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The *Bundesbank's* Path to Independence Evidence from the 1950s*

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Abstract
The German *Bundesbank* is frequently called the world's most independent and conservative central bank. Taking account of the path dependency of this reputation, both quantitative data and qualitative data on German central bank law and political conflicts are used to determine the factors that contributed to this reputation in the 1950s. It is shown that quantitative analysis has its limits and that law might be a misleading indicator in this respect. It is rather the analysis of policy conflicts between the *Bundesbank* and the government that yields information on the bank's path to independence.

Keywords: Bundesbank, monetary policy, central bank independence, Bretton Woods
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1. Introduction

The German *Bundesbank*[1] has a well established reputation for its successful anti-inflationary policy (Alesina and Summers (1991); Grilli, Maciandaro and Tabellini (1991)), and the literature on central bank independence finds the *Bundesbank* to be the most independent and conservative central bank in the world (Cukierman (1992); Eijffinger and de Haan (1996)). Both characteristics are important for the conduct of monetary policy given the well known time consistency problem.[2] Since the concept of reputation itself links the present performance of monetary policy to its past history, an enquiry into the history of the reference case *Bundesbank* is called for. In addition, it is interesting to see whether central bank law was indeed a "necessary condition" for actual independence (Cukierman (1996)) or if it were rather "institutional or implicit structures" that really mattered (Dornbusch (1993)).

There are several reasons for answering this question by referring to the 1950s. This particular period provides something close to a field experiment. Having come under the jurisdiction of the state at the end of the *Third Reich* (Holtfrerich (1988); Marsh (1992)), the German central bank had to re-establish itself as an independent political institution. Moreover, the period might provide a testing ground for the hypothesis that politicians learn accept the existence of an independent and inflation averse central bank because of the advantages that come with tying one's hands. Another reason for going back to the 1950s is the availability of data. While there is no lack of current time series data on, for instance, policy variables, the minutes of the government and the central bank Council are only available with a lag of about 30 years due to German archive laws. As far as qualitative evidence is concerned, these data are indispensable for the question being considered.[3]

The paper proceeds as follows. Section 2 assesses the policy performance of the *Bundesbank* in the Bretton Woods era by estimating a simple reaction function. Section 3 takes a closer look at the evolution of the legal status of the German central bank and reviews the qualitative evidence on the behaviour of the members of government and the *Bundesbank* Council in times of conflict. Section 4 will conclude.

2. Some Quantitative Evidence

In a first step, to see what the monetary policy of the *Bundesbank* looked like in the 1950s and 1960s, a simple ad hoc reaction function for the bank's major policy variable, the discount rate (DR_t), is estimated for the period of the Bretton Woods era 1950-71. The discount rate is the interest rate the German central bank charges for lending to commercial banks through the discount window.[4] A higher (lower) discount rate implied a more contractionary (expansionary) monetary policy, because, as a rule, all *Bundesbank* policy instruments, such as minimum reserve requirements on bank deposits and open market operations, were moved in line with the discount rate. Discount lending was the major source of central bank money in Germany at the time, so the rate was also an effective instrument in itself (Neubauer (1972)). Also, until 1962, discount rate changes had a direct impact on both short and long term market rates, because saving and credit rates were bound to the discount rate and the capital market was both highly regulated and small (Gutmann, Hochstrate and Schlüter (1964)).

The estimated reaction function has the following form:[5]

$$(1) \qquad DR_t = \alpha + \beta_1 \hat{p}_{t-3} + \beta_2 \hat{y}_{t-3} + \beta_3 \hat{u}_{t-3} + \beta_4 \hat{m}_{t-3} + \beta_5 \textit{BOP-Deficit}_t + \beta_6 \textit{BOP-Surplus}_t + \beta_7 \textit{FED}_t + \gamma DR_{t-1} + e_t$$

All data used are monthly and stationary based on standard ADF tests.[6] Since at the time the discount rate decisions were made parts of the data were only available with a three month delay, some of the series are introduced with a lag. $\hat{u}_{t-3}$ is the annual growth rate of the number of unemployed. $\hat{p}_{t-3}$, $\hat{y}_{t-3}$, and $\hat{m}_{t-3}$ are the detrended annual growth rates of consumer prices, industrial production and M1, respectively.[7] These series are introduced into the model because they are likely to be included in the aim function of the *Bundesbank*, either as a direct or intermediate variable, both on the bank's own account and in the judgement of the literature (Schlesinger (1976); Neubauer (1972)). If the *Bundesbank* aimed at low and stable inflation rates, output, prices and M1 should be expected to have a positive effect on the discount rate. Moreover, to capture the restrictions the Bretton Woods system of fixed exchange rates might have imposed on German monetary policy, a set of three additional variables is used: $\textit{FED}_t$ is the FED discount rate[8] and $\textit{BOP-Deficit}_t$ ($\textit{BOP-Surplus}_t$) is a dummy variable that is 1 when the monthly change in the net foreign assets held by the

Bundesbank is negative (positive) and larger than the average change plus one standard deviation. The former variable is an indicator for the monetary stance assumed by the system's leading central bank. The more restrictive the Bretton Woods system was for the *Bundesbank* policy, the higher should be its explanatory power for DR_t. The latter variables capture extreme developments in the balance of payments. Extraordinary negative (positive) deviations from equilibrium can be expected to force a central bank to raise (lower) its interest rates. Two variables are employed because of possible asymmetries in the *Bundesbank* response to balance of payments deficits and surpluses.[9] Finally, DR_{t-1} is included in order to control for the informational adjustment costs of the policy instrument in an uncertain macroeconomic environment. The higher the value of the option of waiting was for the *Bundesbank* Council before reacting to a certain change in one of the exogenous variables, the higher γ should be.[10] e_t is a random variable following the usual assumptions.

(Table 1 about here)

The model does not suffer from multicollinearity or autocorrelation. Column (i) in Table 1 presents the results for the Bretton Woods period. Due to the availability of data, the estimation period begins in April 1950 and ends in May 1971, when the D-Mark floated for the first time. At first glance, it is hard to understand how the *Bundesbank* ever managed to gain a reputation as an inflation averse, conservative central bank. Instead of responding to domestic variables, the bank seems to have shadowed the FED's policy. The only other variable which is significant besides the lagged discount rate and the constant is $BOP\text{-}Deficit_t$, implying that the discount rate was raised in cases of severely rising balance of payments deficits. However, it is worth while to explore the stability of the reaction function to changes of the estimation period. As Obstfeld (1993) and others have argued, the exchange rate system in Europe in the 1950s was quite different from that in the 1960s. The latter involved convertibility and mobile capital, while the former was characterized by non convertibility and managed capital flows under the rules of the European Payments Union (EPU). In fact, the model estimated above has a structural break in January 1959, the time when the EPU was abolished and the D-Mark became fully convertible.

