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The Bundesbank's Communications Strategy and Policy Conflicts with the Federal Government

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The Bundesbank's Communications Strategy and Policy Conflicts with the Federal Government*

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Abstract: In this paper we provide an estimate of the likelihood of conflict between the federal government and the Bundesbank for the 1989 – 1998 period. We rely on a novel proxy for the impact of public communication by Bundesbank officials on the probability of conflict, in addition to interest rate, exchange rate, money supply behavior, as well as electoral influences. The empirical evidence is consistent with the view that speeches by the Bundesbank President dealing with inflation and economic policy are a positive source of conflict in a probabilistic sense. Conflict was not a constant but flared up at times of economic stress and could be exacerbated by the „talking“ of Bundesbank officials.

JEL Classification: E32, E58, E63

Keywords: Deutsche Bundesbank, Conflict, Central Bank Communication, Political Factors

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1. Introduction

Even the most autonomous central banks cannot, at times, escape conflict with government. Conflicts arise either because the government disagrees with the current stance of monetary policy, the central bank's outlook for future economic activity, or because the monetary authority might be critical of fiscal policy. Even the Bundesbank, a central bank that enjoyed a considerable degree of independence, according to all of the most widely circulated rankings, has not escaped conflict during its illustrious life.¹ Quantifying the degree of conflict over policy issues is, however, problematic. The political economy literature suggests that electoral and/or partisan factors are significant sources of conflict (see, for example, Alesina, Cohen, and Roubini (1992), and sources therein), especially if the central bank sees the need to implement a monetary policy that is tighter than the government wishes or is not loose enough in a period of recession.

There exists a body of empirical work that documents significant political influence on Bundesbank behavior (references are provided below). Others argue that the Bundesbank was largely able to avoid responding to political pressure by shielding itself behind the notion of institutional independence. Some of the differences in views have to do with the fact that a central bank cannot be independent from government but is best thought of as an autonomous institution within government. Indeed, politicians who drafted the 1957 Bundesbank Law (Deutsche Bundesbank 1957) were keenly aware of the fact that conflict between the government and the central bank could not entirely be eliminated (Lohmann 1998). The difficulty at reaching a consensus about the significance of the impact of political pressure on the Bundesbank is partly

¹ See, for example, Grilli, Masciandaro, and Tabellini (1991), Burdekin, Wihlborg, and Willett (1992), Alesina and Summers (1993), Cukierman, Webb, and Neyapti (1993), and Eijffinger and Schaling (1993).

a reflection of the variety of ways in which politicians can, directly or indirectly, attempt to influence central bank behavior.

In this paper we provide an estimate of the likelihood of conflict between the federal government and the Bundesbank that relies on the behavior of interest rate, exchange rate and money supply behavior, political influences both at the federal (Bund) and at the federal states (Länder) level, as well as by incorporating a novel element into the analysis. These determinants of the likelihood of conflict have their origin in the institutional environment given by the laws governing the Bundesbank. More precisely, the advisory and public communications activities of the Bundesbank on monetary and economic policy issues, as well as the influence of federalism on monetary policy, are key components to understanding Bundesbank behavior.

Cukierman's (2000) theoretical model is used to motivate both the analysis and the empirical work. By specifying a variant of Rogoff's (1985) well-known conservative central banker model, Cukierman shows that the inflation bias is positively related to the likelihood that an economy is in a recession. The inflation bias is the principal source of conflict between the government and the central bank. Moreover, conflict seems more likely to take place when an economy is in a recession as the government, with one eye on the next election, may wish to confront the central bank on the stance of monetary policy currently being adopted. Similarly, a central bank may believe that its policy stance is appropriate and will eventually deliver the desired results while the government may be less patient than the conservative central banker prompting disagreement about the course of monetary policy.

Next, we argue that an institutional analysis of the Bundesbank, as well as an historical description of how it went about implementing monetary policy, suggests that public communication by Bundesbank officials is one of the determinants of the likelihood of

government-central bank conflict.² The Bundesbank's role has changed substantially in light of the creation of the European Central Bank. As such, the experience of arguably one of the most successful monetary institutions in the post-World War II era contains important historical lessons as they point to an important role for the communications strategy of a central bank in determining the degree of conflict with the political authorities.³

The rest of the paper is organized as follows. In the following section we discuss potential institutional sources of conflict between the Bundesbank and the federal government. Section 3 outlines the specification to be estimated, and the data employed. Section 4 describes the empirical evidence while section 5 concludes.

2. Sources of Conflict between the Bundesbank and the Federal Government

For the purposes of the present study three aspects of the laws governing the Bundesbank represent a potential source of conflict between the Bundesbank and the government in Germany. First, until the European Central Bank came into being, the federal government could, at most, request that the Bundesbank defer, but not overturn, a monetary policy decision it disagreed with. This power was never formally invoked. Thus, while the Bundesbank is „independent of instructions“ from the federal government (Deutsche Bundesbank Act, section 12), it was expected to „support the general economic policy“ of the government. No doubt such wording

² From the monetary policy point of view this also implies that communication represents an instrument of monetary policy in addition to the conventional monetary policy instruments (Blinder et al. 2001; Siklos and Bohl 2004).

³ For an analysis of conflicts between the Bundesbank and the government during the Bretton Woods era see Berger (1997), Berger and de Haan (1999), and Berger and Schneider (2000) for the post-WWII period.

raised the probability of conflict between the federal government and the Central Bank Council, the body nominally responsible for implementing monetary policy, especially if the central bank takes seriously the task of commenting on fiscal policy matters. Nevertheless, the politicians who wrote the laws governing the Bundesbank understood the dangers inherent in establishing this kind of relationship between the Bundesbank and the political authorities, but in the end they felt that adequate institutional structures to entirely avoid such conflicts could not be properly designed (Kennedy 1991; Wahlig 1998).

