in unemployment were so great that many observers were convinced that the French government would have to stimulate the economy by lowering French interest rates. All this led to speculation of such a magnitude that the EC ministers of finance decided on 2 August to change the rules of the ERM. The margins of fluctuations were increased to +15% and -15%. This implied that the EMS currencies would be able to fluctuate in a band of 30%, transforming the system into a quasi-floating exchange rate regime.

<sup>53</sup> De Grauwe, 125.

Although the disintegration of the EMS was, and could be, predicted, the particular way it happened, of course, could not be foreseen. The recession in Europe of 1992-93 exacerbated the conflicts between the major EMS countries about the appropriate monetary policy response. The inability to resolve this policy conflict lies at the root of the loss of confidence of economic agents in the fixity of exchange rates, and in the ensuing speculative crises. In some ways, the EMS intensified the recession in Europe. Returning to such an exchange rate arrangement, therefore, is not viewed as desirable.

Focusing on the increased integration of the single market and the role of exchange rates, we can ask, what then are the options for the future? Monetary union stands ready to eliminate exchange rate uncertainty. Yet it is not the only answer; one can imagine two alternatives. The first is floating exchange rates. Here countries can integrate their economies but retain monetary authority. However, exchange rate swings that adversely affect competitiveness in the importing country undermines the idea of the single European market with full competition. This "exchange dumping" reveals the incompatibility of floating exchange rates with integration.

A second alternative to monetary unification is firmly fixing exchange rates between existing national currencies. Yet, there exists a fundamental difference between a single currency and fixed exchange rates, namely an escape clause. No matter how earnestly a government reiterates its commitment to pegging its currency to the fixed regime, there remains the possibility that a change in government will lead to a change in policy and a devaluation. In a democracy, it is impossible to preclude the possibility that an existing policy instrument like the exchange rate will not be utilized. Thus pegged exchange rates are never credible; hence they substitute imperfectly for monetary unification. Monetary union, the irrevocably fixing of exchange rates, is the only way to achieve such credibility.

The prospect of the single currency in Europe poses the question of whether countries gain from joining a monetary union. It is impossible to quantify in any exact way how the balance of benefits and costs comes out for each individual participant in a monetary union. As Niels Thygesen explains (1994), part of the difficulty lies in the fact that whereas most of the benefits accrue to individual firms and consumers, the costs of participating in a common currency area impinge on the government and the central bank, who lose some of their policy instruments as they join a common currency area. The benefits are largely microeconomic - improving the efficiency of the economy - while costs are of a macroeconomic policy nature. Assessing whether benefits exceed costs, therefore, implies complicated weightings of the preferences of different groups in society, touching upon the degree to which governments reflect the balance of preferences in the electorate.

## **Benefits**

The expectation of important microeconomic benefits from a reduction in exchange rate variability is based on the idea that increases in exchange rate variability makes trade more risky. Stabilizing exchange rates should therefore increase trade and hence the standard gains from trade. The irrevocable locking of exchange rates eliminates exchange rate variability and yields significant additional benefits. These gains take the form of economic efficiency improvements brought along by introduction of single currency. The following five sources of benefits are gained by creating a common currency:

### 1. Elimination of transaction costs for spot exchange

The most obvious reason for expecting significant economic gains from the introduction of a common currency is that this is the only way to totally eliminate all exchange-rate related transaction costs. These direct benefits from a common currency can be estimated by calculating the sum of all the transaction costs (i.e., bid-ask spreads and other commissions on foreign exchange-rate transactions) that arise in intra-

Community transactions. Most of the savings come from intra-EU trade which involves mostly the corporate sector. Although the cost per transaction is much smaller in percentage terms (about 0.5 per cent) at the wholesale level at which the corporate section operates, the total is much higher because intra-Community trade is equal to about 530 billion ecu, or about 13 per cent of the GDP of the Community.<sup>54</sup> There are two sources of potential savings regarding intra-Community trade: (i) bid-ask spreads and other commissions, and , (ii) the in-house costs that arise because enterprises have to keep separate foreign exchange departments. Enterprises located in smaller countries can also expect to save in their external trade because transaction costs using the *Ecu*, which under EMU would be a major international currency, should be lower than the costs they have to bear at present when using the national currency.

Assuming that an efficient EC-wide payments and clearing system is developed, the potential savings in transaction costs approaches 0.3-0.4% of Community GDP, i.e., ECU 13-20 billion (Table 2). The gains for the larger Member States whose currency is extensively used as a means of international payments may be of the order of 0.1-0.2% of national GDP. Small open economies, like Denmark, may stand to gain around 1% of their national GDP.<sup>55</sup>

| <b>Cost savings on intra-EC settlements by single currency</b> | <b>(bil ECU, 1990)</b> |              |
|--|------------------------|--------------|
|  | <b>estimated</b>       | <b>range</b> |
| <b>1. Financial transaction costs</b>                          |                        |              |
| Bank transfers   | 6.4                    | 10.6         |
| Banknotes, eurocheques, traveler's cheques, credit cards       | 1.8                    | 2.5          |
| <b>Total</b>   | <b>8.2</b>             | <b>13.1</b>  |
| <b>2. In-house costs</b>                                       | <b>3.6</b>             | <b>4.8</b>   |
| <b>3. Reduction of cross-border payments</b>                   | <b>1.3</b>             | <b>1.3</b>   |
| <b>Total</b>   | <b>13.1</b>            | <b>19.2</b>  |

**Table 2<sup>56</sup>**

<sup>54</sup> Gros & Thygesen, 250.

<sup>55</sup> Michael Emerson, et al., One Market. One Money: An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union (Oxford: Oxford University Press, 1992), 63.

<sup>56</sup> Emerson, 68.

## 2. Elimination of information costs and price discrimination.

Even small transaction costs can sometimes lead to considerable distortions. The continuing existence of national currencies can lead to large indirect costs if it allows firms to engage in price discrimination between national markets. For consumers, used to evaluating prices in their own national currency, it is inconvenient to compare prices in different currencies, even if exchange rates are fixed. Retailers in borders areas use approximate 'round' exchange rates several per cent away from the true rates. This implicit information cost can be quite high. Firms exploit this to obtain some local monopoly power, and to charge higher prices in the markets where demand is inelastic. Such artificial differences in prices imply losses of economic welfare because they give a signal that is not related to the true scarcity of the good.

## 3. Dynamic efficiency gains.

So far the efficiency gains have not taken into account the time dimension and the accumulation of capital. The increase in overall efficiency that comes through the common currency translates also into an increase in the (marginal) productivity of capital. This, in turn, should raise investment, and thus lead, over time, to a higher capital stock until the (marginal) productivity of capital has returned to its original level. Since a higher capital stock means more output with the same labor force, this mechanism multiplies the output effect of the initial increase in efficiency. The overall increase in output that can be expected from a common currency, after enough time has passed to allow the capital stock to adjust, should be about one half to two thirds of 1 per cent of the Community GDP.<sup>57</sup> Taking into account that the capital stock adjusts in response to an increase in economic efficiency therefore doubles the gains in terms of output that can be expected from a common currency.

This dynamic effect does not double the welfare gains since the increase in capital stock has to be paid for by a reduction in consumption. The difference between the value

<sup>57</sup> Gros & Thygesen, 252.

of the consumption foregone and the additional output produced by additional capital is the welfare effect of the dynamic gain. A fully competitive system close to its equilibrium implies that this difference will be small. The indirect dynamic effect should increase therefore imply only a small additional increase in welfare.

4. Savings through lower official international reserves.

National monetary authorities have to keep large foreign exchange reserves to be seen to be able to defend exchange rates. For the countries entering the monetary union, foreign exchange reserves would no longer be needed to defend intra-Union exchange rates. Reserves would only be needed to manage the exchange rate of the *Ecu* against other currencies; primarily the U.S. dollar. While the cost of holding reserves is small (most are invested in interest-bearing assets), the magnitude of the savings is difficult to estimate since little is known about the liquidity premium central banks are prepared to pay when investing their reserves. However, the European Central Bank needs less international reserves than the sum of the holdings of member countries, therefore joining the monetary union will produce overall savings through lower official international reserves.

5. Global effects: stronger European presence in the international monetary system and in global financial markets.

A common European currency would be a strong competitor for the U.S. dollar in the international financial system. One can expect the *Ecu* to partially replace the dollar in global financial investments. This portfolio substitution towards the *ecu* does not produce any benefits for the Community, except for the lowering of *ecu* interest rates because global markets are willing to hold a given supply of *ecu* assets at a lower interest rate. Economic benefits can be expected from the international dimension of EMU through the direct seigniorage gained as the *ecu* bills replace the dollar in retail transactions around the world. However, this is a once-and-for-all gain, as opposed to the efficiency gains which would be available year after year.

Niels Thygesen (1994) summarizes these potential microeconomic benefits arguing that a common currency is a highly desirable complement to the Internal Market. "This becomes more obvious if it is kept in mind that the benchmark to which comparisons are made is no longer the stable EMS, as it existed up to September 1992, but rather a system with more exchange-rate flexibility and uncertainty." These benefits stand out more clearly now than in the heyday of confidence in a stable EMS, when many of these benefits could be claimed to have been already largely achieved.

### Costs

Benefits of the single currency could be overshadowed by the macroeconomic costs associated with the loss of the exchange rate as an instrument of macroeconomic adjustment. The following costs can be occurred from monetary union.

#### 1. Inability to use Exchange Rate Adjustment for macroeconomic purposes.

The size of the cost from forgoing the use of the nominal exchange rate depends upon several factors: (i) the magnitude and nature of nationally differentiated shocks, (ii) the degree of wage and price flexibility, (iii) the degree of international factor mobility, and (iv) the degree to which fiscal policy is orientated towards macroeconomic stability.

In a world in which countries are faced by unexpected shocks of either domestic or foreign origin, real and nominal macroeconomic variables will tend to fluctuate. If shocks are symmetric, intra-Community exchange rates are not needed. If shocks are asymmetric, and EMU is present, either factor adjustment or financing must take place. The combination of asymmetric shocks and factor adjustments is a major determinant of the impact of EMU on macroeconomic stability. The first choice between factor adjustment and financing concerns the trade-off between real wage and employment. Secondly, within the financing instrument, equity considerations determine the choice between national or Community financing, subject to the requirements of fiscal discipline.

The adjustment to adverse shocks in EMU can to some extent be borne through labor market flexibility. Political considerations (in the case of regional migration) or welfare considerations (in the case of wage flexibility) may however put a certain limit on this adjustment instrument. The remaining adjustment will have to come from national or central public finance. Existing federations each have their own mixture between federal and sub-federal spending, but in any case there is a trade-off between autonomy and inter-regional fiscal equalization. Overall, however, EMU will probably improve macroeconomic stability.<sup>58</sup>

## 2. Costs of introducing a common currency.

While the main cost of monetary union comes from the loss of the exchange rate as an adjustment instrument, additional costs from introducing the common currency cannot be ignored. Here, the main costs would be the initial change in accounting units and the cost of converting outstanding financial and other long-term contracts into the single currency. As this transition will occur after a period of stable exchange rates and presumably at the market rates of exchange, the introduction of the common currency would not lead to any wealth redistribution. Another switching cost is the investment required in hardware and software to facilitate the new currency. Great debate exists as to the form and usability of the new single currency, however, it is important to remember that all these costs would be of a-once-and-for-all nature whereas the benefits would be available continuously. Therefore, these costs of introducing a common currency can be considered negligible in the long run relative to the benefits discussed above.

In general macroeconomic terms the basic cost-benefit assessment of irrevocably fixing exchange rates has to weigh (1) the cost of giving up the possibility of accommodating exogenous nationally differentiated, major and non-transitory shocks, against (2) the benefit of more definitively strengthening confidence in the long-run

<sup>58</sup> Emerson, 31.

predictability and stability of the price level.<sup>59</sup> Additionally, one must take into account that fiscal policy can provide an important, but somewhat imperfect, adjustment mechanism. For any participant, the balance between (1) and (2) depends on the likelihood of future shocks and the degree of credibility of national political institutions.

<sup>59</sup> Gros & Thygesen, 241.