Re-estimating the model for the two subperiods before and after January 1959 yields the results reported in columns (ii) and (iii) of Table 1. While the estimate for the lagged endogenous variable in column (iii) is again rather high, it is clearly lower in column (ii). γ is estimated as 0.78 (0.91) for the 1950s (1960s), implying that about 22 (9) per cent of the long time reaction to a rise in, for instance, the growth rate of output was implemented right away - the *Bundesbank* reacted much faster in the 1950s. Also the coefficients for output, prices and the balance of payments restriction differ significantly between the subperiods. In the soft period of the Bretton Woods system both inflation and real output growth had the expected significant positive influence on the discount rate.[11] Even though in the 1960s Germany's notorious balance of payments surplus helped avoid a recasting of the austerity policy employed in the EPU crisis in 1950/51 - *BOP-Deficit* is positive and significant only before 1959[12] -, it looks as if convertibility severely restricted the domestic room of manoeuvre of German monetary policy during the hard period of the Bretton Woods system. The FED discount rate is the only exogenous variable that had an influence on the decisions of the *Bundesbank* Council in the 1960s. The US rate is also significant the 1950s[13], but this did not prevent the *Bundesbank* from following domestic policy objectives.[14]

All in all, the heyday of a domestically oriented *Bundesbank* policy was over once the Bretton Woods system of fixed exchange rate was hardened in 1959. Turning the argument around, one can conclude that the *Bundesbank* was born in a period of only limited exchange rate restrictions, which gave the German central bank about as much range of action as the post Bretton Woods period after 1971.[15] Hence, especially in its important early years, the new institution had the necessary freedom to earn the reputation that came with a policy aimed at steady and low inflation rates. These findings are in line with the literature (Besters (1964); Schneider (1979)). However, that the *Bundesbank* was able to follow a somewhat more domestically orientated course during the 1950s does not mean it was politically independent, too. Therefore, in a second step of quantitative investigation, a set of political dummy variables is added to the ad hoc reaction function described in equation (1) above. Following the recent literature on political business cycles, three different arguments will be introduced:

H1: The *Bundesbank* reduces DR_t before federal elections
H2: The *Bundesbank* reduces DR_t before federal elections, but conditions the reduction on the support the government has in the *Bundesrat*
H3: The *Bundesbank* accommodates fiscal policy in cases of policy conflicts

H1 can be interpreted along the lines of the Nordhaus (1975) and Rogoff/Sibert (1988) approach to political business cycles. That is, governments are opportunistic and will use their political power to force the *Bundesbank* to ensure their re-election by carrying out an expansionary monetary policy before elections. To test for the hypothesis quantitatively, a dummy variable is added to the reaction function that is 1 during the pre-election period (alternatively defined as the 18/12/6 months before the election month) and 0 otherwise.[16] A new model is estimated for each dummy variable. If the hypothesis is correct, the dummy coefficients should be significant and negative, since the bank will lower the discount rate in order to expand the economy or (with rational voters) signal its belief in the competence of the incumbent before elections. H2 is a variant of H1. As suggested by Lohmann (1994), the dummy variables used for H1 are weighted with the percentage of state governments supporting the federal government in the *Bundesrat*, the second chamber of the German legislative system. Its consent might help the federal government to change the current *Bundesbank* law.[17] Again, if H2 is to be accepted, the weighted pre-election coefficients should be significant negative.

(Table 2 about here)

The number of relevant observations is rather limited. There have been two elections in the 1950s (1953, 1957) and three in the 1960s (1961, 1965, 1969). Still the exercise might throw some light on the political behaviour of the *Bundesbank*. Table 2 presents the results. Obviously both hypotheses can be rejected for both subperiods. Only the coefficient for the H2 dummy, which is active six months before federal elections, is at least marginally significant in the 1960s (column (iii)). However, following Table 2, the *Bundesbank* Council did not lower its discount rate as predicted by theory but raised it before elections.[18] These findings are close to the results Berger and Woitek (1996) report for the period 1950-89.

H3 is a hypothesis on central bank behaviour proposed by Frey and Schneider (1981). They maintain that the *Bundesbank* might yield to political pressure from the federal government, but that this pressure will not necessarily mount before elections. If a government

is not faced with a binding re-election constraint, it might as well follow other (partisan) goals and choose its fiscal policy accordingly. Whatever the fiscal stance, however, the central bank will be pressed to support the policy chosen by the government. To test H3, the model described in equation (1) is transformed:

$$(2) \quad DR_t = \alpha + (1 - Conflict_t)(\beta_1 \hat{p}_{t-3} + \beta_2 \hat{y}_{t-3} + \beta_3 \hat{u}_{t-3} + \beta_4 \hat{m}_{t-3}) + \beta_5 BOP\text{-}Deficit_t + \beta_6 BOP\text{-}Surplus_t + \beta_7 FED_t + \beta_8 Conflict_t Polgov_t + \gamma DR_{t-1} + e_t$$

$Polgov_t$ is the change of the federal full employment deficit weighted with GDP.[19] $Conflict_t$ is a dummy variable that captures the interaction between the overall effects of monetary and fiscal policies. It is 1 when the monetary and federal policy stances are not compatible, i.e. they are not both expansive or contractionary, and 0 otherwise.[20] If the *Bundesbank* follows its domestic policy objectives only when this leads in the same direction as fiscal policy, the estimate for β_8 should be significant and negative. However, Table 2 reveals that the coefficients for both subperiods are not significant.[21]

3. Qualitative Evidence

The quantitative results suggest that the *Bundesbank's* monetary policy was influenced by economic considerations rather than, it seems, by political ones. In addition, political independence looks like it was there right from the beginning, because there is no notable difference between the subperiods. To conclude, however, that the *Bundesbank's* monetary policy decisions were totally detached from political considerations or that its political autonomy was instant, would be premature. The number of observations is too small, the idea of political interaction captured is too mechanical, and it is still necessary to consider to what extent the results so far are supported by the qualitative data available. As a matter of fact, qualitative evidence suggests that the *Bundesbank* was very much involved in the political process from the very beginning and that it earned its political status within this process.

3.1 The Evolution of Geman Central Bank Law: A Misleading Indicator?

Following the recent literature on central bank independence, a qualitative approach should focus on the evolution of the *Bundesbank* law. Almost every index of central bank

independence used in the literature is based on the legal status of the banks considered. Even if an index is explicitly constructed to capture the degree of political or de facto independence, i.e. the freedom of the bank's Council to derive monetary policy decisions without government interference, its construction is often based on legal provisions such as the government's representation on the board or its ability to veto the board's decisions (Eijffinger and de Haan (1996); Cukierman (1992, 1996)). A closer look at the actual institutional arrangements concerning the *Bundesbank* reveals, however, that this method might be misleading.

With a procedure like the one just described, the *Bundesbank* would have been anything but independent in it's early stages. Articles II(6) and VI(34a) of the Allied founding law of February 14 1948 made the bank's decisions subject to the explicit consent of the Allied Banking Commission (ABC), a branch of the Allied High Commission in Germany. An analysis of the interaction of ABC and central bank Council shows, however, that the legal status was deceptive. Interestingly enough, on the first occasion when there was a conflict between principal and agent about the conduct of monetary policy the ABC criticized the soft stance of the bank's Council against inflation. The *Bundesbank* refused to raise its discount rate in the autumn of 1948, only months after the currency reform, when living costs were rising dramatically at an annualized rate of almost 20 per cent despite of a clear warning that the ABC might force it to do so.[22] The Council offered some concessions, it raised the reserve requirements and forced the commercial banks to reduce their credit volume, but it withstood the pressure from ABC to signal its willingness to fight inflation with a more visible and pointed policy measure. In the event, the ABC did not veto the decision and later allowed the gradual rolling-back of the monetary restrictions.[23] After 1948, even though the ABC was still formally in charge, it remained strictly passive and helped the bank by imposing an unexpectedly unrestrictive political constraint (Emmer (1955); Holtfrerich (1988)). In addition, like a benevolent dictator, it shielded the young *Bundesbank* from the German authorities, which at this stage were not allowed to interfere with monetary policy.[24] All in all, in spite of what the founding law of the central bank seemed to say, the bank actually operated in a very favourable institutional setting until the formal end of the Allied jurisdiction in 1951 (Veit (1961); Issing (1992); Marsh (1992)).

