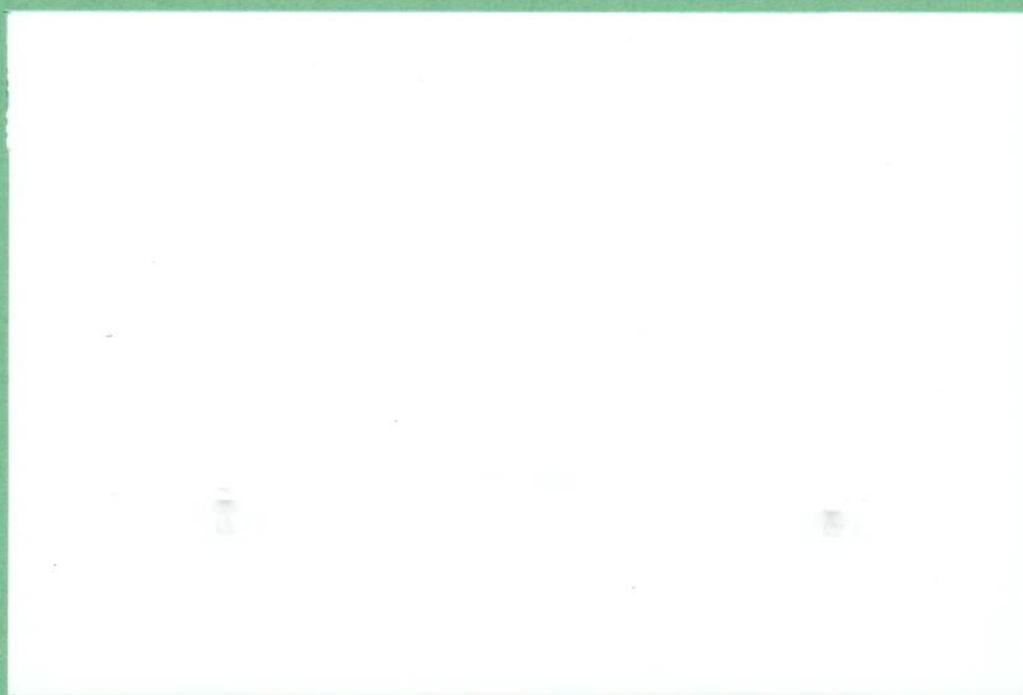


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# **MONETARY POLICY IN EUROPE: TOWARDS A EUROPEAN CENTRAL BANK AND ONE EUROPEAN CURRENCY**

by

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## **ABSTRACT**

Most alternative blueprints for European Monetary Union (EMU) differ in their opinions about convergence requirements or the need for binding fiscal rules and controls of individual national governments' debt policies, but there is, if not complete consensus, widespread agreement that the European Central Bank (ECB) should be independent of political control from both European Community (EC) institutions and national governments. The main argument for an independent European central bank is empirical: those countries in which central banks are insulated from the political process and charged with maintaining price stability have experienced the lowest and most stable inflation rates in recent decades. The present paper reviews and critically evaluates this political economy literature which relates inflation performances to the constitutional features of central bank statutes. Based on this assessment the draft statutes of the ECB and the constitutions of the individual European national central banks are discussed in terms of the independence they grant central bank board members from partisan influences. Furthermore, concrete country-specific suggestions for enhancing central bank independence during stage two of the gradual transition to EMU, which is to be completed by 1999, are made. It is argued that in some countries laborious constitutional reforms of central bank statutes are overdue and must be implemented in order to make these institutions fit for an anti-inflationary EMU.

# **MONETARY POLICY IN EUROPE: TOWARDS A EUROPEAN CENTRAL BANK AND ONE EUROPEAN CURRENCY**

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## 1. INTRODUCTION

During the December 1991 European Summit in Maastricht a Draft Treaty for the transition to European Economic and Monetary Union (EMU) was agreed upon. Those countries with healthy economies should after a short "stage two" (which is due to start in 1994) be allowed to move ahead to "stage three" of EMU (possibly by early 1997, but at the latest by early 1999), provided that the remaining European Community (EC) countries can join at a later date. The Draft Treaty thereby requires countries which want to join the currency union to meet strict monetary and fiscal convergence criteria: inflation and interest rates are to converge to a narrow range of 1-2 percent of the rates of the lowest EC member country, budget deficits should not exceed 3 percent of gross domestic product (GDP), and public debt should not amount to more than 60 percent of GDP. These fiscal convergence criteria of the Draft Treaty are at the centre of the current academic and political debate, and have been criticized and contested on several grounds.<sup>1</sup>

Whilst opinions in both academic and political circles differ drastically with respect to these convergence issues, there is a widespread, if not unanimous agreement that the European Central Bank (ECB) should be independent of political control from both EC institutions and national governments. The Draft Statutes of the ECB grant the ECB Council - the main decision and executive Board - this far-reaching political independence. The Delors proposal further demands that in stage two of the transition to EMU the individual national central banks are to be freed from the political influence of national governments and that the fore-runner of the ECB, the European Monetary Institute (EMI), should engage in coordinating monetary policies of the then still fully sovereign national central banks. Establishing independent national central banks and uniting them in one European system of central banks is likely to require far-reaching statutory changes and constitutional reform, but a discussion of these issues is largely missing in the current literature.<sup>2</sup> The present paper aims at filling this gap by trying to identify those institutional characteristics which more independent European central banks have in common, and it also attempts to derive an agenda for concrete institutional changes, which are required if the central banks of individual EC member countries and potential future EC participants from the European Free Trading Area (EFTA) are to

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<sup>1</sup> Giovannini and Spaventa (1991) put forward arguments in favour of such fiscal criteria, and a detailed discussion of counter-arguments is found in Wyplosz (1991), Begg et. al (1991), and Corsetti and Roubini (1991).

<sup>2</sup> Alesina and Grilli (1991) and Fratianni, von Hagen and Waller (1992) discuss some of these issues for the ECB statutes, but a systematic analysis of the implications of EMU for national central bank statutes is largely missing to date.

establish more independence from national governments. Along the same lines the institutional design of the ECB will be critically evaluated and supplementary statutory provisions which may further increase its independence will be suggested.

The remainder of the paper is organized as follows: section 2 reviews the evidence from the political economy literature on the link between inflation performances and central bank independence. Section 3 evaluates the statutes of national EC central banks in terms of their economic and political independence and makes suggestions for country-specific provisions which may enhance independence. Section 4 concludes the paper with a summary of the main arguments and policy recommendations.

## **2. INFLATION AND CENTRAL BANK INDEPENDENCE**

The recent literature on the political economics of inflation argues that central banks' institutional design is a key determinant of the inflation bias of market economies. Bade and Parkin (1985), Masciandaro and Tabellini (1988), Alesina (1989), Alesina and Summers (1991), Grilli, Masciandaro and Tabellini (1991) and Alesina and Grilli (1991), amongst others, show that more independent central banks tend to create less inflation than more dependent ones. As is emphasized by Alesina and Grilli (1991), measuring the independence of a central bank is thereby far from being straightforward, since no single indicator can properly take into account all the different institutional aspects which are relevant in this context. Nevertheless, several attempts have been made to measure central bank independence.

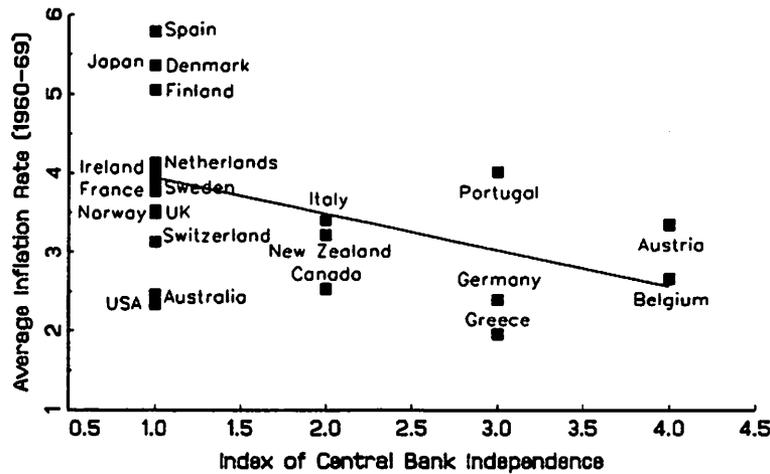
A first courageous attempt to classify the degree of central bank independence is found in Hahn (1968a,b), who provides an extensive global account and comparison of the constitutional and statutory features of central banks.<sup>3</sup> Most of the discussion in Hahn (1968a,b) centres around descriptive classifications of world central banks, but in his analysis of the independence of central banks from obligations of government financing he constructs an independence index consisting of five categories: no limits or completely ineffective limits to government financing (1), limits on book credits only (2), limits on book credits and treasury bill operations (3), limits on operations in all government papers (4), and complete prohibition of all forms of government financing

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<sup>3</sup> The institutional features of the 115 central banks which are analyzed in Hahn (1968) include such issues as political independence (who appoints the Governor, Executive Board and Decision Board for how long) and economic independence (degree of independence from government financing obligations, capital ownership of the central bank, coinage right, etc.), but the link between these institutional features and economic outcomes is not addressed.

