

Kutan, Ali M.; Brada, Josef C.

**Working Paper**

## The evolution of monetary policy in transition economies

ZEI Working Paper, No. B 19-1999

**Provided in Cooperation with:**

ZEI - Center for European Integration Studies, University of Bonn

*Suggested Citation:* Kutan, Ali M.; Brada, Josef C. (1999) : The evolution of monetary policy in transition economies, ZEI Working Paper, No. B 19-1999, Rheinische Friedrich-Wilhelms-Universität Bonn, Zentrum für Europäische Integrationsforschung (ZEI), Bonn

This Version is available at:

<https://hdl.handle.net/10419/39467>

**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.*

Zentrum für Europäische Integrationsforschung  
Center for European Integration Studies  
Rheinische Friedrich-Wilhelms-Universität Bonn



Ali M. Kutan and Josef C. Brada

**The Evolution of Monetary  
Policy in Transition  
Economies**

**Working Paper**

**B99-19  
1999**

**THE EVOLUTION OF MONETARY POLICY IN  
TRANSITION ECONOMIES**

**by**

**Ali M. Kutan**

**Southern Illinois University, Edwardsville**

**and**

**Josef C. Brada**

**Arizona State University**

## **I. INTRODUCTION**

Over the past decade, a number of East and Central European countries have stabilized their economies, built up the institutions and the legal underpinnings of a market economy and achieved sustained economic growth. In these countries, the conduct and objectives of macroeconomic policy have evolved rapidly during this time. Initially, monetary authorities used direct instruments such as credit ceilings and focused on easily understood and highly visible targets such as the nominal exchange rate. As a measure of macroeconomic stabilization was achieved, and with the emergence of the necessary markets and institutions, monetary policy has evolved toward less direct instruments such as open market operations and toward new targets such as reducing inflation to West European levels.

In this paper, we examine the experience of three of the more successful transition economies, the Czech Republic, Hungary and Poland. These countries' economic performance, whether measured by the level of inflation or by the resumption of economic growth after the initial shock of transition, places them at the forefront of the transition economies, and they will be among the first East European countries to join the European Union (EU). Indeed, it may appear that their economies are, to a large extent, post-transition economies whose policy objectives and problems are much more like those of the advanced and middle-income market economies of Europe than those of the successor states of the former Soviet Union. Their experience in achieving this status provides valuable lessons for those transition economies that have as yet to develop their markets and their monetary institutions to the same extent as have these three countries.

A key policy objective for the three transition economies that are considered in this paper is to bring their inflation rates down to levels that prevail in the EU. To this end, they are seeking new approaches to fighting inflation, with the Czech Republic and Poland formally adopting inflation targeting as their monetary policy regime. Such indirect policies presuppose functioning capital to achieve policy makers' objectives. We examine the efforts to develop such a market in these countries in Section II. In the following section, we examine the evolution of monetary policy in each country, highlight the problems that monetary authorities have faced, and describe the current approach to managing inflation.

## **II. CREATING A BANKING SYSTEM**

A key component of the transition in each of the three countries was to create a functioning capital market, which, in the case of the Czech Republic and Poland, required the creation of a two-tier banking system out of the former socialist state bank. The socialist banking system consisted of a state bank that not only performed the functions of a central bank, but also issued virtually all short-term credits to the country's enterprise sector. There were also several subsidiary banks with specialized functions such as financing foreign trade or servicing households' savings accounts. Credit was granted not on the basis of the creditworthiness of the firms seeking loans but rather on the need to finance activities decreed by the central plan.

### *The Czech Republic*

In Czechoslovakia, the socialist central bank was broken up into a two tier banking system shortly after the fall of the communist regime. The loan portfolio of the former central bank was inherited mainly by the largest of the new commercial banks, Komerční Banka, in the Czech Republic and Všeobecná Uverová Banka in the Slovak Republic. Other commercial banks emerged from the former specialized banks (Desai, 1996, p. 469). Because of the federal structure of Czechoslovakia, most of the commercial banks carved out from the socialist-era central bank and from the specialized banks concentrated their activities in one Republic or the other. Thus, in 1993, when Czechoslovakia split into two independent countries, the Czech Republic and the Slovak Republic, the number of active banks in each successor country declined, and each country had to found its own central bank on the basis of the former Czechoslovak National Bank. In the Czech Republic, the Czech National Bank (CNB) was established and given the traditional functions of a central bank.

