Central Bank Independence in Twelve Industrial Countries*

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1. Introduction

Recently there has been worldwide interest in examining the scope for greater monetary policy autonomy for the central bank. At the EC-summit in Maastricht in December 1991 a Treaty on European Economic and Monetary Union (EMU) was agreed upon. According to this treaty, in the final stage of EMU – *i.e.* by 1997 or later – the European Central Bank is supposed to assume almost unlimited responsibility for monetary policy. Broadly speaking, according to Alesina and Grilli (1991), the accepted Statute[1] guarantees a central bank as independent from national and European political institutions as the Deutsche Bundesbank. Furthermore, in the Pacific Basin Countries the same tendency can be discerned. Since the end of 1989 governor Mieno strengthened the position of the Bank of Japan with respect to the Ministry of Finance, while New Zealand enacted legislation in February 1990 that increased the independence of its Reserve Bank. Finally, in Eastern Europe, Hungary, the Czech republic and Poland have been considering proposals concerning central bank independence.[2]

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[1] See Committee of Governors (1991).

[2] For an interesting survey of central banking in emerging market-oriented economies see Federal Reserve Bank of Kansas City (1990).

The theoretical rationale for central bank independence finds its origin in the ongoing 'Rules versus Discretion' debate. Authors like Barro and Gordon (1983) and Rogoff (1985) argue that governments and central banks are tempted to impart an inflationary bias to the economy thereby sacrificing long-term welfare to short-run political gains. The associated time-consistency problem can be overcome by legislative rules and by setting up politically independent central banks. Hence one would expect countries with independent central banks to have a lower sustainable rate of inflation.

Unlike the well-developed theoretical literature,[3] there are only a few studies that compare actual monetary regimes between a large number of countries.[4] The most comprehensive studies are Fair (1980), Bade and Parkin (1988), Alesina (1988, 1989), Alesina and Summers (1990) and Grilli, Masciandaro and Tabellini (1991). Focusing on more recent studies, it is striking that the conclusions of the latter are less clear-cut than the theoretical literature. For instance, contrary to Alesina and Summers, Bade and Parkin find no correlation between central bank independence and the variability of inflation. Next, unlike the prediction of the Barro-Gordon framework,[5] both Alesina and Summers and Grilli, Masciandaro and Tabellini find no association between central bank independence and (the variability of) real output growth.

A recent study by the International Monetary Fund (Swinburne and Castello-Branco, 1991), questions the reliability of these empirical conclusions. This is because nearly all of them are stated in terms of correlations between indices of central bank independence and macro-variables (output, inflation).[6] Therefore, these results – *e.g.* the well-known inverse relationship between independence and the level of inflation found by Alesina (1988, 1989) – are particularly sensitive to the numerical values of indices.[7] These values are dependent on *(i)* criteria used in the examination of central bank laws (statutes), *(ii)* the interpretation of the relevant statute as to whether a central bank meets this criterion, *i.e.* possesses a certain attribute, and *(iii)* the way these attributes are aggregated to a composite index of central bank independence.

[3] For a survey of the 'state of the art' see Cukierman (1993).

[4] Case studies are Eizenga (1987, 1990, 1991) and Eijffinger (1991, 1993).

[5] This framework is summarized in Persson and Tabellini (1990) and Alesina and Grilli (1991).

[6] Exceptions are Bade and Parkin (1988), pp. 21-23, and Schaling (1991).

[7] Since in the 1980s the establishment of the EMS made central banks more dependent on external constraints, for this period one would expect this relationship to be affected. We leave this as an item for further research.

Of course there is no non-arbitrary way of choosing criteria. Also the interpretation of the relevant statute is a delicate matter because one has to make a distinction between purely formal or legal issues, and more substantive issues regarding the conduct of monetary policy. Again, in making this distinction there is an unavoidable arbitrariness. For each economist when building an index of this kind is somewhat biased in favour of his/her own country, because the greater acquaintance with the case brings recognition of the greater freedom of behaviour acquired in current practice by the national central bank compared to the formal rule. Finally, as pointed out by Grilli, Masciandaro and Tabellini (1991, p. 31), there is no non-arbitrary way of aggregating these criteria or attributes to a composite index. Hence, there are unavoidable subjective elements in the construction of indices of central bank independence.

In order to view these elements in a broader perspective this paper compares the major indices of central bank independence as presented in Bade and Parkin (1988), Alesina (1988, 1989) and Grilli, Masciandaro and Tabellini (1991). Such a comparison does not yet exist in the literature. We focus on three aspects: *(a)* is the index based on the best possible interpretation of the central bank law within the context of monetary policy making?[8] *(b)* is the index consistent in using all relevant criteria in determining the independence of each central bank? *(c)* are the indices of the various authors different or not?

In order to answer the questions mentioned above, the paper is organized as follows. We analyse the competence of central banks on the base of central bank laws within the context of monetary policy making. Twelve industrial countries are examined: Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, the United Kingdom, the United States, Sweden and Switzerland. We describe the central bank laws of these countries focusing on three areas: *(i)* relationships between central banks and government in the formulation of monetary policy, *(ii)* procedures for appointing the board of the central bank, and *(iii)* formal responsibilities (objectives) of the central bank with respect to monetary policy. This description can be found in the Appendix. After a critical examination of the existing indices in Section 2, in Section 3 we construct our 'own' index of central bank independence. This index is used to reach a critical perspective of other indices. For instance,

[8] We focus on internal monetary policy, *i.e.* we take no account of the relations of governments and central banks in the conduct of exchange rate policy. We leave this for further research.

according to this index we qualify the Bank of Japan as less independent than Alesina (1988, 1989), while for the Nederlandsche Bank the reverse applies. Finally, our conclusions can be found in Section 4.

2. Indices of Central Bank Independence

2.1 *Bade and Parkin's Courageous Attempt*

A seminal paper concerning indices of central bank independence is Bade and Parkin (1988) (BP). The paper investigates the cross-country relationship between monetary policies and the laws which establish and delimit the powers of central banks. The study is empirical and deals with the experience of twelve industrial countries (Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands the United Kingdom, the United States, Sweden and Switzerland) during the floating exchange rate years 1972 to 1986.[9]

They describe the central bank laws of the twelve countries focusing on three features: *(i)* The relationship between central banks and government in the formulation of monetary policy, *(ii)* the procedures for appointing the board of the central bank, and *(iii)* the financial and budgetary relations between the central bank and the government.

On the basis of features *(i)* and *(ii)* BP classify the twelve central banks according to their degrees of policy independence. On the basis of feature *(iii)* they identify the degree of financial independence from government. In this paper we focus on features *(i)* and *(ii)*. BP's description of financial and budgetary relations is discussed in Eijffinger and Schaling (1992). BP conclude that central banks which are independent both in policy-making and in the appointment of directors deliver a lower rate of inflation than other central bank types.

On the basis of feature *(i)* the relationship between central banks and government in the formulation of monetary policy[10] and feature

[9] Bade and Parkin (1988, p. 18) point out that a commitment to a fixed exchange rate leaves monetary policy with the task of determining the stock of foreign reserves. Therefore, they think it pointless to look to the effects of central bank laws on monetary policy in a fixed exchange rate era. Empirical support for this view can be found in de Haan and Sturm (1992), p. 308.

[10] BP's results concerning both the relationship between the central bank and the government in monetary policy making and the procedures for appointing and removing central bank directors are extensively discussed in Eijffinger and Schaling (1992), pp. 18-20.

(ii) the procedures for appointing and removing central bank directors, BP construct their index of policy independence. The degree of policy independence is determined using three criteria:

1. Is the bank the final policy authority?
2. Is there no government official (with or without voting power) on the bank board?
3. Are more than half of the board appointments made independent of the government?

Since each criterion can be met or not, eight potential policy types can be distinguished. This is summarized in Table 1.

TABLE 1

CENTRAL BANK LAWS: POLICY TYPES

Bank is final policy authority 1	No government official on bank board 2	Some board appointments independent of government [1] 3	Potential bank type [2]	Central bank type does exist	Policy type
–	–	*	(a)	no	–
–	*	*	(b)	no	–
*	–	*	(c)	no	–
*	–	–	(d)	no	–
–	–	–	(e)	yes	1
–	*	–	(f)	yes	2
*	*	–	(g)	yes	3
*	*	*	(h)	yes	4

[1] Operationalized as proportion of members *not* appointed directly or indirectly by the government. ≥ 11/21.
[2] It should be noted that the letters have nothing to do with similar symbols used in other tables.

However, BP find that in all cases where the government is responsible for the formulation of monetary policy, it also appoints over 12/14 of the policy board. That is, there is no central bank which makes some board appointments independent of the government, although it is not in charge of monetary policy. Therefore, types *(a)* and *(b)* do not exist. Moreover, a central bank being itself in charge of monetary policy and also having a government official on its board (types *(c)* and *(d)*) does not exist.[11] Therefore, the potential policy types *(a)*-*(d)* do not occur in reality. This means that no actual

[11] Of course, in this case the presence of a government official without voting power on the policy board would not make much sense.

central bank corresponds to the first four configurations of institutional features.

