

Bibow, Jörg

Research Report

Easy money through the back door: The markets vs. the ECB

Public Policy Brief, No. 65

Provided in Cooperation with:

Levy Economics Institute of Bard College

Suggested Citation: Bibow, Jörg (2001) : Easy money through the back door: The markets vs. the ECB, Public Policy Brief, No. 65, ISBN 1931493006, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY

This Version is available at:

<http://hdl.handle.net/10419/54301>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

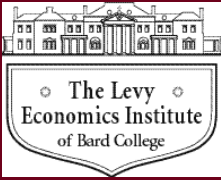
Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



LEVY INSTITUTE

Public Policy Brief

EASY MONEY THROUGH THE BACK DOOR

The Markets vs. the ECB

JÖRG BIBOW

No. 65, 2001

The Levy Economics Institute of Bard College, founded in 1986, is an autonomous, independently endowed research organization. It is nonpartisan, open to the examination of diverse points of view, and dedicated to public service.

The Institute is publishing this research with the conviction that it is a constructive and positive contribution to discussions and debates on relevant policy issues. Neither the Institute's Board of Governors nor its Board of Advisors necessarily endorses any proposal made by the author.

The Institute believes in the potential for the study of economics to improve the human condition. Through scholarship and research it generates viable, effective public policy responses to important economic problems that profoundly affect the quality of life in the United States and abroad.

The present research agenda includes such issues as financial instability, poverty, employment, problems associated with the distribution of income and wealth, and international trade and competitiveness. In all its endeavors, the Institute places heavy emphasis on the values of personal freedom and justice.

Editor: Ajit Zacharias

The Public Policy Brief Series is a publication of The Levy Economics Institute of Bard College, Blithewood, Annandale-on-Hudson, NY 12504-5000. For information about the Levy Institute and to order Public Policy Briefs, call 845-758-7700 or 202-887-8464 (in Washington, D.C.), e-mail info@levy.org, or visit the Levy Institute website at <http://www.levy.org>.

The Public Policy Brief Series is produced by the Bard Publications Office.

Copyright © 2001 by The Levy Economics Institute. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information-retrieval system, without permission in writing from the publisher.

ISSN 1063-5297
ISBN 1-931493-00-6

Contents

Preface	
<i>Dimitri B. Papadimitriou</i>	5
Easy Money through the Back Door	
<i>Jörg Bibow</i>	7
About the Author	30

Preface

This summer began with events that raise serious questions about the nature and prospects of European integration. On June 7, a referendum in Ireland rejected the Treaty of Nice, which would have expanded the European Economic and Monetary Union (EMU) to include several new members. About a week later, the EMU summit in Göteborg was marred by the largest protests Sweden has seen in a generation. The protesters denounced what they claimed to be the undemocratic nature of EMU and the neoliberal policy regime it imposes on member countries. Coinciding with the summit was the release of the European Central Bank's (ECB) monthly report showing that it had lowered the forecast of economic growth in the eurozone to 2.2 percent in 2001, as compared to the actual growth of 3.4 percent in 2000. A direct implication of lower economic growth is that the declines in unemployment witnessed in the last few years might be absent this year.

The political and economic conjuncture in the eurozone demands concrete and immediate remedial actions from policymakers. Given the absence of any significant fiscal policy initiatives, the only instrument of macroeconomic policy available is monetary policy. This places an enormous responsibility on the ECB and therefore it is worthwhile to closely examine the conduct of this institution.

In this brief, Visiting Scholar Jörg Bibow analyzes the ECB's performance since the launch of the euro and the effects its policies have had on the new currency's exchange rate vis-à-vis the dollar. The behavior of the euro-dollar exchange rate has defied conventional explanations that attribute exchange rate movements to changes in the current account balance and interest rate differentials. Despite the current account surplus that the eurozone has run up with the United States, the euro has depreciated. More striking is the fact that the weakening trend persisted even in the face of interest rate increases implemented by the ECB. An alternative explanation, recently in vogue with

several analysts, is that the relatively higher U.S. growth in output and profits has led to a net outflow of equity capital from the eurozone toward the U.S., thereby putting downward pressure on the euro.

While equity capital flows may have contributed to euro depreciation, a more satisfactory explanation has to account for why the eurozone is suffering from a relative growth disadvantage vis-à-vis the United States. Mainstream economists cite structural problems, primarily so-called labor market inflexibility, as the main factor. Bibow develops an alternative line of argument that focuses on monetary policy. According to him, the weakness of the euro can be understood as a continuation of the downward trend of the deutsche mark; the latter was itself a manifestation of the below-potential growth resulting from an extremely tight monetary policy stance. The Bundesbank followed such a policy because it was excessively concerned about inflation. Unfortunately, the ECB appears to be suffering from the same affliction.

Because global financial markets assess countries (or regions) according to their relative growth prospects, the euro has continued to depreciate in spite of the ECB's interest rate hikes. Such hikes have further compromised prospects of growth and hence the sustainability of tight monetary policy in the future. The time-inconsistency of the ECB's policy stance was recognized by the markets and the euro was penalized. Paradoxically, because of the extent of currency depreciation, the ECB's tight money policy had the opposite result of easing monetary conditions. According to Bibow, the export stimulus deriving from this source was the driving force behind the economic recovery in the eurozone from the middle of 1999 until the end of 2000, not any sudden change in structural factors.

Bibow argues that the current macroeconomic situation, characterized by export-driven growth and sluggish domestic demand growth, is imbalanced. Furthermore, the apparent slowdown in the U.S. economy is causing export demand to shrink. The key implication of his analysis is that monetary policy focused solely on inflation can impair growth and create conditions that will undermine price stability in the future.

I trust that you will find the analysis contained in this brief insightful. As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
August 2001

Easy Money through the Back Door

At the start of 1999, a new policy regime was introduced in Europe that included the launch of the euro and centralized control of monetary policy common to the 11 European Union (EU) countries that adopted the common currency.¹ This brief assesses the experiences of the new regime's first two years, particularly the performance of the European Central Bank (ECB), the institution in charge of conducting monetary policy for the euro area.

Several recent developments in the euro area stand out. On the one hand, economic growth picked up markedly by mid 1999 and employment growth was quite impressive: the unemployment rate decreased by roughly three percentage points from the extremely high levels reached between 1995 and 1997. On the other hand, by November 2000 the new currency's external value vis-à-vis its major trading partners had fallen by some 20 percent, and inflation had increased from a very low level to well above the ECB's declared tolerance level. Conventional wisdom views the recovery in output and employment growth as driven mainly by structural reforms of labor market institutions and wage trends (OECD 1994; 1999a, b). Recent declines in unemployment were accompanied by downward revisions in the estimates of the nonaccelerating inflation rate of unemployment (OECD 2000b). There is a tendency to view the euro's plunge and rising inflation as not directly related to monetary policy itself, the tenor being that despite these failures, the ECB has done a "good job."