At first sight, the Transformation Law of August 10 1951 appeared to transfer the de facto political independence of the *Bundesbank* into German national law. The federal government took the place of the ABC as the institution permitted to participate in the Council meetings, but its veto power was drastically reduced to allowing it to postpone the Council decisions for a short time (suspensive veto). As Hentschel (1989) notes, this was, in essence, already the legal arrangement of the *Bundesbank* Law of July 26 1957 (§§ 12 and 13). Without doubt the legal position of the German central bank improved after 1951. The reason that the *Bundesbank* nevertheless in early 1951 asked for the prolongation of the status quo (Horstmann (1991)), however, was again the difference between its legal position and actual political standing - the argument made above cuts both ways. The bank's legal position was (and is) not guaranteed under German law. Here it is important to note that the German constitution - besides the fact that it can be changed by a 2/3 majority in parliament - does not include a provision that makes the central bank independent of the government. As a consequence the legal independence of the *Bundesbank* can at any time be removed by ordinary law.[25] All in all, contrary to what might be inferred from the central bank laws, with the end of Allied rule in Germany the factual position of the monetary authority became less secure. This was especially true in the period between 1951 and 1957, when the new central bank law was in the process of discussion but had not been passed.

The major difference between the - otherwise quite similar - Bundesbank Law of 1957 and the law of 1948/51 was the increase in the weight allocated to members of the bank's Council appointed by the federal government.[26] Before 1957, only the President of the Frankfurt based Directorate, whose members were selected by the cabinet, had voting rights in the Council. The rest of the Council consisted of the heads of the state central banks (appointed by the state governments) and the Council President (appointed by the federal government). After 1957 there was only one President of *Bundesbank* and all members of the Directorate voted in the Council. Since it could, in principle, be argued that those members selected by the federal government were closer to its own interests, the new law might be interpreted as enhancing the government's influence on monetary policy. However, up to now the regional states have the absolute majority of votes in the *Bundesbank* Council.

Summing up, both the pre and the post 1951 period suggest that the legal status, or its evolution, might be misleading when used as an indicator for the political independence of the German central bank. The actual degree of independence under Allied law would be severely underestimated, under German law it might be overestimated.

3.2 Conflicts Over Monetary Policy

An alternative approach for obtaining information about the evolution of central bank independence is to focus on conflicts between the bank and its principal political opponents, especially the federal government. But why do conflicts occur at all and what should one look for? Lohmann (1992) has argued that, with full information, there would never be conflicts between the central bank and the government in equilibrium, because the bank has nothing to gain from making the limits of its independence known. However, with private information, the central bank's behaviour in conflicts with the government will be an important signal to the public about the bank's relative inflation aversion and its political standing. Also, in the absence of a formal incentive contract for the central bank, conflicts might serve as the means of the government to make sure that monetary policy is in line with the preferences of the electorate (Persson and Tabellini (1993); Walsh (1995)). So, analyzing these conflicts will provide additional information about the preferences of the protagonists, and the occurrence of such conflicts will help to pinpoint the degree of political independence the *Bundesbank* actually enjoyed. In a way, this approach is similar to the one intoduced to the quantitative literature by Frey and Schneider (1981) (see Section 2).

As to what else to look for in a conflict, there are several theoretical reasons why an institution like the *Bundesbank* could prevail: inflation is unpopular and the *Bundesbank* might be able to gain sufficient public support, not least because of the experiences of the hyperinflation of 1923 and the currency reform in 1948. The question is, however, whether there was such support and what role it played in conflicts. Then, as Rogoff (1985) has argued, politicians might tolerate an independent and inflation averse central bank because of the possible increase in credibility for monetary policy.[27] If this is true, there should be indications of such beliefs. Kane (1980) added another argument to look at - the *Bundesbank* could serve as the government's "scapegoat", one which delivers the public good price stability and bears

the political costs associated with the necessary policies. Again, it will be interesting to see whether this played a role in actual conflicts during the founding period of the *Bundesbank*.

Conflict 1: The EPU Crisis 1950/51

When, following the upswing in real business activity in early 1950, the German price level began to rise in the summer of 1950 (see Figure 1), the *Bundesbank* still lacked the reputation of being politically independent and inflation-averse (Emmer (1955)). As mentioned before, it had reacted rather late to the inflation induced by the currency reform in 1948 and it had already promised to finance more than DM 3 billion (about 3 per cent of GDP) worth of government spending in early 1950. Consequently the *Bundesbank* was met with both surprise and considerable political resistance, when in October 1950 it informed the federal government that a majority of Council members was now in favour of a tighter monetary policy to fight inflation.

(Figure 1 about here)

Chancellor Konrad Adenauer, Germany's dominant political figure at the time (Schwarz (1991a, 1991b)), forced the *Bundesbank* Council to assemble at the government's seat in Bonn instead of Frankfurt. Here the angry Chancellor asked the Council not to tighten monetary policy in the face of more than 1.5 million (or about 10% of the workforce) unemployed.[28] The Minister of Finance, Fritz Schäffer, went even further. He wanted the central bank under the direct jurisdiction of the government as soon as Allied law would permit it. Only then would the government be able to secure both the bank's help in financing its budget and the co-ordination of fiscal and monetary policy. When the *Bundesbank* Council re-convened later, it was not quite clear how severe its position as an autonomous institution would be harmed by resisting the Chancellor's pledge. On the one hand, it was still under Allied law which isolated the bank from the German government. On the other hand, it was apparent that Allied supervision in that field would end soon. There was some support for the bank's position inside the government, namely from Ludwig Erhard, the renowned Minister of Commerce.[29] The decisive factor, however, that eventually convinced the Council that it should raise the discount

rate in spite of the government's resistance, was the advent of a severe balance of payments crisis.

In August 1950 West Germany had joined the EPU (Kaplan and Schleiminger (1989). The EPU was essentially a part of the broader Marshall Plan, with which the United States aimed at the reconstruction of economic cooperation in Western Europe (Eichengreen (1995)). With the new institution came the liberalization of trade between member countries, controlled multilateral clearing and the introduction of automatic credit facilities provided by all members. Seizing the opportunity, German firms immediately began to import huge amounts of raw materials to replenish their war depleted stocks. At the time the *Bundesbank* Council was summoned to Bonn, it was already obvious that Germany would have to apply for an additional line of EPU credit to finance its growing import surplus (Berger and Ritschl (1995)). Since a depreciation of the D-Mark would have been met by strong international opposition, the Council could argue that only a strict, and visible austerity policy would send the necessary signal of goodwill to Germany's creditors within the EPU. Obviously employing the EPU crisis as a commitment technology for its anti-inflationary purposes, the Council decided to raise the discount rate drastically from 4 to 6 per cent shortly after Chancellor Adenauer had left the Bonn meeting. The gamble soon proved to be successful. The EPU endorsed the new stance taken by the German monetary policy. Working in close collaboration with the *Bundesbank*, the EPU in November 1950 actually made additional credits to Germany conditional on the prolongation and extension of the austerity measures. As already argued by Berger and Ritschl (1995), this condition made the bank's commitment strategy very effective. At this point Germany could neither afford to cut imports nor to forgo the chance to re-integrate herself in the European economy by not playing according to the rules of the US-backed EPU. This external constraint eventually also bound Chancellor Adenauer, who, in the meantime, had tried to convince the Allied High Commission that it should use its legal authority to discipline the bank's Council (Schwartz (1991)). That the Commission had resisted the Chancellor's effort, strengthens the argument that the seemingly restrictive Allied central bank law of 1948 de facto helped to isolate the Council from the German authorities.[30]

The *Bundesbank* measures came too late to solve the immediate balance of payments crisis, but they had the desired effects on the domestic economy. By the end of 1951, the first German growth cycle was definitely cooling down and inflation rates were declining. In 1953 the prices were even below their 1952 levels (see Figure 1 above). One reason for this was the absence of full convertibility, that is, the absence of private capital imports despite of the high German interest rates. This feature of the prevailing system of fixed exchange rates turned the combination of rising prices and the EPU crisis into a virtue for the German central bank. Binding itself to the necessity of securing the balance of payments equilibrium, the Council could fight inflation and build a reputation as a conservative and independent central bank.