So, only the bottom half of Table 1 is relevant for the construction of the BP index of policy independence. The overall degree of policy independence is determined by a combination of attributes 1-3. It should be noticed that there is no non-arbitrary way of aggregating them. However, from Table 1 it can be easily seen that BP choose the simplest one: they simply summed the attributes possessed by the central bank, meaning that each attribute is weighted equally. Thus, the four remaining (existing) central bank types are ranked from 1 (least independent) to 4 (most independent) depending on the number of asterisks. For instance, the least independent central bank (zero asterisks) is not in charge of monetary policy, has a government official on the board, and does not make any board appointments independent of government.

BP's ranking of the twelve central banks can be found in the first column of table 2.

BP now turn to an investigation of the relationship between central bank types and monetary policy. In their analysis of monetary

TABLE 2

AVERAGE INFLATION AND ITS VARIABILITY GROUPED ACCORDING TO CENTRAL BANK POLICY TYPE: FLEXIBLE EXCHANGE RATE PERIOD 1972-1986

		Inflation rate		Policy variability	
Country	Type	Percent	Rank	Standard deviation	Rank
Australia	1	9.9	(10)	3.2	(7)
Belgium	2	7.1	(6)	3.0	(5)
Canada		7.9	(7)	2.8	(3)
France		9.5	(9)	3.2	(7)
Italy		14.0	(12)	4.6	(10)
Netherlands		5.8	(3)	3.0	(5)
Sweden		8.9	(8)	2.5	(2)
United Kingdom		11.2	(11)	6.0	(11)
Japan	3	6.6	(4)	6.1	(12)
United States		6.9	(5)	3.5	(9)
Germany	4	4.3	(1)	2.0	(1)
Switzerland		4.4	(2)	2.8	(3)

policy they focus on two aspects its inflationary stance (level) and the variability (variance) of inflation. The inflationary stance is measured by the average rate of change of consumer prices (CPI).

Concerning policy variability, what is of interest is the variability of inflation as well as output and employment. However, BP point out that if they were to measure variability of policy by examining both nominal and real variability, inevitably conflicting rankings would result from cross-country differences in slopes of short-run trade-offs between output and inflation.[12] Regarding these trade-offs well outside the scope of their study, they examine only the variability of inflation.[13]

Furthermore, consider Table 2 which permits a direct examination of the relationship between policy independence and monetary policy. From Table 2 it appears that there is no association between any of the policy types and the measure of variability of policy presented.

Moreover, consider the association between categories of central bank independence and the inflation performance. From Table 1 it is clear that the first category (policy type 1) differs from the second only in the presence of a government official on the bank board. According to BP it is immediately apparent that there are no discernible differences in inflation rates between the first two groups. The third and fourth groups (Japan, United States, Germany and Switzerland) are the independent central banks. BP think it striking that the two most independent central banks, those of Germany and Switzerland, have delivered a lower inflation rate than the intermediate central banks of Japan and the United States. Also, BP point out that the mean inflation rate of the eight government dominated central banks (policy types 1 and 2) is in excess of ten percent; thus, although the U.S. and Japanese inflation rates are well within two

[12] For an examination of aggregate demand policy and exchange rate policy rules in a multi-country Phillips-curve framework see Taylor (1982).

[13] Even though interest rates are the proximate instruments of monetary policy, according to Bade and Parkin (1988, p. 19) there is no inherent inconsistency in using the variability of inflation as the appropriate measure of the variability of policy. Short-term intetest rates are typically manipulated with a view to achieving a particular behaviour for the growth rate of various monetary aggregates, and these aggregates are further regarded as appropriate intermediate targets in achieving predictable and less variable inflation. A diagrammatic presentation of this line of reasoning is given in Eijffinger and Gerards (1990), p. 13.

standard deviations of that mean, those of Switzerland and Germany are signficantly below the mean.

On the basis of these facts BP conclude that there is an association between the degree of central bank policy independence and the average rate of inflation. By and large, the more independent the central bank, the lower the inflation rate.[14]

2.2 *Alesina's Popularization*

Bade and Parkin's work has been integrated in the positive theory of economic policy[15] by Alesina (1988, 1989). Alesina uses the BP index of policy independence to illustrate the relationship between the degree of politico-institutional stability and economic performance. Alesina extends BP's sample of industrial countries to include New Zealand, Spain, Denmark, Norway and Finland, by using institutional information provided by Masciandaro and Tabellini (1988) and Fair (1980), respectively.

Alesina likewise concludes that there is an inverse relationship between the degree of independence of central banks and the average inflation rate (Alesina, 1988, p. 41).[16] Alesina's results can be summarized in Table 3.[17]

As can be easily seen from this Table, the numerical values of the 'Alesina index of central bank independence' are identical to those of the BP index of policy independence, except for the case of Italy. Alesina has the following argument for classifying Italy as 1.5 rather than 2, as in BP:

> "Bade and Parkin's classifications disregard institutional changes in the period considered. The Italian Central Bank obtained more

[14] This tentative conclusion is given formal content by estimating first order autoregressions for inflation (were all the coefficients on lagged inflation were restricted to be equal) with inclusion of a dummy variable for the German and Swiss central bank type, see Bade and Parkin (1988), pp. 21-23.

[15] Alesina supports the rational partisan theory, a theory that combines Hibbs' (1977) partisan theory with rational expectations macroeconomic theory.

[16] This research was also published in the Report by the European Commission "One market, one money". See Commission of the European Communities (1990), pp. 97-98.

[17] For ease of comparison we focus on the BP sample, skipping New Zealand, Spain, Denmark, Norway and Finland.

TABLE 3

INFLATION AND CENTRAL BANK INDEPENDENCE (1973-1986)

Country	Average inflation	Alesina index of central bank independence	Bade-Parkin index of central bank independence
Italy	13.7	1/2	2
UK	10.7	2	2
Australia	9.7	1	1
France	9.2	2	2
Sweden	8.7	2	2
Canada	7.8	2	2
Belgium	6.9	2	2
US	6.9	3	3
Japan	6.4	3	3
Netherlands	5.5	2	2
Switzerland	4.1	4	4
Germany	4.1	4	4

> economic independence in 1982 [...]. Given this change we classified Italy as 1.5 rather than 2, as in Bade-Parkin".[18]

Therefore, Alesina's argument contains two major elements:

1. Criticism of BP for their disregard of institutional changes;
2. the identification of institutional changes with changes in economic independence.

The first element of Alesina's criticism has implications for the way of aggregating the attributes which make up his index. We will return to this issue later.

The second element is based on Tabellini's (1988) account of the divorce ('divorzio') between the Treasury and the Italian Central Bank in 1981. After divorce the CICR[19] no longer obliged the Banca d'Italia to absorb all excess supply of short-term Treasury bills. This step decreased the scope for accommodating monetary policy by monetary financing of government deficits and increased the independence of Banca d'Italia.

[18] See Alesina (1988), p. 42. However, Tabellini (1988), p. 96 states this change to have taken place in the summer of 1981.

[19] See Section 2.

In the preceding sub-section we saw that the BP index of policy independence is determined by the total number of statutory attributes ('asterisks') concerning policy making and the appointment of directors (BP 1-3). If the Alesina index is an extension of the BP policy index, in the sense that it is 'richer' and more informative, it must follow that:

1. Alesina implicitly uses a fourth criterium, say A4:

Is the central bank not required to absorb excess supply of short-term Treasury bills?

2. The Alesina indicator of central bank independence is determined by a combination of BP attributes (1-3) and A4.

Having four BP policy types combined with criterion A4 yields $4 \times 2 = 8$ potential policy-economic types.

TABLE 4

ALESINA TYPES AND CENTRAL BANK LAWS

BP policy type	Criterion A4 met?	Potential central bank type	Central bank type does exist[a]	Alesina type[a]
1	*	(a)	no	–
3	*	(b)	no	–
4	*	(c)	no	–
1	–	(d)	yes	1
2	*	(e)	yes	1.5
2	–	(f)	yes	2
3	–	(g)	yes	3
4	–	(h)	yes	4

[a] See Table 3.

From this table it can be seen that, according to Alesina, only five central bank types can be discerned among the twelve industrial countries. These existing central bank types can be found in the bottom half of Table 4.

Again, there is no non-arbitrary way to aggregate attributes BP 1-3 and A4, *i.e.* to rank these types from least independent to most

independent. However, from Table 4 it can be easily seen that Alesina did not follow BP in summing the attributes possessed by the central bank. For if he had, Banca d'Italia would have been qualified as type 3 (upgrade) rather than type 1.5 (downgrade).[20]

Therefore, if the Alesina index is internally consistent, it can be considered asymmetrical in the sense that attributes are not weighted equally.