The second noteworthy feature of the Bundesbank in Germany's political structure is that it is expected to provide advice to the federal government on „monetary policy matters of major importance“ (Deutsche Bundesbank Act, section 13). The requirement was a voluntary one. Yet, the Bundesbank has not shied away from providing an opinion or advice about matters related to monetary policy in particular or economic policy more generally, including fiscal policy. The events leading to European Monetary Union make this abundantly clear. The advisory role of the monetary authorities, while not surprising, is generally more informally established at other major central banks (e.g., the U.S. Federal Reserve). While fear about the possible loss of autonomy may be one explanation of this phenomenon, it could also be argued that such a formal arrangement actually enhances independence by permitting a form of „moral suasion“ to operate in both directions. Indeed, more than one former President of the Bundesbank (e.g., Tietmeyer 1998) considers this feature of Bundesbank-government relations to be a critical one (also see Posen 2000).⁴

⁴ Neumann (1999) produces the following quote from the 1972 Bundesbank Annual Report relevant for the present discussion: „This means that the Bundesbank ... can approach the federal government on its own initiative, and must do so if it considers, in its duty-bound judgement, advice ... to be called for.“

The third element in the Bundesbank's institutional structure that needs to be highlighted, in the context of potential conflicts with the government, is the federal structure of German politics. While some authors have recently noted the relative importance of this feature (Kennedy 1991; Lohmann 1994, 1998; Berger and Woitek 1997; Vaubel 1997; Maier and de Haan 2000), it remains under-emphasized in the wider discussion of central bank operations. This is somewhat surprising since federalism plays a significant role in political-economic discussions of the behavior of government agencies (e.g., Lijphart 1997). It is widely believed, for example, that the appointment process of boards at central banks can lead to partisan-like behavior by the monetary authority, at least in the U.S. experience (e.g., Havrilesky 1995), and there is some evidence for this type of influence in German monetary policy and of partisan cycles more generally (Frey and Schneider 1981; Soh 1986; Alesina, Cohen, and Roubini 1992; Johnson and Siklos 1996; Vaubel 1997).

A possible complication is that a majority of the Bundesbank's Central Bank Council consisted of appointments made at the federal states level.⁵ The remaining members of the Council, including the Bundesbank President, are nominated by the federal government. Even if the President is considered „primus inter pares“ and the Directorate pre-eminent in monetary policy decision-making, there is at least the potential for conflicts arising within the Central Bank Council due to different parties dominating in the Bundesrat and the Bundestag. Whether this aspect of the relationship between the Bundesbank and the political authorities is significant is, of

⁵ To be more precise, the Presidents of the central banks of the federal states are nominated by the Bundesrat and are appointed by the President of the Federal Republic (Deutsche Bundesbank 1995).

course, an empirical question.⁶ Put differently, the foregoing discussion suggests that rivalry between the Bundesbank and the federal government need not be constant.⁷

Given the institutional background discussed above, we suggest that conflict between the Bundesbank and the federal government manifests itself in part via the public communication of Bundesbank views by senior officials in public. Hence, in the presence of increasing disagreements about the present stance of monetary policy, the Bundesbank communicates its views by speaking out on the principal economic indicators, most notably inflation, that are likely to affect interest rate setting behavior more frequently.⁸ Indeed, the greater the disagreement the

⁶ The Central Bank Council met less often than the Directorate and the latter was considered closer to the conduct and operations of monetary policy. Consequently, Central Bank Council members „faced“ politicians frequently while representatives of the federal states were somewhat more removed from political aspects of monetary policy decision-making. Lohmann (1998) goes into more detail and reviews the literature on partisan and electoral influences on the Bundesbank.

⁷ Berger and de Haan (1999) also take this view in their study of Bundesbank behavior from the 1950s through the early 1970s. However, they conclude that the Bundesbank always „got its way“ even in the realm of exchange rate policy.

⁸ This view is consistent with Posen’s (2000) interpretation of Bundesbank behavior which, in many respects, has been likened to that of an inflation targeting central banks. Eijffinger, Hoebrechts, and Schaling (2000) contend, however, that the Bundesbank can afford to „whisper“, in part because of the role of its reputation and its credibility among the public. We believe, and the narrative evidence confirms, that an important ingredient of the Bundesbank’s success lies with its public communications strategy. It has been suggested to us that the Bundesbank could afford to ignore criticisms given its institutional independence. However, such independence is

more likely it is that the Bundesbank would attempt to clarify its position in public and speeches represent a proxy for this form of signaling. Given the Bundesbank's reputation, it can rely on this form of „moral suasion“ to deflect criticisms including those from press reports and influence expectations in the desired direction. Consequently, public communication by Bundesbank officials may be a useful determinant of government-central bank conflicts and reflects one of the mechanisms used by the central bank to assert its autonomy in public.

3. Theoretical Motivation, Test Equation and Data

Cukierman (2000) specifies a conventional expectations augmented Phillips curve, together with an asymmetric loss function such that the central bank reacts only to negative output gaps but symmetrically to inflation that deviates from some objective. Hence, the monetary authority sets policy instruments so as not to create positive output gaps. The model is a purely theoretical one and no empirical evidence is presented. Such a loss function is backed both by the practical experience of central bankers (e.g., Blinder 1998) as well as by recent surveys of political economy (e.g., Persson and Tabellini 1999; Drazen 2000). Cukierman (2000) next shows that, in equilibrium, expected inflation is a function of the probability of a recession. As we argue below such a model fits neatly into understanding Bundesbank behavior, especially when recessions are viewed as raising the likelihood of central bank-government conflict.

The discussion in section 2 suggests three institutional sources for conflict between the Bundesbank and the government. The first two aspects refer to the implementation of monetary policy, the advisory and commentary role of the Bundesbank and the third one highlights the influence of federalism on monetary policy. Relying on the first two arguments the behavior of

always fragile and the central bank needs to defend it on a regular basis. Independence is never taken to mean that the central bank need not „explain“ itself to governments and the public.

interest rates, exchange rates and the money supply can contribute to influencing the likelihood of conflict between the Bundesbank and the federal government. Consistent with the third aspect discussed in section 2 political influences stemming from elections and/or partisan changes in government may also contribute to the probability of conflict. Finally, the type of public communication by senior central bank officials can be a separate source of the probability of conflict. Note that each of these factors influence inflationary expectations that, in turn, are reflected in the likelihood of a recession. Hence, theoretical considerations lead us to suppose that the probability of a recession is linked to the variables mentioned above.