## Chapter IV

### DENMARK

In recent years the Danish economy has moved towards a clearly stronger macroeconomic balance. Price and wage increases remain low. Interest rates have been declining and the differential *vis-à-vis* Germany has become small. The deficit on the external current account, earlier an almost chronic problem, was eliminated in 1990 and there is now a comfortable surplus. The remaining problem is unemployment. Slow growth in Denmark during the last seven years has resulted in rising unemployment, the current level of which is a matter of serious political concern. The recession, of the early 90s, has also been the main reason for an increasing public sector deficit. However, compared to other industrialized countries the deficit remains relatively small.<sup>60</sup>

In February 1994 Denmark submitted a convergence program for the period up to the year 2000 as an element of the economic-policy cooperation in the second stage and based on the objective of sound economic development. According to the program, Denmark would meet all of the convergence criteria in 1996. Economic growth in 1994 proved to be stronger than the 3.0 % assumed in the program. Therefore a revised convergence program was submitted in November 1994 based on a growth rate of 4.6 %. This program anticipates fulfillment of the budget-deficit criterion in 1995.<sup>61</sup> Thus, Denmark shall most likely qualify for membership in a monetary union. What remains is the political decision whether to participate in the EMU, or to remain independent.

Removing the political considerations from the decision making process allows for closer examination of this dilemma in an economic sense. As discussed earlier, Denmark stands to gain close of 1% of its GDP by participating in EMU. These microeconomic

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<sup>60</sup> Ministry of Economic Affairs of Denmark (1994).

<sup>61</sup> Danmarks Nationalbank (1994).

gains need to be offset by the costs associated with joining the monetary union; namely the loss of using exchange rate adjustments as a macroeconomic tool. However, this assumes that Denmark has an independent monetary policy to relinquish, for if Denmark has no monetary control, then giving up this tool is virtually costless.

In conducting this economic evaluation of Denmark's decision to opt-out of monetary union, we can first ask the question:

### **Does Denmark have an Independent Monetary Policy?**<sup>62</sup>

To answer this, we will look at Denmark's Central Bank interest rate policies and assess Denmark's ability to control inflation. Here it is important to examine a period when domestic macroeconomic policies were a target of the Danish Government. For if it is not a priority, i.e. times when exchange rate management had precedence, we would not clearly see any relationship between inflation and interest rates (this is because the interest rate would be targeting exchange rate parity regardless of Denmark's domestic inflation).

Responding to high levels of inflation, in 1980 the Danish Government introduced a tight fiscal policy and pursued a hard currency stance. The government clearly stated that the primary aim of monetary policy was price stability.<sup>63</sup> During this time we would expect interest rate movements to follow inflation rate movements. As inflation dropped we should see lower interest rates. The hard currency stance led to a significant reduction in inflation (see Figure 1). This policy was maintained until the first quarter 1990, when interest rates increased as inflation continued to drop. This divergence marks the shift in policy from price stability to exchange rate stability. Identifying this change in the target

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<sup>62</sup> While evaluating Denmark's economic performance, we will focus on the period beginning in 1980 to the present. During this time Denmark participated in the ERM and closely followed the monetary developments of the Community. All data for studying this question comes from the International Monetary Fund's International Financial Statistics; monthly volumes of which can be found in the Kresge Library. Quarterly Data was obtained, keeping with the premise that government authorities conduct their policies focused on the long-term effects of any interest rate changes.

<sup>63</sup> European Commission, "The Economic and Financial Situation in Denmark," European Economy No.6 (1993), 2.

of Denmark's monetary policy helps in our analysis by allowing for comparisons between regimes. (It is interesting to note that officially Denmark 'maintained' its hard nosed stance until 1992. Only then did it state that exchange rate management was its primary target.) Having now identified a period when price stability was the aim of Danish monetary policy, we can now examine the effects of their interest rates.

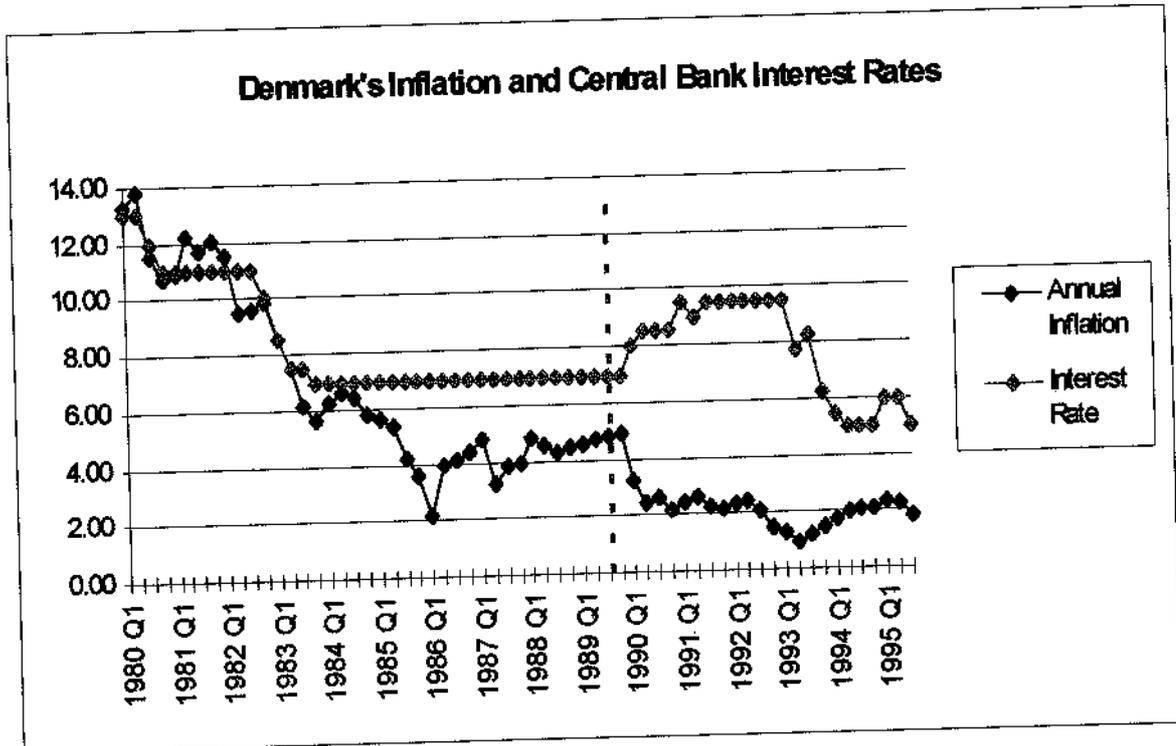


Figure 1

Danish monetary authorities used interest rates to fight Danish inflation during the 1980s. Thus we can expect to see a high correlation between inflation and interest rates. Figure 2 shows this relationship.

The change in monetary policy targets can be seen when we examine the correlation of interest rate and inflation rates from 1990 to 1995. Figure 3 shows that interest rates do not correlate with inflation rates.

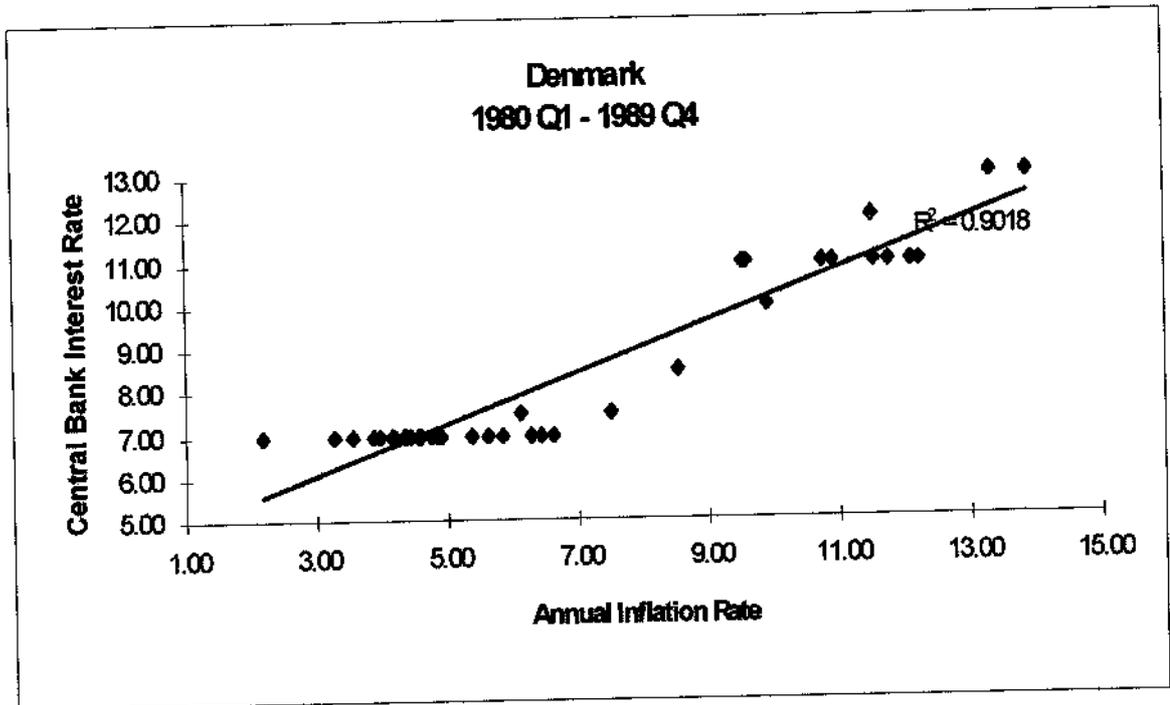


Figure 2

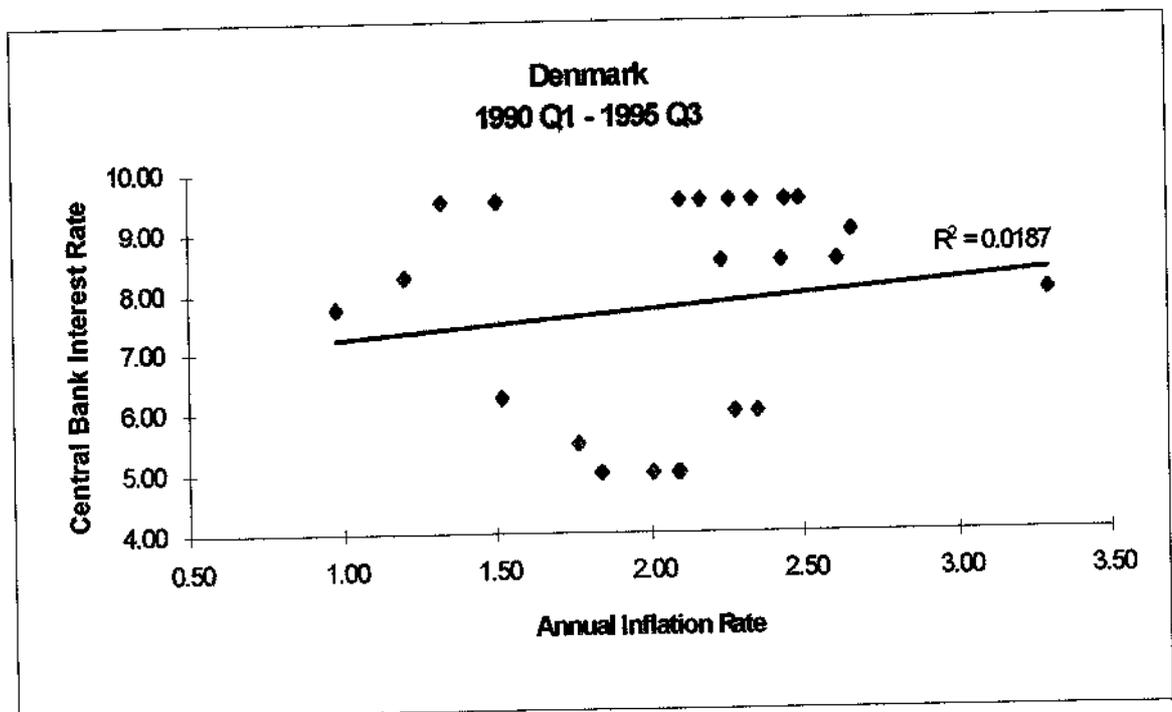
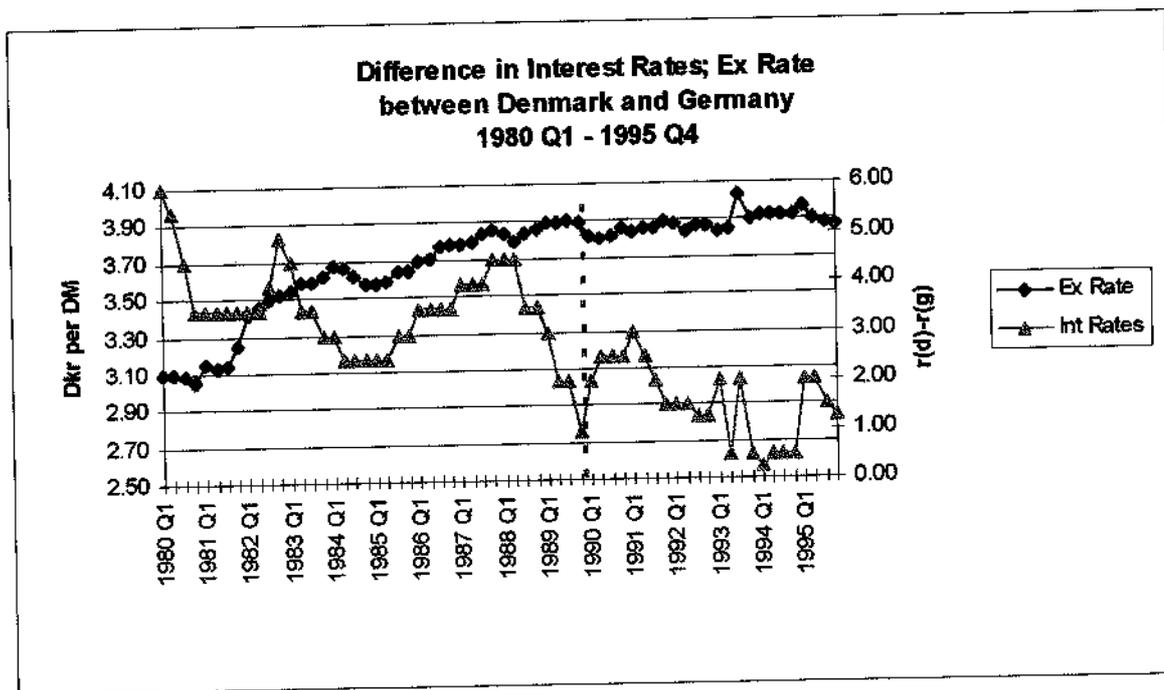