From Table 4, reflecting our assumption that criterion A4 was applied to all the twelve industrial countries, it follows that:

(1) All central banks, except Banca d'Italia, are forced to accommodate fiscal policy with monetary policy.[21]

(2) Notwithstanding the former the Banca d'Italia, being Alesina type 1.5, is less independent than the central banks of France, Sweden, Belgium, Canada, the Netherlands and the United Kingdom. All of them are of the type 2 category.

Since (1) is obviously counterfactual it follows that the Alesina (1988, 1989) synthetic indicator of central bank independence is internally inconsistent (*reductio ad absurdum*).

However, if the Alesina index is internally inconsistent, *i.e.* it is not the case that in determining the independence of each central bank all relevant criteria are used, the numerical values in Table 4 cannot be compared and therefore do not qualify as 'indices' of central bank independence.

2.3 *The Broad Index of Grilli, Masciandaro and Tabellini*

A recent index of central bank independence is that of Grilli, Masciandaro and Tabellini (1991) (GMT). They compare the monetary regimes of eighteen industrial countries (Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Portugal, Spain, Switzerland, the United Kingdom and the United States) during the post-war period (1950-1989) by focusing on political and economic indepen-

[20] Correspondence with Alesina did not clarify the weighting procedure of Alesina (1988, 1989).

[21] Note that this assertion follows from our (counterfactual) hypothesis that the Alesina index is internally consistent.

dence of the central bank.[22] Like BP and Alesina, they find that in countries with more politically independent central banks inflation is on average lower and less variable. On the other hand, GMT find no indication that the monetary regime matters for real economic performance.

According to GMT, political independence is the capacity to choose the final goal of monetary policy, such as inflation or the level of economic activity. The latter capacity is primarily determined by the following features:

(i) Relationships between central banks and government in the formulation of monetary policy;

(ii) procedures for appointing the board of the central bank;

(iii) formal responsibilities (policy goals) of the central bank with respect to monetary policy.

On the basis of features *(i)*-*(iii)* GMT construct their index of policy independence. The degree of policy independence is determined using eight criteria:[23]

1. Is the governor not appointed by the government?

2. Is the governor appointed for more than five years?

3. Are all board members not appointed by the government? (Compare with BP *3*: are some board appointments made independent of the government?)

4. Is the board appointed for more than five years?

5. Is there no mandatory participation of a government representative in the board? (Compare with BP *2*: is there no government official on the bank board?)

6. Is there no government approval of monetary policy required? (Compare with BP *1*: is the bank the final policy authority?)

7. Are there statutory requirements that the bank pursues monetary stability among its goals?

8. Are there legal provisions that strengthen the bank's position in case of conflicts with the government?

[22] According to Grilli, Masciandaro and Tabellini, economic independence is the capacity to choose the instruments of monetary policy. Their treatment of economic independence is extensively discussed in Eijffinger and Schaling (1992).

[23] To facilitate comparison corresponding BP criteria are given in italics.

The overall index of policy independence is determined by a combination of the attributes 1-8. Again, there is no non-arbitrary way of aggregating them. Like Bade and Parkin, GMT choose the simplest one: they simply summed the attributes possessed by the central bank. Thus, each attribute is weighted equally. The eighteen central banks are ranked from 1 (least independent) to 6 (most independent). GMT's results can be summarized in Table 5.[24]

TABLE 5

POLITICAL INDEPENDENCE OF CENTRAL BANKS

Country	Appointments				Relationship with Government		Constitution		Index of Political Independence
	1	2	3	4	5	6	7	8	9
Australia		*					*	*	3
Belgium				*					1
Canada	*	*					*	*	4
France		*		*					2
Germany		*		*	*	*	*	*	6
Italy	*	*	*		*				4
Japan							*		1
Netherlands		*		*	*	*	*	*	6
Switzerland		*			*	*	*	*	5
U.K.					*				1
U.S.				*	*	*	*	*	5
Sweden	–	–	–	–	–	–		–	–

Notes:
1 = Governor *not* appointed by government.
2 = Governor appointed for > 5 years.
3 = *All* the Board *not* appointed by government.
4 = Board appointed for > 5 years.
5 = No mandatory participation of government representative in the Board.
6 = No government approval of monetary policy formulation is required.
7 = Statutory requirements that central bank pursues monetary stability among its goals.
8 = Legal provisions that strengthened the central bank position in conflicts with the government are present.
9 = Overall index of political independence, constructed as the sum of the asterisks in each row.

From this Table it can be seen that the GMT policy index is richer, *i.e.* more informative, than the BP index of political independence. The GMT policy index is more informative because more

[24] Again, for ease of comparison we focus on the BP sample, skipping Austria, Denmark, Greece, Ireland, New Zealand, Portugal and Spain.

criteria are taken into account. BP use only three criteria, whilst GMT consider eight attributes. It can be easily seen that GMT criteria 5 and 6 are identical to BP criteria 2 and 1. One is tempted to make a similar inference concerning GMT criterion 3. However, concerning the appointment of directors GMT require all board members not to be appointed by the government, whilst BP require only ≥ 11/21[25] of board members not to be appointed by the government. Therefore, GMT's criterion 3 is more strict than BP's criterion 3.

2.4 *Grilli, Masciandaro and Tabellini versus Bade and Parkin*

In order to compare GMT's findings with these of BP, we restrict attention to attributes 3, 5, and 6 of GMT. Since aggregation procedures are identical, differences in numerical values of the BP and GMT indices are dependent on:

(a) differerences in the interpretation of the central bank laws with respect to GMT attributes 5 and 6 (or BP attributes 1 and 2);

(b) the difference between GMT attribute 3 and BP attribute 3.

We label differences *(a)* and *(b)* respectively interpretation effect and criterion effect. Thus numerical differences depend on both these effects. The total effect is decomposed in Table 6.

With respect to the interpretation effect, from Table 6 it can be seen that GMT and BP differ in their interpretations of the central bank laws of Canada, France, Belgium, Japan, and the Netherlands. Canada, France, and Belgium are downgraded (−1), because contrary to BP GMT believe a government representative to be present on the central bank boards. The Nederlandsche Bank is upgraded (+1), because unlike BP, GMT consider the central bank to be the final authority in policy making. The differences are most striking in the case of Japan. The Bank of Japan is severely downgraded (−2), because GMT believe that the government has an official on the bank board, while according to BP there is no official. GMT are also of the opinion that the government is the final authority in policy making, contradicting BP. We will return to these differences in Section 4.

[25] The threshold for meeting BP's criterion 3 is the composition of the Central Bank Council of the Bundesbank.

TABLE 6

GRILLI-MASCIANDARO-TABELLINI VS BADE-PARKIN

Country	GMT policy type[a]	BP policy type[b]	Interpretation effect[c]	Criterion effect[d]	Difference[e]
Australia	1	1			
Belgium	1	2	−1		−1
Canada	1	2	−1		−1
France	1	2	−1		−1
Germany	3	4		−1	−1
Italy	3	2		+1	+1
Japan	1	3	−2		−2
Netherlands	3	2	+1		+1
Switzerland	3	4		−1	−1
UK	2	2			
US	3	3			
Sweden	–	2			

[a] (Number of asterisks in columns 3, 5 and 6 of Table 5) + 1.
[b] See Table 2.
[c] (Number of asterisks in columns 5 and 6 of Table 5 + number of asterisks in column 3 of Table 1) + 1 − BP Policy Type.
[d] (Number of asterisks in columns 1 and 2 of Table 1 + number of asterisks in column 3 of Table 5) + 1 − BP Policy Type.
[e] c + d = total difference between GMT and BP.

With respect to the criterion effect, by using a stricter version of BP 3, GMT change the ranking of the Bundesbank, Banca d'Italia and the Schweizerische Nationalbank *vis-à-vis* BP. Both the Bundesbank and the Schweizerische Nationalbank are downgraded (−1), whilst Banca d'Italia is upgraded (+1). It should be noticed that because the BP type 4 banks (Germany and Switzerland) do not meet GMT criterion 3, they become intermediate banks. That is, in terms of political independence, they get the same status as the Federal Reserve (BP type 3). This is intuitively not very appealing. Neither is the fact that Banca d'Italia is the only central bank that meets GMT criterion 3. Therefore, we conclude that by introducing a very strict criterion concerning the appointment of directors, GMT severely bias the ranking of the central banks of Germany, Switzerland and Italy.

3. Towards a New Index of Policy Independence

3.1 *A New Index of Policy Independence*

Following GMT, we identify policy independence with the capacity of the central banks to choose the final goals of monetary policy. This capacity is primarily determined by the following features:

(i) The procedures for appointing the board of the central bank;

(ii) the relationship between central banks and government in the formulation of monetary policy;

(iii) formal responsibilities (policy goals) of the central bank with respect to monetary policy.

