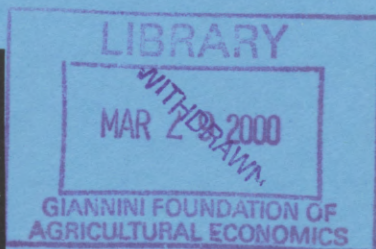


CANTER

DP 2000/01 ✓

Department of Economics  
UNIVERSITY OF CANTERBURY  
CHRISTCHURCH, NEW ZEALAND

ISSN 1171-0705



**DO WORDS SPEAK LOUDER THAN ACTIONS?  
MONETARY POLICY AT THE BUNDESBANK**

Pierre L Siklos and Martin T Bohl

***Discussion Paper***

No. 2000/01

Department of Economics, University of Canterbury  
Christchurch, New Zealand

Department of Economics  
UNIVERSITY OF CANTERBURY  
CHRISTCHURCH, NEW ZEALAND

ISSN 1171-0705

**DO WORDS SPEAK LOUDER THAN ACTIONS?  
MONETARY POLICY AT THE BUNDESBANK**

Pierre L Siklos and Martin T Bohl

***Discussion Paper***

No. 2000/01

Department of Economics, University of Canterbury  
Christchurch, New Zealand

Do Words Speak Louder Than Actions?  
Monetary Policy at the Bundesbank\*

Pierre L. Siklos  
Department of Economics  
Wilfrid Laurier University  
75 University Avenue  
Waterloo, Ontario  
CANADA  
N2L 3C5

and

Martin T. Bohl  
Justus-Liebig Universität-Giessen  
Licher Strasse 74  
35394 Giessen  
GERMANY

[April 1999]

[This revision: October 1999]

\* Part of the research was undertaken while Siklos was a Visiting Erskine Fellow at the University of Canterbury in July-August 1999 and Visiting Professor in the School of Finance and Economics at UTS, Sydney, Australia in August-September 1999. Both authors are grateful to the German-American Academic Council for financial support. Siklos also acknowledges Wilfrid Laurier University's Research Office, its Academic Development Fund, and the Social Sciences and Humanities Research Council of Canada (grant 410-98-0071) for additional financial support. We are grateful to officials of the Bundesbank, and their press office, for information and clarification about the reporting of communications by senior Bundesbank officials. Les Skoczylas provided excellent research assistance. Comments by seminar participants at the University of Canterbury, Christchurch, New Zealand, the Reserve Bank of New Zealand, and the University of Victoria, are gratefully acknowledged as were the comments by Alfred Guender, Alfred Haug and Rainer Winkelmann.

## ABSTRACT

This paper proposes a novel way to explain how the Bundesbank conducts monetary policy. We argue that communication by senior central bank officials with the public and government represents an instrument of monetary policy which complements discount rate changes or announcements of target growth rates for the money supply. Moreover, the communications instrument can help explain how a central bank can deal with the uncertainties inherent in monetary policy which are not appropriately transmitted via frequent changes in interest rates or monetary growth targets. Empirical evidence, using monthly data since 1982, vividly shows how speeches by Bundesbank officials, especially by its President, complement interest rate behavior.

Pierre L. Siklos  
psiklos@wlu.ca  
web: <http://www.wlu.ca/~wwwsbe/faculty/psiklos/home.htm>

Martin T. Bohl  
Martin T. Bohl@wirtschaft.uni-giessen.de

## 1. Introduction

Among central banks in the industrial world, the Bundesbank consistently ranks as perhaps the most autonomous. Some attribute its success to Germany's infamous experience with hyperinflation in the 1920s. Others point to the Bundesbank Law of 1957 which guarantees its autonomy. Others still point to a population which places relatively more trust in the institution itself than in other public institutions, most notably the federal government. Finally, there are those who would emphasize the role of the personalities at the head of the Bundesbank, the proverbial "conservative" central bankers. While there is doubtlessly a grain of truth in all of the foregoing explanations, macroeconomists interested in the reactions of central banks to economic developments that have a direct bearing on the conduct of monetary policy have had a difficult time quantifying these in a meaningful fashion.