(5). Figure 1 links Hahn's (1968b) fiscal independence index to a country's inflation performance during the 1960s, and shows a marginally significant inverse relationship between central bank independence and inflation.

**FIGURE 1: Hahn (1968b) Index of Central Bank Independence and Average Inflation (1960-69)**

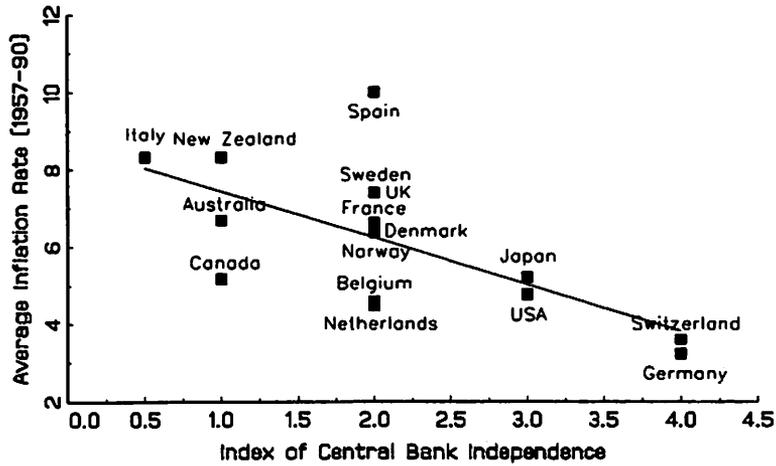


A more explicit analysis of the link between central bank independence and inflation performances is found in Bade and Parkin (1985), who consider two dimensions of independence - political and financial. Political independence is a function of the institutional and formal relationships between central banks and government, involving such issues as who appoints central bankers for what period, the presence of government officials in the board of directors of the bank, and the requirement of government approval for certain policies. Economic independence, on the other hand, concerns budgetary and financial relationships between the central bank and the government, such as the availability and terms of direct government credit facilities and more generally the existence of rules forcing the central bank to accommodate fiscal policies. Based on these criteria, Bade and Parkin (1985) classify twelve countries into four groups and detect a significant inverse relationship between central bank independence and inflation performance: the most independent central banks (index 4) are associated with the lowest inflation rates, and the most dependent ones with some of the highest.<sup>4</sup> They also

<sup>4</sup> The Bade and Parkin (1985) index used here is based on an updated version reported (in Table 9) by Alesina (1988), who employs results from Fair (1980) and Masciandaro and Tabellini (1988) to extend the analysis to 13 countries. To enable comparisons, the present paper displays all independence indices against the average 1957-90 consumer price inflation rates (IMF, IFS, line 64).

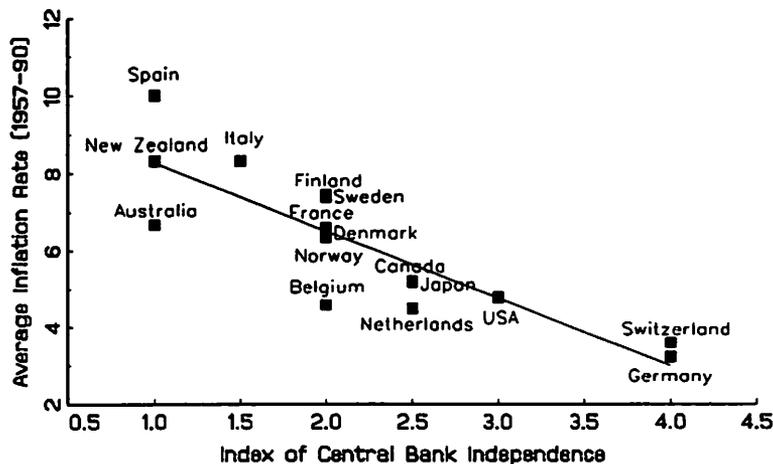
find that political rather than economic independence appears to be more particularly relevant in explaining the inflation bias of market economies.

**FIGURE 2: Bade and Parkin (1985) Index of Central Bank Independence and Average Inflation (1957-90)**



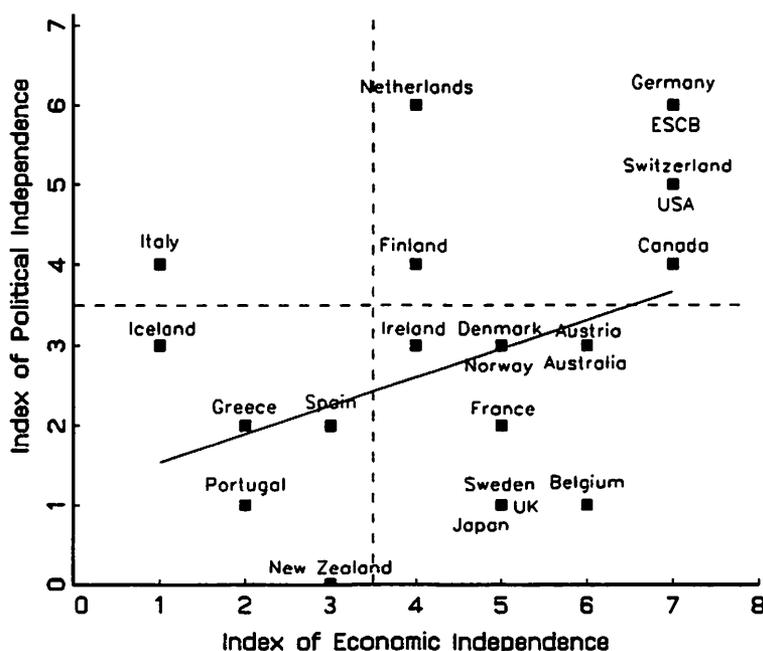
Alesina (1989), and more recently Alesina and Summers (1991), consider a larger sample of seventeen OECD countries and use a similar index of central bank independence, based on a number of measures, including the length of tenure of the central bank Governor and the frequency of contacts between the government and central bank officials. Their results, shown in Figures 3, also confirm that those countries with more independent central banks have tended to have lower and less volatile (not shown here) inflation rates in recent decades.

**FIGURE 3: Alesina and Summers (1990) Index of Central Bank Independence and Average Inflation (1957-90)**



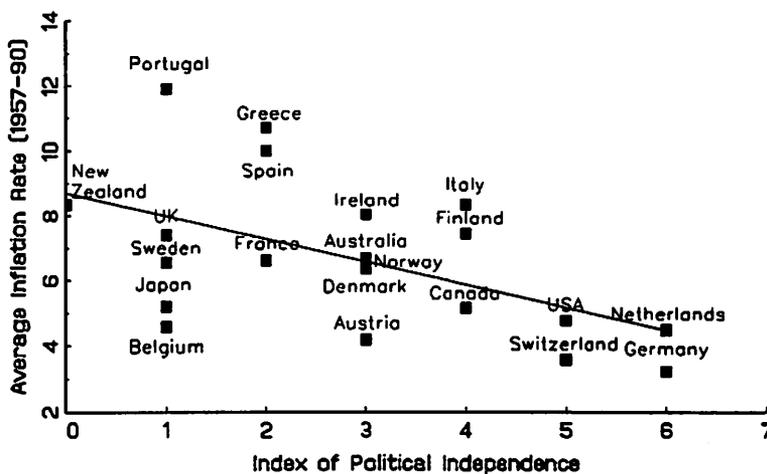
Grilli, Masciandaro and Tabellini (1991) recently proposed a much more comprehensive index of central bank independence, which is composed of fifteen statutory characteristics of central banks. The components of this index are displayed in Table 1, which also contains separate entries for the Scandinavian EFTA countries (own evaluations) and for the ECB (borrowed from Alesina and Grilli (1991)). In constructing this index the authors distinguish between the economic and the political determinants of central bank independence, and according to Figure 4 Germany, Switzerland, the Netherlands, and the United States, as well as Canada, Finland and Italy enjoy more political independence than the other central banks. Economic independence of central banks is seen to be high in Germany, Switzerland, the United States and Canada, and also in Australia, Austria and Belgium. Furthermore, Figure 4 shows that whilst political and economic independence are on average positively correlated (solid regression line), this correlation is widely dispersed and inverse for in some countries. Figure 5 further suggests that inflation tends to be lower the higher the degree of both political and economic independence of central banks.