This results in the following specification:

$$K_t = \alpha_0 + \alpha_1(L)COM_t + \alpha_2(L)SIGNAL_t + \alpha_3(L)\Delta R_t + \alpha_4(L)\Delta R_t^f + \alpha_5(L)EP_t + \alpha_6ERM_t + \alpha_7(L)(M3_t - \overline{M3}) + u_t, \quad (1)$$

where α_0 is a constant, L a lag polynomial and u_t a white noise error term. Our specification permits the likelihood of conflict to be affected by and affect the communications activities of the Bundesbank. Hence, $\alpha_1(L)$ and $\alpha_2(L)$ are two-sided for reasons that will soon become apparent. All time series used to estimate equation (1) are monthly, not seasonally adjusted and cover the period from 1989:1 to 1998:12. After 1998, authority over monetary policy shifted to the European Central Bank.

K_t denotes a two state variable whose value depends upon whether the economy is in a recession $K_t = 1$ or not $K_t = 0$.⁹ Relying on the political economy literature, and specifically on the theoretical analysis by Berger and Thum (2000), we assume that conflicts between the Bundesbank and the federal government are more likely to flare up during an economic downturn

⁹ It should be noted that recessions are not a rare event in our sample. The German economy was in a recession 24% of the sample.

than during an expansion. This asymmetry also fits well with Cukierman's (2000) theoretical explanation of the linkages between central bank behavior and the likelihood of recessions. Dates for recessions were obtained from Artis, Kontolemis, and Osborne (1997), and updated in Siklos and Skoczylas (2002). Artis, Kontolemis, and Osborne attempt to create a recession time series for several European countries based on the approach used by the National Bureau of Economic Research to date U.S. business cycle turning points.

Note that (1) does not imply that conflicts only take place in a recession. Rather, K_t should be interpreted to signify that the likelihood of government-central bank conflict is higher during an economic downturn than in an expansion. After all, it is conceivable that some central bank communication might be used either to support the government or to help create positive expectations, and not only serve as a device to signal conflict. One could have specified a more complete central bank reaction function that incorporates a role for output or unemployment developments, and their interaction with interest rate behavior. However, as our interest here is the connection between a central bank's communications strategy and the likelihood of conflicts over the stance of monetary policy, not the estimation of a reaction function, we rely on a recession indicator and eschew other measures of economic performance.¹⁰

To guard against the possibility that the results are somewhat sensitive to our preferred proxy for K_t , we specify a [0,1] dummy variable using the political pressure index for Germany created by Maier, Sturm, and de Haan (2002). This index adapts to German data the approach applied by Havrilesky (1995) to the U.S. case. Havrilesky counts the number of press reports that reflect government pressure for more or less restrictive monetary policies. Maier, Sturm, and de

¹⁰ References to the source of data make it clear, however, that the recession indicator is indeed tied to output and unemployment developments.

Haan find that the Bundesbank did not respond to such pressure. In this context, political „pressure“ is measured according to the frequency of press reports that contradict or criticize the current stance of monetary policy and, therefore, serves as a potential indicator of conflict.

There are three features of Maier, Sturm, and de Haan's (2002) use of press reports as an indicator of conflict that require discussion. First, the sample considered by them includes the Bretton Woods period of pegged exchange rates when policy was somewhat influenced by the U.S. Federal Reserve (although some post Bretton Woods results are also provided).¹¹ Hence, it is perhaps not surprising that German press reports would have no influence on the Bundesbank. Second, virtually every President of the Bundesbank has contended that political pressure via the media is a fact of life (e.g., Deutsche Bundesbank 1999). Therefore, it is unclear how well their index captures government-central bank conflicts. Third, there is considerable evidence that the impact of news items dissipates quickly. Therefore, it is conceivable that press reports will not have a significant influence on interest rates at the monthly frequency. Moreover, interest rate decisions are made infrequently at the bi-weekly meetings of the Directorate so it is unclear – other than a public response by the Bundesbank – how „pressure“ can be effective at other times. It is possible, of course, that pressure builds up over time but their specification may not capture such effects adequately.

Nevertheless, on the basis of the Maier-Sturm-de Haan measures, and in order to provide comparative evidence as well as evaluate the robustness of our own results, we re-estimate

¹¹ While the Bretton Woods system of pegged exchange rates was not a hard one, with capital controls and regular intervention in foreign exchange markets, it is clear that U.S. economic policies impacted German monetary policy. The resulting build-up of exchange market pressure contributed to the collapse of the Bretton Woods system in 1971. For a review of the relevant literature see, for example, Spolander (1999).

versions of (1) using two different versions of Maier, Sturm, and de Haan's (2002) political pressure variable developed for Germany. Calls for looser as well as tighter monetary policy are transformed into an indicator variable. The indicator variable takes on the value of 1 in the month any press report records calls for a tighter or looser monetary policy, and is zero otherwise. We assume that regardless of whether there are calls for looser or tighter monetary policy these signal a potential for conflict between the government and the central bank. As an alternative, we assume that conflict is consistent alone with calls for a tightening of monetary policy. Hence, only the calls for tighter policies result in a positive value for the indicator variable of conflict.¹²

The justification for the right hand variables is as follows. COM_t is a proxy for the public communication by Bundesbank officials. This variable is evaluated as the number of speeches given by Bundesbank representatives in a given month whose substance focuses on a particular topic.¹³ An important but somewhat neglected literature points out that the monetary authority can communicate noisily, but effectively, via announcements. While Cukierman and Meltzer (1986) and Garfinkel and Oh (1995) use the example of a monetary target as the form of communication, Cukierman and Meltzer (1986a) remark that their approach works equally well

¹² The appendix to the Maier, Sturm, and de Haan (2002) paper provides the complete data set.