Taylor (1993) proposes a simple expression to explain how the US Federal Reserve follows a straightforward rule linking an interest rate (the Fed funds rate) to inflation and the output gap. Clarida, and Gertler (1997) show that a variant of this rule explains Bundesbank behavior reasonably well and is applicable to other central banks in the industrial world (also see Clarida, Gali and Gertler 1998). Estimates and the interpretation of monetary policy based on such rules are subject to some difficulties and criticisms which we briefly review below.

Unfortunately, estimates of reaction functions are not generally no better at explaining variations in an interest rate instrument.<sup>1</sup> While economists have long known

---

<sup>1</sup> Except perhaps when the central bank targets inflation. See Murchison and Siklos (1999) and references

that central banks have many instruments of policy it has been standard practice to assume that an interest rate alone represents an adequate proxy, in part because this approach seems to describe the practice of monetary policy in the US experience (e.g., see Bernanke and Blinder 1992). Bernanke and Mihov (1996), however, correctly point out that the Bundesbank, in particular, relies on a variety of instruments to implement monetary policy. Nevertheless, they find only marginal improvements from considering additional instruments in their model. Another problem is that the interest rate the central bank controls, namely a discount rate, tends to change rather less frequently than the market rates it is supposed to influence. The resulting smoothing of interest rates (Goodfriend 1991) is well known, of course, and we suggest a way in which it can be explained by resorting to an instrument of monetary policy hitherto not formally considered in the literature.

The instrument we consider is novel and highlights, we believe, a potentially important idiosyncrasy of the Bundesbank with lessons for other central banks.<sup>2</sup> To our knowledge, this aspect of policy making by the Bundesbank has gone almost unnoticed in the empirical central banking literature.<sup>3</sup> An institutionalist analysis of the German central bank reveals the importance of speeches by senior central bank officials at the Bundesbank as an instrument of monetary policy.<sup>4</sup> Unlike other central banks, the

---

therein.

<sup>2</sup> As we shall see, the relevant lesson is one that many central banks have since learned.

<sup>3</sup> Posen (1998, 1998a) mentions in general terms the role of Bundesbank communications with the public as one of the ingredients of its success. Also, see Bernanke et al. (1999).

<sup>4</sup> After undertaking this study we became aware of Guthrie and Wright (1998) who also rely on the notion of "open mouth operations" to explain how the Reserve Bank of New Zealand influences interest rates. However, in their framework, what matters are precise announcements about the stance of monetary policy and how these influence interest rates at high frequencies. The communications instrument considered in

Bundesbank is statutorily expected to comment publicly and give private advice to the government not only on matters of monetary policy but also about economic policy more generally. Therefore, we estimate a model where interest rate changes, along with proxies for communications with the public or with government, represent the principal instruments of monetary. We suggest that the role of communication with the public and government is a device that may also explain how a central bank can deal with the uncertainties inherent in monetary policy which are not appropriately transmitted via frequent changes in interest rates or changes in monetary growth targets. This aspect of the conduct of the monetary authorities may also serve to explain recent interest in transparency and accountability among central bankers in industrial countries.

Finally, while it is fairly well accepted that monetary policy in the US can be influenced not only by the President but also by the Congress, there has been little recognition that the federal structure of German politics and that of the Bundesbank Council can also have a separate influence (see, however, Kennedy 1991, Lohmann 1998, Vaubel 1997). Consequently, we are also interested in the role of electoral and partisan factors not only at the federal level but also how such considerations at the Länder (State) level may indirectly influence Bundesbank behavior.

The paper is organized as follows. The next section briefly describes how monetary policy is conducted at the Bundesbank and the role played by communications with the public and government. Section 3 derives the Bundesbank's reaction function.