This brief challenges these views and proposes an alternative interpretation of European growth, price, and labor market performance over recent years. In contrast to the conventional focus on labor market institutions, a key role is assigned to demand-side factors as the driving force behind employment growth. While a full assessment would have to also consider fiscal policy, the focus here is on monetary policy and the evolution of monetary conditions,

that is, changes in interest rates and the exchange rate. It is argued that the euro's plunge essentially resumed the trend of deutsche mark weakness that had started in 1996 and that currency depreciation amounted to a significant easing of monetary conditions. In this way, "easy money" was introduced "through the back door" of the European fortress of stability-oriented policies and contributed decisively to the export demand stimulus that lifted Euroland out of the doldrums in 1999.

To some extent, the roots of euro weakness lie in the past: the low-growth legacies of unsound macroeconomic policies inflicted upon the EU over the 1990s. But the ECB made matters worse by failing to communicate effectively and coherently with financial market participants and playing against the markets. The result was that any attempt to prop up the euro by narrowing the current interest rate spread vis-à-vis the dollar would fail if perceived by the markets as risking the eurozone's growth prospects and hence the ability of the ECB to sustain tighter money in the future. Under such conditions, interest rate hikes might then weaken rather than strengthen the currency. A more balanced and proactive attitude toward growth and a medium-term orientation toward fighting inflation might have both improved growth in the long run and reduced inflation in the short run.

After discussing some a priori difficulties in assessing the ECB's performance, this brief examines the convergence process of the 1990s and finds that certain developments during this period played a significant role in the euro's plunge and the consequent problems faced by the new central bank. The ECB's performance is discussed next, with a focus on its ongoing communication problem and the impact on financial markets. The analysis then turns to the ECB's interest rate decisions and their effects on the exchange rate and monetary conditions.

Some Issues in Assessing the ECB's Performance

Monetary policy is generally held to affect the economy in complex and not fully understood ways. It is widely agreed that in open economies with flexible exchange rates, these effects arise mainly through two channels of transmission: changes in the level of interest rates and the exchange rate. Monetary policy's performance measures are controversial.

In principle, an assessment of central bank performance may focus either on how skillfully policies are executed and communicated to achieve stated goals or the extent to which those stated goals were actually achieved. The ECB, for its own part, has, from the beginning, declared that it wishes its performance to be judged only in terms of medium-term price developments in Euroland (Duisenberg 1999, Issing 1998). That is, it should be judged in terms of meeting its primary objective of price stability, defined by the ECB as a yearly increase in the Harmonized Index of Consumer Prices (HICP) of less than 2 percent over an unspecified medium-term horizon.² This standard of (ex post) evaluation raises a number of problems.

One problem is that no such medium-term record is yet available. Given that the lag between monetary policy measures and prices is commonly held to be around one and a half to two years, an assessment of the ECB's performance on the price front would have to focus only on developments since the latter half of 2000 and inflation prospects over the next few years.

In addition, it may be misguided to focus solely on medium-term price developments because this presumes that monetary policy has no other effects. The consensus view among economists is that monetary policy affects real variables, such as output and employment, in the short run, and thus economic welfare. Taking growth and employment into account broadens and lengthens the basis for assessing the ECB's performance, as developments since mid 1999 might be seen as having been affected by ECB actions.

A third problem with the ECB's standard is that it ignores the role of communication in the conduct of monetary policy. In practice, central banks have little difficulty controlling very short-term interest rates, but their control over prices of other financial assets is neither direct nor guaranteed. Given the paramount role of the financial system in transmitting monetary policy, policy success hinges on how well the central bank guides market expectations and perceptions. Communication failures may provoke market opposition and result in establishing monetary conditions desired by the markets, rather than those desired by the central bank.³

By implication, economic outcomes cannot be assessed as if they are independent of the effectiveness of the communication of policy. Monetary

policy affects expectations about future growth and inflation and, hence, the path that policy could take and still be considered sustainable. Effective communication of monetary policy to currency markets and the prospect that any shift in policy might have on future growth and inflation are especially important given that the effects of exchange rate changes are reflected relatively quickly in both economic activity and prices. Accordingly, communication failures concentrated in currency markets may quite easily disrupt monetary policy and impose a monetary stance different from the one intended by the central bank.

These considerations move the euro exchange rate into the spotlight of the analysis. What effects did the euro's plunge have on the economy and how appropriate was the ECB's conduct in view of them? In what ways has the ECB's conduct affected the euro and the current situation in Euroland, and what are the likely developments during the next few years?

Preconditioning the Euro's Slump: The Legacies of the 1990s

Before addressing these questions, there are several worthwhile reasons to briefly review the time preceding the formation of the Economic and Monetary Union (EMU), officially, the period during which economic conditions were to be improved and harmonized among countries so that the new currency could be launched against the backdrop of a stable economic environment. First, the very severity of the euro's plunge raises the question: why was the euro launched at a rate that was immediately perceived by the markets as inappropriately high? Second, among the EU economies, Germany seemed to be in particularly deep trouble in spring 1999; this was widely seen as the prime force behind the euro's plunge. How did Germany—a country whose currency had been a symbol of economic strength and whose central bank was a paragon of policies focused on price stability—get into this mess? Given that the conduct of EU-wide monetary policy is strongly influenced by German views and the ECB is modeled on Bundesbank standards, it is interesting to examine that central bank's role. Finally, although the official claim in spring 1998 was that a sufficient degree of macroeconomic convergence had been successfully achieved between 1992 and 1997, immediately in 1999 and then again in the spring of 2001 divergence became a serious issue for monetary policy. Revisiting

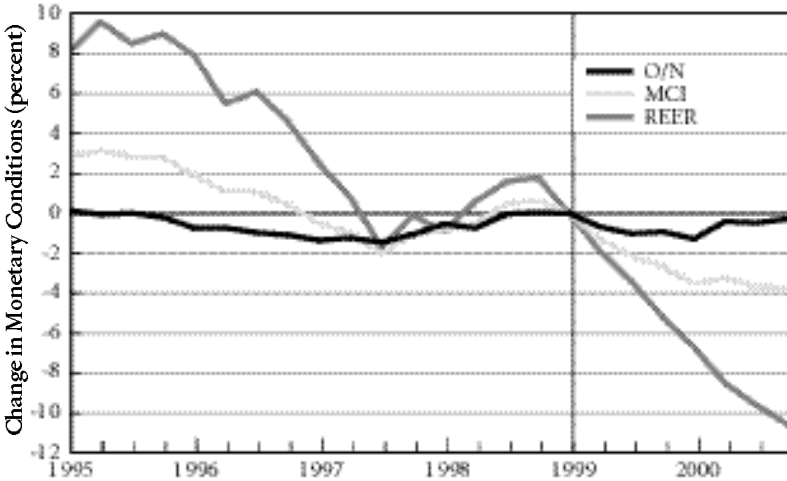
the convergence process of the 1990s will illustrate that the ECB started out from a rather difficult position at the euro's inauguration and clarify that the difficulties that then arose had important roots in earlier developments.