Various factors amplified this reputational effect: first of all, the *Bundesbank* kept its tight course till May 1952. That seemed to be well beyond what was necessary from a balance of payments perspective, since the deficit turned into a surplus as early as March 1951. However, since the turnaround came about through the re-introduction of German import restrictions approved by the EPU and since these restrictions were not removed before early 1952, the *Bundesbank* could still claim that its policy was appropriate. As a consequence, when inflation rates were rising up to the end of 1951, it had both the time and the occasion to convince the public that price stability was an issue on its own right. In fact, by the end of 1951, opinion polls showed that inflation had become the single most important political issue Germans wanted their government to take care of (Schenkluhn (1988)). Against this background, the *Bundesbank* Council in October 1951 felt strong enough to flatly refuse the government's wish for a lower discount rate by pointing to the behaviour of the price level. Inflation, it argued, would justify a high discount rate even without the balance of payments constraint. In addition, the high rate would signal to the Germans the bank's determination to keep inflation low.[31] Another factor that helped establish the reputation of the *Bundesbank* as an independent policy maker at this early stage was international fame (Kaplan and Schleiminger (1989)). The reason was that the German central bank had re-introduced monetary policy as a policy instrument to a world dominated by Keynesianism, and that it had obviously emancipated itself from government intervention when most other central banks were still far from autonomous (Kirschen et al. (1964)).

Conflict 2: The "Gürzenich Affair" 1955/56

The Bundesbank's early fame helps to explain why the (albeit only transitory) Transformation Law of August 1951 declared it legally independent and made it subject to only one policy objective: price stabilization. However, as already discussed in Section 3.1, there is a distinct difference between legal and de facto independence of a central bank. Although the *Bundesbank* had luckily turned its first major policy conflict with the government into a precedent for autonomy, there had still been no serious test of its political status. The occasion arose in 1955/56. From 1952 and to the summer of 1955 the *Bundesbank* had lowered its discount rate and followed a course of more or less expansionary monetary policy. Now, with the German price level rising again in the second post-war business cycle, the bank's Council changed its course. In August 1955 it raised the discount rate from its record low of 3 per cent to 3.5 per cent as a "warning signal".[32] Looking on output growth in Figure 1 above, one wonders why the *Bundesbank* Council changed its mind when the upswing in business activity had already reached its peak. Apart from less than perfect foresight and the statistical lags involved, one reason was fiscal policy.

Since 1953 the Federal Ministry of Finance, the Treasury, had more or less secretly accumulated funds for the re-armament of a West German army and by mid 1955 these amounted to more than DM 4 billion or almost 20 per cent of federal expenditures in 1955.[33] Because the law required the public sector to hold its funds in *Bundesbank* accounts, the accumulation of the so called *Juliusturm*[34] worked as an accidental stabilization device. Now, in spite of the fact that as early as January 1955 the *Bundesbank* Council had sounded silent warnings that fiscal policy should not turn procyclical, the Adenauer government was making plans to empty the *Juliusturm* with an eye to the election in 1957.[35] So the highly visible "warning signal" of a higher discount rate in August 1955 was aimed at fiscal policy as well as at the price and wage setters in the economy.

As a matter of fact, the *Bundesbank's* criticism, backed by the visible change in its monetary stance, caused some hurried government activity. By October 1955 the Ministers of Commerce and Finance, Erhard and Schäffer, had compiled a first contractionary stabilization programme. With the economy already close to full employment and unemployment no longer

a serious counter argument to anti inflationary measures, the initiative met little resistance. Adding to the smooth passage through parliament in late October was the fact that the programme consisted mainly of weak promises not to further increase expenditures, moral suasion, and a suggestion of lowering tariffs as a form of short term supply policy via lower import prices.[36] However, in the eyes of the public, it reduced the pressure the *Bundesbank* had put on the government for a tighter fiscal policy. Feeling that he had done his share in price stabilization, Chancellor Adenauer made it clear to the Council that he expected to be consulted before the bank took any other step towards higher interest rates.[37] The Chancellor, together with most conservatives in cabinet and parliament, realized that additional measures for curbing inflation would lead to even more protests from industrial interest groups. The influential *Bundesverband der Deutschen Industrie (BDI),* a large contributor to Adenauer's election fund, had already expressed its opinion that the *Bundesbank* had unnecessarily harmed an otherwise satisfactorily growing economy.[38]

By the end of 1955 the *Bundesbank* Council could not be sure that its (relative to the events in 1950) aggressive strategy was a success. Prices were rising while the stabilization programme looked as weak as the walls of the *Juliusturm*. In addition to facing formidable opposition to its monetary policy, the bank's leadership also had to take into account the fact that the new German central bank law was still on its way through parliament - in late 1955 the bank was informed that some federal ministries were actually suggesting a reduction in the degree of its legal independence.[39] At this point, Wilhelm Vocke and Karl Bernard, respectively the Presidents of the central bank's Directorate and its Council, suggested that the Council should look for allies. Following this advice, the *Bundesbank* formed a coalition with the ministers Erhard and Schäffer, the two single most important members of the Adenauer cabinet, to defend the bank against its critics and to intensify the pressure for a more restrictive fiscal policy. Starting point for the coalition was a central bank Council meeting in early March 1956.[40]

Adenauer had sent Erhard and Schäffer to Frankfurt to deliver the government's suspensive veto on the announced second increase of the discount rate from 3.5 to 4.5 per cent. As it turned out, however, both had an incentive to support the *Bundesbank's* suggested

measure. Schäffer's Treasury, which had in 1950 wanted the central bank to be checked, hoped that the *Bundesbank* would be able to convince the public that the funds in the *Juliusturm* should be saved for re-armament instead of spent on additional transfer programmes, and Erhard wanted fiscal and monetary policy to secure price stability. Erhard and Schäffer actually advised the bank's Council on how to circumvent the veto by pointing to an earlier postponement.[41] Using this line of reasoning and being sure of the internal support of the ministers, the *Bundesbank* Council raised the discount rate despite the veto and renewed its warning that uncontrolled fiscal expansion would cause further inflation. This was, however, only the beginning of the undertakings of this unlikely coalition.