¹³ In Siklos and Bohl (2004) it is found that speeches dealing with inflation matter most in influencing the public's expectations. They considered separately speeches dealing with European Monetary Union, or other topics, but speeches dealing with inflation were most significant in the specifications. It has been suggested that speeches may not be a good proxy because they are planned far in advance. It is our understanding that while the timing of some speeches may be known in advance the precise content of speeches by the President is decided shortly before the speech is delivered. Hence, in almost every case, the speech covers a topic of present interest or concern to the central bank.

in case of public statements and speeches by central bank officials. Accordingly, public communication is a device that gives the monetary authority flexibility due to the economic costs and potential loss of credibility arising out of frequent interest rate changes (Sack and Wieland 2000). As such, COM_t is a novel measure.

The Bundesbank publishes on a bi-weekly basis a summary and/or full texts of speeches by senior central bank officials. The publication is known as *Auszüge aus Presseartikeln*. The press excerpts contain primarily the speeches by the President and a smaller fraction deemed important but delivered by the Vice-President and other senior officials.¹⁴ Furthermore, the speeches are classified according to their substance. From this source we counted the number of speeches per month delivered by the President (roughly 90 % of them) covering economic policy (*Wirtschaftspolitik und -lage*), or prices or inflation (*Arbeitsmarkt, Löhne und Preise*).

Figure 1 plots the frequency of speeches on inflation and economic policy against the inflation rate measured by the consumer price index. It is apparent that inflation and the frequency of speeches dealing with inflation or economic policy are positively related throughout the sample with a positive correlation coefficient of about 0.30. Note that the correlation coefficient between the frequency of speeches and inflation is likely to be time-varying, for example, typically higher when inflation is rising than when it is falling, as rising inflation ought to lead to temporarily higher real interest rates.¹⁵ Similarly, conflict could be triggered when there

¹⁴ It is interesting to note that the structure of this publication changed dramatically soon after the birth of the European Central Bank. Relatively few speeches are now recorded, and there is no attempt to classify these according to the main topic of the speech. Instead, announcements from the European Central Bank as well as a few articles, mostly from the financial press, are now published.

¹⁵ This is the Taylor principle that underpins the well-known Taylor rule (Taylor 1993).

is a recession and, say, interest rates fall too slowly in the government's opinion. Clearly, contemporaneous correlation coefficients are not sufficiently informative about the likelihood of government-central bank conflicts over monetary policy.

Figure 1 about here

The variable $SIGNAL_t$ in (1) captures a potential bias inherent in the construction of COM_t , which arises because some of the speeches may be the result of regular events, and not necessarily intended to convey the stance of monetary policy. Therefore, $SIGNAL_t$ controls for the selectivity bias problem created by adding COM_t to (1). $SIGNAL_t$ is a dummy variable equal to +1 in months of discount rate changes, announcements of monetary targets and other important issues on monetary policy such as releases of the annual report are made, and zero in case of no events. Consequently, the lag polynomial for $SIGNAL_t$ has to be identical to the one for COM_t . The data were taken from the Chronik der Geld- und Währungspolitik contained in the Deutsche Bundesbank's Annual Report.

ΔR_t is the log change in the German discount rate. The data are from Deutsche Bundesbank (1998) and various issues of the Bundesbank's Monthly Report. The log difference is used to allow for the possibility that conflicts are more likely when relatively large interest rate changes are made than when smaller ones are implemented.¹⁶ The variable ΔR_t^f denotes the log change in a foreign interest rate. There is little doubt that Germany's role in the European

¹⁶ In other words, this transformation recognizes that there is a difference between raising interest rates by ¼ of 1% when interest rates are 3% than when levels are, say, at 8%.

Monetary System in the years leading up to European Monetary Union warrants reactions to interest rate developments abroad. In particular, since the U.S. serves as the “anchor” during the Bretton Woods era and thereafter, as European currencies form the European Monetary System to limit fluctuations in exchange rates amongst themselves but float against the U.S. dollar, there is little doubt that U.S. monetary policy had an indelible influence on German monetary policy though it may have abated once Bretton Woods collapsed.¹⁷ Nevertheless, this suggests that an external source of conflict that might pit the Bundesbank against the government stems from changes in U.S. vis-à-vis German interest rates. Hence, the U.S. federal funds rate is the natural candidate as a proxy for R_t^f . Three lags are used for both interest rates in our specification. It seems preferable to rely on changes in interest rates as there is no reason to believe that one nominal interest rate level matters more for conflict than another. Instead it is the aggressiveness with which the central bank pursues its policies that is more likely to be a determinant of conflict. Alternatively, one might consider the U.S.-German interest rate differential instead of changes in the U.S. Fed funds rate. Again, the conclusions are unaffected by this change.

EP_t in equation (1) is a vector representing electoral and partisan pressures on monetary policy. We distinguish between elections at the federal level (Bundestagswahlen) and at the federal state level (Landtagswahlen) and a variety of formulations were considered for the electoral dummy variable. As noted earlier, Lohmann (1998) and others have stressed the role of the federal states in potentially influencing the direction of monetary policy and in creating conflict between the Bundesbank and the central government. In much of the political business cycle literature electoral dummies are set to + 1 for some months prior to an election and zero

¹⁷ De Grauwe (2003) documents the role of Germany in the European Monetary System and the role of U.S. interest rates and monetary policy more generally.

thereafter. Alternatively, following Johnson and Siklos (1996), we also considered the possibility that political pressure on the monetary authorities might lead to a deferral of a necessary tightening of monetary policy until after an election, or an artificial loosening of policy which is then reversed after an election. In this case, the electoral dummy variable is active before an election with a value of + 1 as well as after the election with a value of - 1 so that the sum is zero.

After experimenting with different formulations we set the electoral dummies active the election month and three months before the election denoted as $EBUND_t$ and $ELAND_t$ for Bundestagswahlen and Landtagswahlen, respectively. To economize on the loss of degrees of freedom we aggregated the dummies for the individual states. The data were obtained from various issues of the Statistisches Jahrbuch für die Bundesrepublik Deutschland.

In addition to the electoral variables, partisan influences are captured by discriminating between „left-wing“ and „right-wing“ governments at the state level. While a „right-wing“ government was in power during the whole period under consideration „left-wing“ governments at the state level are assigned a value of - 1 and „right-wing“ governments are assigned a value of + 1. As in case of the electoral variables we aggregated the dummies for the individual states to keep at a minimum the loss of degrees of freedom. The variable is denoted as $PLAND_t$ and the data can again be obtained in various issues of the Statistisches Jahrbuch für die Bundesrepublik Deutschland.