In a way, Germany was and still is central to all these issues. The striking fact is that *western*⁴ Germany's economic performance in the 1990s was outstandingly poor: between 1992 and 1997, real GDP growth averaged a meager 1.5 percent, job losses amounted to roughly 5 percent of the labor force, and the unemployment rate nearly doubled. The key to the overall outcome was the extreme tight-money policy pursued by the Bundesbank throughout this period. By the turn of 1989–90, real short-term interest rates had reached their peak of 5 to 6 percent, a level at which they were kept even as the economy plunged into a deep recession by mid 1992—the worst since the Second World War. Then, from September 1992 until the turn of 1995–96, interest rate cuts were implemented extremely slowly, but their expansionary effects were neutralized by currency appreciation. Effectively, the ultratight monetary conditions remained roughly unchanged for six years. In fact, the degree of monetary tightness became even more stringent when fiscal policy embarked on an excessively restrictive course in 1992. As economic theory would predict, this had glaring real consequences. Capacity utilization dropped sharply in the 1992–93 recession and remained at severely depressed levels for most of the 1990s. Unemployment continued to soar until the end of 1997. Depressed domestic demand reflected the severity of the tight monetary and fiscal policies (Bibow 2001a, b).

The concept of a “monetary conditions index” (MCI) is very useful in this context to assess monetary policy stance. The MCI is based on the theory that in open economies with flexible exchange rates, the effects of monetary policy arise through both the interest rate and the exchange rate channels of monetary transmission. Effectively, an MCI combines two key indicators of monetary stance, a short-term interest rate and the effective exchange rate, the two factors being weighted according to their relative roles in the transmission mechanism in their effects on aggregate demand and economic activity. The 3:1 weighting here for the rate of interest and exchange rate, respectively, means that a one-percentage-point increase in real interest rates and a 3-percent appreciation of the real effective exchange rate (REER) are being treated as having equivalent effects on aggregate demand. The REER, in turn, measures the real external value of

a currency in terms of units of a basket of foreign currencies, weighted according to their importance in foreign trade. The absolute value of the MCI does not represent a measure of monetary stance. It merely indicates whether the stance has become more or less restrictive relative to some base.

Figure 1 Easy Money through the Back Door: Currency Weakness and Monetary Conditions in Germany since 1995 (Base: 1999: 1 = 0)



Notes. **Frankfurt O/N:** Frankfurt overnight interest rate deflated by the consumer price index; **MCI:** monetary conditions index; **REER:** real effective exchange rate.

Sources: Frankfurt O/N, consumer price index, and REER are from the *Monthly Report* of the Bundesbank. The data are also available at www.bundesbank.de. The MCI was calculated by the author based on 3:1 weighting for Frankfurt O/N and REER.

Figure 1 illustrates the evolution of monetary conditions in Germany from 1995 through 2000 relative to the first quarter of 1999. In spring 1996, a process of monetary easing began, but this arose only through currency depreciation. A brief, mainly export-driven recovery started in autumn 1996 as a result of the acceleration in U.S. and world economic growth. The external boost prevented another outright recession (GDP grew at less than 1 percent in 1996) and enabled Germany to meet the Maastricht fiscal criteria and be admitted to participate in the EMU. But reliance on external growth to compensate for deflationary conditions at home is a risky strategy, as developments over 1998–99 showed.

In autumn 1997, the Bundesbank temporarily arrested the deutsche mark's plunge by raising interest rates in a surprise move. Most remarkably,

monetary conditions tightened significantly after mid 1998. At this time, the export demand shock that arose in the wake of the Asian and Russian crises began to take its toll on Germany and the rest of Euroland. (Indications for an imminent slowdown in growth had been apparent from spring 1998 on.) In response, the Bundesbank did *not* cut interest rates in a timely way as had other central banks (for instance, the Federal Reserve and the Bank of England) to avoid risks to economic stability. Furthermore, Bundesbank President Hans Tietmeyer publicly proclaimed that the external demand shock would not affect stability in Euroland (Hutter 1998a, b). If the prestige, reputation, and much-envied credibility of the Bundesbank were worth anything, such upbeat “open mouth” operations could only be seen as inviting the deutsche mark’s appreciation. This is exactly what happened and, as an unwelcome consequence, the euro was launched at an inappropriately high level. Overall, the above analysis suggests that far from ameliorating the economic mess in Germany, the Bundesbank’s monetary policy during the 1990s was directly responsible for it. Thus, modeling the ECB after the Bundesbank may not have been a good idea.

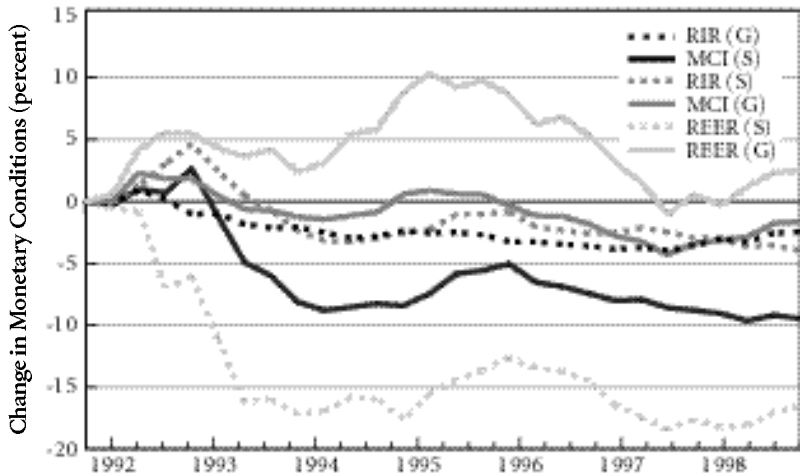
Turning now to the issue of convergence, it should be noted that, just as in Germany, the acceleration in U.S. and world economic growth over 1996–97 proved critical in meeting the convergence criteria for most EU countries. But five others—Finland, Ireland, Italy, Spain, and Portugal—also benefited from favorable developments in monetary conditions over the 1990s. The exchange rate crises of 1992–95 resulted in a marked shift in external competitiveness within the EU, as this group of countries saw their currencies decline by 20 percent or more against the deutsche mark. The expansionary effects of export growth caused by depreciation were further amplified by interest rate easing in the latter half of the 1990s. The fall in interest rates toward the German level bestowed a domestic demand stimulus on these countries, as the nominal interest rate spreads between the Latin countries, for instance, and Germany fell from around 6 percent in 1995 to 0 by 1998–99. In some cases real interest rates even fell below the German level, starting from extraordinarily high levels in 1995. In line with the predictions of economic theory, export growth picked up markedly (relative to Germany) beginning in 1993. The labor market situation improved by 1994–95 and, except for Italy, this group of countries experienced rapid and balanced growth spurred by domestic demand in the latter half of the decade.

A comparison between Germany and Spain serves to illustrate the degree of divergence in monetary conditions within the EU over the course of the 1990s. The monetary conditions indices for the two nations (see Figure 2) show the marked degree of monetary easing that took place in Spain over the 1990s both in absolute terms and relative to Germany. Monetary easing started three years earlier in Spain than in Germany as the real effective exchange rate of the peseta fell sharply in contrast to the upward movement in the German real exchange rate. The early export stimulus had improved the employment situation by 1994–95 and was boosting domestic demand. This process accelerated when Spanish interest rates began to fall toward German levels. Not surprisingly, Spain was in a better position than Germany to weather the international crises of the late 1990s. Spain exemplifies a point of—to varying degrees—general validity in Europe over the 1990s: ultratight money in the early years of the decade and very easy money later go a long way toward explaining trends in macroeconomic performance.