Figure 3

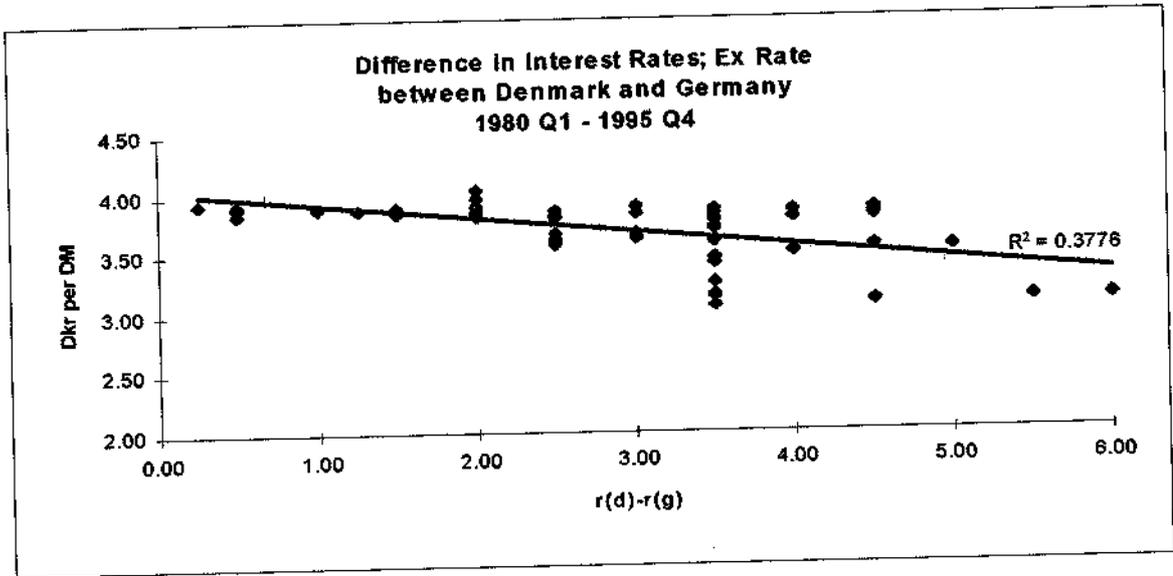
Germany has long been seen as the anchor of the EMS. Thus monetary policy set by the Bundesbank greatly influences the policies in the other EMS participating countries. Denmark has participated in the EMS since its conception in 1979. Therefore by making direct comparisons, we can see how independent Denmark is from Germany.

While Denmark uses interest rates to fight Danish inflation, we should see movements in its exchange rate with Germany when interest rate differences change between the Danish Central Bank and the Bundesbank. Figure 4 plots the krone per DM exchange rate and the difference between Danish and German interest rates. We can see how the Danish interest rates *vis-d-vis* German rates have fallen over time. Likewise the exchange rate has fallen. (We can also see how the change in policy in 1990 stabilized the exchange rate, with little exchange rate movement after the first quarter 1990.)



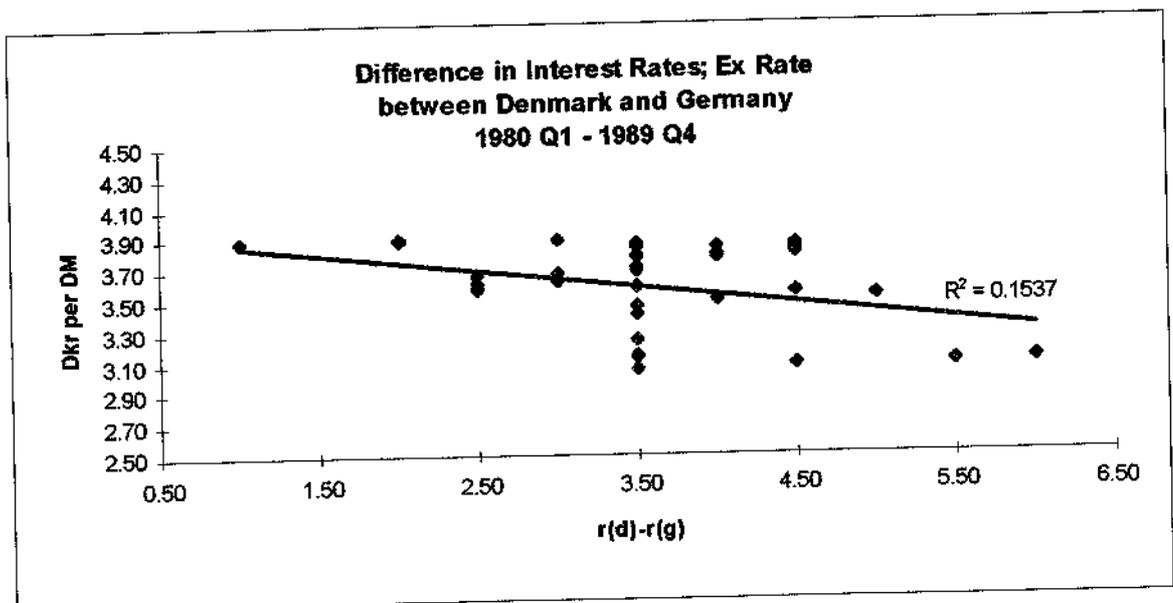
**Figure 4**

We should expect to see a high correlation between the difference in Danish and German interest rates, and the exchange rate changes. However Figure 5 shows a medium weak correlation to this relationship.



**Figure 5**

The correlation of exchange rate and differences in interest rates is even worse during the 1980s as shown in Figure 6.



**Figure 6**

This weak correlation can be explained by the decrease in inflation premium investors demanded from the Danish interest rates. Denmark's hard nose attitude has increased its credibility in the market and the overall differential *vis-d-vis* Germany has been reduced. Figure 7 plots the central bank rates for Germany and Denmark, and Figure 8 shows the difference between the two. It is interesting to observe how the relationship between the Danish interest rates and the German interest rates have changed over time. Germany was lowering its rates while Denmark held fast to its policy in the late 1980s and the difference between the countries increased when German interest rates fell.

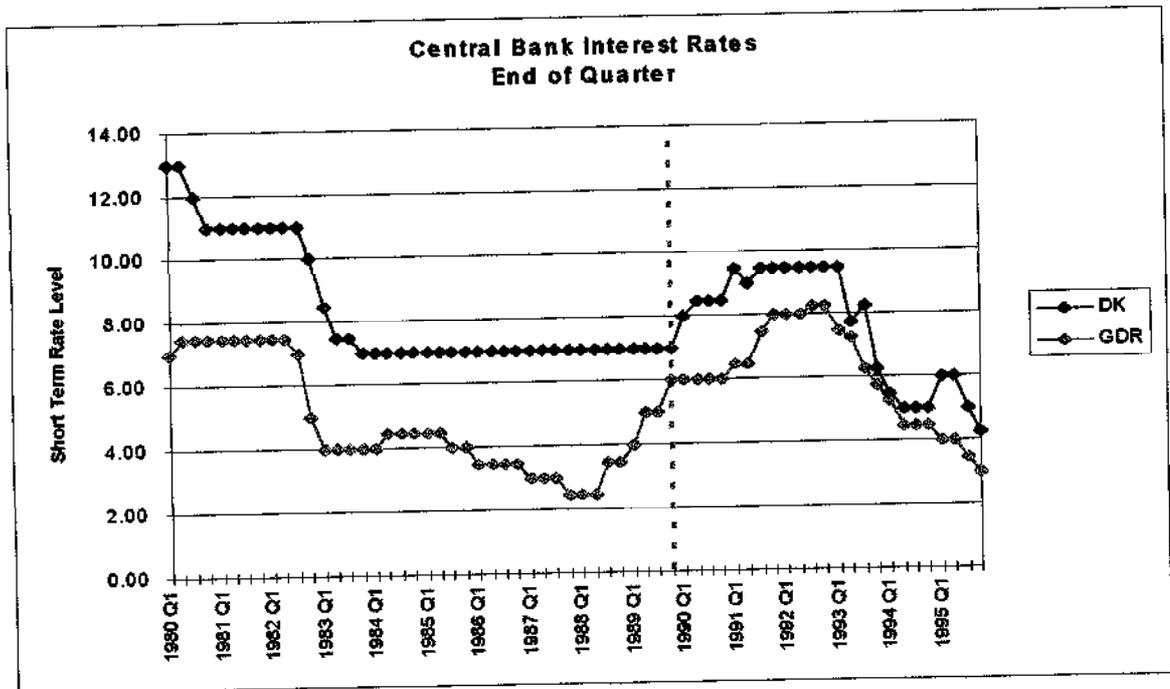
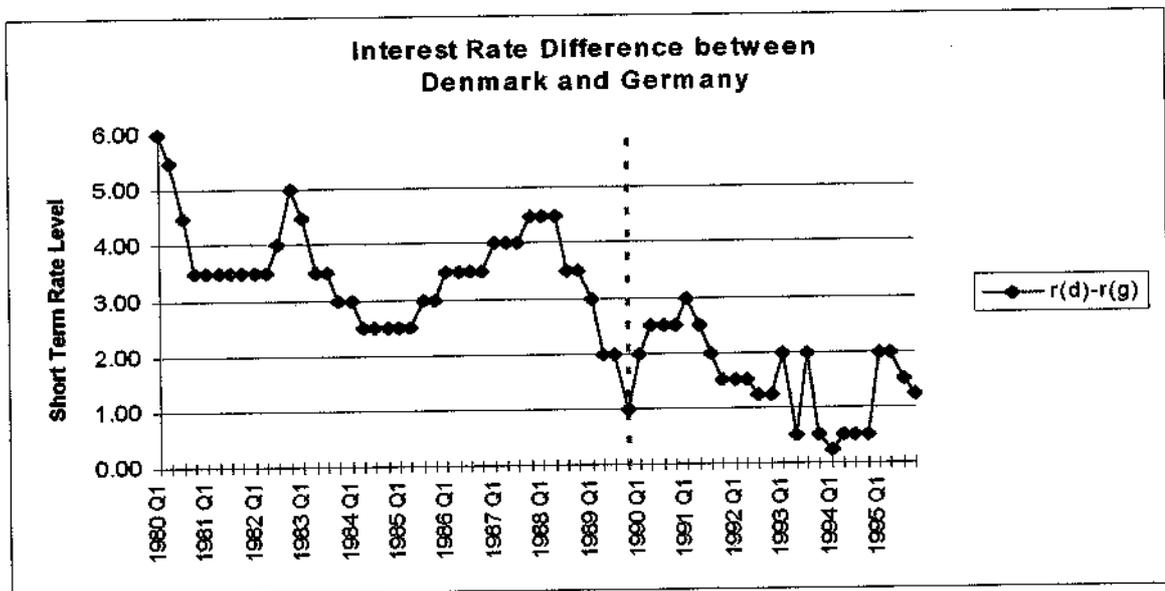
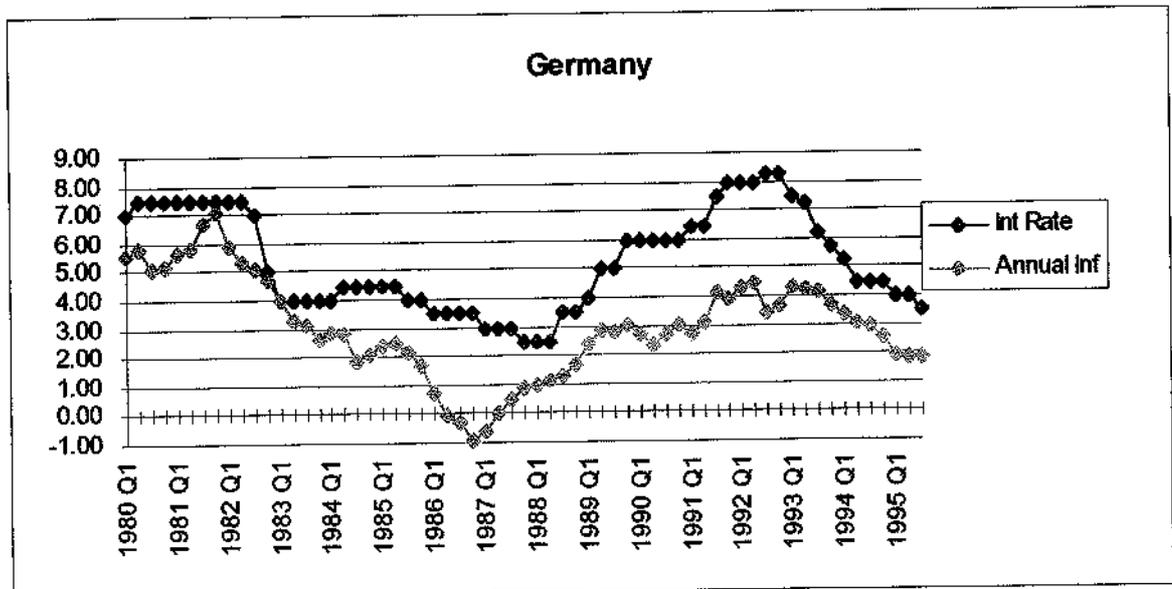