**FIGURE 4: Grilli, Masciandaro and Tabellini (1991) Indices of Political and Economic Central Bank Independence**

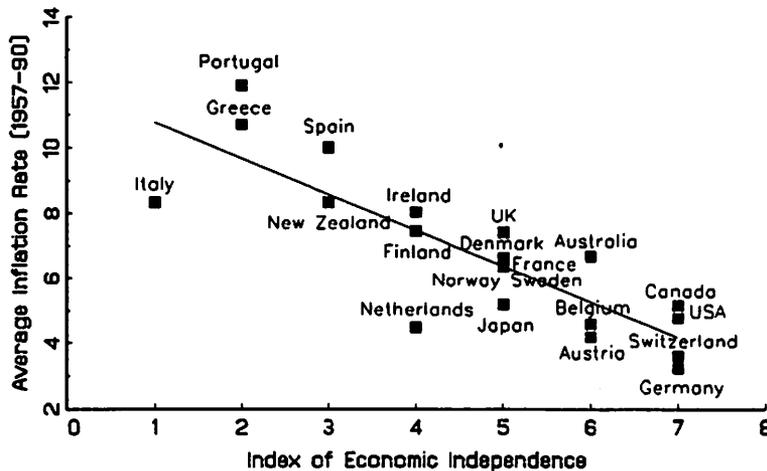


**FIGURE 5: Grilli, Masciandaro and Tabellini (1991) Indices of the Political and Economic Central Bank Independence and Average Inflation (1957-90)**

**(a) Political Independence**



**(b) Economic Independence**



By using regression analysis, Grilli, Masciandaro and Tabellini (1991) further establish that economic independence appears to contribute more to explaining the apparent cross-country differences in inflation than political independence, which except for the 1970s is insignificant in their regressions. The authors also do not find an EMS effect on inflation.

### 3. CENTRAL BANK INDEPENDENCE AND THE TRANSITION TO EMU

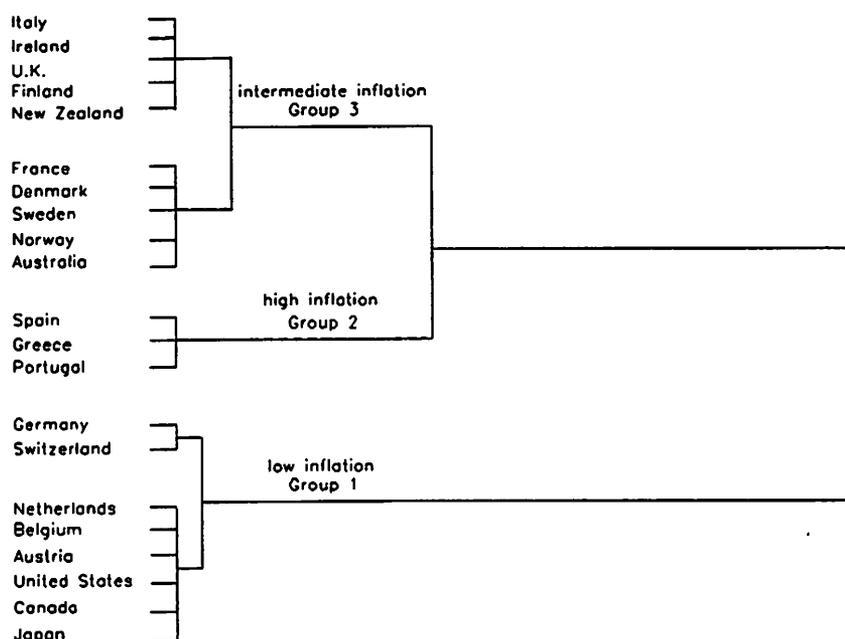
The key role of economic independence in the above political economy account of inflation has important implications for the gradual transition to EMU: in order to increase the independence of national central banks and to prevent the system from having an inflation bias, it may suffice to grant the ECB and the national central banks economic independence, say by prohibiting any operations involving government debt, and to endow them with the monetary policy instruments required to pursue their tasks. In order to check the robustness of this result and to identify those aspects of central bank independence which contribute most to explaining differences in inflation between European countries, it is instructive to use clustering and discriminant analysis.

In a first step the OECD countries are classified into distinctive inflation groups on the basis of the similarity of their average (1957-90) inflation performances (using Ward's (1963) agglomerative clustering method).<sup>5</sup> The resulting grouping is visualized in the form of a so-called *dendrogram* in Figure 6, which displays the stages at which two countries are merged into one inflation group (indicated by the vertical lines) against a normalized measure of the dissimilarity of the inflation performances between these two countries (proportional to length of the horizontal lines between the various clustering stages). Figure 6 clearly suggests that most of the dissimilarity in inflation performances is taken into account by forming three distinctive groups: the low-inflation group is comprised of eight countries, Germany, Switzerland, the Netherlands, Belgium, Austria, the United States, Canada and Japan, whereby average inflation performances have been even more similar between Germany and Switzerland than between these two countries and the remaining low-inflation countries. Greece, Spain and Portugal on the other hand form a relatively homogeneous high-inflation group, and the remaining ten OECD countries analyzed here fall into an intermediate inflation category, where again two relatively homogeneous sub-groups may be identified.

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<sup>5</sup> Using a measure of "Euclidean distance", given by the standardized squared average inflation differences (1957-1990), this hierarchical agglomerative clustering technique successively joins those countries with minimum distance into clusters until there remains just one cluster with all countries in it. For a more formal discussion of this procedure see Weber (1992).

**FIGURE 6 :OECD Average Inflation Clusters (1957-90)**



Using the above *optimal* grouping of countries into *three major inflation categories* it is now possible to analyse which institutional aspects of central bank independence contribute most to explaining both the similarity of inflation performances within each group as well as the dissimilarity between them. By considering only the EC countries and applying discriminant analysis (using Rao's (1973) step-wise method)<sup>6</sup> to the Grilli, Masciandaro and Tabellini (1991) data set of political and economic independence indicators, the results summarized in Table 2 can be derived.

A striking finding of Table 2 is that the dissimilarity between the three major inflation groups of EC countries can be almost totally explained in terms of major differences in economic independence factors (column 1). This strongly supports the finding of Grilli, Masciandaro and Tabellini (1991) and points towards the robustness of this result. An interesting aspect of the estimates of the canonical discriminant function from the EC sample is that it is now possible to allocate non-EC countries to the three inflation

<sup>6</sup> Discriminant analysis aims at identifying those linear combinations of variables (here zero-one institutional factors) which discriminate best between given groups of inflation countries. The step-wise procedure used here successively includes in the analysis those factors which contribute most to the discriminatory power of the estimated linear canonical discriminant function. This process of adding explanatory factors is thereby terminated as soon as the increase in discriminatory power becomes insignificant. For a more formal discussion of this procedure see Weber (1992).

categories by exclusively considering the constitutional features of their central banks. Due to their relatively high economic independence the ECB, and also Switzerland, the United States and Australia are predicted to fall into the low inflation category.

Another way of looking at the data is to ask in which constitutional aspects each of the EC inflation groups differs from the remaining EC countries (column 2 to 4). Interestingly, the central banks in countries from the low-inflation group (Germany, Belgium and the Netherlands) differ from those in the remaining EC countries largely in terms of political independence, which accounts for eighty percent of the explanatory power of the canonical discriminant function (column 2). On the basis of these primarily political factors the ECB, and also the central banks of Switzerland, Austria, the United States and Canada are predicted to fall into the low-inflation category. Both economic and political independence aspects contribute to explaining group membership in the intermediate-inflation group, with the latter dominating slightly (column 3). The reverse result holds for the high-inflation group (column 4). Finally, it is interesting to know which aspects of the Bundesbank's constitution, on which the ECB to a greater extent is modelled, differ most from the statutes of the remaining EC central banks. Discriminant analysis identifies two major factors (in column 5): direct credits to the government are at the discretion of the Bundesbank, and explicit conflicts between the Bundesbank and the Federal Government are possible.

The above results cast some doubt on the previous assertion that economic independence factors play the dominant role in explaining differences in the inflation bias of market economies. Whether or not central banks produce low inflation outcomes appears to be determined in the first instance by political independence factors, whilst lack of economic independence resulting from obligations to finance government debt appears to be highly correlated with an extensive use of seigniorage (inflation tax) revenues in the high-inflation countries. With respect to the transition to EMU these results seem to suggest that in order to bring down the high Southern European levels of inflation a strengthening of the economic independence of these central banks should have top priority, but to establish a truly counter-inflationary European system of central banks these more operational steps have to be followed by granting national central banks far more political independence from governments.

### 3.1. STRENGTHENING ECONOMIC INDEPENDENCE

Increasing the economic independence of central banks, both at the Community and national level, may be achieved rather quickly without laborious institutional reform. Article 21.1 of the ECB's draft statutes forbids the ECB to extend overdraft credit, not even on a temporary basis, to Community or national governments, or to purchase debt instruments directly from them in the primary market. Before the ECB enters operation in stage three, similar provisions aimed at fulfilling the same purpose may easily be added to national central bank laws. Table 3 suggests that the need for such provisions is most pressing in countries where the overdraft credits have to be made available to governments automatically with no term and free of interest, as is the case in France, Italy, Belgium, and Portugal<sup>7</sup> (column 1). Slightly less accommodative monetary policies are possible if governments are granted automatic access to these free-of-interest book credits up to a limited amount and on a short-term basis only, as is the case in the Netherlands, Denmark, Spain, and Greece. An even more restrictive clause is found in Germany, where it is at the discretion of the central bank to allow limited amounts of short-term book credit against interest (discount rate) charges. In Ireland, as in the ECB statutes, such book credits are explicitly prohibited, and this provision should be taken over by all EC central banks.