The international crises of 1998–99 had a negative impact on all countries, requiring a common policy response. However, the situation within the euro area diverged starkly in terms of countries' exposure to the shock and strength of domestic demand. While some countries had achieved a state of balanced and sustainable growth, others, especially Germany, were relying solely on export demand. Hence the consequences of the external shock were asymmetrical across countries and the existing degree of divergence was further reinforced. While the average level of euro area interest rates did fall in late 1998 due to convergence,⁵ the very country where relief was probably most needed, Germany, faced both a tightening of monetary conditions and an especially sharp fall in export demand.

The history of divergence repeated itself by the turn of 2000–01, when relatively higher inflation in some faster-growing economies (Spain, Portugal, Ireland, the Netherlands) was a major factor behind the ECB's decision to not cut interest rates in the face of a slowdown in external growth, while Germany was once again the hardest hit due to its free-riding strategy of relying on external growth. However, before discussing the ECB's conduct in the face of the slowdown of late 2000, its response to the euro's plunge, which started immediately after the new currency's inauguration in January 1999, must be analyzed.

Figure 2 Monetary Conditions in Germany and Spain, 1992–1998
(Base:1992: 1 = 0)



Notes: **RIR (G)**: Frankfurt overnight interest rate deflated by the German consumer price index; **REER (G)**: German real effective exchange rate; **MCI (G)**: German monetary conditions index; **RIR (S)**: Spanish call money rate deflated by the Spanish consumer price index; **REER (S)**: Spanish real effective exchange rate; **MCI (S)**: Spanish monetary conditions index.

Sources: *Germany*: Frankfurt overnight interest rate, consumer price index, and REER are from the *Monthly Report* of the Bundesbank. The data are also available at www.bundesbank.de. The MCI was calculated by the author based on 3:1 weighting for RIR (G) and REER (G).

Spain: Spanish call money rate and consumer price index are from *Financial Statistics* December 2000 (CD), published by the International Monetary Fund. The Spanish REER is from the Bank of Spain's website (www.bde.es). The MCI was calculated by the author based on 3:1 weighting for RIR (S) and REER (S).

The ECB's Communication Problems

The ill-conceived macroeconomic policies of the 1990s left Europe stranded with a growth rate that was starkly low compared to that of the United States. The key problems were the serious weakness of the German economy, a nation that accounts for one third of the EU's output, and significant divergence across countries in underlying economic conditions. The precariousness of the overall situation was heightened by the Bundesbank's blunders on the eve of EMU, setting the scene for things to come: the euro was launched from what quickly became viewed as an unsustainably high level because the Bundesbank's upbeat proclamations about economic stability in the eurozone had been far off the mark, particularly in Germany's own case (as reflected by the *Economist's* [1999]

dubbing of Germany as “the sick man of the euro”). The new currency thus started on a distinctly negative note, and immediately zoomed in on the deutsche mark’s (only briefly interrupted) downward trend that had started in 1996.

As pointed out earlier, the German experience of the 1990s should raise serious doubts about the apparently widespread hope that the ECB will conduct monetary policy very much the way the Bundesbank did. It is probably uncontroversial that the two key issues in monetary policy in 1999–2000 were pronounced euro weakness and the ECB’s ongoing difficulties in communicating effectively and coherently with the outside world. In what follows, the hypothesis is made that these two issues might have been more closely and deeply related than many observers seem to appreciate.

The situation was made no easier by the provisions of the Maastricht Treaty as to the Council of Ministers’ powers to formulate “general orientations” for the euro (Art. 111; Kenen 1995), which led to irritations among and between finance ministers and central bankers. Occasionally, these irritations were conflated with, and further magnified by, certain political decisions that were perceived by financial market participants as “market-unfriendly” or displaying ambivalence about “structural reform” (perceptions generally encouraged by ECB proclamations).⁶ The ECB’s president eventually adopted the “Mr. Euro” title, and finance ministers learned to coordinate and restrain their public utterances on the currency (OECD 2000b, 61–62). As it turned out, adopting that title attracted a large degree of criticism.

It seems compelling, then, to scrutinize carefully to what extent the ECB’s conduct might have contributed to the euro’s plunge, what the consequences for economic developments in Euroland were, and how these developments have fed back into the ECB’s policy-making process. As a first step, the analysis of the ECB’s conduct will be carried out within its own policy-making framework, the two-pillar strategy featuring a quantitative “reference value” for money supply growth and the ECB’s “broadly based assessment of the outlook for future price developments and risks to price stability in the euro area as a whole” (ECB 1999c). As a second step, the analysis examines whether the ECB’s interest rate decisions (derived from and explained within its own strategy)

gave rise to a time-inconsistency problem that effectively imposed the market's rather than the ECB's stance.

The first pillar of ECB strategy, the reference value for money supply growth, is dealt with briefly here. The actual growth in money supply was significantly and consistently above the reference value ever since the euro's inauguration.⁷ This is not really surprising, as the reference value of 4.5 percent was set conspicuously low, most probably because the figure was meant to hedge criticisms of monetary restriction. Thus, a reference-value overshoot would either provide an excuse for a rate hike or be "explained" as accommodating certain "special factors" that the ECB—at its own discretion—decided would not pose any risk to price stability for the time being. Strategic use of an apparent "rule" to fend off outside criticism and enlarge (rather than constrain) the central bank's own discretion is in line with Bundesbank traditions.

However, when the reference value was announced on December 1, 1998, it was probably not foreseen that above-reference-value money growth would complicate matters when the ECB cut interest rates by 50 basis points on April 8, 1999. This was the ECB's first policy move and was met with great confusion and controversy (especially in Germany where adherents to monetary targeting are less rare than elsewhere).⁸ As money growth has remained above its reference value ever since, the ECB could argue on later occasions that monetary policy was not restricting growth. The situation became more complicated during the second half of 2000 when the ECB continued to raise interest rates while money growth was already slowing markedly. To those who trust the reliability of money growth as an indicator, this would seem to herald a marked slowdown in GDP growth and raise doubts about why the ECB continued tightening nevertheless. In any case, since only a few observers seem to be convinced of either the usefulness of the reference value for money growth or its systematic role in the ECB's strategy, the analysis may now focus on the second pillar.

The ECB's broadly based assessment of the outlook for price stability in the medium term has been the primary source of communication problems, particularly regarding the role of the exchange rate. Indeed, the ECB's communication policy has seen some remarkable shifts on this issue. At the start, it emphasized that the task of focusing on the maintenance of price

stability in the euro area was “facilitated” by the fact that the ECB’s strategy did not embody any kind of exchange rate “target” for the euro (ECB 1999c). Accordingly, during the first period of the euro’s decline, lasting until mid 1999, the ECB seemed keen to downplay the relevance of this factor and its own concern about it. Nor did it clarify the issue in time. ECB president Wim Duisenberg’s famous slip on the lack of an exchange rate policy (“For the time being there is neglect”) did not help to meet emerging charges of “benign neglect.”⁹

However, this charade did not last long and it became ever more apparent that the ECB was highly concerned about the euro’s pronounced decline. The fact that an experienced central banker like Otmar Issing, the ECB’s chief economist, caused a stir in the markets in late 1999 by “appearing to gloat that speculators had ‘burnt their fingers’ in the attempt to push the euro below parity” (“Euro” 1999) illustrates well how unnerving these developments must have been for the people at the top of the ECB. The euro then fell decisively below U.S. dollar parity (1 euro = 1 dollar) in early 2000. Up to that point, the ECB had largely confined itself to the use of “open mouth” operations, emphasizing the “potential upside” of the euro. But when the Federal Reserve raised interest rates on February 2, 2000, the ECB quickly followed suit the following day, a panicky move that did little to build up its already blemished market reputation. A whole series of interest rate hikes followed between March and October 2000, with euro weakness being increasingly cited explicitly as a key underlying factor.