On the basis of features *(i)-(iii)* we construct our own index, which is called the Eijffinger-Schaling (ES) index of policy independence. The degree of policy independence is determined using three criteria:

1. Is the bank the sole final policy authority *(b)*, is this authority not entrusted to the central bank alone *(b/g)*, or is it entrusted completely to the government *(g)*?

2. Is there no government official (with or without voting power) on the bank board?

3. Are more than half of the board appointments made independent of the government?[26]

Now we can distinguish 3 × 2 × 2 = 12 potential policy types. This is summarized in Table 7.

The first four types are the BP potential types *(a)-(d)*. In Section 3 it was shown that these types do not exist. For sake of convenience we repeat the argument. A central bank being itself in charge of monetary policy and also having a government official on its board

[26] Following BP this criterion is operationalized as: proportion of members *not* appointed directly or indirectly by the government ≥ 11/21.

Table 7

EIJFFINGER-SCHALING POLICY TYPES

Bank is final policy authority 1	No government official on bank board 2	Some board appointments independent of government 3	Potential central bank type	Central bank type does exist	Policy type
–(g)	–	*	(a)	no	–
–(g)	*	*	(b)	no	–
**(b)	–	*	(c)	no	–
**(b)	–	–	(d)	no	–
*(b/g)	–	–	(e)	no	–
*(b/g)	*	*	(f)	no	–
*(b/g)	–	*	(g)	no	–
–(g)	–	–	(h)	yes	1
–(g)	*	–	(i)	yes	2
*(b/g)	*	–	(j)	yes	3
**(b)	*	–	(k)	yes	4
**(b)	*	*	(l)	yes	5

(types *(c)* and *(d)*) does not occur in reality. Besides, there is no central bank that in spite of its not being in charge of monetary policy, makes some board appointments independent of the government. Therefore, types *(a)* and *(b)* do not exist.

From our examination of central bank laws in the Appendix, it follows that this argument includes the 'twin-authority' central banks, *i.e.* the central banks which have some but incomplete policy authority *(b/g)*. That is, a 'twin-authority' central bank that has a government official on its board (type *e*) does not exist. Finally, there is no twin-authority bank that makes some board appointments independent of the government. Consequently potential types *(f)* and *(g)* do not exist either. So, only the bottom part of Table 7 is relevant for the ES index of policy independence. The overall degree of policy independence is determined by a combination of attributes ES 1-3.

Contrary to BP and GMT, we do not weigh each attribute equally. This becomes clear if we take a look at ES 1. If policy making is exclusively entrusted to the central bank a country gets two asterisks. If it is not exclusively entrusted to the central it gets one asterisk. Finally, if the government is the sole authority in policy making it gets zero asterisks. Therefore, regarding our first criterion the maximum amount of asterisks is higher (two) than that with respect to criteria ES 2 and 3 (one). This means that criterion 1 has a weight of 2/4, two times the weight of the other criteria (1/4). Hence, our index is asymmetrical in the sense that attributes are not weighted equally.

We have the following argument in favour of asymmetrical weighting. Like GMT, the ES index of policy independence is based on:

(i) The relationship between central banks and government in the formulation of monetary policy;

(ii) the procedures for appointing the board of the central bank;

(iii) formal responsibilities (policy goals) of the central bank with respect to monetary policy.

However, GMT separately assess features *(i)* and *(iii)*. For example, the following conclusions can be drawn considering the Reserve Bank of Australia. From Table 5 it follows that according to GMT the Reserve Bank Act of 1959 contains provisions that the central bank pursues monetary stability (GMT 7) among its goals. On the other hand, according to Table 5, the government is the final policy authority (GMT 3). Therefore, GMT assess the contents of the final goals of monetary policy (GMT 7) irrespective of the capacity to choose these goals (GMT 6). By their separate assessment GMT allow for a one for one trade-off between the capacity to pursue a monetary policy goal and the contents of such a goal. That is, restricting attention to GMT 6 and 7, a subservient central bank with provisions for monetary stability is as independent as an autonomous central bank without these provisions. Of course, this trade-off is a natural consequence of symmetrical weighting.

Like GMT, the ES index of policy independence is based on features *(i)*-*(iii)*. However, we want to avoid the mentioned trade-off phenomenon. Therefore, feature *(i)*, the final authority in policy making, is assessed in conjunction with feature *(iii)*, the policy goals of monetary policy. That is, the extent to which a central bank is regarded to be the sole policy authority (ES 1), also depends on the presence of statutory requirements concerning monetary stability. Hence, we think a double weight (2/4 vs 1/4) with respect to ES 1 can be justified.

3.2 *Comparison with the Literature*

The five remaining (existing) central bank types are ranked from 1 (least independent) to 5 (most independent) according to the number of asterisks. Our findings are summarized in Table 8. In order to facilitate comparison with the literature we include BP's results.

Table 8

EIJFFINGER-SCHALING VS BADE-PARKIN

Country	ES policy type[a]	BP policy type[b]	BP asymmetrical policy type[c]	Interpretation effect[d]	Criterion effect[e]	Difference ES-BP[f]
Australia	1	1	1	0	0	0
Belgium	3	2	2	+1	0	+1
Canada	1	2	2	−1	0	−1
France	2	2	2	0	0	0
Germany	5	4	5	0	+1	+1
Italy	2	2	2	0	0	0
Japan	3	3	4	−1	+1	0
Netherlands	4	2	2	+2	0	+2
Switzerland	5	4	5	0	+1	+1
UK	2	2	2	0	0	0
US	3	3	4	−1	+1	0
Sweden	2	2	2	0	0	0

[a] (Number of asterisks in columns 1, 2 and 3 of Table 7) + 1.
[b] See Table 2.
[c] BP Asymmetrical Policy Types; BP types if BP 1 has two times the weight of BP 2 and 3. (b = **.)
[d] ES -/- BPA.
[e] BPA. -/- BP.
[f] d + e.

Again, differences in numerical values are dependent on both interpretation and criterion effects. In order to isolate the criterion effect we construct 'BP Asymmetrical Policy Types' (BPA). The latter types result when BP outcomes are entered into our (asymmetrical) aggregation procedure. For instance, consider Japan. According to BP the bank is the final policy authority. In terms of our aggregation procedure this means two asterisks, rather than one. Therefore as a consequence of the higher relative weight attached to this criterion the Bank of Japan becomes BP (asymmetrical) type 4. Now the total difference between ES and BP can be decomposed according to the following formula:

$$\text{(1)} \qquad ES - BP = (ES - BPA) + (BPA - BP)$$

where the first term on the right hand side is the interpretation effect and the second term is the criterion effect. From Table 8 it follows that the interpretation effects (see column *(d)*) concern Belgium, Canada, Japan, The Netherlands and the United States.

The National Bank of Belgium is upgraded (+1), because we regard it a twin-authority *(b/g)* rather than a government dominated institution *(g)*. This is because the bank gained more independence by the reform of the money market and monetary instruments in January 1991 (see Section 1). The Bank of Canada is downgraded (–1) because, contrary to BP, we find a government official on the board, namely the Deputy Minister of Finance (without voting power).

The Bank of Japan is downgraded (–1) because unlike BP we consider it to be a twin-authority *(b/g)* rather than a bank dominated *(b)* institution. The Nederlandsche Bank is upgraded (+2), because we consider it independent in policy making *(b)* rather than dependent *(g)* as a consequence of the only formal right of the Minister of Finance to give directions to the Bank. Finally, the Federal Reserve System is downgraded because unlike BP *(b)*, we consider it a twin-authority institution *(b/g)*.

In Table 9 our findings are confronted with GMT's.

Also, the total difference between ES and GMT may be decomposed, taking the following formula:

$$\text{(2)} \qquad ES - GMT = (ES - BP) + (BP - GMT)$$

where the first term on the right hand side is decomposed in Table 9 and the second term is decomposed in Table 6.

4. Conclusions

The theoretical rationale for central bank independence finds its origin in the ongoing 'Rules versus Discretion Debate'. A recent kind of analysis employed in this longstanding debate is to assess central

TABLE 9

EIJFFINGER-SCHALING VS GRILLI-MASCIANDARO-TABELLINI

Country	ES policy type	GMT policy type[a]	ES-BP[b]	BP-GMT[c]	Difference ES-GMT[d]
Australia	1	1	0	0	0
Belgium	3	1	+1	+1	+2
Canada	1	1	–1	+1	0
France	2	1	0	+1	+1
Germany	5	3	+1	+1	+2
Italy	2	3	0	–1	–1
Japan	3	1	0	+2	+2
Netherlands	4	3	+2	–1	+1
Switzerland	5	3	+1	+1	+2
UK	2	2	0	0	0
US	3	3	0	0	0
Sweden	2	–	0	–	–

[a] See Table 6.
[b] See column (f) Table 8.
[c] See column (e) Table 6 (signs must be reversed).
[d] b + c.

bank independence by means of the tools of quantitative indices. Numerical values of these indices are dependent on *(i)* criteria used in the examination of central bank laws (statutes), *(ii)* the interpretation of the relevant statute as to whether a central bank meets this criterion, *i.e.* possesses a certain attribute, and *(iii)* the way these attributes are aggregated to a composite index of central bank independence. Since in principle features *(i)*-*(iii)* are arbitrary there are unavoidable subjective elements in the construction of indices of this kind.