Purchasing government debt in the primary market is an alternative means of direct government financing, which is explicitly ruled out for the ECB, and also prohibited in the central bank statutes of Germany and France. In the remaining countries such a provision should be added to the central bank laws, despite the fact that the Netherlands, Belgium and Denmark have during the EMS period refrained from participating in the primary market without such a constitutional provision.

A third way in which the central bank can finance the treasury is indirectly through open market operations in the secondary market for government debt. Provisions about the use of this monetary policy instrument differ somewhat across Europe. Whilst by definition all open market operations are at the discretion of the central bank and occur at market rates, both terms and/or limits on the overall permitted amount of these operations are written into the statutes of the central banks in France, Germany, Greece and Portugal (column 3), but not in those of the remaining EC countries or the future ECB. Indeed, Article 21.3 explicitly allows the ECB to purchase debt instruments from

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<sup>7</sup> This evaluation disregards the most recent reform of the Portuguese central bank law and is based on the old statutes.

publicly-owned credit institutions, which in countries with a large nationalized banking industry means that the government is allowed to borrow indirectly from the ECB via the state-owned banks, as Fratianni, von Hagen and Waller (1992) point out. These authors also criticize that Article 18.1 allows the ECB to buy financial instruments from credit institutions and unspecified "other market participants", which may include public enterprises and nationalized corporations. This may grant governments unconditional indirect credit by allowing them to shift from tax-financing to debt-financing of these public sector institutions. The Bundesbank law is much stricter in this respect as it specifies exactly the type of operations, maximum amounts and terms of business with public sector institutions. Without such specific restrictions there is an undesirable potential for abuse of the ECB's credit market instruments, in particular if in stage three the national central banks -- like the provincial main offices of the Bundesbank (*Landeszentralbanken*) in Germany -- are charged with conducting business with governments and public administrations within their own area of operation. To safeguard the system against such an abuse, an exhaustive catalogue and more specific restrictions on transactions with Community and national governments, public administrations and state-owned enterprises should be added to the ECB draft statutes as well as national central bank laws.

Another important form of indirectly supporting the market acceptance of government debt titles is to allow private banks to use them in their refinancing operations through the discount window. Again provisions about the use of this monetary policy instrument differ across Europe. As pointed out in Grilli, Masciandaro and Tabellini (1991), all EC central banks except those of Italy and Ireland, have complete authority over the setting of the discount rate. Central banks in most countries are only allowed to discount government titles with a short term to maturity (1-4 month), whereas in Belgium and Denmark medium terms are also admitted, and in the Netherlands and Spain no restrictions on the terms exist (column 4). Furthermore, in most countries there is no explicit limit on the amount of discountable government papers, only in Greece and Portugal do such limits exist. Finally, in all EC countries the access of commercial banks to the discount window is automatic, whereas in Austria the central bank is given the right to refuse discounts without having to state the grounds for such action. The ECB's statutes follow the Bundesbank's statutes in this point by allowing only government papers with a short term to maturity to be discounted. Stricter provisions which grant the central bank the right to refuse discounts of government papers should be made. Terms and explicit upper limits (in per capita terms) on the total amount of government securities acquired by the ECB under all types of operations

involving public debt would further increase the economic independence of the ECB. To prevent monetary accommodation of deficits such provisions should be added to the draft statutes of the ECB and the constitutional laws of all national central banks.

The final aspect of economic independence of a central bank concerns its capital and the distribution of its profits. The ECB statutes specify that the national central banks would provide foreign exchange reserves (Article 30) and capital (Article 28) to the ECB. This capital transfer is problematic in the case of all not exclusively state-owned national central banks. Private central bank share holdings are allowed in Switzerland, Belgium (50%), Austria (50%) as well as Greece (90%), and state ownership of the central bank is even prohibited in Portugal and Italy. Since governments have to own the capital which is to be transferred to the ECB, they may have to partly (or fully) pay out private shareholders. This is likely to boost government debt in the high-debt EC countries Belgium, Italy, Greece and Portugal. Thus, instead of enhancing fiscal convergence, the transition to stage three of EMU may itself cause fiscal divergence.

Closely related to the issue of capital ownership of the central bank is the question of the distribution of central bank profits. Article 33 of the ECB Draft Statutes specifies that profits should be divided between some reserve accumulation (20%) and distribution to the ECB's capital holders, that is EC national central banks, which in turn distribute these profits between reserve accumulation, government transfers and dividends to their capital-owners. Part of the ECB's profit transfers will thus automatically accrue to the treasury and is likely to be anticipated in budget planning. This tends to raise government expenditure and will have inflationary consequences which are in conflict with the primary objective of maintaining price stability.

### **3.2. STRENGTHENING POLITICAL INDEPENDENCE**

The Grilli, Masciandaro and Tabellini (1991) indices of central bank independence discussed above suggest that fundamental institutional changes aiming at increasing the political independence of national central banks in Portugal, Greece, Spain, Belgium, the United Kingdom, France and to a lesser extent in Ireland and Denmark have to be made in order to reduce the potential danger of an inflationary bias of the future European monetary order. What then are the concrete steps that should be taken in the process of strengthening the political autonomy of national central banks? Table 1 grants the ECB the same political and economic independence score as the Bundesbank, on which it is modelled. In a political economy context this suggests that the envisaged institutional design of the ECB may to a large degree reduce the risks of an inflationary bias in stage

three of EMU. But what provisions should be made about national central banks, which, in order to be fit for stage three, are to gain independence in stage two of EMU? To be able to address these issues, a more detailed analysis of the constitutional features of European central banks is in order.

A key determinant of the political independence of central banks lies in the appointment schemes for board members which are summarized in Table 4 (columns 3 and 4).<sup>8</sup> The question of the ownership of the central bank plays a major role in this context: in purely state-owned central banks governments or parliaments typically appoint all the board members, whereas the *General Meeting of Shareholders* in Italy proposes all, in Belgium, Greece, Portugal the majority, and in Switzerland and Austria the minority of the board members. Such appointment schemes involving shareholders may enhance the independence of the central bank boards from governments, but this is likely to be swapped for a dependency of central board members on major shareholders. Such dependency is undesirable for three reasons: first, since a re-appointment of board members is explicitly allowed in the statutes of all not exclusively state-owned central banks (column 6), end game behaviour may result. Second, since in all cases dividends and parts of the annual central bank profits are distributed amongst shareholders (up to 50% in Greece) or added to the bank's reserves (Table 3, column 5) this may create incentives for board members to maximize central bank profits or the market value of its shares via seigniorage rather than achieving monetary stability. The incentive incompatibility of private central bank ownership and monetary stability is likely to be particularly strong in Italy, Belgium and Portugal, where central banks have no specific monetary stability objective in their statutes (see Table 5). Abstaining from seigniorage (inflation tax) maximization may thereby be even harder if central bank board members are allowed to participate directly in the central bank's profits by holding shares. Whilst this is prohibited in the statutes of the central banks of Switzerland, Austria and Portugal and Greece, it is not explicitly ruled out in the Belgian and Italian central bank laws.

Appointments schemes are, however, only one side of the political independence of central bank boards, since board members are also likely to be subject to political pressure if they can be freely dismissed by governments. With the exception of Germany and Denmark, provisions for such early dismissals of part of the Board are contained in the central bank statutes of most EC countries (column 7). Partisanship of board

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<sup>8</sup> Table 4 summarizes, modifies and extends Tables C1 and C2 from Grilli, Masciandaro and Tabellini (1991). The focus here is on the main decision board of the central bank, but in those cases where the executive board also has separate decision powers, the features of both boards are listed.

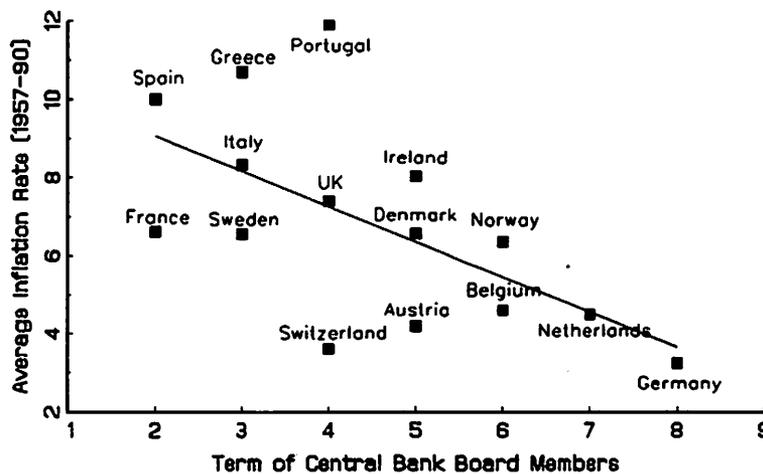
members is highly probable if the government is granted the unconditional right to dismiss the complete board, as in the Netherlands (column 7). Some protection against partisan behaviour is, however, granted if dismissals are limited to certain circumstances, such as ill health (UK), criminal prosecution (UK), or violation of duties (Greece, Spain), or combined with certain conditions, such as the requirement that the board has to agree (Ireland). In this context it is interesting to note that in all not fully state-owned EC central banks (Italy, Belgium, Portugal, Greece), the government typically can only dismiss those board members which it appointed, whilst the *General Meeting of Shareholders* has the right to deliberate over the dismissal of its appointees to the board. In all cases the latter group is in the majority. With respect to the ECB draft statutes, it has to be noted that they explicitly grant protection against early dismissal of all ECB Council Members, and that such a provision is unique amongst EC central banks. However, since this clause also extends to the Governors of national central banks in the ECB Council, the statutes of *all* EC national central banks will have to be changed in this respect during stage two of EMU.