Finally, on September 22, the ECB organized concerted foreign exchange market interventions in which it was joined by the Federal Reserve and other G7 central banks. Their success in bolstering the euro proved rather temporary because Duisenberg committed another blunder shortly afterward when he talked rather carelessly in an interview about the possible future use of foreign exchange interventions. This incident led to the most serious crisis so far in his presidency (with hopes for his resignation being expressed more explicitly and more widely than ever before, see Barber 2000, “Wim’s Whim” 2000).

All in all, it seems hard to escape the impression that the ECB’s ongoing failure to communicate effectively and coherently has contributed significantly to the currency’s plunge. The failure to clarify the role of the

exchange rate at the outset was a first-rate policy blunder in itself. Wavering between the appearance of benign neglect and panicky policy moves in response to exchange rate changes and interest rate decisions abroad, the markets were left with a wide range of possibilities to choose from. This uncertainty in turn complicated the communication of the ECB's own interest rate decisions. Perhaps most amazingly, despite its huge foreign exchange reserves, the ECB seemed all along unable to establish a credible threat to intervene in foreign exchange markets, a threat that would break market psychology and end what apparently presented a one-way bet against the euro.

Of course, the verdict that the ECB's communication with the outside world has room for improvement is not really controversial. Even Issing (1999) has admitted as much in his reply to outside criticism, suggesting that "the verdict among most, if not all, of our 'watchers' seems to be that—broadly speaking—the ECB has done a good job but has not been very effective in presenting and explaining itself."

This statement makes sense only if communication failures are of no real consequence in establishing monetary stance. If that is the case, it is hard to understand why so much attention is being paid to the issues of transparency, communication, credibility, and reputation. Theory and practice of central banking suggest that effective communication of monetary policy to financial market participants is a critical part of monetary policy itself. Communication failures involve the risk of a loss of control over policy. The ECB's confusing behavior acted like a propagation mechanism of euro weakness—as the markets took over.

Time-Inconsistent Policy, the Euro's Plunge, and the Consequences

In addition to the ongoing irritations caused in currency markets by the ECB's incoherent behavior, another deeper layer exists in the relationship between the pronounced euro weakness and the ECB's communication problems. Just as Germany's poor economic growth had been behind the deutsche mark's plunge since 1996, the pronounced growth differential between the eurozone and the United States was the basis for the time-inconsistency problem faced by the ECB. Economic theory and

available evidence suggest that, ultimately, the sustainable level of interest rates in an economy depends on its rate of growth. By implication, if inappropriate monetary policies lastingly constrain economic growth, this in turn will constrain the sustainable level of interest rates and, hence, the future course of monetary policy.

Other critical policy implications arise in an open economy. The faster-growing economy's currency tends to appreciate because assets in that economy generally offer higher prospective financial returns and thus encourage net foreign capital inflows. Currency appreciation provides welcome disinflationary relief. By contrast, the slower-growing economy experiences currency depreciation, which, while it has the beneficial effect of boosting exports, also produces inflationary pressures. Ironically, interest rate hikes intended to fight inflation may do just the opposite by expediting further currency weakness.

It is widely recognized that economic growth has represented the primary theme in financial markets over recent years (Corsetti and Pesenti 1999). Acting in this "progrowth" environment, the ECB has failed to grasp a time-inconsistency problem: attempts to support the euro by narrowing the current interest rate differential vis-à-vis the U.S. dollar may be counterproductive if they are perceived as risking a widening (rather than narrowing) of the growth differential ultimately underlying any sustainable path of future interest rate differentials. In fact, the ECB's aggressive interest rate hikes over the course of 2000 appear to have been increasingly perceived as risking Euroland's growth prospects and thus lacking credibility. This hypothesis offers an explanation for the paradoxical feature that interest rate hikes by the Federal Reserve tended to be good news for the euro, while those by the ECB were bad news. A brief review of the course of developments will help to illustrate the issue.

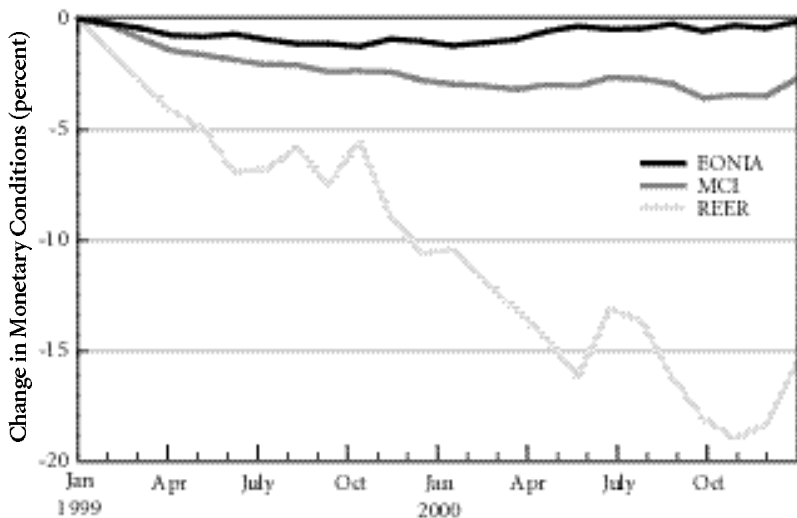
After its initial slide of some 7 percent since the start of 1999, the euro's external value stabilized between June and October (see Figure 3). During the summer, the eurozone's growth prospects brightened and, by July, the ECB's statements started to indicate a tightening bias. Yet, during this phase of euro stability, the short-term interest rate differential vis-à-vis the United States widened (as the Federal Reserve, after its quick easing in 1998 in response to growth risks, started to tighten again), while the long-term interest rate differential shrank as euro bond yields rose. A reversal

then occurred in November 1999 with the ECB's 50-basis-point hike. The short-term spread fell, but the long-term interest rate spread widened again (euro bond yields remained stable) and the euro resumed its decline.

In 2000, the same pattern became even clearer with the ECB's three 25-basis-point hikes of February, March, and April. The ECB succeeded in keeping the short-term interest rate spread in check as the Federal Reserve continued its tightening. But if anything, the euro's downward drag seemed to gain new force from these hikes, with euro bond yields being set on a declining trend (although falling more slowly than in the United States where a inverted yield curve¹⁰ developed that was generally attributed to public debt redemptions and not perceived as heralding a recession).