Czech commercial banks held many bad loans that had been made to loss-making state-owned firms during the socialist period. Because Komerční Banka had the biggest share of these loans, its non-performing loan problem was the most serious, and it received the bulk of the funds that the government allocated to aiding the commercial banks. Some of the worst loans were transferred to the Consolidation Bank, which was founded precisely to manage such loans.

Privatization had a major impact on the Czech-banking sector. Shares of the commercial banks were auctioned to the public through the voucher privatization, but the government remained the main owner of each of the major banks. Perhaps more important was the fact that each commercial bank set up one or more investment privatization funds that collected the vouchers held by citizens into a mutual fund that used these vouchers to bid for shares of companies undergoing privatization. Because about two-thirds of all available vouchers went to such investment funds, the banks became major owners of Czech industrial firms and, second only to the controlling shares held by the government, of each other. The dominant role of the government in the ownership of the banks as well as the proclivity of the banks to make loans to unprofitable firms in which their investment funds hold large stakes has raised questions about the efficiency with which bank credit is allocated by the banking system.<sup>1</sup> As a result, the withdrawal of banks from lending to the business sector in favor of lending to the government has been less of a problem in the Czech Republic than it was in Hungary.

The unwillingness of the Czech government to allow foreign banks to enter the market has compounded the lack of competition caused by the bank's ownership of enterprises and by the domination of the market by a few large banks. Newly founded domestic banks have been too small, subject to disadvantageous regulation and plagued by scandal. A number have failed, had their license revoked or been taken over by the large state-owned commercial banks (Desai, 1996, pp.479-480). Although commercial banks have

---

<sup>1</sup> For an analysis of Komerční Banka's lending policies, see Snyder and Kormendi (1997). Desai (1996) provides a more general critique of the Czech banking system's performance and of the government's role as majority owner.

been required to increase their capitalization over time, aided by CNB policies that maintain high spreads between lending and borrowing rates, the financial situation of the commercial banks has not improved as much as hoped due to their continued lending to insolvent clients. Many observers believe that it will prove difficult for the government to find foreign investors to take over its majority shares in Czech commercial banks.

### *Hungary*

In Hungary, the state bank was transformed into a two-tier banking system in 1987, prior to the beginning of the transition, as part of ongoing efforts to decentralize the economy and to replace the plan with indirect state control over economic activity. The new banking system consisted of the National Bank of Hungary (NBH), which retained the functions of a traditional central bank, and five newly-organized commercial banks. The commercial banks inherited some of the staff of the former state bank as well as the state bank's loans to state-owned firms. Three of the newly-created commercial banks had country-wide sectoral mandates: Budapest Bank in industry, Magyar Hitel Bank in agriculture and Kereskedelmi Bank in cooperatives, small businesses, and public utilities. The state-owned commercial banks started life undercapitalized, with shaky loan portfolios and with few incentives to compete with each other, to behave efficiently or even to screen against making bad loans (Bartlett, 1997, pp. 77-79; 103-108). Nevertheless, this early experience with a two-tier banking system provided important human and institutional capital for formulating and carrying out monetary policy during the subsequent transition period.

The ability of firms to service their loans from Hungarian commercial banks deteriorated at the outset of the transition because Hungarian firms suffered financial losses when their exports to the Council for Mutual Economic Assistance (CMEA) disappeared virtually overnight even as domestic spending collapsed. By 1991, about half the commercial banks' loans could be classified as non-performing (Meyendorff and Snyder (1997)), and, by 1993, the two largest commercial banks were technically insolvent (Bartlett, 1997, p.208), necessitating a series of loan consolidation programs and bank refinancings by the state.