ERM_t is set to one in the month of exchange rate realignments in the European exchange rate mechanism and is zero otherwise. This variable attempts to capture the notion that conflicts between the Bundesbank and the government can occur because their policies are at odds with those of their major trading or political partners, even if no formal conflict exists between each other. Moreover, such conflicts can arise because exchange rate policy is not the direct

responsibility of the Bundesbank. Instead, the choice of exchange rate regime rests with the federal government.

The variable $(M3_t - \overline{M3})$ measures deviations from the mid-point of the money growth target ranges announced by the Bundesbank. We entertain the possibility that significant departures from the stated target may signal a divergence from desired monetary policy. While it is well-known that the Bundesbank has often missed its money growth targets, it is also clear that such targets were not really intended to be met rigorously at all times. Nevertheless, monetary targeting was the centrepiece of the Bundesbank's monetary policy (Deutsche Bundesbank 1995). For von Hagen (1999), the adoption of monetary targets served a political purpose, namely to emphasize the fact that the Bundesbank took the long view of the consequences of monetary policy actions and would not necessarily respond to every economic shock. However, to the extent that such deviations reflect the impact of fiscal or exchange rate policies this may lead to conflict with the government. The source for these variables is the Bundesbank's Monthly Reports. It should also be noted that a specification which replaces $(M3_t - \overline{M3})$ with a proxy for the inflation gap, i.e. the actual inflation rate less a Hodrick-Prescott filtered inflation rate, does not change the results shown below.

4. Empirical Results

Turning to the estimation results of equation (1) we first report the findings using the recession dummy in Table 1, while the evidence that uses the political pressure variable from Maier, Sturm, and de Haan (2002) is reported in Table 2. Table 1 suggests a number of interesting features. First of all, the coefficients of partisan factors at the state level measured by $PLAND_t$ were statistically insignificant in all regressions (not shown) as were the electoral

variables for Bundestagswahlen $EBUND_t$. Consequently, we eliminated both variables from all further regressions. Consistent with our previous discussion public communication, COM_t , in the form of speeches that emphasize developments in economic policy (column 2) and inflation (column 3), are highly significant positive determinants of the probability of conflict. The parameters on $SIGNAL_t$ which captures the selectivity bias inherent in the construction of COM_t are statistically insignificant.

Table 1 about here

As expected, past increases in the domestic interest rate ΔR_{t-i} and, to a lesser extent, in foreign interest rates, ΔR_{t-i}^f , increase the probability of conflict between the Bundesbank and the federal government.¹⁸ Deviations in money growth from published money targets ($M3_t - \overline{M3}$) and two out of four parameters that capture the impact of the European exchange mechanism (ERM_t) do not significantly affect the probability of conflict.¹⁹ In addition, the coefficients on

¹⁸ In addition, we allowed for an asymmetric influence of positive versus negative changes of the domestic interest rates on the probability of conflict. We find (results are not shown but available on request) that the sum of positive changes in the interest rate had a bigger impact than the sum of the negative changes. However, F -tests cannot reject the null hypothesis that the sum of positive coefficients minus the sum of negative coefficients is zero.

¹⁹ We leave the variables on deviations in money growth from the money targets and the European exchange mechanism in the results shown in Table 1 for two reasons. First, when comparing the results with the recession dummy with those of the Maier-Sturm-de Haan conflict

electoral factors at the state level ($ELAND_t$) are also statistically insignificant revealing that political factors do not contribute to the probability of conflict between the Bundesbank and the government.

In order to provide evidence on the dynamic structure of the relationship between speeches and the probability of conflict we include, in addition to the contemporaneous variable COM_t , one lag term (COM_{t-1}) as well as one lead term (COM_{t+1}) together with corresponding leads and lags for the selection bias correction variables. The lagged variable for central bank communication proxies how speeches by the Bundesbank's President can serve as a warning to markets about impending monetary policy changes in the absence of changes in inflation expectations. In contrast, the contemporaneous and the lead terms for the communication variable may reflect the Bundesbank's policy of explaining and justifying present levels of the discount rate.

As can be seen in column 4 and 5 in Table 1 the coefficients of the variables COM_{t+1} , COM_t and COM_{t-1} representing speeches on economic policy are highly statistically significant, while for speeches on inflation only the parameters of COM_{t+1} and COM_t are significantly positive at the 10 % level. Since speeches dealing with economic policy are usually related to government policies, this type of speeches is much more likely to raise the probability of a conflict compared to speeches on inflation. Moreover, due to the significance of COM_{t-1} this category of speeches serves to anticipate the source of conflict that might erupt between the

variable, we find that the money target variable is statistically significant in some specifications. Second, as noted earlier, monetary targeting and the European exchange mechanism represented the centrepiece of the Bundesbank policy.

Bundesbank and the government. Lastly, the pseudo R^2 , and the log likelihood ratio statistics (LR), show that the variables included in all the regressions are jointly statistically significant.

The estimates in Table 2 rely on the Havrilesky index of political pressure adapted to the German experience by Maier, Sturm, and de Haan (2002). In columns 2 and 3 we treat the call for both looser and tighter monetary policy as an indicator of conflict while in columns 4 and 5 only the call for tighter monetary policy are assumed to represent a source of conflict. The findings in Table 2 reinforce the main hypothesis of this paper. Most notably, more speeches by the Bundesbank President that deal with economic policy and inflation result in a higher probability of conflict. It is interesting to note that only the lead term for the communication variable is statistically significant which may reflect that the Bundesbank uses speeches to explain and justify monetary policy decisions. Also paralleling earlier results is the finding that lagged foreign interest rate changes contribute to the likelihood of conflict. Finally, note that money growth rates that exceed the target raise the probability of conflict only when calls for tighter monetary policy are considered. This likely reflects the view that higher monetary growth than expected will lead to more inflation, at least in the short-run, and hence to decisions to tighten monetary policy which increases the probability of conflict.