In terms of the time-inconsistency problem hypothesized here, the ECB faced a choice. It could contain the short-term interest rate differential vis-à-vis the dollar in the short run while running the risk that this would be perceived as unsustainable (by causing growth risks). Or it could fall behind the curve, in a sense, and derive support from improving growth

Figure 3 Monetary Conditions in Euroland, 1999–2000
(Base: January 1999 = 0)



Notes: **EONIA**: Euro Overnight Index Average deflated by the Harmonized Index of Consumer Prices; **REER**: Real effective exchange rate of the euro; **MCI**: monetary conditions index for the eurozone. The MCI was calculated by the author based on 6:1 weighting for EONIA and REER.

Source: The European Central Bank's website, www.ecb.int.

prospects, in turn promising a more sustainable basis for a tighter monetary policy stance in the longer run. The latter strategy involved a medium-term orientation of waiting until the Federal Reserve achieved its intended slowdown in U.S. growth and stimulating the domestic demand that would be needed once that slowdown materialized. A central bank single-mindedly preoccupied with inflation risks would be naturally inclined to opt for the former strategy.

The crucial point is that a market perception of an “antigrowth attitude” may well prove counterproductive in both the short and longer runs. In the short run, it might raise, rather than lower, inflation through facilitating currency weakness, which runs against the central bank’s primary concern. Even worse, by posing risks to growth and economic prosperity (society’s primary concerns), the central bank’s myopic behavior may have detrimental long-run effects—an especially disturbing prospect since rising inflation may forestall any interest rate cuts in the event of a slowdown.

A clear opportunity for the ECB to bolster the euro arose when the Federal Reserve’s 50-basis-point hike of May 16, 2000, was followed by weak data on U.S. growth, dampening market perceptions of underlying strength of the dollar and implying that U.S. interest rates had peaked. The ECB missed this opportunity by continuing to play against the markets’ primary theme, following suit with a 50-basis-point hike on June 8. The euro resumed its decline. Most remarkably, the ECB continued tightening, imposing two 25-basis-point hikes on August 31 and October 5, even in the face of mounting evidence that eurozone growth had already peaked and money growth had begun to slow down markedly.¹¹

In line with the time-inconsistency problem hypothesized here, it took confirmation of U.S. weakness to reverse the euro’s decline in November 2000. By the turn of the year, the euro had strengthened significantly, but soon afterward, the time-inconsistency scenario reaffirmed itself—in reverse gear. As U.S. gloom became global, the markets increasingly perceived the Federal Reserve’s (forward-looking) quick easing approach as more appropriate than the ECB’s (backward-looking) “wait and see” inertia. The Federal Reserve’s interest rate cuts proved good news for the dollar while the ECB’s reluctance to cut was bad news for the euro. The euro weakened again. Despite Euroland’s relatively more favorable short-

term outlook, the ECB once again mobilized market forces unanimously against itself. Its behavior was curiously reminiscent of 1998, when the Bundesbank proclaimed that international crises would not have an adverse impact on the German economy.

No doubt, some of the consequences of the short run of (market-imposed) “easy money through the back door” are highly desirable: employment grew at an impressive pace and unemployment fell markedly. This is a crucial blow to the conventional wisdom that European unemployment is all structural in nature. If the ECB, and not the markets, were in charge of policy, unemployment would have remained unchanged; this would be in line with the conduct of its supposed model—the Bundesbank.

Other consequences are less desirable. Currency weakness pushed up inflation, an untimely event as it reinforced price pressures that had resulted from soaring oil prices. With inflation running well above its declared tolerance level for the better part of a year, the ECB piled blunder upon blunder by refusing to respond appropriately to the slowdown in world growth, arguing that its mandate forced it to concentrate on price stability alone.

Part of the problem was that even though overall monetary conditions were easy over the recent past, the balance of stimuli was suboptimal: the euro’s plunge reinforced the bias of externally driven growth, while the ECB’s hikes constrained domestic demand. With world growth slowing markedly, the old problems of dwindling growth prospects and divergence reemerged with new force. However, two crucial factors that alleviated the situation in the second half of the 1990s are not present today: a significant tendency toward interest rate convergence within the EU and a booming U.S. economy (Godley and Wray 1999).

Furthermore, no sizeable discretionary fiscal stimulus (as is currently underway in the United States) is expected to arise in Euroland. The 1998 shift of fiscal policy after six years to a less restrictive stance (although important differences in degree and timing of fiscal tightening were involved) contributed significantly to the European recovery in the late 1990s. The Maastricht rules may soon require Germany, in particular, to respond to its reemerging fragility by *tightening* its fiscal stance—repeating the follies of the 1990s. This highlights that the Maastricht regime has

put an extraordinary responsibility on the ECB's shoulders. Yet, the ECB seems determined to maximize its own anti-inflation prestige, accepting an amazing degree of risk as society's price. However, it may not be good policy to imagine inflation risks around every corner but ignore real risks to economic growth.

Conclusions

The euro's plunge in 1999–2000 and the problems this presented to the ECB had important earlier roots. The runup to EMU during the 1990s may have achieved convergence of inflation rates, but it also caused protracted fragility, in Germany in particular, together with significant divergence in demand and growth. The Bundesbank's final blunders of 1998 in response to the international crises heightened the precariousness of the economic situation at the euro's inauguration, and encouraged what was quickly perceived as a launch from a rather high starting point. This offers some exoneration to the ECB, which, due to these unenviable legacies, found itself in a difficult position right from the start.

Nevertheless, the view that the ECB has done a "good job" is simply untenable. This brief has argued that the ECB's policies were highly inappropriate and acted as twofold propagation mechanisms of the euro's plunge. First, its ongoing communication problem brought market psychology up against the new currency and established conditions akin to a one-way bet situation. Second, by misreading the progrowth environment in which it was acting, the ECB ran into a time-inconsistency problem: its aggressive interest rate hikes in defense of the sliding currency weakened it further, as they were perceived by the markets as risking Euroland's growth prospects. Weakening growth prospects in turn undermined prospective returns on euro assets and the sustainable course of future monetary policy.

Interestingly, as the markets took over, overall monetary conditions became easier rather than tighter, imposing "easy money through the back door." One of the less desirable consequences was rising inflation. But the ECB is wrong to continue focusing on inflation only. Certainly its vague mandate grants the ECB all the discretion it needs to take a more

proactive attitude toward growth, which would have facilitated, not jeopardized, the maintenance of price stability over both the short and the medium term. Therefore, the true ECB paradox and ultimate proof of its poor performance is that it failed its primary objective of price stability exactly because it was too obsessed with it. Its failure to adopt a forward-looking, medium-term approach raised inflation in the short run and diminished the eurozone's growth prospects in the long run. The ECB's performance has demonstrated that there are clear risks involved in granting independent central bankers discretion to focus on "price stability above all else."