Hungary privatized its banking sector primarily by means of sales to foreign strategic investors who assumed operating control and could inject additional funds into the banks. Bank privatization was delayed by uncertainty about the value of the banks' portfolios and their franchise value, but, by the end of 1997, the process was largely complete. The notable exceptions were Hungary's two largest commercial banks, OTP and Postabank; the latter required a major government bailout in 1998. The government's liberal policy toward the entry of foreign banks into Hungary spurred greater competition and improved the efficiency of the banking system. Nevertheless, during the transition period, Hungarian commercial banks were not effective means of channeling savings to the corporate sector. Indeed, in part because of the draconian nature of Hungarian bankruptcy laws and in part due to the need to improve their balance sheets, most commercial banks in Hungary reduced their exposure to Hungarian firms in favor of investments in government securities.

### *Poland*

In Poland, the socialist banking system was dismantled in 1989. Four state banks, specialized in foreign trade, household deposits, etc., were converted into commercial banks.

In addition, the National Bank of Poland's (NBP's) regional offices were converted into nine commercial banks, each with a network of offices and a client base that was concentrated in that region (Slay, 1996). Early on, due to lax supervision and easy entry conditions, a number of small new banks as well as some foreign-owned banks were founded. Many of these new banks succumbed either to scandal or to their inability to survive poor financial results. Subsequently, regulations regarding the founding of new banks were toughened.

The government continued as the owner of the large new commercial banks for some time, due to delays in implementing their privatization through a program that involved sales of stock to a combination of domestic owners and foreign strategic investors (Abarbanell and Bonin, 1997). The government also changed the structure of the industry by consolidating some commercial banks to increase their size and thus to make them more competitive with foreign banks (Bonin and Leven, 1996). This was motivated by the fact that Poland, like the other two countries, soon will have to remove barriers to the entry of banks from EU countries.

Despite the regional orientation of nine of the commercial banks, which limits the extent to which they compete with each other and encourages local authorities to press these banks to lend to local firms, observers believe that Polish banks have been relatively successful in cutting ties to unprofitable firms while avoiding a major diversion of lending from corporate clients to government securities. The fact that economic growth resumed in Poland sooner and more vigorously than it did in the Czech Republic and in Hungary explains some of this more successful performance of Polish commercial banks.

### ***Summary***

All three of the transition economies have made progress in creating a banking system that corresponds to the needs of a developed market economy. Their central banks have considerable independence from government influence in following their mandates to control inflation and to maintain the international value of their currency. At the same time, the commercial banking sector remains relatively fragile, plagued by poor loans made in the past as well as by questionable lending policies that, for some banks, continue to the present. These problems are most visible in the Czech Republic, but, even in Poland and Hungary, loan portfolios of individual commercial banks remain problematic. This weakness of the commercial bank sector and its relatively small role in financing the investment activity of the corporate sector limits the policies that central banks can follow and may attenuate or distort the transmission of monetary policy impulses to the economy.

The problems created by the fragility of the commercial bank sector are exacerbated by the underdevelopment of the other components of the capital market. Each of the countries has a stock exchange, but markets for shares are thin, and stock markets have performed poorly since the middle of the decade. More importantly, these stock markets provide few opportunities for raising funds through initial public offerings. Insurance companies and mortgage lending are underdeveloped or remain as monopolies of the state. The relative underdevelopment of the capital markets in these countries is evident when we compare the financial intermediation to GDP ratio ((bank assets + stock market capitalization + bond market capitalization) / GDP) for the three transition economies to the EU average. In 1996 this ratio was 162.4% for the Czech Republic, 85.9% for Hungary and 63.4% for Poland; the

corresponding figure for the EU was 288.1% (Fink and Haiss, 1999). Thus, even though modern banking and capital market institutions exist in these countries, they are more fragile and likely to function less effectively than the European Union countries.

### **III. MACROECONOMIC POLICY IN TRANSITION**

Although the three countries differ in starting conditions and in details of policies adopted, there are important similarities in their approach to stabilization and to deflation. All three began the process of transition with distorted domestic prices, unrealistic exchange rates and open or repressed inflation. The initial objectives of macroeconomic policy were to contain the inflation that would follow from, or be intensified by, the freeing of domestic prices. To make stabilization credible, to facilitate the reorientation of trade to the West and to underpin a liberal trade regime, nominal exchange rates were set at rates well below purchasing power parity (Halpern and Wyplosz, 1997). Policy makers expected that domestic inflation would cause real exchange rate appreciation and lead to more realistic exchange rates as these countries came closer to joining the EU.