In order to view these elements in a broader perspective we compare the major indices of central bank independence as presented in Bade and Parkin (1988) (BP), Alesina (1988, 1989) and Grilli, Masciandaro and Tabellini (1991) (GMT). Also we construct our 'own' index of central bank independence. This index is then used to reach a critical perspective of the mentioned indices and to re-assess central bank independence in twelve industrial countries.

Our findings regarding the existing indices can be summarized as follows. Alesina (1988, 1989) made some serious mistakes in updating Bade and Parkin (1988). Hence, the Alesina revision of the position of the Banca d'Italia implies counterfactual statements concerning *e.g.* monetary accommodation of government deficits. Therefore, the Alesina revision is *ad hoc* and his index inconsistent. Furthermore, GMT and BP differ in their interpretations of the central bank laws of Canada, France, Belgium, Japan, and the Netherlands. These differences refer to both the presence of government officials on the bank board, and the final authority in policy making. Also, by using a very strict criterion with respect to the appointment of directors GMT change the ranking of the Bundesbank, Banca d'Italia and the Schweizerische Nationalbank *vis-à-vis* that by BP.

Finally, in re-assessing central bank independence in twelve industrial countries we qualify Banca d'Italia as less independent than GMT, while for the Nationale Bank van België, the Banque de France, the Bundesbank, the Bank of Japan, the Nederlandsche Bank and the Schweizerische Nationalbank the reverse applies.

APPENDIX
CENTRAL BANK LAWS IN TWELVE INDUSTRIAL COUNTRIES

This appendix contains the source material behind Section 3.1 (including Tables 7 and 8). It provides information on the final authority in monetary policy-making, on the presence of government officials on the bank board, on the number of board members not appointed by the government, and on the presence of statutory requirements concerning monetary stability.

A.1 *Sweden*

Established in 1668, the Sveriges Riksbank is the oldest central bank in the world. Although this central bank is legally independent of the government, it is not in practice. The legal base for the policy making by the Riksbank is the Sveriges Riksbank Act ('Lag för Sveriges Riksbank') of 1934.[1] The Act provides no specific objectives for the central bank, like in other countries.

In practice, monetary policy is a part of the economic policy by the government and fits into this "... to quite the same degree as where this obligation has been given a legal basis".[2]

According to Article 1 of the Act, the Riksbank is directly subordinated to the Riksdag (parliament) and formally independent. Furthermore, Article 32 states the following: "The Directors may not receive instructions with regard to the administration of the Riksbank from anyone except the Riksdag and its Banking Committee in cases in which that Committee is competent to give instructions on behalf of the Riksdag...".[3]

In addition to this Act, the Riksdag approved special regulations, such as the Credit Policy Instruments Act of 1974, in which "... a government authorization is required before the Riksbank may exercise its powers".[4] Thus, the policy making by the Riksbank is influenced considerably by the government through these special regulations, in particular by the Ministry of Finance and Economics.[5]

The Board of Directors ('Bankofullmäktige') of the Riksbank has eight members, of which seven are appointed by the Riksdag for a period of three years.[6] These Directors appoint a Governor, who plays only a representative

[1] See: Aufricht (1967), pp. 663-671. The last revision of this Act was made in 1988.
[2] From: Skanland (1984), p. 16.
[3] Aufricht (1967), pp. 668-669.
[4] In: Sveriges Riksbank (1990a).
[5] See: Fair (1979), p. 40.
[6] See: Sveriges Riksbank (1990b), p. 5.

role, for a period of five years and elect among themselves a Chairman on recommendation of the government. The Board takes decisions by a majority with a decisive vote of the Chairman. However, until 1976 and in 1982 Social-Democratic governments used to appoint the Chairman, mostly a former (Deputy) Minister of Finance or Economics.

A.2 *United Kingdom*

The Bank of England, established in 1694, was nationalized by the Bank of England Act of 1946.[7] This Act provides only information on the appointment of the Court of Directors and the right to give instructions to the Bank of England. According to Article 4 (1): "The Treasury may from time to time give such directions to the Bank as, after consultation with the Governor of the Bank, they think necessary in the public interest".

At the introduction of the Act it was stressed that this right to give directions was not meant to lead to "... any day-to-day interference by the Government or the Treasury with the ordinary work of the Bank".[8] The right was to be used merely in "exceptional and unusual cases", which has never occurred until now.

It was the Banking Act of 1979 (revised in 1987) that formulated the responsibilities of the central bank. The first task of the Bank of England is the (prudential) supervision of the banking system. "Other activities of the Bank governed by statute include its note-issuing powers, its management of the Exchange Equalisation Account on behalf of the Treasury, and its duties as banker to the Government and as Government's agent in managing the National Debt".[9] Nevertheless, monetary policy is regarded as a component of economic policy and therefore conducted by the government with the central bank as its major adviser. As stated in a memorandum by the Bank: "Economic policy is the responsibility of the Government and is determined by Ministers. Policy decisions are, however, the end product of the assimilation and discussion of studies, forecasts, advice and proposals available to Ministers from a wide range of sources, in which processes the Bank of England has a role to play which can be distinguished from that of Government departments".[10]

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[7] See: Aufricht (1967), pp. 185-192.

[8] From: Eizenga (1991), p. 4. Eizenga (1991) distinguishes three differences between the right to give instructions in the United Kingdom and that prevailing in the Netherlands.

[9] See: Cairncross (1988), p. 68.

[10] Memorandum by the Bank of England (1980), pp. 177-180 (in particular paragraph 14).

The Bank of England is managed by the Court of Directors, which is made up of the Governor, the Deputy Governor and sixteen Directors.[11] All members are appointed by the Crown on the recommendation of the Prime Minister. The term of office for the Governor and the Deputy Governor is fixed at five years and for the Directors at four years. Four of these Directors are full-time Executive Directors, the other twelve being part-time External Directors who represent various sectors of society: the business sector, the banking system, the insurance industry and the trade unions. The last may be asked to make recommendations. The Governor is chairman of the Court of Directors, heads the day-to-day operations by the Bank and plays the most important role in formulating advice or proposals to the government.[12]

A.3 *France*

Established in 1803, the Banque de France was nationalized under the Law of December 2, 1945, which "... had been decided and passed in the perspective of a greater subordination of the Banque de France to the State ...".[13] After discussions between its Governor and the Minister of Finance regarding central bank independence,[14] as a compromise the Statutes of the Banque de France ('Les Statuts de la Banque de France') of January 3, 1973 were introduced. These Statutes define in rather general terms the policy goals of the central bank and its relationship with the government.[15] According to Article 1 of the Statutes: "The Banque de France is the institution which, in the framework of the economic and financial policy of the nation, receives from the State the general mission of watching over the currency and credit". Thus, the government determines the economic and financial policy to which the monetary policy has been subordinated. Further, Article 4 states that "... it contributes to the preparation and participates in the implementation of the monetary policy that has been decided by the Government and with the assistance, within the framework of its competence, of the Conseil National du Crédit ...". Although the central bank is legally always subject to directions from the government, its Governor implements the monetary policy in practice in consultation with the Minister of Finance.[16] Founded in 1945 as an institution to broaden the political and social base for monetary policy, the Conseil National du Crédit with its 51 members, chaired by the Minister of Finance, advises the Governor (who is his vice-chairman), but is not directly involved in the monetary policy making.

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[11] According to Article 2 (1) of the Bank of England Act of 1946.

[12] See: Fair (1979), p. 41 and Eizenga (1991), pp. 6-7.

[13] Translated from: Koch (1983), p. 371. The Law of December 2, 1945 is given by: Aufricht (1967), pp. 199-210.

[14] See: Bouvier (1988), pp. 96-97.

[15] In: Banque de France (1986), pp. 149-157.

[16] See: Eizenga (1990), pp. 2, 12; Eijffinger (1991), pp. 3-4.

The Banque de France is headed by the Governor, who is supported by two Deputy Governors. Both the Governor and the Deputy Governors are appointed by the President of the Republic after consultation with the Cabinet for an indefinite period, which makes their position rather vulnerable. In practice, the term of office is limited to 5-7 years.[17] In France the Governor has a strong personal responsibility in conducting the management, which may be viewed as a factor that increases his flexibility in negotiations.[18] The Governor is also chairman of the Conseil Général consisting of twelve other members, among them the Deputy Governors. One member is elected by the staff of the Banque and the remaining nine are appointed by the Cabinet on the nomination of the Minister of Finance, representing the economic and financial sectors of society. The Minister also appoints two government auditors with the power to object to decisions by the Conseil Général.[19] The Conseil Général supervises all activities of the Banque and must approve afterwards its administration, and agreements and treaties with other authorities.