Notes

1. In January 2001, Greece became the 12th member; while Denmark decided to stay out in a September 28, 2000, referendum. Sweden and the United Kingdom are the other two nonparticipating EU countries.
2. Article 105 of the (Amsterdam) Treaty on European Union (TEU) lays down the E(S)CB's "primary" goal as that of maintaining "price stability." Unfortunately, the treaty neither defines what price stability means nor specifies the conditions under which the ECB could not refuse to pursue its "secondary" goals, that is, the EU's real objectives as laid down in Article 2 TEU. So it was all left to the central bankers to decide what suits them best. Interestingly, the ECB has meanwhile resolved the tension that arose from Article 2 TEU, through slightly rewording Article 105 TEU. In the October 2000 *Bulletin* the ECB declares that its task is to fulfill the "clearly defined mandate to maintain price stability in the euro area *and, in this way* [sic] to contribute to the achievement of the objectives of the Community" (p. 52; emphasis added). Any possible trade-offs were elegantly declared nonexistent in this way. No objective other than price stability deserves explicit consideration when deciding monetary stance. Note the legal difference involved in the ECB's and Federal Reserve's respective mandates, with the Federal Reserve's featuring price stability *and* full employment *on an equal footing* (Thorbecke 2000). In addition, there are marked differences in practices and attitudes toward output stabilization, employment, and growth.

3. The communication issue in monetary policy was emphasized by John Maynard Keynes (1936) in his *General Theory*, particularly in his discussion of the monetary authorities' control over long-term rates of interest featuring the possibility of opposition from the banks (see Bibow 2000).
4. The situation in the former East Germany after unification was special. Particularly with regard to price and wage trends, today's common focus on all-German data gives a greatly distorted picture of the true situation in the early 1990s. But the point is that the chosen macro policies had rather disastrous consequences in the West too.
5. Just before the launch, in December 1998, the Bundesbank orchestrated its final interest rate move, a cut of 30 basis points. This allowed European short-term interest rates to converge at the new floor of 3 percent. But from a German perspective this minor and much belated cut just about compensated for falling inflation. The Bundesbank ("Economic Scene" 1998, 13) declared at the time that this move would "clarify the interest-rate horizon for the foreseeable future and . . . facilitate the start for the European Central Bank."
6. A prime example here is German Chancellor Gerhard Schröder's bailout of the bankrupt construction firm Philip Holzmann AG in December 1999, which attracted rather explicit public criticism from Duisenberg, who blamed the measure for causing euro weakness. Schröder briskly reminded Duisenberg that the ECB was not in charge of German politics. One issue is which caused more damage: the supposed market-unfriendliness of the bailout or the open conflict about it provoked by the ECB. Another issue is that Europe's central bank politicians are amazingly at ease talking well beyond their own monetary portfolio, but would regard equivalent behavior by any democratically elected politician as impinging on the ECB's independence.
7. The reference value of 4.5 percent was first announced by the Governing Council on December 1, 1998, and then reviewed and confirmed in December 1999 and December 2000. By providing numerous caveats the ECB made sure not to bind its hands but to maximize its own scope for discretion (see ECB 1999b).

8. Commenting on the rate cut in its April *Bulletin*, the ECB (1999c) explained that monetary growth should not be seen as signaling upcoming inflationary pressures “at this juncture,” referring to unspecified “special factors at the start of stage three.”
9. The remark was made during a hearing at the European Parliament’s Subcommittee on Monetary Affairs on April 19, 1999. It was not the only occasion that forced Duisenberg to “clarify” his remarks later on in order to limit the damage done. In a speech on May 4, 1999, he explained, “we do not have a target for the exchange rate of the euro, for example, against the U.S. dollar. This does not mean, and it is good to underline this once more, that the ECB is indifferent to the external value of the euro or even neglects it” (OECD 2000a, fn.36).
10. The yield curve is a plot of the interest yields on bonds that differ only with respect to their term to maturity, having otherwise identical characteristics: (default) risk, liquidity, tax, etc. In other words, the yield curve describes the term structure of interest rates. A yield curve “inversion” refers to a situation where long-term yields fall below short-term ones, with the opposite case being generally considered as “normal.”
11. The *Financial Times* of October 6, 2000, featured a column on the “ECB’s surprise” that partly identified the problem outlined above, ending with the prophetic observation that the ECB “risks giving itself the reputation of an inflation-obsessed central bank, which is willing to put growth at risk even when price pressures are marginal. If this happens, it will lose political credibility and investor confidence.”

References

- Barber, T. 2000. "A Question of Leadership." *Financial Times*, October 18.
- Bibow, J. 2001a. "Making EMU Work: Some Lessons from the 1990s." *International Review of Applied Economics* 15:3 (July).
- . 2001b. *On the "Burden" of German Unification: The Economic Consequences of Messrs. Waigel and Tietmeyer*. Working Paper no. 328. Annandale-on-Hudson, NY: The Levy Economics Institute.
- . 2000. "On Exogenous Money and Bank Behaviour: The Pandora's Box Kept Shut in Keynes' Theory of Liquidity Preference?" *European Journal of the History of Economic Thought* 7:4: 532–68.
- Corsetti, G., and P. Pesenti. 1999. "Stability, Asymmetry, and Discontinuity: The Launch of European Monetary Union." *Brookings Papers on Economic Activity* 2: 295–358.
- Cottrell, A. 2000. "Softer Euro, Stronger Europe." *Journal of Common Market Studies* 38:1 (September): 77–80.
- Duisenberg, W. 1999. "Monetary Policy in the Euro Area." Speech, January 25. www.ecb.int/key/sp990125.htm.
- "ECB's Surprise." 2000. *Financial Times*, October 6.
- "The Economic Scene in Germany in Autumn 1998." 1998. *Deutsche Bundesbank Monthly Report*, December: 5–14.
- "Euro Falls after Issing Goads Traders." 1999. *Financial Times*, December 10.
- European Central Bank. 2000. "The ECB's Relations with Institutions and Bodies of the European Community." *Monthly Bulletin*, October: 49–64.
- . 1999a. "Editorial." *Monthly Bulletin*, April: 5–6.
- . 1999b. "Euro Area Monetary Aggregates and Their Role in the Eurosystem's Monetary Policy Strategy." *Monthly Bulletin*, February: 29–46.
- . 1999c. "The Stability-Oriented Monetary Policy Strategy of the Eurosystem." *Monthly Bulletin*, January: 39–50.
- Godley, W., and L. R. Wray. 1999. *Can Goldilocks Survive?* Policy Note 1999/4. Annandale-on-Hudson, N.Y.: The Levy Economics Institute.
- Hutter, H. 1998a. "Tietmeyer Warnt vor Falschen Rezepten." *VWD Finanz- und Wirtschaftsspiegel*, September 7. Reproduced in *Deutsche Bundesbank: Auszüge aus Presseartikeln* 52.