All three countries experienced a significant decline in production at the outset (Figure 1) as a result of the stabilization measures adopted of the collapse of CMEA trade. This placed a serious burden on fiscal policy because tax revenues declined and the need for a social safety net for the swelling numbers of unemployed increased. Monetary policy was complicated by the fact that investment in plant and equipment decreased as excess capacity emerged in many industries. Many firms failed to respond to the new environment by reducing or altering their output. They accumulated large stocks of inventories and corresponding debts that threatened not only their liquidity but also that of their suppliers and of the newly created commercial banks.

Over time, output recovered and inflation declined (Figure 2). Nevertheless, this decline has not brought inflation in these countries to West European levels. Thus, the current task of monetary policy is to reduce inflation in these countries from “moderate” levels of inflation (Cottarelli and Szapary, 1998) to low single-digit levels in order to prepare for entry into the EU. To achieve such disinflation is crucial in that it is an important prerequisite for these countries' joining the EU. Yet, tight monetary policy will hamper the ability of the firms in these countries to undertake the investments in new equipment and technology that are needed if they are to be competitive on EU markets.

#### ***Czech Republic***

The Czech Republic employed a monetary policy based on preserving the nominal exchange rate of the koruna, which was pegged from 1991 to May 1997, for most of that time to a basket made up of the US dollar and the Deutschmark (DM). The objective of pegging was to help fight inflation by fixing the prices of foreign goods, to make stabilization policies credible, and to attract foreign capital. The peg undervalued the koruna so as to allow a period of real appreciation as the domestic inflation rate outpaced that of Germany and the United States.

The Czech Republic was able to satisfy three of the four conditions proposed by Williamson (1991) for a successful exchange rate peg. It was an open economy; it pegged to the appropriate currencies in that Germany was its main trading partner and fuel and many raw material imports were priced in dollars: its external indebtedness was low and the official government budget fluctuated between surpluses and deficits that were not more than two percent of GDP, giving it a credible policy regime. Unfortunately, the Czech Republic did not satisfy the fourth criterion, that of achieving a rate of inflation approximating those of the United States and Germany. As Figure 2 shows, the initial surge of price increases that followed market liberalization quickly subsided, but inflation persisted around 10 percent for the entire transition period.<sup>2</sup>

Fiscal policy was underutilized as a policy tool to achieve a lower inflation rate, and the fiscal surplus turned to a deficit over the years, especially if off-budget expenditures and commitments are considered. Consequently, monetary policy had to become increasingly tight to reduce the rate of inflation. At first, the CNB relied on credit refinancing quotas and other relatively direct measures to control the supply of money, although, in general, money growth targets were overshoot. Over time, more indirect measures, including changes in the reserve ratio, the short-term repo rate and open market operations became the key tools for controlling the money supply (Koch, 1997).

One sign of the tightening of monetary policy was the increase in nominal interest rates even as inflation declined and then held steady. In part, this suited the CNB because high interest rates not only served to deflate the economy, but they also boosted commercial banks' profits, thus helping them to improve their capital position. These high domestic interest rates, combined with an exchange rate peg that was credible to foreigners, attracted large inflows of foreign capital. In part, such inflows were the result of borrowing by Czech firms abroad, which, of course, exposed them to danger if the koruna were to be devalued. The bulk of capital inflows consisted of short-term portfolio investments driven by the differential between Czech and West European interest rates. Because the koruna appeared to be undervalued, investors saw little danger of its devaluation and took advantage of the higher interest rates in the Czech Republic. As a result of this mismatch between the credibility of the koruna's peg and the high interest rates maintained by the CNB, short-term capital inflows began in 1993 and accelerated so that, by 1996, the surplus on the capital account was sufficient to more than offset a current account deficit that was in excess of 8 percent of GDP. The CNB engaged in massive, and costly, sterilization of these capital inflows.