Figure 7

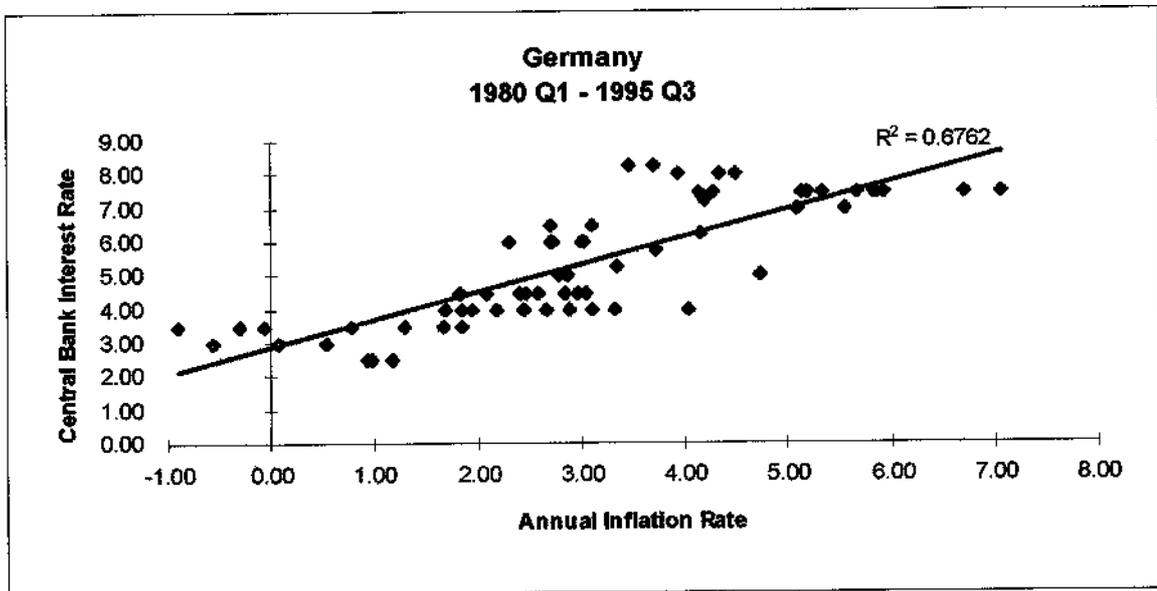


**Figure 8**

In the 1980s, both Denmark and Germany maintained hard nosed monetary policies designed to fight their own inflation. Figures 9 and 10 plot the German interest rate vs. German inflation rate, and the correlation of the two respectively. This confirms the Bundesbank's hard nose attitude towards inflation.

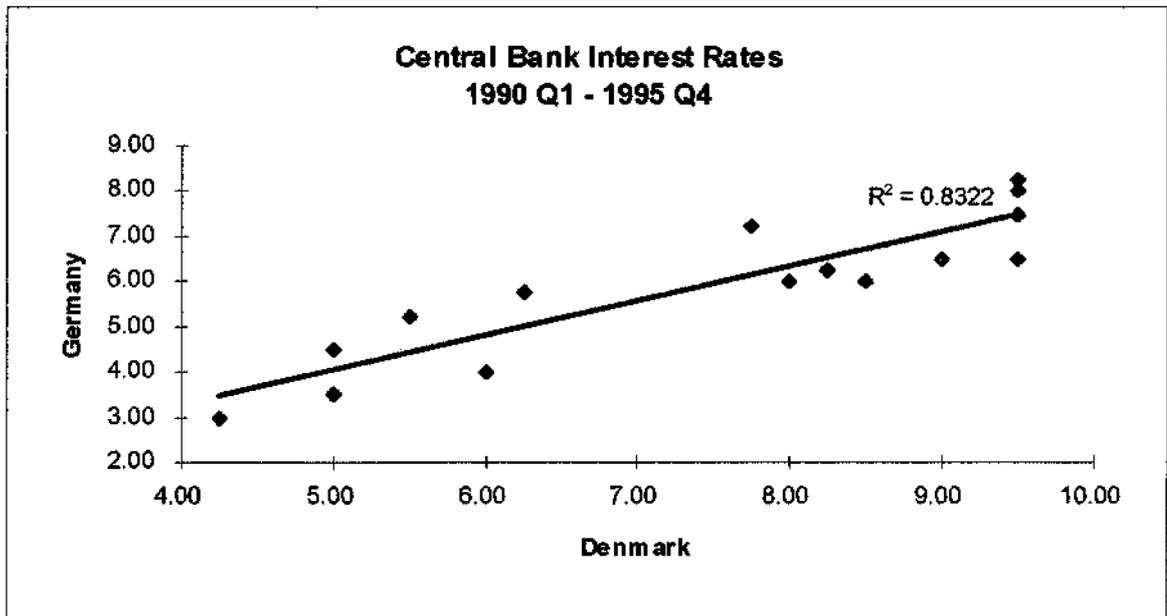


**Figure 9**

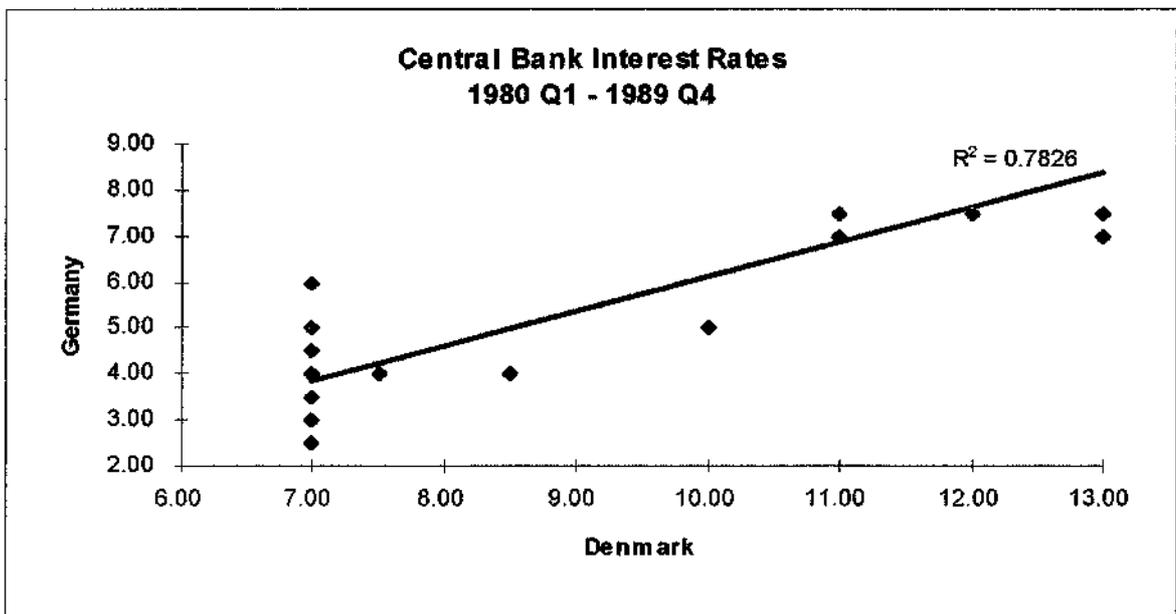


**Figure 10**

Since 1990, Danish interest rates have moved more in line with German rates. This is logical in that the Danish monetary authorities had given exchange rate management as its target policy (Denmark would set its interest rate to follow movements of German interest rates). Given the German hard nose attitude towards inflation, if German inflation increases, we would expect to see German interest rates rise, and Danish interest rates rise accordingly. Therefore, during the 1990-96 period of exchange rate management by Denmark, we should expect a higher correlation between the Danish and German interest rates, as compared to the 1980s when Denmark targeted domestic price stability. Figures 11 and 12 confirm this notion; Danish interest rates are more correlated with German interest rates after 1990.