A.4 *The Netherlands*

The Nederlandsche Bank was established in 1814 and only nationalized in 1948. The statutory task of the Dutch central bank regarding monetary policy is embedded in the Bank Act ('Bankwet') of 1948.[20] Article 9 (1) of this Act states that "The Bank shall have as its duty to regulate the value of the Dutch currency in such a way as will be most conductive to the nation's prosperity and welfare, and in doing so seek to keep the value as stable as possible". Further, Article 9 (3) of the Act reads: "It shall supervise the credit system in pursuance of the Act on the Supervision of the Credit System". The latter Act gives the Bank the power to implement rules to be followed by credit institutions in their lending. Thereby, the policy goal of the Nederlandsche Bank is to stabilize the internal and external value of the currency, *i.e.* price level and exchange rate, but not as a sole and independent objective.[21]

The Bank Act also provides for a procedure, if a conflict should arise between the government and the Bank with respect to monetary policy. According to Article 26 (1) of this Act: "In cases, that Our minister [of Finance] may consider it necessary for the purpose of coordinating monetary and financial policy of the Government and the policy of the Bank, he may give,

[17] From: Skanland (1984), p. 13.

[18] On the contrary, a collective responsibility of the management team implies that the representative is bound by the consensus within the team. See: Eizenga (1990), p. 3.

[19] See: Fair (1979), p. 39 and Eizenga (1990), pp. 4-5.

[20] This Act is given in: *Wetten Binnenlands Geldwezen* (1979), pp. 5-27. See also: Eizenga (1983), p. 10.

[21] See: Eijffinger (1986), pp. 8-9 and Eizenga (1987), p. 12.

after consultation with the Bank Council, the necessary directions to the Governing Board to attain that objective". Although the Minister of Finance legally has the right to give directions to the central bank, the application of this right is always considered by both authorities as an ultimate remedy ('ultimum remedium') because of the very complicated procedure to solve the conflict.[22] Article 26 reflects the democratic principle that the Minister of Finance is responsible for central bank policy to the parliament. Ultimately, it is to the parliament to assess whether the policy pursued by the Bank must be deemed "conductive to the nation's prosperity and welfare". The Minister of Finance has never exercised the right to give directions until now. He and the Governing Board of the Bank are compelled to reach agreement with each other and, thus, the independence of the Bank is sufficiently guaranteed by Article 26.[23]

The Nederlandsche Bank is managed by the Governing Board ('Directie') being composed of the President, the Secretary and presently three Executive Directors.[24] They are nominated by a joint meeting of the Governing Board and Supervisory Board ('Raad van Commissarissen') and appointed by the Crown on the proposal of the Cabinet for a fixed period of seven years. In practice, these nominations were always accepted by the Crown.[25] The Supervisory Board consisting of twelve members, appointed by the Minister of Finance, supervises the Governing Board. Finally, the Bank Council ('Bankraad') of seventeen members is chaired by the Royal Commissioner ('Koninklijk Commissaris') and may seek information from the Bank and offer independent advice to the Minister of Finance.

A.5 *Belgium*

Established in 1850, the National Bank of Belgium ('Nationale Bank van België') is owned half by the state and half by the public.[26] The legal base for the functioning of the Belgian central bank are the Organic Law ('Organieke Wet') and the Statutes of 1939, which provide no specific objectives for the Bank.[27] Article 29 of the Organic Law states the following: "The Minister of

[22] This procedure is extensively discussed by: A.M. de Jong (1960).

[23] From: Eizenga (1987), pp. 13-14.

[24] Article 22 of the Bank Act provides the possibility to appoint at most five Executive Directors. The Governing Board has a collective responsibility for the Bank's management.

[25] See also Eizenga (1987), p. 14.

[26] The latter half is held by various authorities and, thus, under indirect control of the government.

[27] The Organic Law and Statutes are revised on January 2 and 23, 1991. See: *Belgisch Staatsblad*, January 25 and 29, 1991.

Finance shall have the right to supervise all the operations of the Bank. He may object to the execution of any measure which would be contrary to the Law, the Statutes or the interests of the State. This supervision shall be entrusted to a Government Commissioner". According to Article 30 of this Law: "The Government Commissioner is appointed by the Crown. He shall supervise all the operations of the Bank. He may suspend and report to the Minister of Finance every decision that would be contrary to the Laws, the Statutes or the interests of the State".[28] Therefore, the National Bank of Belgium cannot be considered as formally independent of the government.[29] The Bank is forbidden to pursue targets conflicting with the general objectives of the government. Nevertheless, the relationship between the central bank and government has changed, in favour of more independence, by the reform of the money market and monetary policy instruments which started on January 29, 1991. The reform was intended to improve the access to the market for Treasury bills, to introduce a regime of primary dealers and to innovate and extend the monetary policy instruments. As a consequence of this reform, the responsibility of the central bank for monetary policy was more clearly defined and its touch with financial markets on behalf of policy making improved.[30]

The Board of Directors ('Bestuurscomité') of the National Bank of Belgium is made up of the Governor and three to six Directors, one of which acts as Deputy Governor. The Governor and Directors are appointed by the Crown for a fixed period of five and six years respectively. The Board of Directors is chaired by the Governor and collectively responsible for the management of the Bank and the formulation of monetary policy. It may change the discount rate and the rate for advances in a case of emergency, but must report to the Council of Regency ('Regentenraad'). The Council of Regency determines, however, the policy goals of the Bank and deals with general questions concerning the Bank, the currency, credits and the economic development.[31] The Council of Regency consists of the Board of Directors and ten Regents elected by the General Meeting of Shareholders for a period of three years, representing the Minister of Finance (3), financial institutions (2), trade unions (2) and organisations of industry, commerce and agriculture (3). The Governor is chairman and has a decisive vote.

[28] This Commissioner is mostly the highest Ministry of Finance official.

[29] However, Fair (1979) is of the opinion that "... in practice the National Bank is largely independent" (p. 37).

[30] See: Belgische Vereniging van Banken (1991), p. 25.

[31] According to Articles 63 and 64 of the Statutes of 1939.

A.6 *Germany*

The legal predecessors of the Deutsche Bundesbank were the Reichsbank, established in 1876, and the Bank Deutscher Länder, founded together with the introduction of the Deutsche Mark by the currency reform of 1948. The Deutsche Bundesbank was established by the Deutsche Bundesbank Act ('Gesetz über die Deutsche Bundesbank') of 1957.[32] Its main policy goals are provided for in Article 3 of this Act: "The Deutsche Bundesbank shall regulate the amount of money in circulation and of credit supplied to the economy, using the monetary powers conferred on it by this Act, with the aim of safeguarding the currency, and shall arrange for the handling by banks of domestic and external payments". Article 3 clearly reflects the special responsibility of the central bank for maintaining the internal and external value of the currency, *i.e.* price level and exchange rate.[33] The relationship between the Bundesbank and the federal government is embedded in Article 12 of the Act reading: "Without prejudice to the performance of its functions, the Deutsche Bundesbank shall be required to support the general economic policy of the Federal Government. In exercising the powers conferred on it by this Act it shall be independent of instructions from the Federal Government". Thus, Article 12 guarantees the independence of the central bank regarding monetary policy making. It should be noticed that the Act does not cover any procedures in case of a major conflict between the Bundesbank and the federal government. Nevertheless, Article 13 of the Act provides for certain procedures for the coordination of monetary and economic policy and for consultation between central bank and government as independent bodies. According to Article 13 (2, 3) members of government may attend meetings of the Central Bank Council, without voting right, and the President of the Bank those of the government on invitation.[34]

The Central Bank Council ('Zentralbankrat') of the Deutsche Bundesbank is made up of the Directorate ('Direktorium') and the Presidents of the Landeszentralbanken (main offices). The Council determines monetary policy under chairmanship of the President or Deputy President of the Bundesbank and meets every two weeks.[35] The Directorate, consisting of the President, Deputy President and at the maximum eight (now four) other members, implements the decisions taken by the Central Bank Council. The at most ten members of the Directorate are appointed by the President of the Federal Republic on the nomination of the Federal Government, while the eleven

[32] See: Deutsche Bundesbank (1987), pp. 105-130.

[33] For an interpretation: Eizenga (1987), pp. 2-12 and Eijffinger (1991), pp. 3-5.

[34] In practice, these members only attend Central Bank Council meetings with important issues. See: Skanland (1984), p. 18.

[35] The Central Bank Council has a collective responsibility.

Presidents of the Landeszentralbanken are appointed by him on the nomination of the Bundesrat based on a proposal by the Government of the Land concerned, all after consultation of the Central Bank Council. Both the members of the Directorate and the Presidents of the Landeszentralbanken have a maximum term of office of eight years which is usually realized.[36] During this term they cannot be removed from office on political grounds. The appointment of the members of the Central Bank Council reflects also a large degree of independence of the Bundesbank.