In the following weeks, the group worked out a plan that successfully focused the public debate on the issue of price stability by means of escalation and conflict. It set up an ad hoc committee later called the *Konjunkturrat*[42], which worked out a more effective "second stabilization programme" to be implemented by the federal government. The work was done more or less secretly and Chancellor Adenauer was caught by surprise when his ministers Erhard and Schäffer submitted the programme to the cabinet on May 17 1956.[43] One day later, while both the press and the Chancellor's office were still busy checking the details of the programme, both government members were back in Frankfurt. Here the *Bundesbank* Council, this time with the official and publicized support of the ministers, raised its discount rate again by a full percentage point to 5.5 per cent.[44] The Council made clear that its action was a consequence of the disappointing performance of fiscal policy. Internally it added a list of demands on the federal government that resembled in detail the coalition's own "second stabilization programme" submitted a day earlier. As intended, the tight collaboration of two popular government members with the *Bundesbank* alerted the press - but what really got the attention of the public was the angry Chancellor's reaction to it. Just a few days later, on May 23 1956, Adenauer appeared before a *BDI* meeting in the Gürzenich hall in Cologne and offhandedly attacked Erhard, Schäffer and the *Bundesbank*. In a manner that the media later called aggressive and unjustified, he promised the assembled industrialists that he would discipline the three and denounced any need for further contractionary policy measures (Koerfer (1988)). The autonomy of the central bank, Adenauer argued, should have its limits

when it ignored the policy guidelines set by the Chancellor. However, the debate triggered by the coalition and intensified by the Chancellor's offensive remarks soon made it clear that public opinion was on the side of the coalition (Riedl (1992)). In the end Adenauer gave in.

By the end of May 1956 the Chancellor had accepted the "second stabilization programme" written by the coalition and the *Bundesbank's* independent role in the whole affair.[45] One reason was that, as already hinted, the debate provoked by his Gürzenich speech showed that price stability was indeed popular in Germany. At this stage the price for courting the *BDI* was simply prohibitive. More important, however, was his conviction that he needed the *Bundesbank's* (and the other coalition members') renowned credibility to convince the public that he was, in principle, serious about fighting inflation. That at least the Chancellor thought that the bank's reputation for safeguarding price stability was both sufficiently high and popular among voters can be inferred from the debates in the conservative party's head council even before the "Gürzenich affair".[46] Already in late April 1956 he had told *Bundesbank* critics in the conservative party to hold back. Of course the *Bundesbank* could not be allowed to live in a political "vacuum" or "on the moon". However, only if a certain grade of political independence was tolerated on part of the central bank, the Chancellor implied, could it be claimed that the inflation averse monetary institution belonged to the conservative's portfolio of political assets.[47]

All in all, the *Bundesbank's* counterpart seems to have behaved along the lines of the Rogoff (1985) and Lohmann (1992) model described above, because he thought the electorate to be convinced by the advantages of an independent central bank. Evaluating the pros and cons of overriding the *Bundesbank* in the present conflict, Adenauer decided that the advantages of such a venture would be smaller than its costs. This, in turn, both defined and signalled the policy space within which the *Bundesbank* could move without fearing government interference. That the new German central bank law reinforced the legal independence of the bank introduced by the Transformation Law of 1951 (see Section 3.1) was passed by parliament just before the 1957 election, fits well with this line of reasoning.

But there was also a second motive behind Adenauer's behaviour. As the coalition had won the fight over public opinion, the Chancellor could credibly argue, against the *BDI* and

other industrial pressure groups, that the course of events had taken matters out of his hands. Nevertheless he had fulfilled the expectations of his clientele by entering the conflict in the first place. This made sure that, in the end, Adenauer had both assets in his political portfolio: a group of rigorous anti-inflationists and the industrial pressure groups. This is just what Kane (1980) had in mind when he argued that an additional advantage of having an independent central bank would be its "scapegoat" quality in cases of conflicts.[48]

Conflict 3: The Capitulation of Monetary Policy 1960/61

As Figure 1 above reveals, the *Bundesbank* lowered its discount rate later in 1956. With the much debated stabilization programme through parliament, and inflation and output pointing downwards, the bank saw no point in continuing its tight course. In addition, the majority of Council members felt that a prolongation of the tight coalition with Erhard and Schäffer might have negative repercussions for the long run political independence of the bank.[49] By early 1959 the discount rate had fallen to 2.75 per cent, another record low.

From Section 2 above it should be clear that after the introduction of full D-Mark convertibility in 1959, the economic restrictions on German monetary policy were significantly altered. Nevertheless for the *Bundesbank* it seemed to be business-as-usual, when it again took a restrictive monetary stance and raised the discount rate to 3 per cent in September 1959. One reason was that the self defeating consequences of higher domestic bank rates were still to be learned.[50] From a domestic perspective the bank indeed had every reason to implement a tighter policy: the economy was heating up rapidly, the unemployment rate was soon as low as 1 per cent, and inflation was rising. However, when the bank raised its discount rate for a second and third time in October 1959 and in June 1960, it also raised the (positive) interest rate differential with the US. In a system of fixed exchange rates, so the Council discovered, this triggered capital imports both from arbitrage and speculation. Between early 1959 and October 1960 the net inflow of foreign assets to Western Germany was about DM 12 billion or almost 30 per cent of German M1 in late 1958.[51] But there was another reason why the *Bundesbank* was reluctant to adapt to the new reality. The Council realized early on that a capitulation in the face of the policy dilemma under fixed exchange rates posed a danger. If it were be caught holding "the buck", that is with the sole responsibility for fighting inflation,

when it had to relax its contractionary measures because of the influx of capital, it might well lose the reputation it had earned in the 1950s.[52]

As a counter strategy the *Bundesbank* again combined its restrictive monetary course with a criticism of the federal governments lack of anti inflation activity. The tone in which this criticism was delivered was much harsher than in 1955/56. A revision of the fiscal stance was "unavoidable", the Council made clear, and those who stayed passive would "burn their fingers" if the *Bundesbank* acted on its own. It added that, if the Adenauer cabinet was willing to raise expenditures, it should also have the "courage" to raise taxes.[53] In November 1959, in a move without precedent, the central bank Council even published a "resolution" that dramatically appealed to the federal government to do its share in fighting inflation with a anticyclical fiscal policy (*Bundesbank* (Monthly Report 1959:11)). As Karl Blessing, the new *Bundesbank* President, summarized it later, the essential objective of the exercise was to get the ball of the central bank's court and into that of the government.[54] This was particularly true of the "last try" at braking the upswing of the German economy that the Council staged in June 1960. There was not much chance that raising the discount rate from 4 to 5 per cent would slow down the economy, even though the *Bundesbank* introduced, in its own words, a whole "bucket" of additional discriminatory measures against capital imports such as zero interest to foreigners.[55] By now it was quite clear that the speculative capital inflow would eventually defeat the contractionary impact of higher domestic interest rates. Nevertheless, the Council went ahead. If the manoeuvre failed, Blessing told his colleagues, the bank could wait for the government to take responsibility.[56]

In fact, the government was not as passive as the *Bundesbank* criticism implied. Since the bank's early appeals in mid 1959 and partly with the consent of Chancellor Adenauer, Minister Erhard was busy bringing fiscal policy in line with the business cycle. For instance, the budget law was amended to allow for expenditure stops in cases of macroeconomic "disequilibria" and depreciation allowances were cut significantly.[57] However, when the *Bundesbank* finally gave up its tight monetary stance in November 1960 because of its "self-defeating" results (*Bundesbank* (Monthly Report 1960:11)), these measures proved to be insufficient to cool down the economy and lower inflation. After a brief flirt with a system of

private and communal capital exports (initiated by the *BDI*), there was no longer any way of avoiding an appreciation of the D-Mark. While the industrial pressure groups had stayed relatively calm during the new, but obviously ineffective, period of monetary contraction, the idea of an appreciation proved to be particularly unpopular with them. This was one of the reasons why the majority of *Bundesbank* Council members had not suggested this kind of a remedy for the twin problem of inflation and balance of payments surpluses. Now, with the cabinet publicly taking the initiative for the D-Mark appreciation, the bank supported the move.[58] Shortly afterwards, in early March 1961, the D-Mark appreciated against the dollar.