Section 4 presents empirical evidence while the concluding section summarizes our results and their implications for the conduct of monetary policy more generally.

## 2. Monetary Policy at the Bundesbank

There exists a rich literature describing the actual behavior and performance of the Bundesbank (Buba). Recent comprehensive references include Kennedy (1991), Deutsche Bundesbank (1995, 1999), Heisenberg (1999), Maier and de Haan (1998), and Froyen and Pringle (1998). The objective of the present section is to briefly summarize some of the salient features of recent monetary policy experience in Germany.

The era covered in this study, namely the period since the early 1980s, with an emphasis on the years since German Economic and Monetary Unification (GEMU), is one where the monetary targeting policy introduced in the 1970s (see von Hagen 1999, 1999a, 1995) came to be seen as facilitating the goal of attaining and maintaining price stability. While it is well-known that the Bundesbank has often missed its money growth targets (e.g., see Bernanke and Mishkin (1992) and Baltensperger 1999), it is also clear that such targets were not really intended to be met rigorously at all times (e.g., Deutsche Bundesbank 1995, pp. 78-87). For von Hagen (1999a), 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 wiggle in the financial marketplace. Svensson (1999) argues that monetary targeting means less effective communication with the public because he assumes that the public interprets the credibility of Bundesbank actions through the lens



of monetary targeting. As we shall see, we believe this may be a misreading of Bundesbank actions.

Three features of the laws governing the Bundesbank stand out in the present study. First, until the Maastricht Treaty came into force, the federal government could request that the Buba defer, but not overturn, a monetary policy decision it disagreed with. This power has never been formally invoked.<sup>5</sup> Thus, while the Buba is "independent of instructions..." from the federal government (Deutsche Bundesbank Act, section 12), it is expected to "...support the general economic policy..." of the same government. No doubt such wording raises the probability of conflict between the federal government and the Central Bank Council which is responsible for the conduct of monetary policy in Germany. Nevertheless, the politicians at the time, who understood the dangers inherent in establishing this kind of relationship between the Buba and the political authorities, felt that institutional structures to avoid such conflicts could not be adequately designed (Kennedy 1991; Wahlig 1998, pp. 45-55).

Also noteworthy is the formal recognition that the Bundesbank expected to provide advice to the federal government on "...monetary policy matters of major importance..." (Deutsche Bundesbank Act, section 13). The advisory role of the monetary authorities, while not surprising, is generally more informally established at other major central banks (e.g., the US Federal Reserve). While fear of the loss of autonomy may be one reason, it could also be argued that such a formal arrangement actually enhances

---

<sup>5</sup> Although Pöhl's resignation in 1991 comes close, at least in spirit, since he disagreed with the exchange rate conversion between the East German ostmark and the Deutschemark (DM) at the time of GEMU. The Buba is not formally responsible, of course, for exchange rate policy.

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 aspect to be an important one in understanding the relationship between the federal government and the central bank.<sup>6</sup>

The third relevant element in the Buba's institutional role is the federal structure of German politics. While some authors have recently emphasized this feature (e.g., Lohmann 1998, 1994; Vaubel 1997; Maier and de Haan 1998; and Kennedy 1991, p. 20), it remains underemphasized 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 US 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 (Vaubel 1997); Frey and Schreider 1981; Soh 1986; Alesina, Cohen, and Roubini 1992; Johnson and Siklos 1996). The problem is that a majority of the Bundesbank's Central Bank Council (CBC; currently 9 of 17 members down from 11 prior to 1992) consists of appointments made at the Länder level<sup>7</sup> while the remaining members, including the Bundesbank President, are nominated by the federal government. Even if the President is considered "primes inter pares",

---

<sup>6</sup> Neumann (1999, p. 277) produces the following quote from the 1972 Bundesbank Annual Report: "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."