To reduce capital inflows, on February 28, 1996, the CNB widened the intervention bands for the koruna from  $\pm 0.5\%$  to  $\pm 7.5\%$ . At first, this led to capital outflows and depreciation of the koruna within the widened band (Jílek and Jílková, 1998), but the koruna stabilized quickly, and the CNB raised interest rates, resulting in a renewal of capital inflows and a nominal appreciation of the koruna through February of 1997. On May 13, 1997, a speculative attack on the koruna began. This attack was brought about by political uncertainty over the fate of the Klaus government, by concerns about the Czech Republic's trade deficit

---

<sup>2</sup> The upsurge in inflation in 1993 was due, in large part, to the introduction of the value-added tax.

and the failure of exports and output to grow, and by the inability of the government to use fiscal policy to address these fundamental problems (Begg, 1998, Brada and Kutan, 1999). The CNB intervened in the foreign exchange market to defend the koruna. It expended about \$2.5 billion in reserves during this episode, and short-term interest rates rose to 50%. Nevertheless, by May 26, 1997 the Bank was forced to acknowledge the end of the koruna's peg, and the government, rather belatedly, adopted a much more restrictive fiscal policy to stabilize the situation. The koruna initially fell by 12%, but, in the first half of 1998, much of this loss was regained, due partly to improved trade performance and partly to the persistence of high interest rates.

With the abandonment of the nominal exchange rate as its target, the CNB at first proposed to follow a policy of "informally pegging" to the DM, but, in December 1998, the Bank announced a policy of inflation targeting. The inflation target is set in terms of net inflation, a measure that excludes movements in regulated prices, which have been increasing quite rapidly in recent years, and the effects of indirect taxes and the elimination of subsidies. The Bank set both a "control" target of 5.5-6.5% for the end of 1998 and a three year target of 3.5-5.5% by the end of 2000 (Czech National Bank, 1998).

### *Hungary*

Unlike the Czech Republic, which entered the transition with a low rate of inflation, Hungarian prices rose by about 15% in 1987 and 1988 and by nearly 30% in 1989, largely because of the ongoing liberalization of the Hungarian economy. As a result of this gradual liberalization, Hungarian consumer prices better reflected supply and demand and, consequently, the effects of a further freeing of prices in 1991 led to a relatively moderate upsurge in inflation (Figure 2).

Hungary initially followed a gradualist macroeconomic policy that sought to balance the desire for reducing inflation with the need to control the government deficit and to service a large external debt. Too sharp a deflation would have reduced government revenues and increased expenditures on the social safety net; thus increasing the governments need to borrow abroad. Hungary adopted a fixed peg, with a number of small adjustments implemented during each year to account for the inflation differential between Hungary and the countries in its reference basket.<sup>3</sup> In the early 1990s, exchange rate policy aimed at a real appreciation of the forint so as to help combat domestic inflation, but, over time, this policy was seen as too costly because the declining competitiveness of Hungarian exports and of sluggish growth. Moreover it failed to provide a nominal exchange rate anchor for inflationary expectations.

These costs began to show in 1993 when the current account deficit reached 9% of GDP and then increased to 9.6% the following year. At the same time, the government's budget deficit remained unacceptably high.<sup>4</sup> Financing this deficit required monetary

---

<sup>3</sup> Between December 9, 1991 and May 16, 1994 the forint was pegged to basket of 50% US\$ and 50% ECU; thereafter to March 16, 1996 to 30% US\$ and 70% ECU.

<sup>4</sup> The government deficit, including privatization receipts in revenue, on an accrual basis was 6.7% in 1993 and 9.6% in 1994.

expansion as well as high interest rates to attract commercial banks to government securities, thus fueling the inflation that the “strong forint” policy had sought to reduce. The persistence of these twin deficits created uncertainty among Hungary’s foreign creditors as well as concerns about the stability of the forint.