4. Conclusions

The German *Bundesbank* is repeatedly called the worlds most independent and conservative central bank. There has been, however, almost no analysis of the background of this German institution. Taking account of the time path dependency of this reputation, both quantitative and qualitative data are used to determine the economic and political factors that contributed to it in the 1950s. In a first step, a simple ad hoc reaction function is estimated to describe the German central bank's policy performance in the period 1950-71. As it turns out, the Bretton Woods system of full convertibility and fixed exchange rate placed binding restrictions on the *Bundesbank* in the 1960s but not in the 1950s. The softer rules of the European Payments Union gave the new institution the chance to earn the reputation that came with a policy aimed at steady, low inflation rates. Then, to pursue the quantitative approach further, the reaction function is used to test a set of hypotheses which predict non-benevolent behaviour on the side of the *Bundesbank*. The results indicate that German monetary policy was influenced by economic rather than political considerations right from the beginning. However, to infer from this evidence that the bank's political autonomy was instant, would be premature.

As a matter of fact, the qualitative evidence analyzed suggests that the *Bundesbank* was very much involved in the political process and that it was within this process that it earned its political standing. Following the recent literature on central bank autonomy, a first approach focuses on the evolution of the *Bundesbank's* legal status. It turns out, however, that law is sometimes a misleading indicator of political independence. Even though it was legally

dependent on the Allied Banking Commission between 1948 and 1951 (the year the bank came under German jurisdiction) the *Bundesbank* enjoyed more or less full autonomy in its decisions. On the other hand, coming under German law meant that conflicts with the government or parliament could lead at any time to changes in its legal status. The focus should be on a different qualitative data set instead: the history of conflicts over monetary policy in the 1950s.

Three results stand out in the analysis of these conflicts. One is that in 1950/51, in its first major policy discord with the federal government, the German central bank depended to a very large extent on external commitment technologies. In the face of a high unemployment rate, it took both the binding balance of payments constraint against the European Payments Union and the isolation from German authorities established by the Allied banking law to secure its austerity policy against government intervention. Nevertheless, by the time the *Bundesbank* entered into the next major conflict over its anti-inflation policy, it had formed a reputation for being conservative and independent.

The second result of some importance is that the *Bundesbank* was an active political player. It joined with other players to pursue its objectives and, both in concert and alone, aggressively attacked the government when necessary. During the "Gürzenich affair" in 1955/56 the bank managed to form a very effective coalition with members of the federal cabinet that guaranteed it sufficient public and political support to win the conflict. Then, when after the introduction of full convertibility in 1959 the bank faced the danger of losing its reputation as an inflation fighter because the restrictions of the system of fixed exchange rates, it again managed to secure public sympathy by credibly signalling its willingness to restrict the economy before it capitulated. This left the buck with the government and rescued the bank's reputation. So, the *Bundesbank's* own "Guide to Independence" would strongly suggest that a central bank should be an active and flexible player in the political process which, after all, has a decisive influence on its actual political independence. At least in the period under scrutiny it was precisely this behaviour that helped the German central bank to provoke and secure the public support it could then rely on in conflicts with its opponents.

A last, but substantial, result is suggested by the qualitative evidence on the motivation of the *Bundesbank* opponents. Even Chancellor Adenauer, the dominant political figure in Germany at the time and also the bank's main antagonist, valued the advantages of an autonomous and conservative central bank enough to accept that these came at the price of defining a policy space within which the *Bundesbank* could move without fearing government interference. But these advantages were political rather than benevolent. It was only through the eyes of the median voter that opportunistic politicians like the Chancellor learned about the benefits Rogoff (1985) and Lohmann (1992) attribute to central bank independence. In addition, as argued by Kane (1980), central bank autonomy allowed the *Bundesbank's* principal opponent to embrace industrial pressure groups while pointing to the central bank as a "scapegoat" when these groups complained about higher interest rates in inflationary periods.

Notes

1 Until 1957 it was named the *Bank deutscher Länder*. Since the institutional changes made in 1957 hardly touched upon the issue of independence (Hentschel (1989) - also see Section 3.1), the better known name *Bundesbank* will be used throughout the text. The approach is in accord with the standard literature on the German central bank. See Holtfrerich (1988).

2 On the time consistency problem see Kydland and Prescott (1974) and Barro and Gordon (1985). For an overview compare Blackburn and Christensen (1989) and Persson and Tabellini (1990).

3 See the references for a short description of the qualitative data sources used.

4 The rate is published by the *Bundesbank* (Monthly Report: various issues). The estimates to be shown are quite robust in terms of a change of policy instruments, which reinforces the point that the discount rate was the bank's principal instrument.

5 See Schächter and Stokman (1995) for a similar approach for the *Bundesbank*. As already argued by Jeitziner (1995) its main problem is that it implicitly incorporates both a structural and a preference component without the means of discriminating between them. However, the method is very useful for determining which changes in the economy caused monetary policy to react and which did not. For a discussion see also Alt and Woolley (1982).

[6] ADF tests are not reported. Series that were stationary around a linear trend were de-trended. Since DR_t is stationary, co-integration analysis was not applicable.

[7] The results do not depend on the type of monetary aggregate, price or production indices choosen. All growth rates are the annual differences of the raw series in logs. As argued by Berger and Woitek (1996), taking annual differences is the preferrred method to de-sesonalize the data. The data can be obtained from the *Bundesbank* under the codes (in the order of the text): UU0289, UU0062, UU034, and TU0047.

[8] The series showed a highly significant positive trend within the relevant period and has been detrended as well. The series is available from the FED, NY.

[9] The results do not change when the dummies are weighted with the actual change in the balance of payments. German net foreign assets have the *Bundesbank* code TU0841.

[10] Consider a model where the optimal discount rate under certainty in period t is a linear function of the exogenous variables introduced in (1): $DR_t^*=a+\sum b_i x_i$, i=1...7. When ϕ measures the speed of adjustment, then $\Delta DR_t=DR_t-DR_{t-1} = \phi(DR_t^*-DR_{t-1})$. It follows that the short term reaction function is $DR_t=\phi a+\sum \phi b_i x_i+(1-\phi)DR_{t-1}$. This is also the equation estimated. Because $\gamma = (1-\phi)$, the long run coefficients a and b_i can be derived by dividing the estimated coefficients α and β_i by $(1-\gamma)$.

[11] From column (ii) the short run impact of an one percentage point rise in inflation ($\Delta\hat{p}$=0.01 - growth rates are annual differences of the original series in logs) on DR_t would be 2.43 × 0.01=0.02, the long run impact would be (2.43/(1-0.78)) × 0.01=0.11 percentage points. The numbers for output growth are 0.01 and 0.07. Given the volatility of the series (cf. Fig. 1) and the path dependency of DR_t these are reasonable figures.

[12] The short (long) run impact of serverly rising balance of payments deficits on DR_t was 0.53 (2.40) percentage points.