<sup>7</sup> To be more precise, the Presidents of the Länder Central Banks are nominated by the Bundesrat and are appointed by the President of the Federal Republic. See Deutsche Bundesbank (1995).

much like the Chair of the US Federal Reserve Board, and the Directorate pre-eminent in monetary policy decision-making, there is at least the potential for conflicts arising within the CBC, and this aspect of the relationship between the Bundesbank and the political authorities may, at times, be decisive.<sup>8</sup>

The foregoing considerations suggest that rivalry between the Bundesbank and the federal government is a constant.<sup>9</sup> Hence, the mere reliance on conventional measures of the direction of monetary policy implicit in the use of monetary aggregates and/or interest rates omits a potentially important element in the conduct of monetary policy at the Bundesbank. We argue that an important feature of monetary policy in Germany lies

---

<sup>8</sup> The CBC meets less often than the Directorate and the latter is considered closer to the conduct and operations of monetary policy. Consequently, CBC members "face" politicians frequently while the Länder representatives are somewhat more removed from political aspects of monetary policy decision-making. Lohmann (1998) goes into more detail in explaining the differences between the US and German institutional arrangements at this level, as well as reviewing the literature on partisan/electoral influences on the Bundesbank.

<sup>9</sup> Berger and Schneider (1997) also take this view in their study of Bundesbank behavior from the 1950s through the early 1970s. However, they conclude that the Buba always "got its way" even in the realm of exchange rate policy. The literature is far from being in agreement with this view.

in public (and private) communication by senior Bundesbank officials with the general public (and government officials). As Bundesbank President Tietmeyer (1998, p. 5) wrote:

“...the Bundesbank’s role as a guardian of monetary stability must of necessity extend beyond its decision-making powers in the field of monetary policy. It has to draw attention – at as early a stage as possible – to potential risks to stability in other areas and parallel behavioral patterns in the economy or in society.”

Later he goes on to add:

“[The Bundesbank] ... has placed itself under the obligation to explain and justify its policy as well as its assessment of developments that are relevant to monetary policy. Its target group is the general public, which it addresses through the speeches of the members of its governing bodies...” (Ibid., p. 5).

To be sure, the “instrument” of monetary policy implied by the foregoing discussion is a subtle one. We hypothesize that it can be proxied by the number and topic of speeches given by senior central bank officials. Of course, such an approach can only represent a noisy indicator of its role as an instrument of policy. Nevertheless, it is reasonable to suppose that the number of speeches on a given topic during some specified period reflects the intensity with which the Central Bank Council wishes to “draw attention” to “potential risks” in the economy with implications for monetary policy. Moreover, communication with the public is the obvious means through which the Bundesbank can maintain favorable public opinion of its policies, deemed to be a key ingredient of its success (e.g., Neumann 1999 and Richter 1999). This form of communication may or may not be noisy, as in “cheap talk”, but the instrument used by the Bundesbank and considered here is not intended to compromise their stated objective.

Instead, the goal of such speeches is quite the opposite. In terms of Garfinkel and Oh's (1995) framework then, the Bundesbank "speaks" precisely to minimize the "ambiguity" of its policies.

The above discussion, however, also makes clear the potential for conflict between the Bundesbank and the federal government.<sup>10</sup> While communication with the public may represent one device through which such activity may emerge there is doubtless also a less public manner in which disagreements surface and are dealt with.<sup>11</sup> We, therefore, attempt to quantify such conflicts via a proxy derived from the behavior of economic fundamentals which, we argue, can explain, in probabilistic terms, the likelihood of such conflicts.<sup>12</sup>

### 3. Reaction Functions of the Bundesbank

#### 3.1 *Taylor's Rule and the Bundesbank*

It is well-known that the Bundesbank sets its "normative" or "unavoidable" inflation rate on the basis of a quantity-theoretic relationship (e.g., Deutsche Bundesbank 1992).