Table 2 about here

Figure 2 shows the predicted probability of conflict \hat{K}_t based on the results in Table 1. As can be seen, German Economic and Monetary Union sparked a sharp rise in the likelihood of a government-central bank conflict, as one would expect. Tensions around the European Monetary System in 1992 and 1993 were additional significant sources of conflict while 1998 also saw a resurgence of conflict probabilities, perhaps related to the stability and growth pact and the

imminent introduction of the Euro. Generally, however, the probability of a conflict does not frequently exceed 50%. While conflicts are more likely in recessions, even after controlling for other factors, there is also evidence of a sharply rising likelihood of conflict at other times, notably when inflation rises sharply (e.g., the early to mid 1990s), or when important external events connected with the European Union take place. Therefore, whereas conflict with the federal government does take place on a regular basis, it is not a „constant“ factor in the relationship between the Bundesbank and the federal government.

Figure 2 about here

5. Conclusions

Central banks are, by definition, institutions independent of, but not from, government. The same was true of the Bundesbank, by most accounts among the most autonomous of the monetary authorities in the world. This paper presents empirical evidence to suggest that, in addition to the role played by the interest rate policy of the central bank and domestic political factors, captured by elections and/or partisan changes to government, how the central bank communicates with the public can also contribute to significantly increase the probability of conflict. Recent interest in the roles of accountability and transparency in central banking, as well as in the increased emphasis among central banks in communicating and defending their actions in public (e.g., Blinder et al. 2001; Siklos 2002), highlights the potential role of public pronouncements by central bankers as an additional factor in creating potential conflict with government.

This paper argues that the Bundesbank had a relatively long experience in this connection and the empirical evidence is significantly in accord with the view that speeches by the

Bundesbank President dealing with inflation and economic policy more generally was a positive source of conflict in a probabilistic sense. In addition, past interest rate increases and communication of the Bundesbank President also raised the probability of conflict, while deviations from monetary targets, realignments in the European exchange mechanism and, in particular, political factors were not significant influences. Conflict was not a constant but flared up at times of economic stress combined with the communication activities of the Bundesbank President that dealt with inflation and economic policy.

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Table 1: Bundesbank-Government Conflict Estimates**Dependent Variable: Recession Dummy**

Explanatory Variables	$COM_t = Econo - mic Policy$	$COM_t = Inflation$	$COM_t = Econo - mic Policy$	$COM_t = Inflation$
Constant	- 3.14 (0.62)***	- 2.72 (0.53)***	- 4.92 (1.04)***	- 3.55 (0.70)***
COM_{t+1}			1.47 (0.58)***	0.61 (0.32)*
COM_t	1.25 (0.36)***	0.64 (0.33)**	1.07 (0.42)***	0.56 (0.32)*
COM_{t-1}			0.96 (0.37)***	0.45 (0.29)
$SIGNAL_{t+1}$			- 1.30 (0.64)**	- 0.77 (0.57)
$SIGNAL_t$	- 0.70 (0.53)	- 0.44 (0.47)	- 0.57 (0.50)	- 0.43 (0.46)
$SIGNAL_{t-1}$			- 0.20 (1.00)	- 0.32 (0.81)
ΔR_{t-1}	3.22 (1.29)***	3.28 (1.27)***	5.51 (1.98)***	4.06 (1.46)***
ΔR_{t-2}	4.81 (1.01)***	4.15 (1.05)***	7.13 (1.76)***	4.76 (1.15)***
ΔR_{t-3}	4.32 (1.54)***	3.25 (1.27)***	6.70 (1.78)***	4.10 (1.25)***
ΔR_{t-1}^f	3.00 (1.45)**	2.92 (1.46)**	5.22 (2.19)**	4.76 (1.98)**
ΔR_{t-2}^f	0.55 (1.45)	0.99 (1.59)	2.12 (2.01)	0.51 (1.65)
ΔR_{t-3}^f	- 0.74 (1.90)	- 1.81 (1.73)	- 1.84 (2.39)	- 2.19 (2.07)
$ELAND_t$	- 0.05 (0.15)	- 0.08 (0.16)	- 0.11 (0.19)	- 0.15 (0.17)
ERM_t	1.48 (0.90)*	1.23 (0.99)	2.29 (0.93)***	1.37 (0.88)

Table 1: Bundesbank-Government Conflict Estimates
Dependent Variable: Recession Dummy (Continued)

Explanatory Variables	$COM_t = Econo - mic Policy$	$COM_t = Inflation$	$COM_t = Econo - mic Policy$	$COM_t = Inflation$
$(M3_{t-1} - \overline{M3})$	- 0.37 (0.32)	- 0.11 (0.30)	- 0.58 (0.39)	- 0.27 (0.30)
$(M3_{t-2} - \overline{M3})$	0.96 (0.72)	0.60 (0.59)	1.05 (0.79)	0.73 (0.59)
$(M3_{t-3} - \overline{M3})$	- 0.50 (0.54)	- 0.37 (0.46)	- 0.60 (0.60)	- 0.41 (0.47)
<i>LR</i>	48.89***	44.00***	58.72***	44.77***
Pseudo R^2	0.41	0.37	0.49	0.37
Obs = 0	96	96	95	95
Obs = 1	24	24	24	24

Note: The estimates rely on equation (1) and on monthly data for the 1989 – 1998 period. A logit model estimated via quasi-maximum likelihood with Huber-White standard errors in parenthesis is applied. *, **, *** denote statistical significance at the 10 %, 5 %, 1 % level, respectively. The recession dates are 1989:4 – 1990:4, and 1992:2 – 1993:2. See Artis, Kontolemis, and Osborne (1997) and Siklos and Skoczylas (2002).