A third important determinant of the political independence of central bank board members is their term of office (column 5). As Alesina (1988) notes, only long-term appointments can isolate monetary policy from short-run partisan or electoral pressure. The key point thereby is that such fixed term appointments are required to extend over a period exceeding the electoral cycle, which is shown in Alesina, Cohen and Roubini (1992) to range between four and five years in most EC countries. Appointment terms, however, range between two and eight years, and terms of more than 5 years are only granted to central bank board members in Germany, Belgium and the Netherlands. Some tentative evidence on the significant negative correlation between the term of office and inflation performances is provided in Figure 7.

As is postulated by all indices of central bank independence above, longer terms appear to coincide with low levels and low volatility (not shown) of inflation. It is an interesting fact that in the two most inflation averse EC countries, Germany and the Netherlands, both the Board and the Governor have identical terms of eight and seven years respectively, whilst in the remaining EC countries the terms of the Governors exceed those of the board: the appointments of central bank Governors have no time limit in France, Italy and Denmark, whilst the Governor in Ireland is granted seven, in Belgium, the United Kingdom and Portugal five, and in Spain and Greece four years in office. The proposed statute of the ECB demands an eight year term for the Governor and those ECB Board Members appointed by the European Council (Art. 11.2), and a *minimum* of five years for the national central bank Governors (Art. 14). In the light of

the above numbers this appears to be close to a minimalist solution, since only Spain and Greece would have to increase slightly the tenure of their Governors to meet this requirement,<sup>9</sup> whereas a uniform tenure of eight years for all board members would necessitate substantial increases in tenure in Spain, Greece, Portugal, the United Kingdom, and to a lesser extent in the Netherlands and Ireland. Only uniform ECB board terms, however, can ensure that board members are not subject to varying degrees of partisanship and should therefore be written into the ECB's Statutes.

**FIGURE 7: Terms of European Central Bank Boards and Average Inflation (1957-90)**



Fратиanni, von Hagen and Waller (1991) question whether the eight years term of the ECB Council is sufficiently long enough to insulate from political/partisan influences. They conclude that this is probably the case since it exceeds national electoral cycles by a safe margin, even though it may not hurt to extend the term to ten or more years. Neumann (1991) further notes that in addition to the term of office the appointment age may play a role in determining the degree of partisanship if it is possible to reappoint board members, which amongst OECD countries is prohibited only in the United States: partisan behaviour may arise if towards the end of their term board members start campaigning in political circles in order to increase their reappointment probability. Neumann (1991) suggests that a uniform retirement age combined with a variable, age-dependent contract length (of 15-25 years) may rule out such partisanship. The ECB Draft Statutes rule out the reappointment of members of the Executive Board, which are appointed by the European Council. A similar clause for the Governors of national

<sup>9</sup> See also Alesina and Grilli (1991) on this point.

central banks is missing, but such provisions would be highly desirable in order to rule out varying degrees of partisanship of ECB board members.

The possibility of "board packing" is another important issue raised by Fratianni, von Hagen and Waller (1991). Whilst the appointment schemes and federal structure of the ECB rule out "board packing" in the sense that not all the board members are appointed by the same individual or group, no provision for a gradual turnover of central bank board members exists. Waller (1989) shows that such a gradual turnover of boards greatly reduces private sector uncertainty about future policy actions. A complete turnover of central bank boards further implies the great danger that, in order to signal their toughness on inflation, newly appointed central bankers may initially pursue overly restrictive monetary policies, as Vickers (1986) points out. The obvious way to reduce these potential dangers of "board packing" is to write a rotation scheme for board members into the statutes. Such provisions are found in the central bank laws of all EC countries except Germany, Belgium and Spain. Typically an equal number of board members must retire every year (Italy, the Netherlands, Denmark, Ireland, Greece and Portugal) or every two years (France) so that by the end of a complete term the board is turned over once. As in the Bundesbank statutes, such a provision is missing in the current draft of the ECB statutes and should be added to enhance the continuity of future European monetary policies.

Another major determinant of central banks' political independence is the extent to which they are free from direct interference by governments in board decisions. A mandatory participation of government representatives in central bank board meetings is found in France, Belgium, Denmark, Ireland, and Greece (column 9), but government representatives are missing in the boards of Germany, the Netherlands (except in the Bank Council), Italy, the United Kingdom, Spain and Portugal (except in the General Council). This absence of government officials is, however, insufficient to establish that these boards are removed from government interference, since government approval of monetary policy is explicitly required in France, Italy, Belgium, the United Kingdom, Portugal and Spain. The central bank statutes of Italy, the Netherlands and Belgium furthermore grant the government the right to issue directives to the central bank in case of disputes. (see Grilli, Masciandaro and Tabellini (1991), Table C4). This effectively leaves Germany as the only country in which all three forms of direct government interference in monetary policy are absent, but even here the government is granted the right to temporarily defer (postpone for no more than two weeks) decisions which run counter to its interests. The draft statutes for the ECB explicitly allows only the passive, non-mandatory participation of a small number of EC officials in board meetings (Article

46.2). Moreover, as Alesina and Grilli (1991) stress, the ECB statutes do not require any approval of monetary policy, either by EC institutions, or by national governments. The ECB is also free from any form of government interference in case of disputes. Article 7 states that:

*"... neither the ECB nor a national central bank nor any member of their decision making bodies may seek or take any instructions from Community institutions, governments of member states or any other body. The Community and each Member State undertake to respect this principle and not to seek to influence the ECB, the national central banks and the members of their decision making bodies in the performance of their tasks."*  
(ECB Draft Statutes, emphasis added)

In view of the almost complete lack of political autonomy of some European national central banks it is highly unlikely that the provisions of Article 7 will be met simply by governments tying their own hands. To enforce Article 7 far-reaching constitutional reforms of national central bank laws are required and the agenda for effective institution building, which is currently limited to the ECB, has to be extended to national central banks.

#### 4. SUMMARY AND POLICY RECOMMENDATIONS

The paper discusses the Draft Statutes of the ECB and the constitutions of the individual European national central banks in terms of the independence they grant central bank board members from partisan influences, and makes a number of concrete suggestions for enhancing central bank independence during stage two of the gradual transition to EMU. It is argued that this requires constitutional reforms, since such independence is unlikely to be achieved simply by central banks tying their hands on inflationary finance and all forms of government interference in monetary policy.

The evidence on the link between central bank autonomy and inflation performances presented in the paper suggests that in order to bring down the high Southern European levels of inflation a strengthening of the economic independence of these central banks should have top priority. To ensure that the future European system of central banks is truly counter-inflationary, these more operational steps have to be supplemented by granting national central banks far-reaching political independence from governments. In this process the statutes of national central banks have to converge to the ECB standard, that is, no national central bank Board and Governor should be less independent than the corresponding ECB organs.

To strengthen the economic independence of national central banks a catalogue of minimal requirements has to be fulfilled. To start with, national central banks should be prohibited from granting direct credit, even on a temporary basis, to national governments. The need for such provisions is most pressing in countries like France, Italy, Belgium, and Portugal, where overdraft credits have to be made available to governments automatically and free of interest charges. The same applies for the Netherlands, Denmark, Spain, and Greece, where term for overdraft credits exist. The participation of the national central banks in the primary market for government debt should also be ruled out. These provisions already hold for the ECB, but should also be enforced at the national level. However, the current statutes allow the ECB and all national central banks to help finance the treasury indirectly, both through open market operations in the secondary market and supporting the market acceptance of government debt by allowing commercial banks to use it in their refinancing operations via discount window. In contrast to the Bundesbank, the ECB is also explicitly allowed to purchase debt instruments from publicly-owned credit institutions. To safeguard the ECB system against a potential abuse of monetary policy instruments for indirect government financing, it is necessary to formulate an exhaustive catalogue and more specific restrictions on transactions with Community and national governments, public administrations and state-owned enterprises. In this context an explicit upper limit on the total amount of government securities acquired by the ECB and its national central banks under all types of operations involving public debt would further increase its economic independence. These limits may be formulated as country-specific quotas in per-capita terms, and should involve a penalizing element related to the credit worthiness of national governments (measured, for example, by the ratio of national debt per capita relative to EC average). The above mentioned exhaustive catalogue of operations and the limits on public debt holdings should be added to the ECB Draft Statutes and all national central bank laws. Along the same lines the use of operating profits should not be allowed to be used for indirect government financing at national levels.