Moreover, the monetary authorities are interested in the path of the growth rates of the variables of interest relative to their desired rates of change. Consequently, we can write

---

<sup>10</sup> Frey and Schneider (1981), Berger (1997) and Berger and Schneider (1997) also use "conflict" as an indicator of sorts of monetary policy. However, the construction of their proxy not only differs markedly from the one proposed here but its role is rather different in nature. In their model, conflict essentially stems from a divergence between fiscal and monetary policies. Here conflict is viewed as originating from a much broader set of circumstances.

<sup>11</sup> Tietmeyer's (1998a) recollections of events surrounding GEMU represent one such example, albeit one that is very likely non-recurring in nature.

<sup>12</sup> One can imagine such conflicts as part of the Bundesbank's "loss" function. A typical formulation would be  
 Install Equation Editor and double-  
 written [click here to view equation.](#) where deviations from desired levels of output ( $y$ ) and inflation ( $\pi$ ) are the usual sources of conflict between the government and the central bank (with the former possibly placing greater emphasis on  $a$  while the latter gives greater weight to  $b$ ). The standard formulation is augmented by

$$\Delta M = \pi + \Delta y - \Delta V \quad (1)$$

where  $\Delta M$  is the growth rate of the money stock ( $M3$  for our purposes),  $\pi$  is the inflation rate,  $\Delta y$  is the growth rate of output, and  $\Delta V$  is the rate of change in velocity. Targets for  $M3$  then are set according to (1) or:

Install Equation Editor and double-  
click here to view equation.

where the bars over the variables indicate notional values. As noted earlier, the Bundesbank is unlikely to respond to every economic shock by changing interest rates.

$$\begin{aligned} \overline{\Delta R}_t &= \alpha (\Delta M - \overline{\Delta M}) \\ 0 &< \alpha < 1 \end{aligned}$$

Hence, desired interest rate changes could evolve according to:

The fact that  $\alpha < 1$  implies that other instruments are used in central bank policy making, such as "communication" with the public and government. In order to highlight Bundesbank policy in terms of the now familiar Taylor rule, we omit these other considerations for the moment. Now, let  $\overline{R}_{t-1} = R_{t-1}$ , so that actual and desired interest rates coincide in the previous period.

---

a partially observable measure of conflict (K) not necessarily directly related to either  $y$  or  $\pi$ .

Assuming the Bundesbank reacts to deviations between  $\Delta M$  and  $\overline{\Delta M}$  we can use

$$\overline{R}_t = R_{t-1} + \delta (\pi_{t+1} - \overline{\pi}) + a (\Delta y_{t+1} - \overline{\Delta y}) + \theta (\Delta V_{t+1} - \overline{\Delta V})$$

(1), (2), and (3) to obtain

Equation (4) is akin to a Taylor rule except that the central bank reacts to deviations in output growth and not its level. Moreover, deviations from the notional growth rate in velocity also influence the current period notional interest rate level. In addition, the reaction function is forward-looking which is also compatible with how the Bundesbank conducts monetary policy. Equation (4), however, omits other "instruments" of monetary policy stemming from political factors, which we consider below. For the time being, however, we proceed with two versions of (4). In one variant, we assume  $\Delta V_{t+1} = \overline{\Delta V}$ , while this assumption is relaxed in the second version. The reason for this approach is that it is unclear whether the Bundesbank considers adjustments in trend velocity in the short-run.<sup>13</sup> Instead, deviations from some desired level of velocity may be viewed as a long-run restriction which may not be useful for short-run forecasting purposes.<sup>14</sup>

### 3.2 *The Estimation Framework*

While our approach to estimating a reaction function for the Bundesbank can be traced to some of the existing approaches in the literature, namely Johnson and Siklos (1996), Murchison and Siklos (1999), Bernanke and Mihov (1996), Evans and Kuttner (1998),

<sup>13</sup>A reading of Bundesbank policy actions during the period covered in this paper (e.g., Baltensperger 1999) suggests little variation in  $\Delta \overline{V}$ .

<sup>14</sup>In a cointegration interpretation it is not clear whether the error corrections resulting from  $\Delta V - \Delta \overline{V}$  would