Table 2: Bundesbank-Government Conflict Estimates
Dependent Variable: Political Pressure

Explanatory Variables	$COM_t = Economic Policy$	$COM_t = Inflation$	$COM_t = Economic Policy$	$COM_t = Inflation$
	Call for Tighter and Looser Monetary Policy [¶]		Call for Tighter Monetary Policy Only #	
Constant	- 41.92 (0.27)***	- 1.18 (0.27)***	- 1.54 (0.30)***	- 1.43 (0.31)***
COM_{t+1}	0.34 (0.16)**	0.31 (0.14)**	0.48 (0.18)***	0.35 (0.16)**
COM_t	- 0.08 (0.16)	- 0.12 (0.15)	- 0.07 (0.16)	- 0.02 (0.16)
COM_{t-1}	- 0.11 (0.74)	- 0.13 (0.13)	- 0.07 (0.16)	- 0.18 (0.14)
$SIGNAL_{t+1}$	0.38 (0.27)	0.36 (0.26)	0.003 (0.28)	0.02 (0.28)
$SIGNAL_t$	1.20 (0.27)***	1.22 (0.28)***	1.11 (0.29)***	1.10 (0.30)***
$SIGNAL_{t-1}$	0.61 (0.25)**	0.64 (0.25)***	0.52 (0.26)**	0.58 (0.26)**
ΔR_{t-1}	0.33 (0.66)	0.36 (0.64)	- 0.69 (0.73)	- 0.69 (0.70)
ΔR_{t-2}	- 0.52 (0.75)	- 0.60 (0.75)	- 1.01 (0.80)	- 1.20 (0.79)
ΔR_{t-3}	- 0.06 (0.60)	- 0.07 (0.64)	1.09 (0.67)*	1.03 (0.75)
ΔR_{t-1}^f	- 2.34 (0.77)***	- 2.09 (0.75)***	- 2.29 (0.79)***	- 1.92 (0.76)***
ΔR_{t-2}^f	- 1.13 (0.84)	- 1.70 (0.89)*	- 2.06 (0.87)**	- 2.87 (1.00)***
ΔR_{t-3}^f	1.31 (0.72)*	1.51 (0.75)**	1.91 (0.77)***	2.09 (0.80)***
$ELAND_t$	0.002 (0.07)	- 0.002 (0.07)	0.002 (0.08)	- 0.01 (0.08)
ERM_t	0.53 (0.60)	0.55 (0.61)	0.65 (0.56)	0.65 (0.58)

Table 2: Bundesbank-Government Conflict Estimates
Dependent Variable: Political Pressure (Continued)

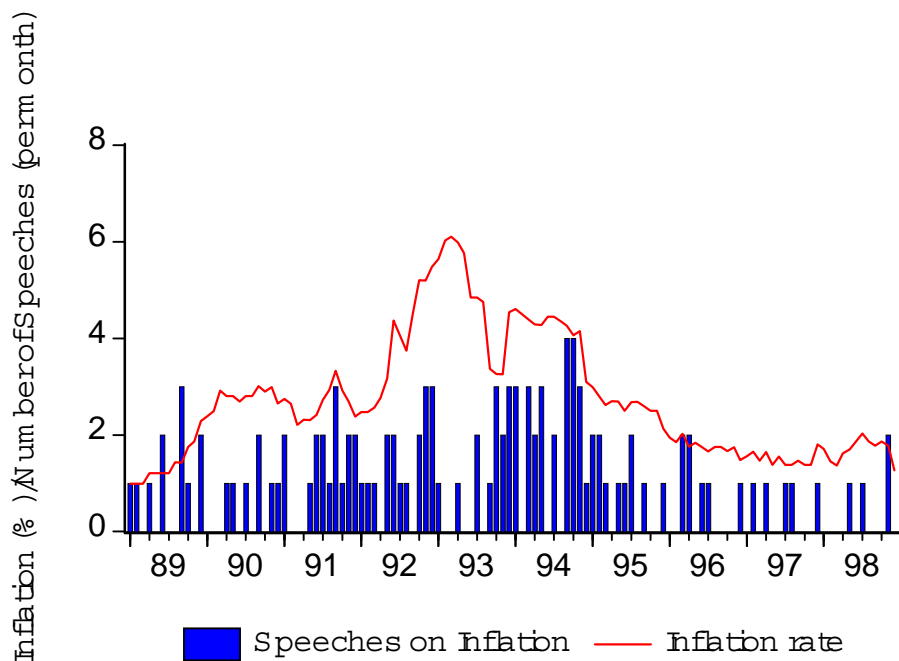
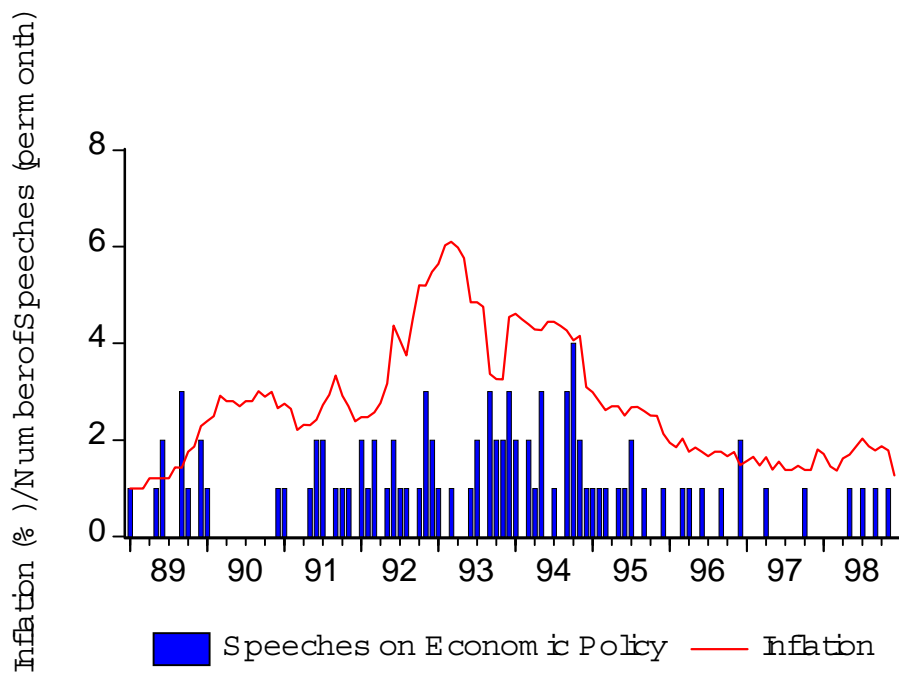
Explanatory Variables	$COM_t = Econo - mic Policy$	$COM_t = Inflation$	$COM_t = Econo - mic Policy$	$COM_t = Inflation$
$(M3_{t-1} - \overline{M3})$	0.06 (0.17)	0.06 (0.18)	- 0.03 (0.18)	- 0.04 (0.18)
$(M3_{t-2} - \overline{M3})$	- 0.16 (0.26)	- 0.18 (0.26)	- 0.34 (0.27)	- 0.35 (0.28)
$(M3_{t-3} - \overline{M3})$	0.18 (0.17)	0.21 (0.17)	0.48 (0.18)***	0.50 (0.18)***
<i>LR</i>	43.02***	43.20***	50.24***	47.55***
Pseudo R^2	0.27	0.27	0.34	0.32
Obs = 0	73	73	81	81
Obs = 1	46	46	38	38

Notes: See Table 1 for estimation technique.