**Figure 11**



**Figure 12**

So far I have discussed the role of the Danish Central Bank and how in the 1980s it maintained an independent monetary policy to fight domestic inflation. Having determined that Denmark does indeed possess a central bank capable of setting an independent monetary policy we can then ask:

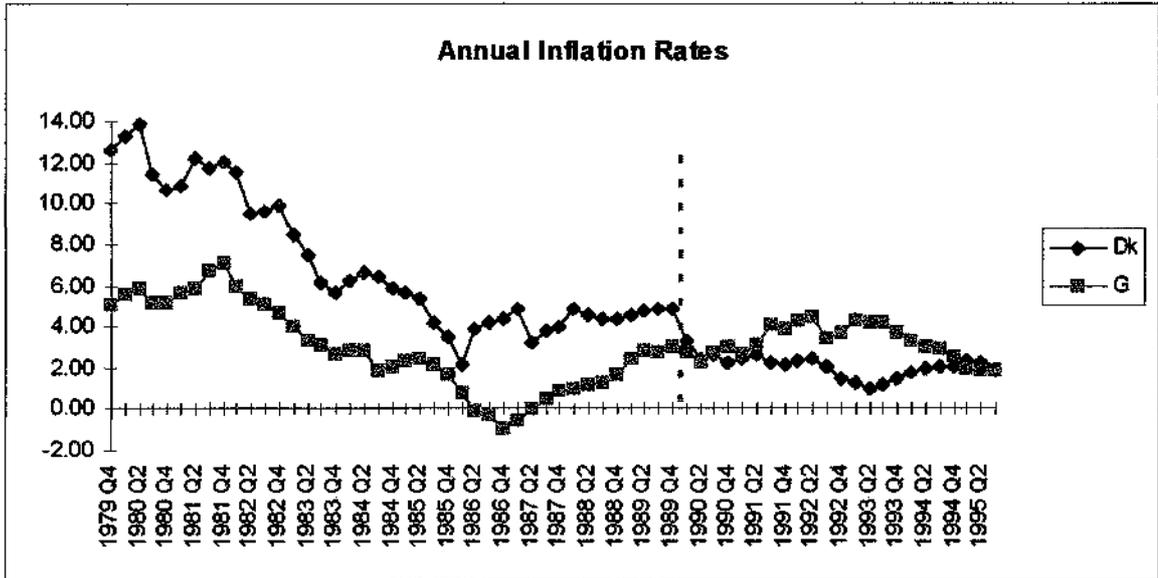
### **Does Denmark need an Independent Monetary Policy?**

In other words, if Denmark relinquishes its monetary authority to a European central bank, will it suffer any adverse effects? This brings us to the most important aspect of the 'costs' of joining a monetary union; namely can Denmark respond to asymmetric shocks with other tools besides exchange rate adjustments?

To examine these questions we will evaluate the period from 1990 to the present, when Denmark was targeting exchange rate stability with its monetary policy. By doing so, Danish monetary authorities were focusing upon EMS and setting their interest rates to maintain the value of the krone. Domestic macroeconomic issues were secondary in nature in the monetary sense. Again, Germany was the anchor in the ERM and as discussed above, Denmark has held its exchange rate with Germany stable.

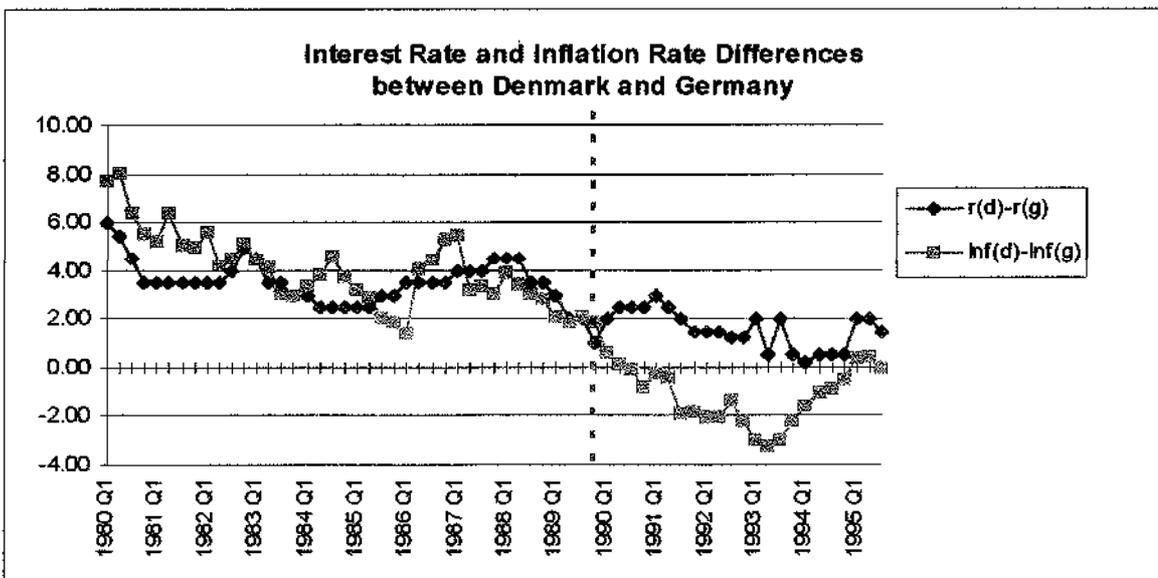
In evaluating the need for an independent monetary policy, we will look to see how the Danish economy responds during a nationally differentiated shock. Denmark has not faced any major shocks, but Germany has felt the burden of German reunification and therefore Germany has faced an asymmetric shock with respect to Denmark. Given that German monetary authorities were setting policy in Germany to answer the inflationary pressures brought on by unification with the former East Germany, and that the Danish central bank followed Germany in its interest rate setting policy, we can test the capabilities of the other macroeconomic tools in maintaining the Danish economy.

Before looking at the Danish economy, it is worth examining the relationship between Denmark and German inflation rates. Figure 13 plots the inflation rates for Germany and Denmark.



**Figure 13**

We can see how inflation in both countries has declined since the late 1970s. By plotting the differences in inflation rates with the differences in interest rates, we will gain insight into how closely the two country's economies are related. Figure 14 plots this relationship.



**Figure 14**

Figures 15 and 16 show the correlations for the two periods we have been examining.

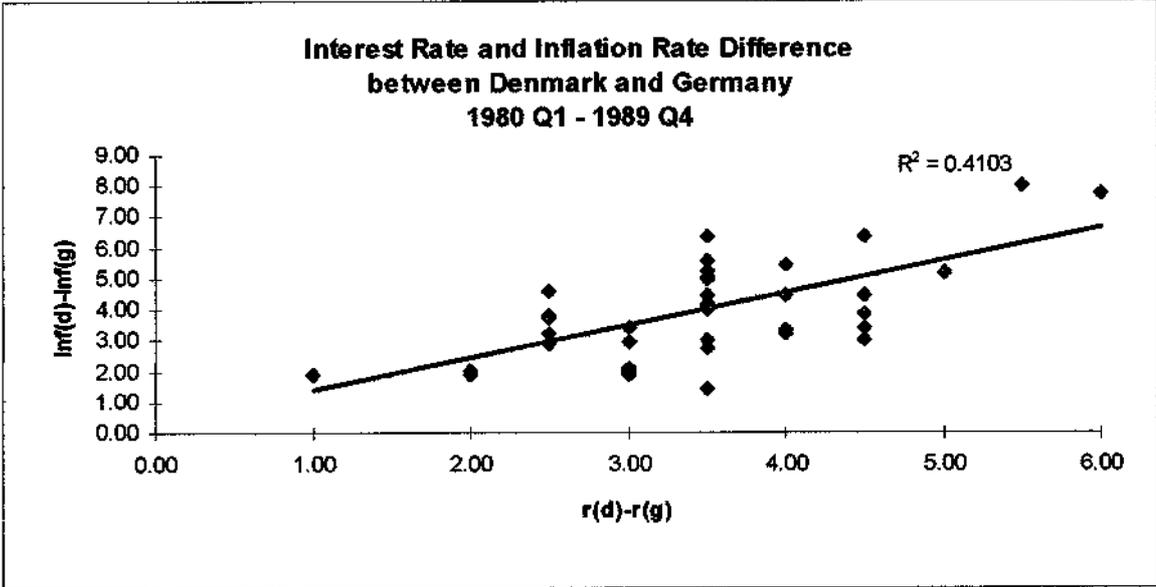


Figure 15

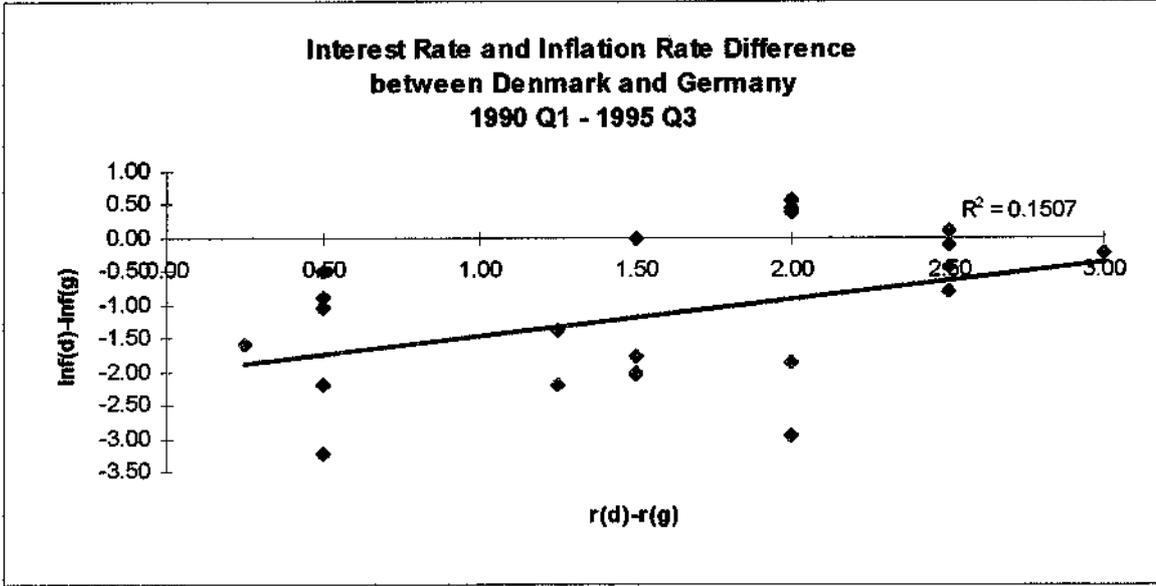


Figure 16

Denmark lowered its inflation rate through the 1980s by adopting a hard nosed policy with its interest rates, as did Germany. By 1990, Denmark's interest rate differential *vis-d-vis* Germany is quite low. Credibility for fighting inflation and managing macroeconomic fundamentals has lowered the interest rate premium. The Danish Central Bank then shifts its monetary policy towards exchange-rate stability.

The 1990s mark an increased in interest rate movements, although the difference between Denmark and Germany remains small. Again we see the inflationary pressure Germany faced from unification. Denmark's inflation remained small, while Germany's rose, thus giving us a negative difference (Denmark minus Germany). Figure 16's correlation plot shows how unrelated the interest and inflation rate differences are between Denmark and Germany for this period. This reveals our asymmetric shock.

Given the hard nose policy response telling us that as inflation rises we expect to see a corresponding rise in interest rate, then if Germany continues to set a European wide interest rate while fighting German inflation, Denmark will not be adversely affected if there is a strong positive correlation between German and Danish inflation rates. Figure 17 confirms the strong positive correlation between German and Danish inflation rates in the 1980s. However, in the 1990s when Denmark sought exchange rate stability with Germany, this relationship changes as shown in Figure 18.