[13] The short (long) run impact of a one percentage point rise in FED_t (the deviation of the FED discount rate from its trend) on DR_t was a rise of 0.30 (1.36) percentage points.

[14] The correlation between the growth rates of real GDP in the US and Germany was much higher in the 1950s than in the 1960s. This might help to explain why the observed correlation between DR_t and FED_t, which presumably responded to the US economy, was compatible with domestic policy objectives in the 1950s but not in the 1960s. As a matter of fact, the FED's policy itself hardly played a role in the *Bundesbank* Council before 1960 (Berger (1995: Chapter II)). The correlation between FED_t and the domestic variables is, however, not strong enough to bring significant multicollinearity into the model.

[15] Compare the results by Schächter and Stokman (1995).

[16] Political dummies are constructed from information provided in the annual yearbooks of the German Statistical Office. See *Statistisches Bundesamt* (Yearbook: various issues).

[17] Actually it is not quite clear whether the formal consent of the *Bundesrat* is needed for a change of the *Bundesbank* law or not. However, on both accounts a *Bundesrat* majority would be helpful. For a similar reasoning see, for instance, Moser (1994).

[18] In still another variant of H1, Vaubel (1997) argues that the *Bundesbank* raises (reduces) the discount rate before federal elections if its Council opposes (shares) the partisan beliefs of the federal government. For lack of observations (there is no pro government majority in the Council in pre-election periods in the 1950s and no anti government majority in the 1960s), this hypothesis cannot be tested in the given set-up. However, Berger and Woitek (1997) reject the hypothesis for the period 1950-61 using tests on the individual voting behaviour of *Bundesbank* Council members in discount rate decisions.

[19] The full employment deficit is computed from annual national account budget figures provided by the *Statistisches Bundesamt* (1995). The series starts in 1950, so $Polgov_t$ starts in 1951. Estimations with (monthly) cash budget figures, which are less reliable in terms of economic impact, provide similar results.

[20] Fiscal stance is represented by $Polgov_t$. The general monetary conditions the *Bundesbank* might be held responsible for are deviations of the (monthly) annual growth rate of M3 from its trend 1950-71. M3 has the *Bundesbank* code TU0800, supplemented with data from *Bundesbank* (Monthly Report: various issues).

[21] Frey and Schneider (1981) find a significant coefficient. However, their data are quarterly, cover a different period (1957-77) and they do not control for the effects of the exchange rate system.

[22] See the minutes of the *Bundesbank* Council meeting Nov. 2-3 1948 (HADB B 330/7). Inflation rates are from the *Bundesbank* (see Section 2) and own calculations.

[23] See the minutes of the *Bundesbank* Council meeting Aug. 30-31 1949 (HADB B 330/17).

[24] See the first conflict study in Section 3.2.

[25] See the decision of the *Bundesverwaltungsgericht* (1973) from Sept. 9 1973.

[26] The new law also established the name *Bundesbank* for the Frankfurt based institution.

[27] A similar point has been made by Alesina (1987) and Moser (1994), who argue that different political parties will use an independent central bank as a commitment device for implementing a consensus policy.

[28] See the minutes of the *Bundesbank* Council meeting Oct. 26 1950 (HADB B 330/32).

[29] Erhard first expressed his opinion before the bank's Council on Oct. 13 1950 (HADB B 330/31). He re-enforced it before the cabinet on Oct. 26 (see fn. above).

[30] Alternatively one could argue that the *Bundesbank* was not independent of the German authorities but yielded to the desires of its real principal(s), the Allies. It is more likely, however, that the commission only followed the policy of non-intervention established by the ABC earlier. In any case, the October 1950 event certainly changed the bank's outside image.

[31] See the minutes of the *Bundesbank* Council meeting Oct. 10-11 1951 (HADB B 330/48).
[32] 3 per cent was a record low compared to both the inter-war and the post-war periods. For the debate and the decision, see the minutes of the *Bundesbank* Council meeting Aug. 3 1955 (HADB B 330/87). The term "warning signal" was coined here.
[33] This amounted to 2.2 per cent of GDP in 1955. See *Bundesbank* (Monthly Report: various issues), *Statistisches Bundesamt* (1995).
[34] The money accumulated by the federal treasury was nicknamed *Juliusturm* after the "Julius tower" in Spandau near to Berlin, a fortress where Prussia had kept its war funds.
[35] For such advice to the head of the Treasury, who was present at the meeting, see the minutes of the *Bundesbank* Council meeting Jan. 19-20 1955 (HADB B 330/32).
[36] For a thorough analysis of the government's stabilization program see Berger (1995: Chapter III).
[37] For Adenauer's position see the minutes of the *Bundesbank* Council meeting Oct. 15 1955 (HADB B 330/88) and his letter to the Council from Nov. 7 1955 (HADB B 330/2011).
[38] See the defensive *Bundesbank* press release in the appendix of the minutes of the Council meeting Dec. 21 1955 (HADB B 330/90). In November Council members even spoke of a "barrage" of criticism coming from industrial interest groups. See the minutes of the Council meeting Nov. 23 1955 (HADB B 330/89).
[39] See the minutes of the *Bundesbank* Directorate Oct. 11 1955 (HADB 330/2057).
[40] See the minutes of the Council meeting March 7-8 1956 (HADB B 330/92).
[41] The official minutes only noted that the ministers had delivered the veto and "personal statements". The word-by-word and hand-written minutes tell a different story (ibid.).

[42] A translation would be "committee for stabilization policy". It referred to itself as *Konjunkturpolitisches Gremium*, which sounded less official. For the founding of the committee and its many sub-committees see the files of the Ministry of Commerce (BA B 102/12596,2; 127772,4; 12598,2).

[43] See the committee minutes of May 9 and Erhard's files (BA B 102/12596,1 and 2).
[44] See the Council meeting May 18 1956 (HADB B 330/94) and *Bundesbank* (Monthly Report 1956:5).

[45] The programme was accepted by parliament with minor changes on June 22 1956. It included, among other things, an investment stop. For a detailed analysis see again Berger (1995: Chapter III). On the same day Adenauer delivered a speech where he both endorsed the programme and tried to defend his appearance in the Gürzenich hall. See the *Bundestag* minutes of June 22 1956 (*Stenografische Berichte* (152. Sitzung)).

[46] That Adenauer thought the *Bundesbank* had credibility does, of course, not mean that the public shared his view. However, given the Chancellor's strong incentives to rigorously evaluate the bank's political net-worth before and after the affair, his judgement can probably be considered as being representative.

[47] Meeting of the party's head council Apr. 26 1956 (Buchstab (1990: 903)).

[48] Of course, the *BDI* would have been irrational to believe that the Chancellor really defended its interest if it would have known the result of the conflict ex ante. However, it was only after entering the conflict that both Adenauer and the interest group learned that the Chancellor would be defeated. In this sense, the scapegoat interpretation is indeed more than an ex post argument.

[49] See the minutes of the Council meeting Sept. 5-6 1956 (HADB B 330/96) and the ministry files covering the discussions around the September decision (BA B 102/12598,2).

[50] Despite early warnings by economists (cf. Röpke (1956), Hahn (1957), Möller (1957)) and individual Council members, especially chief economist Eduard Wolf and the later *Bundesbank* President Otmar Emminger, the Council's majority long believed it could circumvent the dilemma of fixed exchange rates. The first official hint at the dilemma was in *Bundesbank* (Monthly Report 1960:2). See also Emminger (1977). For the *Bundesbank's* standing on the issue of convertibility up to 1959 see Dickhaus (1996) .