As for economic independence, a catalogue of minimum requirements for the political independence of national central banks must be formulated. The mandatory participation of government representatives in central bank board meetings should be ruled out in France, Belgium, Denmark, Ireland, and Greece. The need for government approval of monetary policy in France, Italy, Belgium, the United Kingdom, Portugal and Spain should be abolished, and governments in Italy, the Netherlands and Belgium should no longer be granted the explicit right to issue directives to the central bank in case of disputes. In order to eliminate the influence of non-democratically elected bodies, such as

the *General Meetings of Shareholders*, on monetary policy in Italy, Belgium, Greece and Spain, the national central bank Governor and all the Board Members in EC countries should in stages two and three of EMU be exclusively appointed by national governments, but at the same time freed from any form of government interference. To minimize partisanship only long-term appointments should be made and both early dismissals and re-appointments should be ruled out at the Community as well as the national level. The terms of all national central bank Governors should be prolonged to eight years in order to match the terms of the ECB Council Members appointed by the European Council. To enhance the continuity of ECB policies a semi-annual rotation scheme for ECB Council Members should be written into the ECB's statutes. This would turn the Board over completely once every nine years, and may be taken as an argument for a nine year term of all ECB Board Members. It is obvious that most of the above provisions demand far-reaching constitutional reforms of national central bank laws in all EC countries. The agenda for effective institution building, which is currently limited to the ECB, therefore has to be extended to national central banks.

The explicit formulation of minimum requirements with respect to the political and economic independence of EC central banks, which is advocated in the present paper, has the additional advantage that it defines a clear scenario for monetary reform in those EFTA countries (and at a later stage Eastern European countries) seeking full EC membership, as Austria and Sweden are currently doing: constitutional reform as a prerequisite for participation in stage three demands a much stronger commitment to EMU than simply negotiating to irrevocably fix the parity grid of bilateral EC exchange rates. It signals national government's determinedness to tie their hands on inflationary deficit financing, whether in a strictly national context or within the framework of the European system of central banks.

## REFERENCES

- Alesina, Alberto (1988): "Macroeconomics and Politics," *National Bureau for Economic Research Macroeconomic Annual*, MIT Press, Cambridge M.A., 1988.
- Alesina, Alberto (1989): "Politics and Business Cycles in Industrial Democracies," *Economic Policy*, 8 (April).
- Alesina, Alberto, Daniel Cohen and Nouriel Roubini (1992), "Macroeconomic Policy and Elections in OECD Democracies," Centre for Economic Policy Research Discussion Paper No. 608.
- Alesina, Alberto and Vittorio Grilli (1991), "The European Central Bank: Reshaping Monetary Politics in Europe," Centre for Economic Policy Research Discussion Paper No. 563.
- Alesina, Alberto and Lawrence Summers (1991), "Central Bank Independence and Economic Performance: Some Comparative Evidence," Harvard Institute of Economic Research Discussion Paper No 1496.
- Aufrecht, Hans (1963), *Central Bank Legislation: A Collection of Central Bank, Monetary and Banking Laws*, Volume I, International Monetary Fund Monograph Series, IMF, Washington D.C., 1963.
- Aufrecht, Hans (1967), *Central Bank Legislation: A Collection of Central Bank, Monetary and Banking Laws*, Volume II: Europe, International Monetary Fund Monograph Series, IMF, Washington D.C., 1967.
- Bade, Robin and Michael Parkin (1985), "Central Bank Laws and Monetary Policy - A Comparative Analysis", mimeo, University of Western Ontario.
- Begg, David, Pierre-André Chiappori, Francesco Giavazzi, Colin Mayer, Damien Neven, Luigi Spaventa, Xavier Vives and Charles Wyplosz (1991), *Monitoring European Integration: The Making of Monetary Union*, Centre for Economic Policy Special Report No. 10/91.
- Caesar, Rolf (1981), *Der Handlungsspielraum von Notenbanken: Theoretische Analyse und Internationaler Vergleich*, Nomos Verlagsgesellschaft, Baden-Baden, 1981.
- Committee of the Governors of the Central Banks of the Member States of the European Economic Community (1992), *Annual Report (July 1990 - December 1991)*, Basle, April 1992.
- Corsetti, Giancarlo and Nouriel Roubini (1991), "Tax Smoothing Discretion versus Balanced Budget Rules in the Presence of Politically Motivated Deficits: The Design of Optimal Fiscal Rules for Europe after 1992", in Giavazzi, Francesco and Francisco Torres, eds., *The Transition to Economic and Monetary Union in Europe*, Cambridge University Press, forthcoming.
- Fair, D. (1980), "Relationships between Central Banks and Governments in the Determination of Monetary Policy," SUERF Working Paper.
- Giovannini, Alberto and Luigi Spaventa (1991), "Fiscal Rules in the European Monetary Union: A No-Entry Clause," Centre for Economic Policy Research Discussion Paper No. 516.
- Grilli, Vittorio, Donato Masciandaro and Guido Tabellini (1991), "Political and Monetary Institutions and Public Finance Policies in the Industrial Countries," *Economic Policy*, 13 (October).

- Fratianni, Michele, Jürgen von Hagen and Christopher Waller (1992), "From EMS to EMU," Centre for Economic Policy Research Discussion Paper No. 618.
- Hahn, Oswald (1968a), *Die Währungsbanken der Welt, Band 1: Institutionen und Organe*, Poeschel Verlag, Stuttgart, 1968.
- Hahn, Oswald (1968b), *Die Währungsbanken der Welt, Band 2: Die Abhängigkeiten der Zentralbankleitung*, Poeschel Verlag, Stuttgart, 1968.
- Masciandaro, Donato and Guido Tabellini (1988), "Monetary Regimes and Fiscal Deficits: A Comparative Analysis" in Cheng, H.C., edit., *Monetary Policy in the Pacific Basin Countries*, Kluwer Academic Publishers, Dordrecht, 1988.
- Neumann, Manfred J.M. (1991), "Central Bank Independence as a Prerequisite of Price Stability," *European Economy Special Edition*, No. 1.
- Rao, C.R. (1973), *Lineare statistische Methoden und ihre Anwendung*, Berlin, 1973.
- Vickers, John (1986), "Signalling in a Model of Monetary Policy with Incomplete Information", *Oxford Economic Papers*, 38: 443-455.
- Waller, Christopher (1989), "Monetary Policy Games and Central Bank Politics," *Journal of Money, Credit and Banking*, 21: 422-431.
- Ward, J.H. (1963), "Hierarchical Grouping to Optimize an Objective Function" *Journal of the American Statistical Association*, 58: 236-244.
- Weber, Axel A. (1992), "On Two-Speed EMU and Whom to Leave Behind: Some Answers from Cluster and Discriminant Analysis", Mimeo.
- Wyplosz, Charles (1991), "Monetary Union and Fiscal Policy Discipline," *European Economy Special Edition*, No. 1.

**TABLE 1: The Grilli, Masciandaro and Tabellini (1991) Index of Central Bank Independence**

Country	A P 1	A P 2	A P 3	A P 4	R G 1	R G 2	C O 1	C O 2	P O L	D C 1	D C 2	D C 3	D C 4	D C 5	M I 1	M I 2	E C O	T O T
ECB	0	1	0	1	1	1	1	1	6	1	1	1	1	1	1	1	7	13
Germany	0	1	0	1	1	1	1	1	6	1	1	1	1	1	1	1	7	13
France	0	1	0	1	0	0	0	0	2	0	0	0	1	1	1	2	5	7
Italy	1	1	1	0	1	0	0	0	4	0	0	0	1	0	0	0	1	5
Netherlands	0	1	0	1	1	1	1	1	6	0	0	1	1	1	1	0	4	10
Belgium	0	0	0	1	0	0	0	0	1	0	1	0	1	1	1	2	6	7
Denmark	0	1	0	0	0	1	1	0	3	0	1	0	0	1	1	2	6	9
Ireland	0	1	0	0	0	1	1	0	3	0	1	1	1	0	1	0	4	7
UK	0	0	0	0	1	0	0	0	1	1	1	1	1	0	1	0	5	6
Greece	0	0	1	0	0	0	0	1	2	0	0	0	1	0	1	0	2	4
Spain	0	0	0	1	1	0	0	0	2	0	0	1	1	0	0	1	3	5
Portugal	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	2	3
Switzerland	0	1	0	0	1	1	1	1	5	0	1	1	1	1	1	2	7	12
Austria	0	0	0	0	0	1	1	1	3	0	0	1	1	1	1	2	6	9
Sweden	0	0	0	0	1	0	0	0	1	0	0	1	1	0	1	2	5	6
Norway	0	1	0	1	1	0	0	0	2	0	1	1	0	0	1	2	5	7
Finland	0	1	0	1	1	0	1	0	4	0	1	0	0	0	1	2	4	8
Iceland	0	0	0	0	1	0	1	1	3	0	0	1	0	0	0	0	1	4
USA	0	0	0	1	1	1	1	1	5	1	1	1	1	1	1	1	7	12
Canada	1	1	0	0	0	0	1	1	4	1	1	1	1	0	1	2	7	11
Japan	0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	1	5	6
Australia	0	1	0	0	0	0	1	1	3	1	1	1	1	1	1	0	6	9
N. Zealand	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3	3

*Sources of Table 1:* ECB from Alesina and Grilli (1991) Table A1 and A2, Germany to Austria and USA to New Zealand from Grilli, Masciandaro and Tabellini (1991), Tables 12 and 13; Sweden, Norway, Finland and Iceland composed from Aufrecht (1967), Hahn (1968a,b) and national legislation.