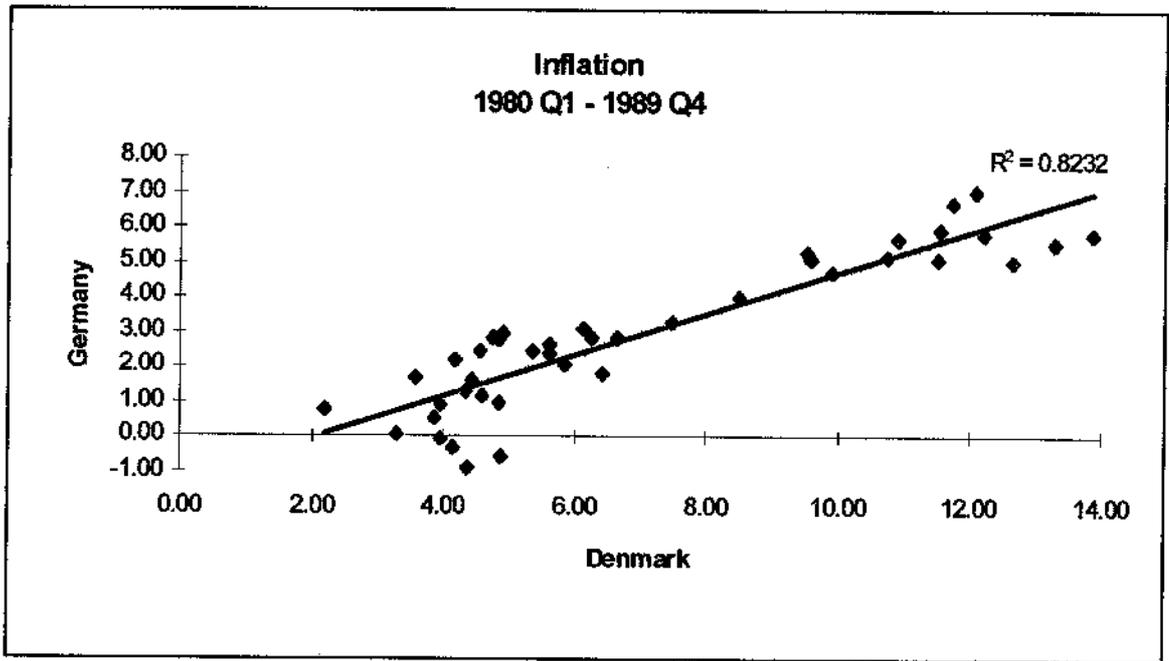


Figure 17

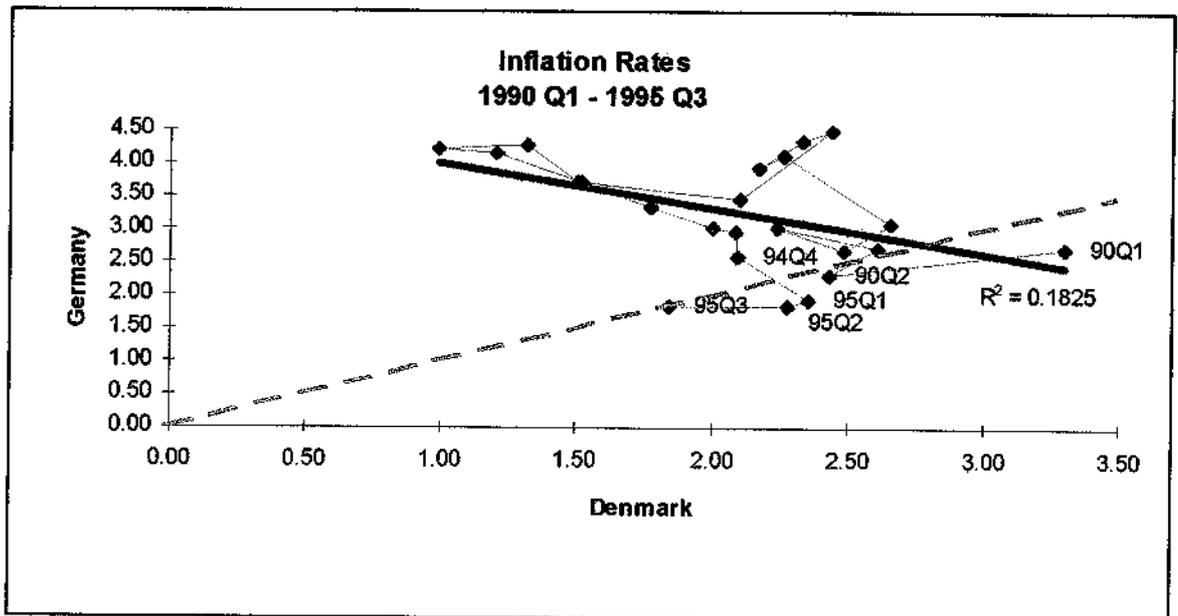


Figure 18

Here we clearly see the inflationary pressures felt by Germany from the unification. Denmark's inflation did not follow, thus confirming the presence of a nationally differentiated shock.

When Germany sets its interest rates to fight German inflation, and Denmark sets its interest rates to follow German interest rates, we expect to see a positive correlation between Danish interest rates and German inflation rates. Figure 19 plots these two rates and Figure 20 shows the correlation over the period of 1980 to 1995.

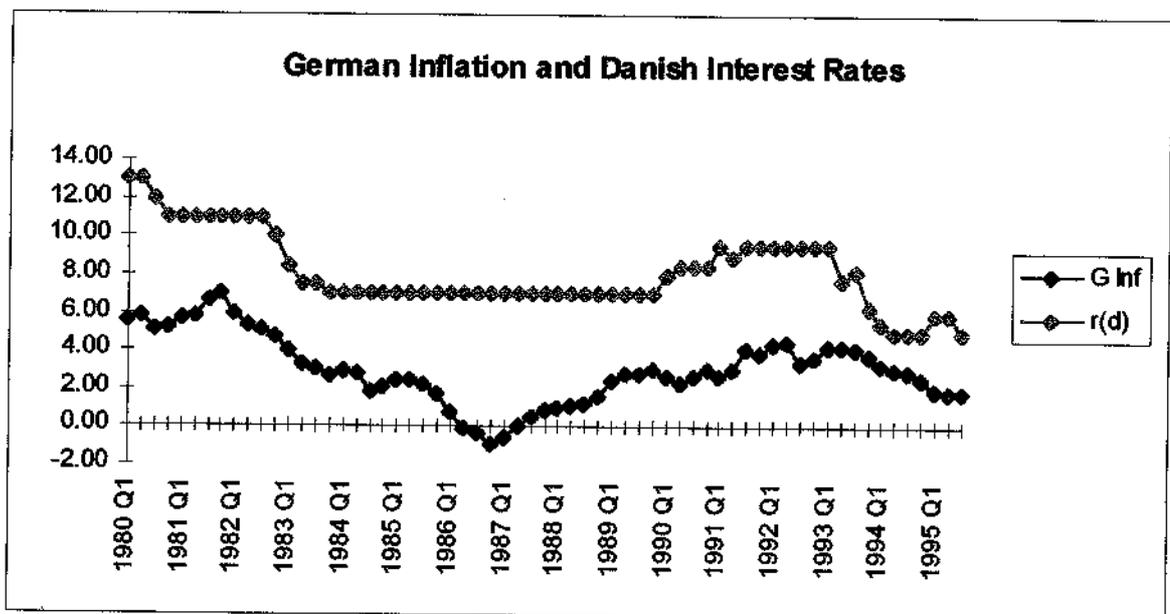
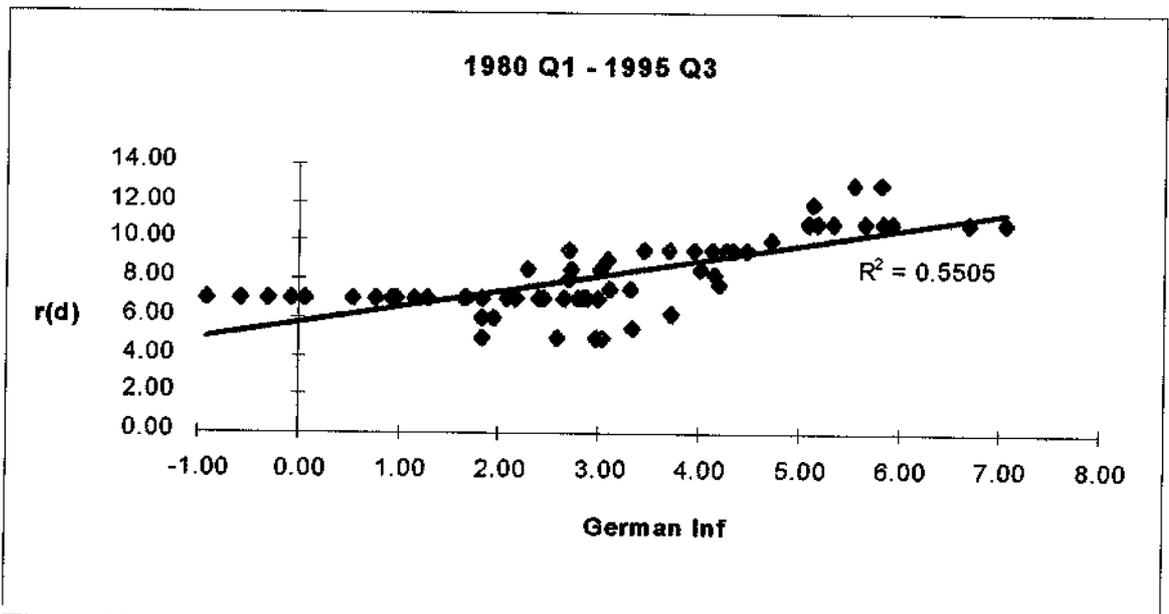
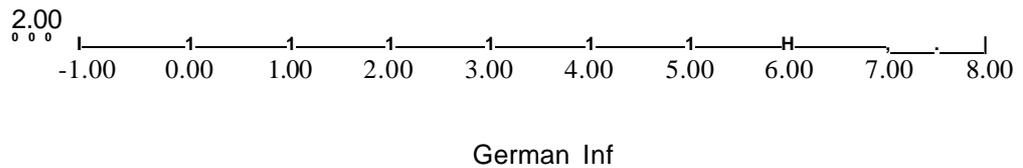


Figure 19



**Figure 20**

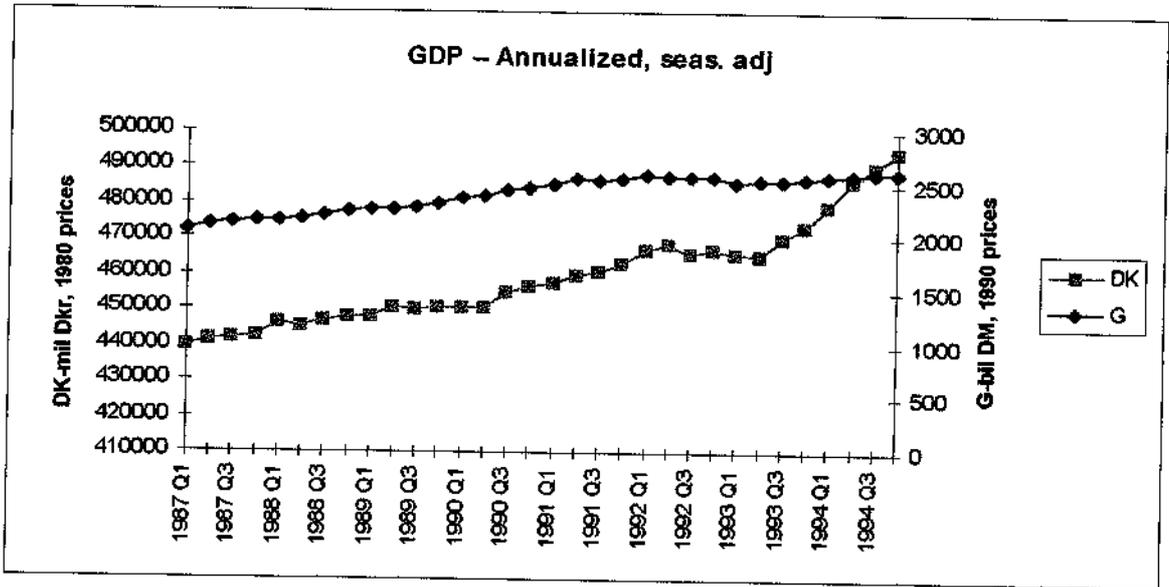


**Figure 20**

As discussed above, Danish interest rates rose during this period following the German rates. This tight monetary policy was not required to fight Danish domestic inflation. We can therefore ask, were there any adverse consequences to Denmark as a result of this pursuit of exchange rate stability?