[51] This makes for an annualised growth rate of M1 of about 23.4 per cent.

[52] For the quote see the speech made by the bank's new President Karl Blessing in late 1959 (*Bundesbank* (Monthly Report 1959:10)).

[53] For the quotations see the minutes of the Council meeting Sept. 9 1959 (HADB B ZBR/38-61/59) and the speech by Blessing cited in the fn. above - own translation.

[54] See the minutes of the Council meeting Oct. 10 1960 (HADB B ZBR/62-84/60).

[55] For the quotations and the decision see *Bundesbank* (Monthly Report 1960:6) and the minutes of the Council meeting June 2 1960 (HADB B 330/165 II) - own translation.

[56] Ibid.

[57] For a thorough analysis of the government's activities 1959-61 and the role the *BDI* and other industrial pressure groups played see Berger (1995: Chapters III and IV).

[58] See the minutes of the Council meeting March 3 1961 (HADB B 330/175 II). The official statement made it very clear that the initiative came from Bonn (*Bundesbank* (Monthly Report 1961:3)). On the details of the decision process in the government see also Koerfer (1988).

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1. Archives

BA: *Bundesarchiv, Koblenz, Germany*

The archive holds the correspondence and notes of the federal Ministries and, with some exceptions, the Chancellor's office. All sources are available after 30 years.

HADB: *Historisches Archiv der Deutschen Bundesbank, Frankfurt a.M., Germany*

The archive holds the correspondence and minutes of the Directorate and the Council. The minutes of the Directorate meetings are summaries of its discussions and decisions. There are three types of Council minutes: the official minutes, which summarise the debates and decisions of the Council, the word-by-word minutes, and the hand-written notes of the member that later prepared the official minutes. Often all three types are available. If not specified otherwise, all minutes are in accord. All sources are available after 30 years.

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Table 1: Reaction Function for the Bundesbank Discount Rate (DR_t) in the Bretton-Woods Era 1950-71

Variable	(i)	(ii) *Soft* Period	(iii) *Hard* Period
	50:4-71:5	50:4-58:12	59:1-71:5
$\hat{p}_{t-3}$	0.45	2.43**	4.06
	(0.57)	(2.09)	(1.26)
$\hat{y}_{t-3}$	0.82*	1.57***	0.14
	(1.93)	(2.63)	(0.19)
$\hat{u}_{t-3}$	0.02	0.25	-0.01
	(0.39)	(1.16)	(0.16)
$\hat{m}_{t-3}$	0.40	0.61	-0.02
	(0.51)	(0.52)	(0.01)
FED_t	0.16***	0.30***	0.23***
	(3.48)	(2.89)	(3.50)
$BOP\text{-}Deficit_t$	0.17**	0.53***	0.04
	(1.97)	(3.43)	(0.39)
$BOP\text{-}Surplus_t$	0.01	0.02	0.11
	(0.17)	(0.26)	(1.08)
DR_{t-1}	0.91***	0.78***	0.91***
	(43.61)	(13.47)	(35.70)
Constant	0.33***	0.89***	0.35***
	(3.95)	(3.55)	(3.37)
R^2_{adj}	0.94	0.93	0.94
SSR	19.95	7.26	11.40
P(Q-stat)	0.98	0.95	0.92
P(F-stat)	0.00	0.00	0.00

***/**/*: significant at 1/5/10 per cent level.

Notes: |t-statistics| are reported in brackets below coefficients. Q-statistics are computed for a lag of 10. All data are monthly and stationary (based on standard ADF-tests). Due to the availability of data, the estimation period begins in April 1950. It ends in May 1971, when the D-Mark was first left floating. See text for the interpretation of individual coefficients.

Data: See text for details.

Table 2: Estimated Coefficients for Politcal Variables

Hypothesis (See Text)	Pre-Election Period	(ii) *Soft* Period 50:4-58:12	(iii) *Hard* Period 59:1-71:5
H1	18 Months	0.09	-0.01
		(1.18)	(0.09)
	12 Months	-0.09	-0.01
		(1.06)	(0.19)
	6 Months	-0.11	0.11
		(1.19)	(1.56)
H2	18 Months	0.30	-0.02
		(1.46)	(0.25)
	12 Months	-0.05	0.02
		(1.16)	(0.31)
	6 Months	-0.23	0.17*
		(1.05)	(1.87)
H3[a]		-0.06	0.03
		(1.30)	(0.39)

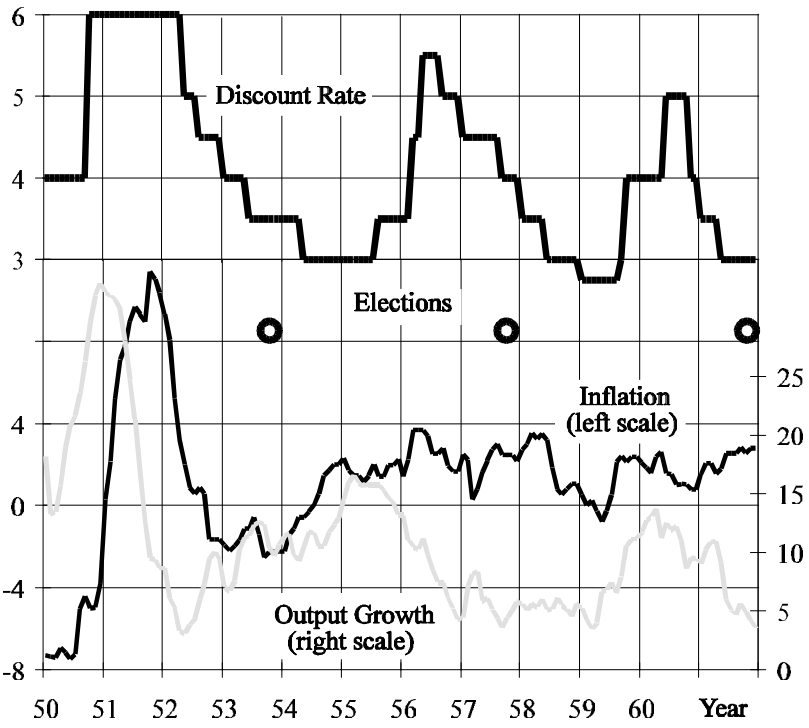
[a]: Since $Polgov_t$ is first available in 1951, (ii) starts in 51:1 not in 50:4.

*: significant at 10 per cent level.

Notes: |t-statistics| of the estimated coefficients are reported in brackets below coefficients. For H1 and H2 the political variables are added to the model described in eq. (1). A separate model is estimated for each dummy. For H3 see eq. (2) below. The model statistics as well as the coefficients not reported in Table 2 are comparable to those reported in Table 1 in all three cases. (The results are robust to alternative treatments of the *Bundesrat* majority of the "Grand Coalition" between Germany's two dominating parties, the social democrats and the conservatives, from December 1966 to September 1969. The results for H2 are based on the asumption that the Grand Coalition commanded a 100 per cent majority in the *Bundesrat*. Other results are available on request.)

Data: See text for details.

Figure 1: German Monetary Policy in the 1950s



Notes: All data are monthly and in per cent. Output growth (real net production, smoothed) and inflation are annual growth rates. The ∘ in the figure mark federal elections.
Data: Available form the *Bundesbank* (see text), own calculations.