*Key to Table 1:* AP1 Governor *not* appointed by the government; AP2 Governor appointed for more than 5 years; AP3 *All the Board not* appointed by government; AP4 Board appointed for more than 5 years; RG1 No mandatory participation of government representative in the Board; RG2 No government approval of monetary policy is required; CO1 Statutory requirements that central bank pursues monetary stability amongst its goals; CO2 Legal provisions that strengthen the central banks position in conflicts with the government are present; POL index of political independence, sum of columns AP1 to CO2; DC1 Direct credit facility: not automatic; DC2 Direct credit facility: market interest rate; DC3 Direct credit facility: temporary; DC4 Direct credit facility: limited amount; DC5 Central bank does not participate in the primary market for public debt; MI1 Discount rate set by central bank; MI2 Banking supervision not (2) or not alone (1) entrusted to the central bank. ECO index of economic independence, sum of columns DC1 to MI2, TOT index of central bank independence, sum of POL and ECO.

**TABLE 2: Discriminating Between Groups of Inflation Countries on the Basis of Indicators of Political and Economic Central Bank Independence**

	(1)	(2)	(3)	(4)	(5)
AP1 Governor not by Government		26.7			
AP2 Governor's term min. 5 years	2.9	10.2	19.1	16.7	
AP3 Board not by Government		14.2			
AP4 Board's term min. 5 years		13.1	11.1		
RG1 Government not Board Member			14.7		
RG2 No Government approval				17.6	
CO1 Price stability objective					
CO2 Explicit conflicts possible		15.5	20.0	7.5	34.5
DC1 Direct credit: not automatic			22.2		39.1
DC2 Direct credit: market rate	15.8	8.5	13.0	17.0	
DC3 Direct credit: temporary	4.2				
DC4 Direct credit: limited amount	10.6				
DC5 No debt from primary market	30.3			21.2	
MI1 Decision over discount rate	12.9	12.0			
MI2 No banking supervision	23.2			20.2	26.5
<b>% between-group variance explained</b>	<b>98.2</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Classification of ECB	1	1	1	1	1
Classification of Switzerland	1	1	1	1	2
Classification of Austria	2	1	1	2	2
Classification of Sweden	3	2	1	2	2
Classification of Norway	3	2	1	1	2
Classification of Finland	3	2	1	1	2
Classification of United States	1	1	1	2	1
Classification of Canada	3	1	2	1	1
Classification of Japan	2	2	2	1	1
Classification of Australia	1	1	2	1	1
Classification of New Zealand	3	2	2	2	2

*Sources of Table 2:* Own calculations using software programme SPSS PC+, version 4.0. Data employed are the institutional data from Table 1 and average (1957-1990) consumer price inflation data, calculated from International Monetary Fund, *International Financial Statistics*, line 64, various issues.

*Key to Table 2:* The numbers displayed are the relative contributions of the significant arguments to the explanatory power of the estimated canonical discriminant function for the tests in columns (1) to (5). These tests aim at identifying for the sample of EC countries which constitutional variables discriminate best:

- (1) between all three groups of inflation countries;
- (2) the low-inflation countries and the remaining EC countries;
- (3) the intermediate-inflation countries and the remaining EC countries;
- (4) the high-inflation countries and the remaining EC countries;
- (5) Germany and the remaining EC countries;

**TABLE 3: Economic Independence and Selected Aspects of Government Financing by Central Banks**

Country	Direct book credits, overdrafts (1)	Direct credit via primary market (2)	Indirect credit via open market operations (3)	Indirect credit via discounting (4)	Use of central bank profits (5)
<b>EEC</b>	No, explicitly ruled out for the ECB and the national Central Banks discretion limited term (short) disc. rate automatic unlimited no term no rate	No, explicitly ruled out for the ECB and the national Central Banks No	no provision for the ECB, see below for national Central Banks discretion limited no term market rate <i>Fixed maturity:</i> discretion unlimited no term market rate <i>Others:</i> discretion limited term (3m) market rate	no provision for the ECB, see below for national Central Banks automatic limited term (3m) disc. rate automatic unlimited term (3m) disc. rate	some reserves, primarily capital repayment (to EEC Central Banks) reserves, residual to Governm. primarily reserves, some to Governm.
<b>Germany</b>					
<b>France</b>					
<b>Italy</b>	automatic limited no term no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited term (4m) disc. rate	reserves, dividends, residual to Governm.
<b>Netherlands</b>	automatic limited term (temp.) no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited no term disc. rate	some reserves, primarily Governm.
<b>Belgium</b>	automatic limited* no term* no rate* * Council decisions	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited term (short and medium) disc. rate	primarily reserves, some to dividends, Staff, and Governm.
<b>Denmark</b>	automatic limited term (1-6m) renewable no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited no terms disc. rate	some reserves, primarily Governm.
<b>Ireland</b>	No	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited term (12m) disc. rate	No provisions
<b>United Kingdom</b>	automatic limited term (short) no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	No provisions	No provisions

**Table 3 continued**

<b>Country</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
<b>Spain</b>	automatic limited term (12m) no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited no term disc. rate	reserves
<b>Greece</b>	automatic limited term (temp.) agreed rate	discretion limited term (6m) >disc. rate	discretion limited term (6m) >disc. rate	automatic limited term (3m) disc. rate	equally reserves and Governm.
<b>Portugal</b>	automatic limited no term no rate	discretion limited no term market rate	discretion limited no term market rate	automatic limited term (1m) disc. rate	some re-serves and dividents, primarily Governm.
<b>Switzerland</b>	No	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited term (3m) disc. rate	some re-serves and dividents, primarily Governm.
<b>Austria</b>	automatic limited term (12m) no rate	No	discretion exceptional term (3m) market rate	discretion exceptional term (3m) disc. rate	reserves
<b>Sweden</b>	No	discretion limited no term market rate	discretion limited term (12m) market rate	automatic unlimited term (6m) disc. rate	some re-serves, rest Par-liament
<b>Norway</b>	No	discretion unlimited no term market rate	discretion unlimited term (6m) market rate	automatic unlimited term (6m) disc. rate	reserves, dividents, and Governm.
<b>Finland</b>	<i>Statutes: to be specified seperately</i>	No	discretion limited no term market rate	automatic unlimited no term disc. rate	some re-serves, rest Par-liament
<b>Iceland</b>	discretion unlimited term (short) no rate	discretion unlimited no term market rate	discretion unlimited no term market rate	automatic unlimited no term disc. rate	some re-serves and dividents, primarily Governm.

*Sources:* Aufricht (1963, 1967), Hahn (1968a,b), Grilli, Masciandaro and Tabellini (1991), Committee of Governours of the Central Banks of the Member Countries of the European Economic Community (1992) and national legislation.