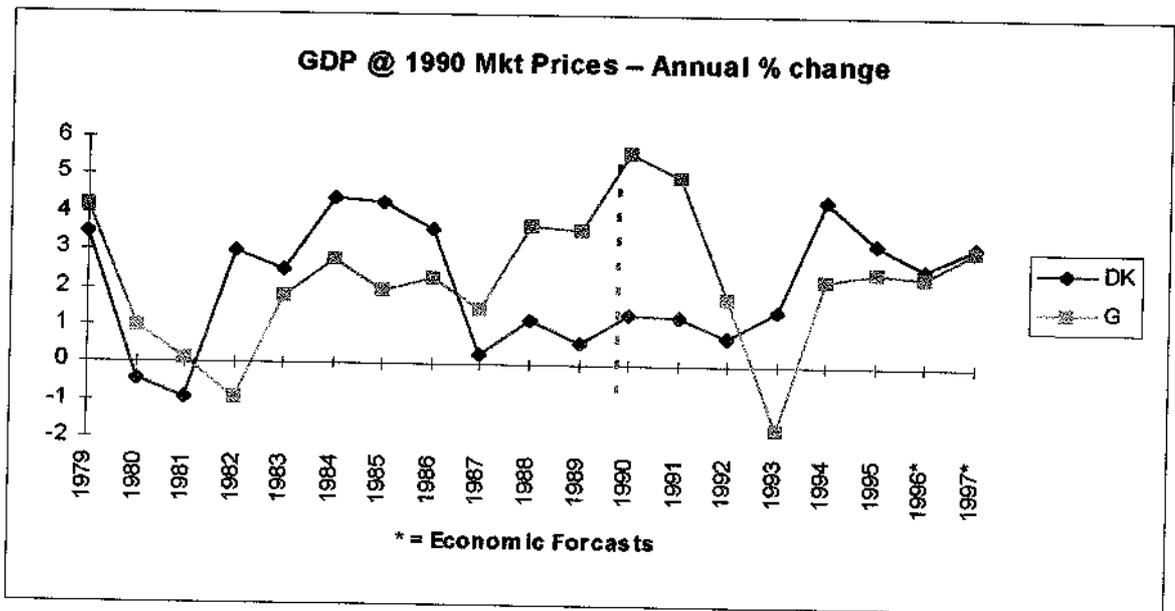
GDP

Figure 21 plots the Annualized, seasonally adjusted GDP levels for Denmark and Germany. Here we can see that Danish output actually increased in the 1990s despite the "high" interest rates in Denmark.



**Figure 21**

Plotting the annual rate of change of GDP for Denmark and Germany supports this fact that Danish output grew faster than German output during the period of 1990 -1995. (Figure 22).



**Figure 22**

We can also compare Denmark with all 15 European Union countries. Figure 23 plots the Quarterly, seasonally adjusted GDP levels accordingly. Figure 24 shows the annualized rate of change for the same time period.

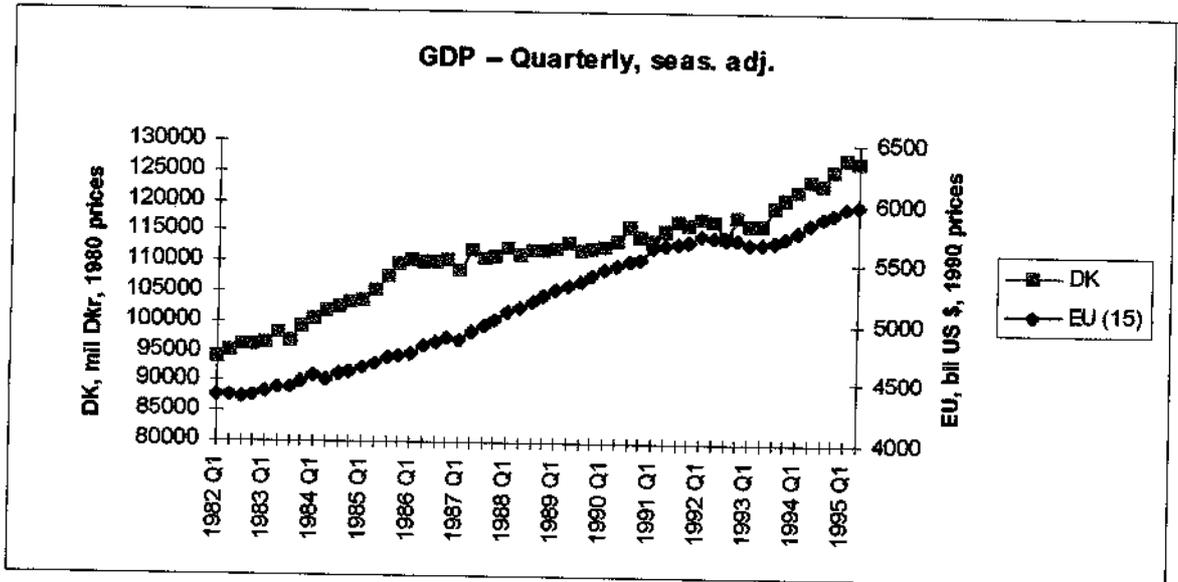


Figure 23

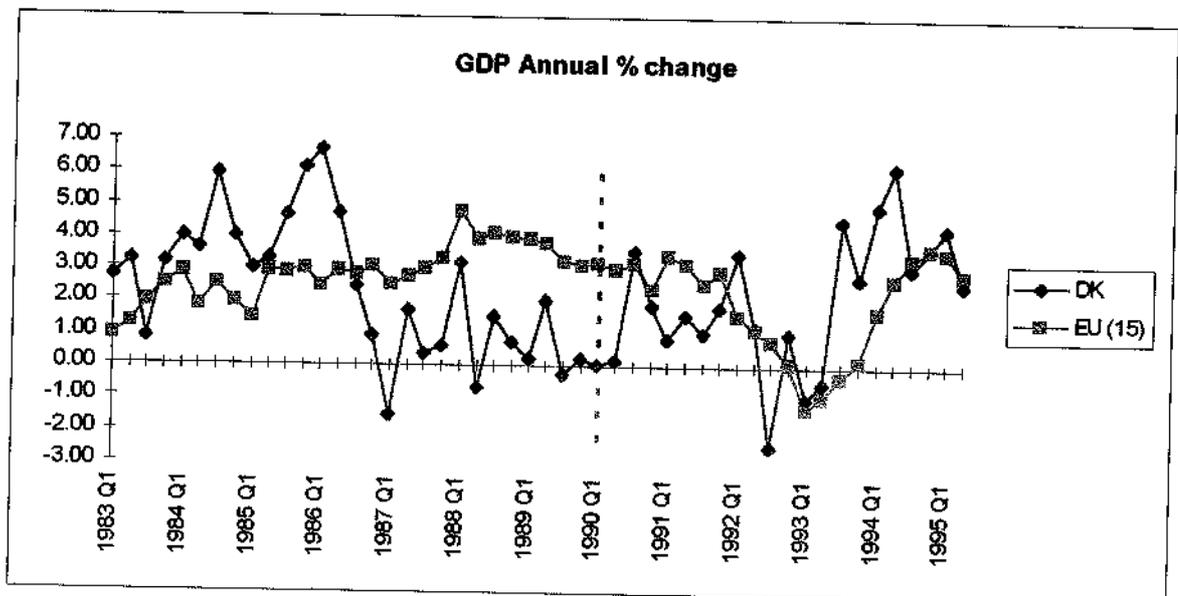


Figure 24

Again we can see that after Denmark adopted the exchange rate stability monetary policy, it enjoyed equally if not better rates of growth in its GDP as compared to the whole of the EU.

Consumption

Comparing the consumption patterns of Denmark and Germany for both the government and the private sector, sheds light as to the overall welfare effects during the 1990s. Figures 25 and 27 plot the levels of private and government consumption in both countries with Figures 26 and 28 showing the respective annual rates of change.

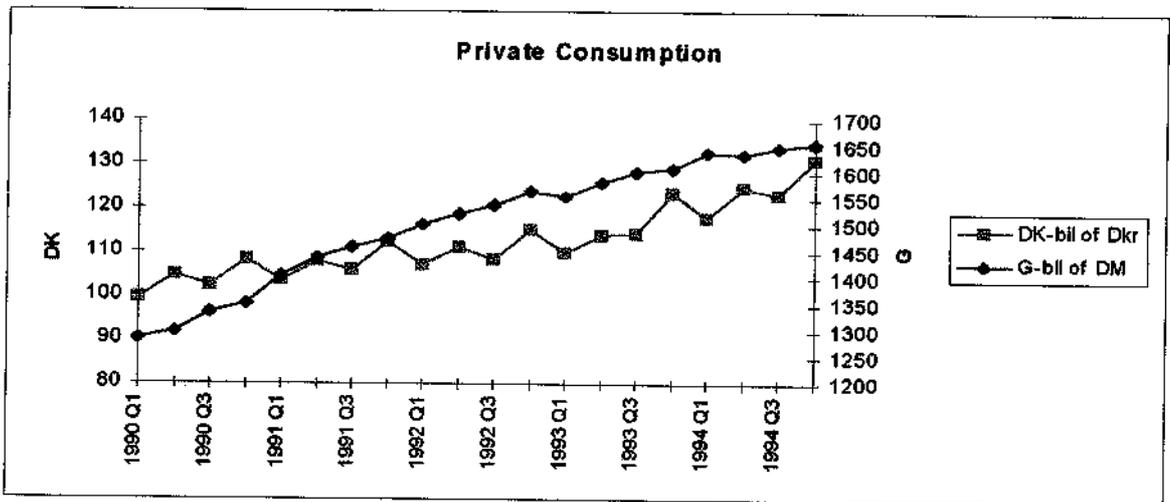


Figure 25

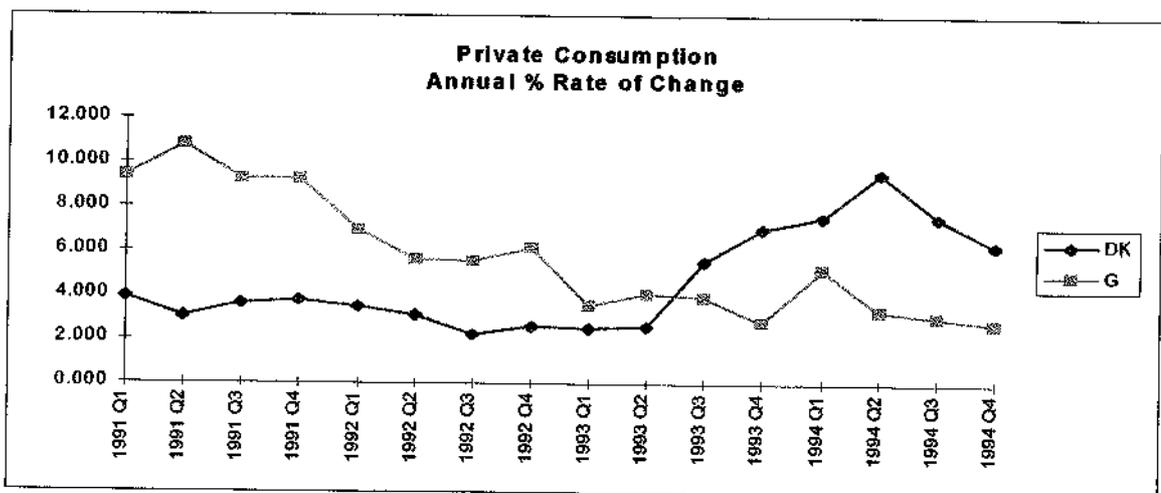
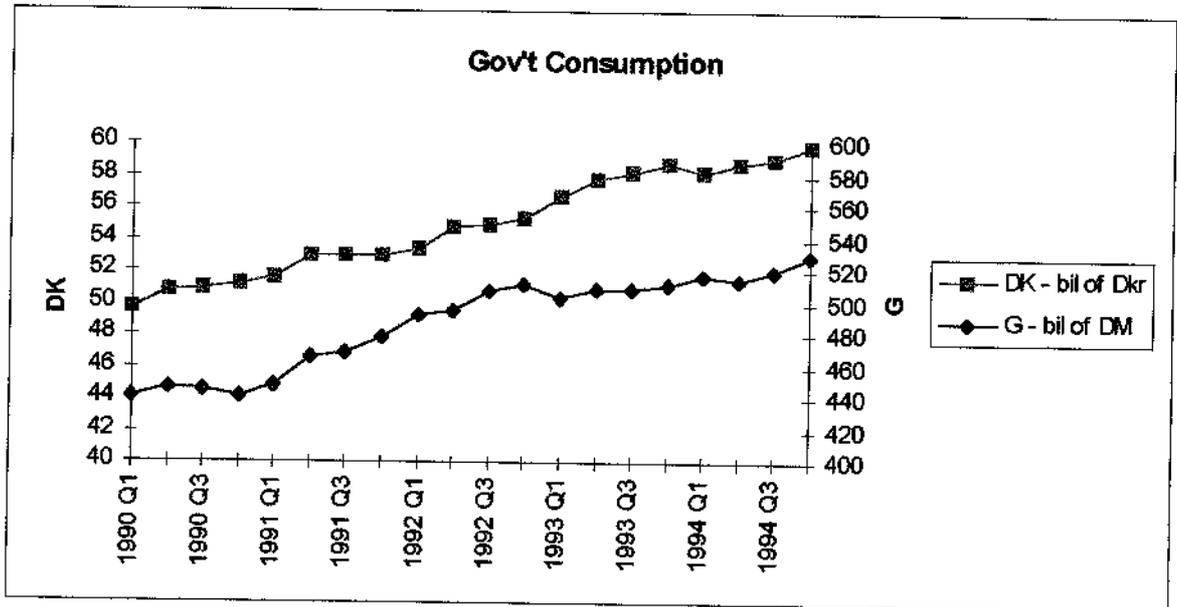
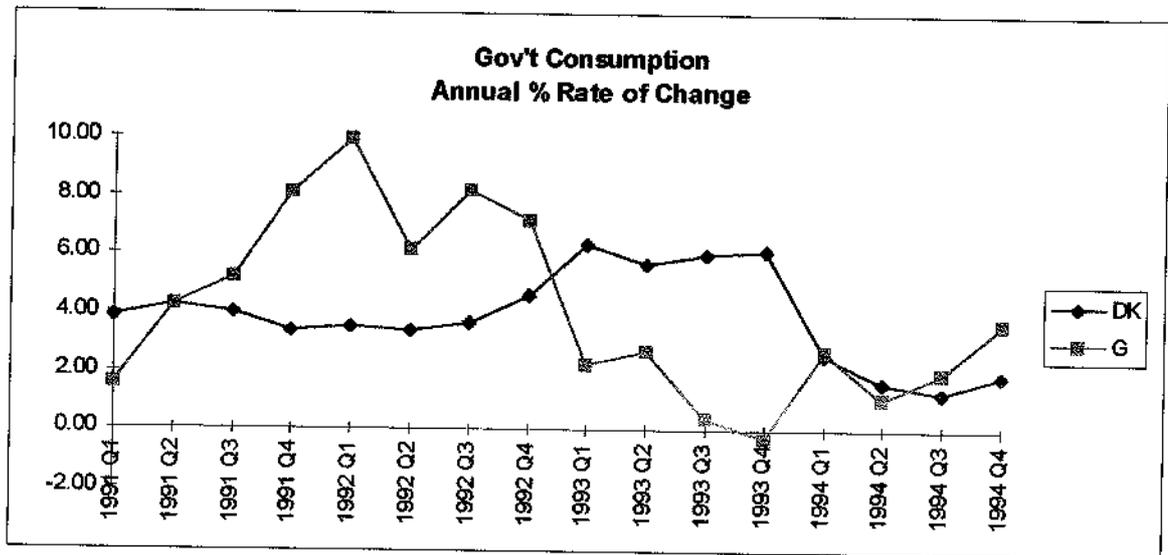