- . 1998b. “Wir Tabuisieren Nichts, Wir Prüfen Stets.” Gespräch mit Bundesbankpräsident Prof. Dr. Hans Tietmeyer. *VWD Finanz- und Wirtschaftsspiegel*, October 8. Reproduced in *Deutsche Bundesbank: Auszüge aus Presseartikeln* 60.
- Issing, O. 1999. “The ECB and its Watchers.” Speech, Frankfurt, June 17. www.ecb.int/key/sp990617.pdf.
- . 1998. “The European Central Bank at the Eve of EMU.” Speech, November 26. www.ecb.int/key/sp981126.htm.
- Kenen, P. B. 1995. *Economic and Monetary Union in Europe: Moving beyond Maastricht*. Cambridge: Cambridge University Press.
- Keynes, J. M. 1936. *The General Theory of Employment, Interest and Money*. London: Macmillan.
- Organisation for Economic Co-operation and Development. 2000a. *EMU: One Year On*. Paris: OECD.
- . 2000b. “Revised OECD Measures of Structural Unemployment.” *OECD Economic Outlook* 68.
- . 1999a. *EMU: Facts, Challenges, and Policies*. Paris: OECD.
- . 1999b. *Implementing the OECD Jobs Strategy—Assessing Performance and Policy*. Paris: OECD.
- . 1994. *The OECD Jobs Study*. www.oecd.org/sge/min/job94/tabcont.htm.
- “The Sick Man of the Euro.” 1999. *The Economist*, June 5.
- Thorbecke, W. 2000. *A Dual Mandate for the Federal Reserve: The Pursuit of Price Stability and Full Employment*. Public Policy Brief no. 60. Annandale-on-Hudson, N.Y.: The Levy Economics Institute.
- “Wim’s Whim.” 2000. *The Economist*, October 21.

About the Author

Visiting Scholar Jörg Bibow is conducting research on central banking and financial systems. His research focuses on the effects of monetary policy on economic performance, especially the monetary policies of the Bundesbank and the European Central Bank. This work builds on Bibow's earlier research on the monetary thought of John Maynard Keynes. Bibow received a bachelor's degree (with honors) in economics from the University of the Witwatersrand; a diplom-volkswirt from the University of Hamburg; and master's and doctoral degrees in economics from the University of Cambridge. He is on leave from the University of Hamburg, where he lectures on central banking and European integration.

Public Policy Brief Series

The full text of the Public Policy Brief and Public Policy Brief Highlights series can be downloaded from the Levy Institute website, www.levy.org. The site also includes a complete list and short summaries of all the titles in the Public Policy Brief series.

To order a copy, call 845-758-7700 or 202-887-8464 (in Washington, D.C.), fax 845-758-1149, e-mail info@levy.org, or write The Levy Economics Institute of Bard College, Blithewood, PO Box 5000, Annandale-on-Hudson, NY 12504-5000.

No. 32, 1997, **What's Missing from the Capital Gains Debate?**

Real Estate and Capital Gains Taxation
Michael Hudson and Kris Feder

No. 33, 1997, **Is There a Trade-off between Unemployment and Inequality?**

No Easy Answers: Labor Market Problems in the United States versus Europe
Rebecca M. Blank

No. 34, 1997, **Safeguarding Social Security**

The Challenge of Financing the Baby Boom's Retirement
Walter M. Cadette

No. 35, 1997, **Reflecting the Changing Face of America**

Multiracials, Racial Classification, and American Inter-marriage
Joel Perlmann

No. 36, 1997, **Dangerous Metaphor: The Fiction of the Labor Market**

Unemployment, Inflation, and the Job Structure
James K. Galbraith

No. 37, 1997, **Investment in Innovation**

Corporate Governance and Employment: Is Prosperity Sustainable in the United States?
William Lazonick and Mary O'Sullivan

No. 38, 1997, **Who Pays for Disinflation?**

Disinflationary Monetary Policy and the Distribution of Income
Willem Thorbecke

No. 39, 1998, **The Unmeasured Labor Force**

The Growth in Work Hours
Barry Bluestone and Stephen Rose

No. 40, 1998, **Overcoming America's Infrastructure Deficit**

A Fiscally Responsible Plan for Public Capital Investment
S Jay Levy and Walter M. Cadette

No. 41, 1998, **Side Effects of Progress**

How Technological Change Increases the Duration of Unemployment
William J. Baumol and Edward N. Wolff

No. 42, 1998, **Automatic Adjustment of the Minimum Wage**

Linking the Minimum Wage to Productivity
Oren M. Levin-Waldman

No. 43, 1998, **How Big Should the Public Capital Stock Be?**

The Relationship between Public Capital and Economic Growth
David Alan Aschauer

No. 44, 1998, **The Asian Disease: Plausible Diagnoses, Possible Remedies**

Regulation of Cross-Border Interbank Lending and Derivatives Trade
Martin Mayer

No. 45, 1998, **Did the Clinton Rising Tide Raise All Boats?**

Job Opportunity for the Less Skilled
Marc-André Pigeon and L. Randall Wray

No. 46, 1998, **Self-reliance and Poverty**

Net Earnings Capacity versus Income for Measuring Poverty
Robert Haveman and Andrew Bershader

No. 47, 1998, **Regulating HMOs**

An Ethical Framework for Cost-Effective Medicine
Walter M. Cadette

No. 48, 1998, **Japanese Corporate Governance and Strategy**

Adapting to Financial Pressures for Change

William Lazonick

No. 49, 1998, **Corporate Governance in Germany**

Productive and Financial Challenges

Mary O'Sullivan

No. 50, 1999, **Public Employment and Economic Flexibility**

The Job Opportunity Approach to Full Employment

Mathew Forstater

No. 51, 1999, **Small Business and Welfare Reform**

Levy Institute Survey of Hiring and Employment Practices

Oren M. Levin-Waldman

No. 52, 1999, **Government Spending in a Growing Economy**

Fiscal Policy and Growth Cycles

Jamee K. Moudud

No. 53, 1999, **Full Employment Has Not Been Achieved**

Full Employment Policy: Theory and Practice

Dimitri B. Papadimitriou

No. 54, 1999, **Down and Out in the United States**

An Inside Look at the Out of the Labor Force Population

Marc-André Pigeon and

L. Randall Wray

No. 55, 1999, **Does Social Security Need Saving?**

Providing for Retirees throughout the Twenty-first Century

Dimitri B. Papadimitriou and

L. Randall Wray

No. 56, 1999, **Risk Reduction in the New Financial Architecture**

Realities and Fallacies in International Financial Reform

Martin Mayer

No. 57, 1999, **Do Institutions Affect the Wage Structure?**

Right-to-Work Laws, Unionization, and the Minimum Wage

Oren M. Levin-Waldman

No. 58, 1999, **A New Approach to Tax-Exempt Bonds**

Infrastructure Financing with the AGIS Bond

Edward V. Regan

No. 59, 2000, **Financing Long-Term Care**

Replacing a Welfare Model with an Insurance Model

Walter M. Cadette

No. 60, 2000, **A Dual Mandate for the Federal Reserve**

The Pursuit of Price Stability and Full Employment

Willem Thorbecke

No. 61, 2000, **Whither the Welfare State?**

The Macroeconomics of Social Policy

Jamee K. Moudud and Ajit Zacharias

No. 62, 2000, **Is There a Skills Crisis?**

Trends in Job Skill Requirements, Technology, and Wage Inequality in the United States

Michael J. Handel

No. 63, 2001, **The Future of the Euro**

Is There an Alternative to the Stability and Growth Pact?

Philip Arestis, Kevin McCauley, and

Malcolm Sawyer

No. 64, 2001, **Campaign Contributions, Policy Decisions, and Election Outcomes**

A Study of the Effects of Campaign Finance Reform

Christopher Magee

No. 65, 2001, **Easy Money through the Back Door**

The Markets vs. the ECB

Jörg Bibow