**TABLE 4 : Political Independence and Selected Aspects of European Central Bank Constitutions**

Country	Type of Central Bank Board (1)	Number of Board Members (2)	Appointing Institution (3)	Institution which proposes the Appointment (4)	Term of Office in years (5)	Reap- point- ment in possible (6)	Early Dis- missal possible (7)	Government Representatives in Board (8)	Honor- ary to Full Time Votes (9)	Q u o r u m (10)
EEC	Integrated Professional Board: ECB Board (includes Executive Board)	18	G: European Council 1 D: European Council 5 B: Member States Central Bank Govern- nours 12	G: European Council 1 D: European Council 5 B: Member States Central Bank Govern- nours 12	G,D: eight B: see Gs below, min. 5	G,D: No B: see Gs below	G,D: Yes, conditionally B: see Gs below	No	0:18	Y 12
Germany	Integrated Professional Board: Zentral- bankrat	21	G: Presid. 1 V: Presid. 1 D: Presid. 8 B: Presid. 11	G: Fed. Gov. V: Fed. Gov. D: Fed. Gov. B: 11 Länder Governments	G,V,D - eight	-	No	No	0:21	Y 14
France	Mixed Professional /Honorary Board: Conseil Général	13	G: Council of Ministers 1 V: Council of Ministers 2 B: Minister of Fin. 9 B: Bank's Staff 1	G: Council of Ministers 1 V: Council of Ministers 2 B: Minister of Fin. 9 B: Bank's Staff 1	G,V: no limit, B: two	Yes	G,V,D: Yes, conditionally (neclec t of duties)	Yes, 2 Auditors (supervisory right) Secretary of State for Finance)	9:3	Y 9
Italy	Mixed Professional /Honorary Board: Consiglio Superiore	14	G: Board 1 (Government approval) B: Regional Meetings of Sharehol- ders 13	G: Board 1 (Government approval) B: Regional Meetings of Sharehol- ders 13	G: no limit B: three	Yes	Yes, G: by Board only	No	13:0 G votes only in 7 a tie	Y
Nether- lands	Professional Board: Directie	5-7	G: Queen 1 V: Queen 1 D: Queen 3-5	G,V,D: Fin. Minister via Board of Commis- saries	G,V,D seven	Yes	Yes	Yes, Royal Commis- sioner (advisory right)	0:5-7	-
Belgium	Mixed Professional /Honorary Board: Conseil de Régence	14-17	G: King 1 V: King 1 D: King 2-5 B: General Meeting of Sharehol- ders 10	G,V,D: Council of Regency 4-7 B: Fin.Min.3 B: Banks 2 B: Labour Institut. 2 B: Industry 3	G: five V,D: six B: three	Yes	G,V,D: Yes by Govern- ment B: Yes by Share- holders	Yes, Govern- m. Commis- sioner (supervisory / suspen- sive rights)	10:4 10:7	Y 8-9
Denmark	Professional Board: Board of Directors	25	G: King 1 V: Board 2 D: Parliam. 8 B: Trade Minister 2 B: Board 15	G: King 1 V: Board 2 D: Parliam. 8 B: Trade Minister 2 B: Board 15	G,V: no limit D,B: five	G,V: - D,B: Yes	-	Yes, Royal Bank Commis- sionar (supervisory right)	0	Y 15

Table 4 continued

Country	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	10
Ireland	Mixed Professional/Honorary Board: Board of Directors	5-8	G: Presid. 1 D (Banking): Minister of Finance 3 D (Service and Others) Minister of Finance 2-5	G: Governm. Banks 3 D (Service and Others) Minister Finance 2-5	G: seven D: five	Yes	Yes, conditionally	Yes, Permanent Secretary of Finance	3:3 (min) 6:3 (max)	Y 4
United Kingdom	Mixed Professional/Honorary Board: Court of Directors	18	G: Queen 1 V: Queen 1 D: Queen 4 D: Queen 12	G, V, D: Governm. 18	G, V: five D: four	G, V: Yes D: Yes	Yes, conditionally	No, but Government may give directives	12:6	Y 9
Spain	Mixed Professional/Honorary Board: Consejo General	16-17	G: Council of Ministers 1 V: Council of Ministers 2-3 B: Government 5 B: Finance Minister 8 B: Finance Minister 1	G: Council of Ministers 1 V: Finance Minister 2-3 B: Finance Minister 5 B: Banking Sector 8 B: Bank's employees 1	G: four V: three B: two	-	G: Yes V: Yes, B: Yes	No, but Government approval of policy required	13:3 (min) 13:4 (max)	N
Greece	Mixed Professional/Honorary Board: Board of Directors	12	G: Council of Ministers 1 V: Council of Ministers 2 B: General Meeting of Shareholders 9	G: Board of Directors 1 G: Board of Directors 1 B: General Meeting of Shareholders 9	G, V: four V: three B: three	Yes	G, V, D: Yes, Yes, conditionally B: Yes, by Shareholders	Yes, Government Commissioner (suspensive right)	9:3	Y 6
Portugal	Mixed Professional/Honorary Board: Conselho de Administracao	11	G: Government 1 V: Government 2 B: Shareholders 8	G: Government 1 V: Government 2 B: Shareholders 8	G, V: five D: four	G, V: Yes D: Yes	G, V: Yes D: Yes by shareholders	No, but the Governor can suspend decisions counter the state's interests	7:4	Y 6
Switzerland	Professional Board: Bankrat	40	C: Government 1 V: Government 1 B: Government 23 B: Shareholders 15	C: Government 1 V: Government 1 B: Government 23 B: Shareholders 15	C: four V: four B: four	C: yes V: yes B: yes	C, V, B: Yes, conditionally	No	0:40	Y
Austria	Honorary Board: Generalrat	14	C: President 1 V: Government 2 D: Government 5 D: Shareholders 6	C: President 1 V: Government 2 D: Government 5 D: Shareholders 6	C: five V: five B: five	C: yes V: yes B: yes	C, V, D: Yes, Yes, - B: Yes	Yes, Government Commissioner (advisory/suspensive rights)	14:0	Y

Table 4 continued

Country	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	10
Sweden	Honorary Board: <i>Fulmäktige</i>	7	C: King 1 D: Parli- ment 6	C: King 1 D: Parli- ment 6	C,B: three	C,B: yes	C,B: yes	No	7:0	N
Norway	Professional Board: <i>Board of Directors</i>	5	C:King 1 V: King 1 D: Parlia- ment 3	C,V:Parlia- ment D: Parlia- ment 3	C,V: no limit D: six no	C,V: - D: -	C,V: Yes D: -	No	0:5	Y
Finland	2 Seperated Professional /Honarary Boards: <i>Managing Board/ Council of Supervisors</i>	2-5	C::Presi- dent 1 D: Presi- dent 1-4	C::Presi- dent 1 D: Presi- dent 1-4	C,D: no limit	C,D: - -	C,D: - -	No	0:2 (min) 0:5 (max)	N
Iceland	2 Seperated Professional Boards: <i>Board of Governours /Board of Directors</i>	3	C::Board of Governours B: Finance Minister 2 C,V: Finance Minister 2 D: Parliam. 3	C::Finance Minister 1 B: Finance Minister 2 C,V: Parlia- ment 2 D: Parliam. 3	C,B: no limit	C,B: - -	C,B: Yes Yes	No	0:3	Y
		5			C,V: four D: -	C,V: - D: -	C,V,B No	No	0:5	N

Sources: Aufricht (1963, 1967), Hahn (1968a,b), Fair (1980), Caesar (1981), Grilli, Masciandaro and Tabellini (1991), Committee of Governors of the Central Banks of the Member States of the European Economic Community (1992) and national legislation.

**TABLE 5: Statutory Central Bank Objectives**

<b>Country</b>	<b>Objectives Stated in the Statutes (Article No. in parenthesis)</b>
<b>EEC</b>	"...the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policy of the Community. ..." (Art. 2)
<b>Germany</b>	"... shall regulate the note and coin circulation and the supply of credit to the economy with the aim of safeguarding the currency. (Art. 3) ...shall be obliged insofar as it is consistent with its functions to support the general economic policy..." (Art. 12)
<b>France</b>	no specific objective in statutes
<b>Italy</b>	no specific objective in statutes
<b>Netherlands</b>	"... has as its task to regulate the value of the Netherlands currency in such a manner as shall be most conducive to the country's welfare, and in that connection to stabilize the said value as far as possible."(Art. 9.1)
<b>Belgium</b>	no specific objective in statutes
<b>Denmark</b>	"... shall have the objective ... of maintaining a safe and secure currency system in this country and facilitating and regulating the circulation of money and the extension of credit." (Sec. 1)
<b>Ireland</b>	"...safeguarding the integrity of the currency and ensuring that ... the constant and predominant aim shall be the welfare of the People as the whole (Sec. 6.1)
<b>U.K.</b>	no specific objective in statutes
<b>Spain</b>	no specific objective in statutes
<b>Greece</b>	"...the first duty of the Bank shall be to ensure that the gold value of its notes remain stable." (Art. 4)
<b>Portugal</b>	no specific objective in statutes
<b>Switzerland</b>	"... The primary task ... shall be to regulate the country's monetary circulation, to facilitate payments transactions and implement a credit and monetary policy serving the general interests of the country."(Art.2)
<b>Austria</b>	"... shall ensure with all the means at its disposal that the value of the Austrian currency is maintained with regard both to its domestic purchasing power and to its relationship with other stable foreign currencies." (Art. 3)
<b>Sweden</b>	no specific objective in statutes
<b>Norway</b>	no specific objective in statutes
<b>Finland</b>	"... The object ... is to maintain stability and security in the monetary system of Finland and to assist and facilitate the circulation of money in the country." (Art. 1) ... "The Board of management shall in all its dealings act in such a way as to maintain the legally established value of the currency of Finland." (Art.16)
<b>Iceland</b>	"... The purposes of the Central Bank are ... to issue bank notes and endeavor to keep the supply of money and credit appropriate for the maintenance of a stable price level and for the fullest and most rational utilization of the productive capacity of the country's industries." (Art. 3.1)

*Source:* Aufricht (1963, 1967), Hahn (1968a,b), Committee of Governours of the Central Banks of the Member States of the European Economic Community (1992) and national legislation.

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