A.7 *Japan*

Established in 1882, the Bank of Japan was reorganized by the Bank of Japan Law of 1942.[37] According to Article 1 of this Law: "The Bank of Japan has for its object the regulation of the currency, the control and facilitation of credit and finance, and the maintenance and fostering of the credit system, pursuant to the national policy, in order that the general economic activities of the nation might adequately be enhanced". The latter part of Article 1 may be taken to mean "... to foster the stable development of the Japanese economy".[38] Thus, the main objectives of the Bank are to stabilize the value of the currency and to maintain orderly credit conditions. Regarding the relationship between the central bank and government, Article 43 states that: "The competent Minister [of Finance] may, if deemed particularly necessary for the attainment of the object of the Bank of Japan, order the Bank to undertake any necessary business, or order alterations in the By-Laws as well as other necessary actions". Although the Minister, formally, has the right to give instructions, in practice this right has never been used as a result of the regular, informal contacts between Bank management and government.[39] With respect to its main goal, price stability, the actual influence of the Bank is much greater than what is legally defined. For example, the Bank of Japan has been fairly successful in advocating the liberalization of Japanese financial markets and in arguing for a more market-oriented implementation of monetary policy, which the Ministry of Finance has resisted for a long time.[40] The influence of the Ministry is, above all, based on financial regulation (regulatory leverage) and decreases gradually by financial liberalization. However, the Bank of Japan derives its influence mainly

36 The minimun term of office is two years. See: Eizenga (1978), p. 4.

37 This Law was amended in 1949 to found the Policy Board, the highest policy making body of the Bank. See: Aufricht (1961), pp. 423-448.

38 An interpretation is given by: Suzuki (1987), pp. 305-312.

39 Suzuki (1987) means: "In reality, the management of monetary policy is carried out under the responsibility of the Bank of Japan from an independent point of view" (p. 314).

40 See: Cargill (1989), p. 38.

from guiding the financial markets (market leverage), which increases by the strengthening of market forces. Thereby, the independence of the central bank has continued to grow.[41]

The highest policy making body of the Bank of Japan is the Policy Board, consisting of the Governor, two representatives from the Ministry of Finance and Economic Planning Agency (without voting right) and four other members, representing banking (2), commerce and industry (1), and agriculture (1). The Governor and the other members of the Policy Board are appointed by the Cabinet for a period of five and four years respectively. Since 1969, the Governor has been chosen alternatively from Bank officials and former Ministry of Finance officials.[42] The Governor conducts the operations of the Bank according to the directions of the Policy Board and heads the Executive Board, which further includes two Deputy Governors (formerly one), at least three Executive Directors and two Executive Auditors (now six and four respectively), and a number of Counsellors.[43] The Deputy Governors are appointed by the Cabinet for five years, while the other members of the Executive Board by the Minister of Finance on recommendation of the Governor for two to four years. Despite the fact that the Policy Board is, from a legal point of view, the most important policy making body, the major responsibility for formulating monetary policy resides with the Executive Board.[44]

A.8 *Italy*

The Banca d'Italia, established in 1893, is owned partially, through public financial institutions, by the State.[45] The legal base for its functioning are the Statutes ('Statuto della Banca d'Italia') of 1936, which provide no specific objectives for the central bank.[46] The relationship between the Banca d'Italia and the government is embedded in Article 20 of the Statutes stating that the Board of Directors ('Comitato') is just responsible for the general management of the central bank and not for monetary policy making. Furthermore, Article 25 reads: "He [the Governor] shall make proposals to the Minister of the Treasury concerning change in the discount rates and in the interest rate on advances". Obviously, the Governor prepares monetary policy and the Minister

41 For an analysis of this process: Eijffinger and Van Rixtel (1992), p. 24.

42 See also: *The Economist*, "Central Banks: America v. Japan – The rewards of independence", January 25, 1992, p. 22.

43 From: The Bank of Japan (1991), pp. 35-36.

44 The Policy Board formally adopts the decisions of the Executive Board. See: Cargill (1989), pp. 27-28.

45 From: Fair (1979), p. 39

46 See: Aufricht (1967), pp. 421-440.

of the Treasury has to approve it formally.[47] The Statutes of 1936 were amended in 1947 by providing the Banca d'Italia with supervision on the financial system and by the foundation of the Interministerial Committee for Credit and Savings ('Comitato Interministeriale per il Credito e il Risparmio' or CICR).[48] According to Article 1 of the Decree of 1947, the CICR, "... whose duty it shall be to supervise, at the highest level, the safeguarding of savings, the carrying on of credit activities, and exchange matters", will give directives to the central bank for its operations. The CICR is made up of the most important ministers and the Governor, and chaired by the Minister of the Treasury. In general, this committee determines the goals of monetary policy with the Banca d'Italia in an advisory role. The central bank has always been integrated with economic policy making, which explains why it scarcely had any conflict with the Treasury. Until the mid-seventies the central bank was, clearly, subordinated to the government. However, from 1975 on the Banca d'Italia paid more attention to gaining independence with respect to monetary policy.[49]

The Governor, having a personal responsibility for the implementation of monetary policy, is appointed by the Board of Directors of the Banca d'Italia, for an indefinite term of office. The Board of Directors consists of thirteen Directors, elected by the General Meeting of Shareholders at the thirteen regional offices of the central bank for a fixed period of three years, the Governor with a casting vote and a representative of the Ministry of the Treasury as an observer without voting right. Although the appointment of Governor and Directors seems to be independent of the government, Article 19 of the Statutes of 1936 states that: "Appointments and dismissals must be approved by decree of the President of the Republic on the proposal of the President of the Council of Ministers in agreement with the Minister of the Treasury, the Council of Ministers having been heard".

A.9 *Switzerland*

Established in 1905, the Swiss National Bank ('Schweizerische Nationalbank') has enjoyed a high degree of independence from the government, reflecting the deep-rooted distrust of the Swiss public in centralized approaches to policy making.[50] The main policy goals of the Swiss central bank are provided for in Article 2 (1) of the Federal Law on the Schweizerische Nationalbank ('Bundesgesetz über die Schweizerische Nationalbank') of 1953: "The principal

[47] Very recently, the Italian parliament approved a bill to give the central bank full authority regarding discount policy.

[48] The Decree on the Interministerial Committee for Credit and Savings of 1947, in: Aufricht (1967), pp. 453-455.

[49] See: Nardozzi (1988), p. 179.

[50] From: Rich (1989), p. 1

task of the National Bank shall be to regulate the country's monetary circulation, facilitate payments transactions, and implement a credit and monetary policy serving the general interests of the country. It shall advise the Federal authorities in monetary matters".[51] The central bank interprets this Article as a mandate to achieve and to maintain a stable price level, which view is shared by the federal government and largely accepted by the public.[52] The relationship between the Schweizerische Nationalbank and the federal government ('Bundesrat') is one of legal and administrative separation. The National Bank Law does not contain any provision giving the government influence on monetary policy making. In case of important policy decisions, both authorities should consult each other, but mutual consent is not required.[53] The independence of the central bank is also guaranteed by Article 63, limiting the competence of the federal parliament to approving an increase in the Bank's basic capital and that of the federal government to appointing representatives to the Bank Council, the members of the Directorate, their deputies and the managers of the branch offices, and to other formal approvals.

The Bank Committee ('Bankausschuss') is the principal policy making body of the Schweizerische Nationalbank and has the right to participate in the setting of the Bank's official lending rates.[54] Representing the various parts (cantons) of the country, this Bank Committee is made up of the Chairman and the Deputy Chairman of the Bank Council ('Bankrat') and eight other members, which are appointed by the Bank Council for a fixed period of four years. The Bank Council, consisting of forty members, is responsible for the supervision and control of the Bank's management, but plays a limited role with respect to monetary policy. Its Chairman, Deputy Chairman and twenty-three other members are appointed by the federal government and the remaining fifteen members are elected by the General Meeting of Shareholders also for a period of four years.[55] Thus, only one-fifth of the Bank Committee and five-eighth of the Bank Council are directly appointed by the federal government. Finally, the highest managing and executive authority is the Directorate ('Direktorium') of the Bank, which is composed of three members elected by the federal government, on recommendation of the Bank Council, for a fixed term of six years.[56] The government also appoints among these three members a President and a Vice-President, although there is a collective responsibility.

[51] This Law should be read in conjunction with Article 39 of the Federal Constitution amended in 1951. See: Aufricht (1967), pp. 705-724.

[52] For an interpretation: Skanland (1984), p. 7 and Rich (1989), p. 7.

[53] See also: Skanland (1984), p. 22.

[54] According to Rich (1989), however, this right "... is not as significant as it may seem at first sight because these rates no longer constitute important policy instruments in Switzerland" (p. 6).

[55] The federal government holds no shares. See: Fair (1979), p. 41.

[56] To the Directorate may be added deputies and department managers.