¶ The dependent variable is the index of political pressure reported in the Appendix in Maier, Sturm, and de Haan (2002) based on published news reports in three German newspapers. During a month when an article calls for looser (-) or tighter (+) monetary policy by government officials or the ruling party the dummy is set equal to 1; it is zero otherwise.

Whenever there was a call for looser policy only the dummy variable is set equal to 1; otherwise a zero is recorded.

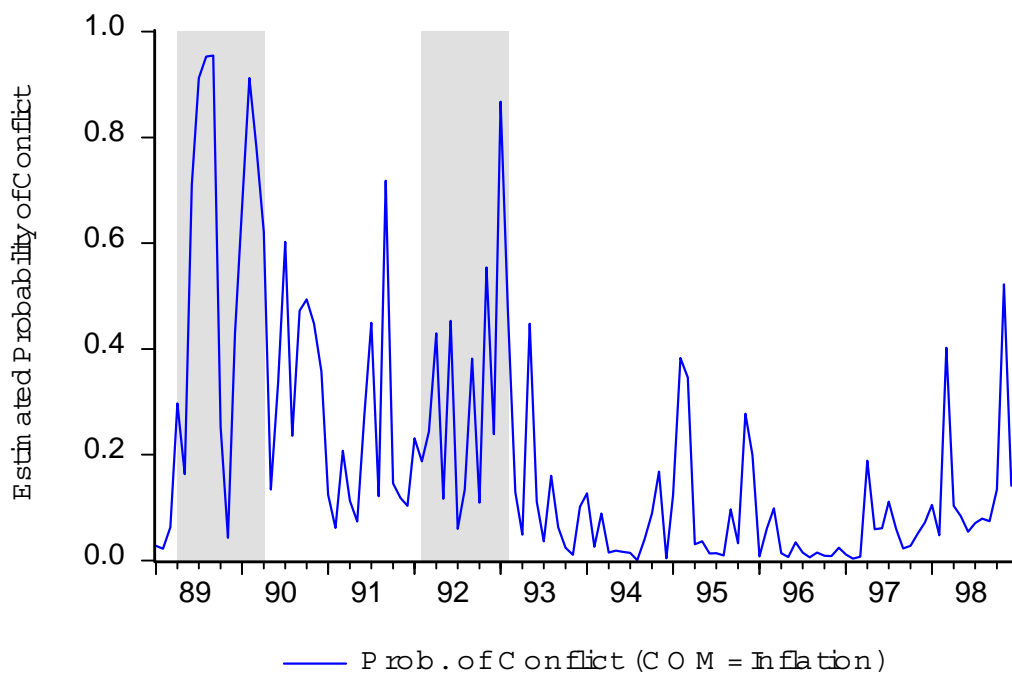
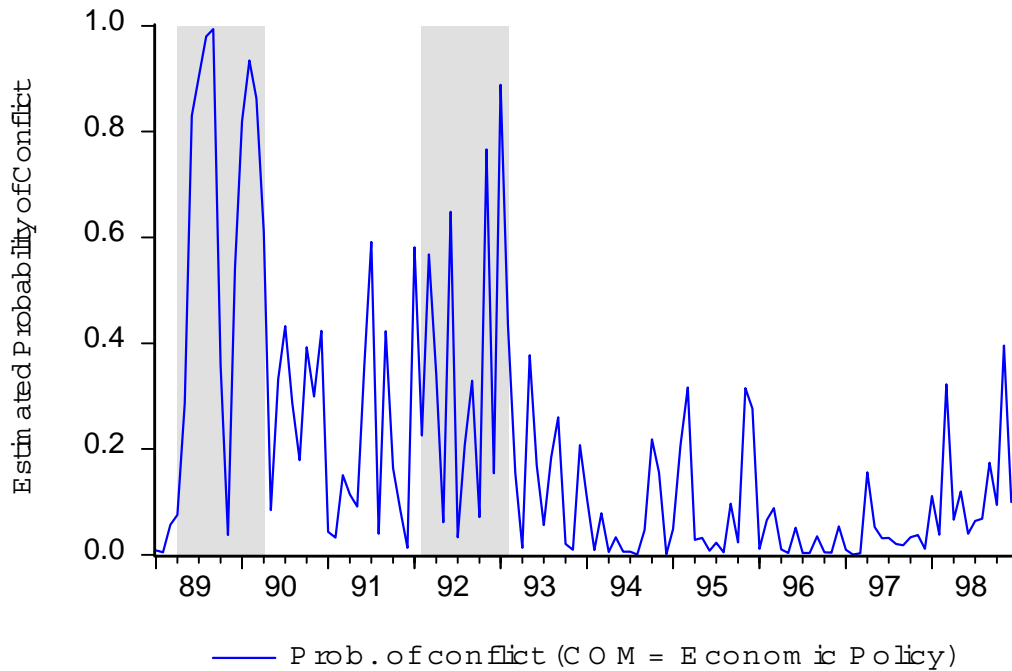
Figure 1: Speeches by the Bundesbank President and Inflation



Note: The vertical axis shows the number of speeches or the rate of inflation (monthly at annual rate in percent).

Figure 2: Estimation of the Probability of Conflict Between the Bundesbank and the Government

Note: The shaded areas represent the recession dates. The probability of conflict is the predicted value from (1) with the proxy for COM indicated under each figure.



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