Figure 26



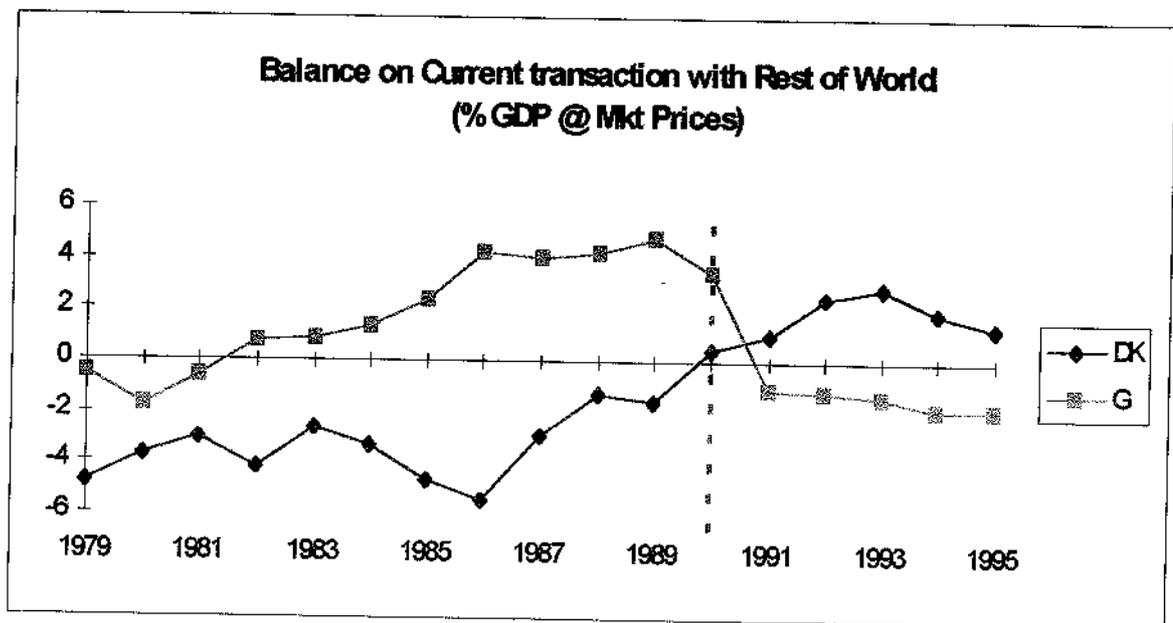
**Figure 27**



**Figure 28**

## Trade

We can look to the balance on current transaction with the rest of the world as an indication of the state of the economy. It is especially a challenge for Denmark as, a small open economy with a particular industrial structure to maximize the benefit from the integrating European economy. In the 1990s, as Denmark followed its exchange rate stability monetary policy with Germany, we might expect the German and Danish current account balances to move similarly. In other words, when Germany maintains high interest rates to fight inflation and its currency remains strong, we would expect its current account to decline with the Danish current account showing the same movement. Figure 29 plots the balance on current transactions. As we can see, this did not hold true, and the Danish balance actually rose to a surplus in the 1990s, while Germany's balance moved to a deficit. With this we can say that no adverse effects towards trade were a result of the Danish exchange rate stability monetary policy.



**Figure 29**

## Unemployment

High unemployment levels have plagued Denmark and major structural problem prevent it from falling below 8%<sup>64</sup> Given the high levels of social welfare in Denmark, we would expect changes in unemployment to lag the macroeconomic policies that are set by the Danish central bank. Thus when comparing Danish and German unemployment rates for signs of adverse effects from the monetary policy of the 1990s, we are somewhat limited for data to draw firm conclusions. Figure 30 plots the respective rates for Germany and Denmark.

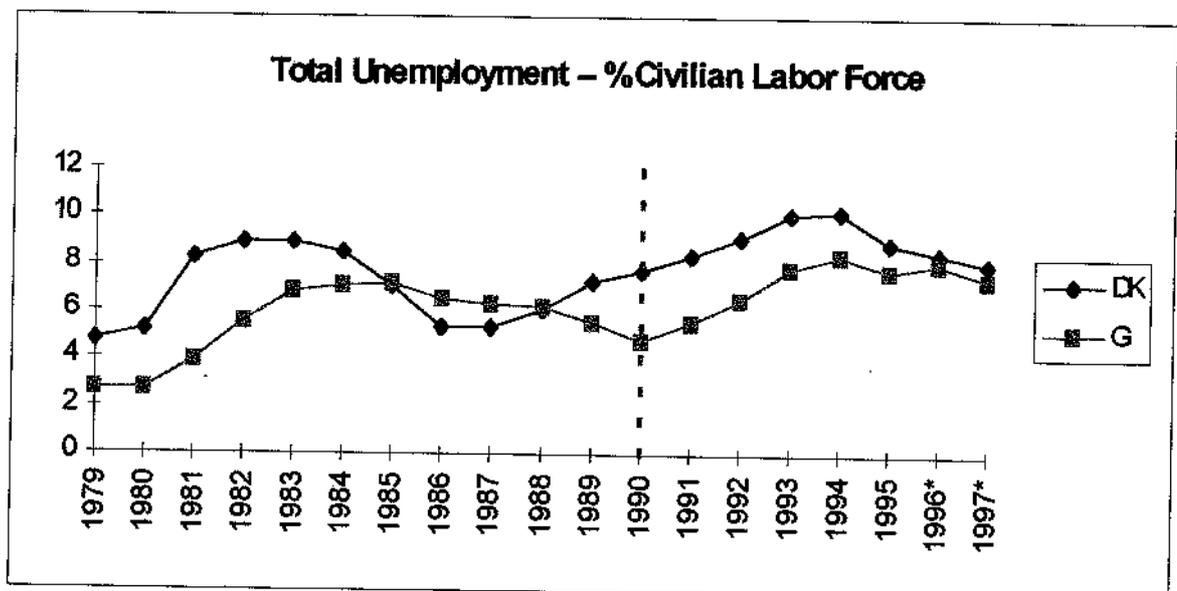


Figure 30

As we can see, Danish unemployment rates have risen in the 1990s, however this can be attributed to the hard nose monetary policy of the late 1980s. Denmark has used its fiscal policy extensively to fight inflation in the 1990s, and we can see that the rates are beginning to decline, and are estimated to drop below the 8 1/2 % level in 1997.<sup>65</sup>

<sup>64</sup> European Economy No. 6

<sup>65</sup> EIU Country Report, 4th Quarter 1995

### Summary

We can draw the overall conclusion that Denmark has not been adversely affected during the period of 1990-95; a time when they have 'voluntarily' relinquished its independent monetary policy. We have seen that monetary pressures were strong (higher than required interest rates as set by Germany), however the other macroeconomic tools have responded and the Danish economy has continued to grow.

## CONCLUSION

The European Union has made great strides towards becoming a fully unified economic entity. Border obstacles and regulatory barriers to an integrated market for goods and services have been removed and now an integrated capital market and a common currency seems all but ensured. By the end of the twentieth century Europe should, in many respects, constitute as unified and integrated an economy as the United States of America.

The third stage, leading to monetary union, is expected to commence no later than 1 January 1999. At that date, the monetary union will be a reality: exchange rates between national currencies and against the ECU will be fixed irrevocably. The European Central Bank will be operational and will conduct the single monetary policy; the ECU will be a currency in its own right; the foreign-exchange markets will fix its value against third currencies, for example the dollar and the yen.

The Treaty on European Union has provided Denmark an exemption from participating in EMU. Currently, the Danish Government has notified the European Council that it will not participate in the third stage. Denmark has provisions in its constitution allowing for another referendum before the third stage commences. As for the abrogation of the exemption, the procedure shall only be initiated at the request of Denmark. Therefore, unless Denmark requests abrogation of the exemption, monetary union will occur and Denmark will not be a participant.

This paper has discussed the economic rationale for EMU and described the costs and benefits associated with the adoption of the single currency. Analysis of the costs for Denmark reveal that the prospect of relinquishing its monetary policy to the European Central Bank will not adversely effect the Danish economy. Therefore, from an economic point of view, the Danish decision to opt-out of **EMU** is unjustified.

Denmark will not enjoy the benefits provided by monetary union as described above. It will continue to operate as a small open economy, subject to international forces. By opting-out, Denmark shall retain full authority of its monetary policy. However, this control is viewed more symbolically than as an effective macroeconomic policy tool. Denmark will most likely participate in a reformulated EMS. This new EMS could take the form of bilateral parities against the ECU. As not all EU member states will have achieved a sufficient degree of economic convergence by the time EMU starts, a new EMS would help facilitate their future participation. Any further discussion of a new EMS and its relationship with the ECU would be purely speculative.

In my opinion, Denmark would benefit far more than it would lose by participating in the EMU. However, it will be up to the Danes to decide what they prefer and the outcome of any future monetary union referendums will undoubtedly be influenced by the political climate at the time of voting. Ideologically, Denmark must decide whether monetary union will lead to political union and the perceived loss of Danish national identity. This same issue applies to all EU member states. Unfortunately, there is no real historical precedence to help the voters decide. What really is needed is strong leadership at the national level focused upon "the process of creating an ever closer union among the peoples of Europe."<sup>66</sup>

<sup>66</sup> Treaty on European Union, (1992).

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