A.10 *Australia*

The Reserve Bank of Australia, established in 1911, was made just a full-bodied central bank by the Reserve Bank Act of 1959[57] constituting the functions, responsibilities and competence of the Australian central bank. The functions of its Board are set out in Article 10 (2) of this Act: "It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the Banking Act 1959 and the regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to: the stability of the currency of Australia, the maintenance of full employment in Australia and the economic prosperity and welfare of the people in Australia".

Thus, the threefold policy goal of the Reserve Bank also includes the fostering of economic activity and employment. Regarding monetary policy making the central bank is bound to inform the federal government on a regular basis: "The Governor and the Secretary to the Department of the Treasury shall establish a close liaison with each other and shall keep each other fully informed on all matters which jointly concern the Bank and the Department of the Treasury" (Article 13). In practice, the relationship between the Reserve Bank and the federal government is characterized by both formal and informal contacts. Nevertheless, the Bank is completely subordinated to the Secretary of the Treasury, being the final competent authority with respect to monetary policy. In case of differences of opinion between the central bank and the Treasury, Article 11 (2) states that "... the Treasurer and the Board shall endeavour to reach agreement".[58]

Furthermore, according to Article 50 (1) of the Banking Act of 1959 the Reserve Bank's setting of rates on discounts and advances needs to be approved by the Treasury.[59] So, the central bank is more or less an agent of the government.

The Reserve Bank Board, responsible for implementing monetary policy, consists of the Governor, the Deputy Governor, the Secretary to the Treasury as an *ex officio* member and seven other members. The government official on the Board has a voting right. The Governor and Deputy Governor are appointed by the Governor-General (the executive branch of the federal government) for a term of office, not exceeding seven years. The seven other members comprise at most two members who are officers of the Bank or Public Service, holding office "... during the pleasure of the Governor-General",[60] and at least five members selected from the academic, agricultural and general business sector by the Governor-General for a fixed period of five years. The Governor is chairman of the Board and has a casting vote.

[57] The Reserve Bank Act of 1959 is given by: Aufricht (1961), pp. 53-71.

[58] For the procedure to settle such conflicts: Article 11 (2) - 11 (7) of the Reserve Bank Act of 1959.

[59] However, Masciandaro and Tabellini (1988) mean that recently: "... the central bank has not formally promulgated regulations, but has informed the banks of its goals concerning the rates of interest, following discussions ..." (p. 149).

A.11 *United States*

Established in 1913, the Federal Reserve System is a federal government authority comprising the twelve Federal Reserve Banks, whose shares are owned by commercial banks being its members, and formerly (until 1935) the Federal Reserve Board as its main policy making body. The legal base for its functioning was embedded in the Federal Reserve Act of 1913.[61] The Preamble of this Act constituted the powers of the Federal Reserve System: "To provide for the establishment of Federal Reserve Banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes". By the Banking Act of 1933 the Federal Reserve Board was granted more autonomy *vis-à-vis* the Federal Reserve Banks and the Federal Open Market Committee (FOMC) was created to make policy recommendation to the Board for conducting open market operations.[62] Further, the Banking Act of 1935 replaced the Federal Reserve Board by the Board of Governors and strengthened its position by removing the Secretary of the Treasury and the Treasurer from the Board. Through the 'Accord' of 1951 the Federal Reserve gained more autonomy as a consequence of its agreement with the Treasury that its open market policy should no longer support the market for government debt.[63] The goals of the central bank regarding monetary policy were just clearly formulated in section 2A of the 1977 amendment to the Act by stating that: "The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote the goals of maximum employment, stable prices, and moderate long-term interest rates". So, the Federal Reserve should aim both at price stability and at economic activity and employment.[64]

[60] According to Article 14 (3) of the Reserve Bank Act of 1959.

[61] See also: Board of Governors (1984). An interpretation can be found in: Cargill (1989), pp. 21-32.

[62] For the creation of the FOMC: Akhtar and Howe (1991), p. 364.

[63] During the Second World War the stabilization of this market had become the principal function of the System. See: Eizenga (1983), p. 4.

[64] For a recent evaluation of the 'twin objectives': *The Economist*, "Central Banks: America v. Japan – The rewards of independence", January 25, 1992, pp. 22-23.

Furthermore, the Humphrey-Hawkins Act of 1978 was meant to improve the coordination of economic and monetary policy between the federal government, Congress (parliament) and Federal Reserve by reporting requirements for the central bank to Senate and House of Representatives at semi-annual hearings on the Board's and FOMC's objectives and plans with respect to the growth of monetary and credit aggregates.[65] In practice, both the Federal Reserve and the government have a shared responsibility for monetary policy making. Although the central bank maintained the same degree of formal autonomy, it lost some of its independence after the mid-1960s.[66]

The Board of Governors of the Federal Reserve System, acting as its highest policy making body, is composed of seven members which are selected in order to maintain a geographical balance and a balance between bankers and non-bankers. These seven Governors are appointed by the President of the United States for a fixed period of fourteen years, with approval by the Senate. After a full term of office the Governors may not be reappointed. The President appoints two members of the Board of Governors as Chairman and Vice-Chairman for a fixed period of four years.[67] Political influence on the appointment of the Board is minimalized by the long term of office, exceeding more than three administrations, and the impossibility of dismissal on political grounds. Furthermore, the formulation of global monetary targets is carried out by the FOMC.[68] The FOMC is made up of the Board of Governors and five of the twelve Presidents of the Federal Reserve Banks. The President of the Federal Reserve Bank of New York, conducting open market operations and exchange market interventions on behalf of the System, is an *ex officio* member of the FOMC. The other four members are elected for a period of one year on a rotating basis. The Presidents of the twelve Federal Reserve Banks are appointed by the Board of Directors of each Bank, with consent of the Board of Governors.[69]

A.12 *Canada*

The Bank of Canada, only established in 1935, had its functioning originally based on the Bank of Canada Act of 1934.[70] The policy goals of the Canadian central bank were given in the Preamble of this Act, reading:

[65] According to Eizenga (1983) "... this Act does not derogate from the independence of the FED with regard to its policies" (p. 6). He calls it "independent within the government" (pp. 7-9).

[66] See also: Hetzel (1990), p. 170.

[67] From: Krooss and Samuelson (1969), pp. 2913-2914.

[68] See: Eizenga (1983), p. 2.

[69] For legislative proposals to restructure it: Akhtar and Howe (1991), p. 358.

[70] See: Aufricht (1961), pp. 89-105.

"Whereas it is desirable to establish a central bank in Canada to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment, so far as may be possible within the scope of monetary action, and generally to promote the economic and financial welfare of the Dominion". Until 1967, this Act did not confine the threefold task of the central bank regarding monetary policy making.[71] However, in 1967 the relationship between the Bank of Canada and the federal government was changed by the introduction of the Bank of Canada Act of 1967.[72] This was caused by a major conflict of the Governor with the Minister of Finance on the implementation of monetary policy. The Governor, wanting to conduct a restrictive policy, was forced to resign. The Act of 1967 gave the Minister of Finance the right to promulgate instructions to the Bank and, therefore, the ultimate authority for monetary policy. Article 14 (1) of the revised Act states that: "The Minister and the Governor shall consult regularly on monetary policy and on its relation to general economic policy". Furthermore, Article 14 (2) continues: "If, notwithstanding the consultations provided for in Subsection (1) there should emerge a difference of opinion between the Minister and the Bank concerning the monetary policy to be followed, the Minister may, after consultation with the Governor in Council (executive branch of government), give to the Governor a written direction concerning monetary policy, in specified terms, and the Bank shall comply with such directive". Although the Minister of Finance has, up to now, never used his right to give instructions, this possibility has severely affected the independence of the central bank after 1967.

The highest policy making body of the Bank of Canada is its Board of Directors, consisting of the Governor, Deputy Governor, twelve Directors and the Deputy Minister of Finance as an *ex officio* member without voting power.[73] Both the Governor and the Deputy Governor are appointed by the Directors, with the approval of the Governor in Council, for a fixed period of seven years. The Minister of Finance appoints the twelve Directors,[74] with the consent of the Governor in Council, for a period of three years. The (Deputy) Governor and Directors may be reappointed. The Governor is the chief executive officer and supervises the Bank. Moreover, the Bank has an Executive Committee, which is competent to deal with any matter within the competence of the Board. The

[71] According to Article 14 (1) of the Act of 1934, the Governor had power to veto any action or decision of the Board of Directors or Executive Committee, which could be overruled by the federal government.

[72] In: The Bank of Canada (1970).

[73] Notice that the government official in the Board of Governors of the Reserve Bank of Australia, on the contrary, has voting power.

[74] They will be selected from 'diversified occupations' and in practice, from different regions of Canada. See: Fair (1979), p. 37.

Executive Committee is composed of the Governor, Deputy Governor, two Directors and the Deputy Minister of Finance and mainly responsible for the implementation of monetary policy.

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