In March of 1995, the Hungarian government adopted a major stabilization program including a sharp reduction in government expenditures as well as tax increases. These reduced the fiscal deficit from 9.6% of GDP in 1994 to 7.3% in 1995 and 4.6% in 1995.<sup>5</sup> The forint was devalued in the first two months of the year and again just prior to the introduction of the stabilization package. A crawling peg exchange rate regime was announced. The initial rate of devaluation was 1.9% per month, falling to 1.3% for the second half of 1995 and declining further thereafter (see Szapáry and Jakab, 1998, Table 3). The devaluation of the forint, combined with the slackening of domestic demand caused by fiscal stringency, stimulated exports and, with the help of a temporary import surcharge, reduced imports. As a result, the current account deficit as a percentage of GDP fell from 9.4% in 1994 to 5.6% in 1995 and 2.2% in 1997. The government also adopted measures to accelerate privatization, to slow the growth of wages and to free energy prices.<sup>6</sup> The rate of devaluation preannounced in the crawling peg regime through 1998 served as a more effective nominal anchor for monetary policy than had the previous regime, and it also served to reduce speculation and the timing of foreign exchange transactions to anticipate devaluation. Like the Czech Republic, Hungary sterilized some of the inflows of short-term foreign capital as interest rates turned positive in the post-stabilization period, but in smaller amounts and at lower costs (Szapáry and Jakab, 1998, pp. 706-714).

As Figure 1 shows, economic growth slowed as the result of these measures, but it soon resumed and then accelerated. This growth has somewhat strained the macroeconomic balance, and the current account deficit increased to 4.2% of GDP in 1998 while the fiscal deficit rose to 4.6% of GDP. Inflation has declined steadily, in part due to falling prices of imports and also because of the slowing rate of depreciation of the forint.

### ***Poland***

The stabilization of the Polish economy began under much less favorable conditions than those found in the Czech Republic and Hungary. In 1989, inflation peaked at 54.8% per month, the government deficit was nearly 8% of GDP and both loss-making Polish firms and the government deficit were financed by the rapid expansion of money and credit. Although the government began to deal with the crisis in late 1989, major stabilization began on January 1, 1990 with the introduction of the so-called Balcerowicz Plan. This plan had several components. The zloty (zl) was devalued from 5,560 zl/US\$ to 9,500 zl/US\$ and pegged at the latter rate. Monetary and fiscal policies were tightened, enabling the government to achieve a surplus equivalent to 0.4% of GDP, and credit creation was sharply

---

<sup>5</sup> For the background on the discussions leading up to the design and adoption of the stabilization program, see Kornai (1997, Chs. 2-6).

<sup>6</sup> Real wages fell by 12.0 % in 1995 and a further 5% in 1996.

curtailed.<sup>7</sup> The *popiwek*, a punitive tax on above-average wage increases was enacted to slow the growth of wages.

The consequences of this, the first stabilization and liberalization effort in a transition economy, were sufficiently virulent, both in the upsurge in prices and in the decline in production, to lead to an easing of macroeconomic policy late in 1990. However, the effects of this policy change were felt more in an acceleration of inflation than in real output growth (Wellisz, 1997), and the government soon abandoned this effort. As the recession deepened in 1991, the fiscal deficit reappeared and high inflation (see Figure 2) reduced the competitiveness of Polish exports. The zloty was devalued by 16.8 %, and its peg was shifted to a basket of currencies.

Policy priorities gradually shifted from stabilization to stimulating growth (Krzak, 1996). Although the fiscal deficit was cut from 6% of GDP in 1992 to 2.8% in 1993, a level around which it has fluctuated since, monetary policy was relatively expansionary. While interest rates remained positive, money supply and credit growth consistently outpaced targets set by the NBP. The zloty's peg was abandoned in October of 1991, replaced by a crawling peg with a preannounced devaluation of 1.8% per month against a basket of currencies. Over time, the rate of depreciation has been reduced, and there have also been one-off devaluations and revaluations to accommodate exogenous shocks.<sup>8</sup> In 1995, the band within which the zloty could fluctuate was widened to  $\pm 7\%$ . Poland's exchange rate policy was sufficiently credible to foreign investors that short-term capital inflows began to be a problem for the NBP by 1995, when, even with some NBP sterilization, capital inflows accounted for 59% of the growth of the money supply (Krzak, 1996, p. 57).

Although Poland has had the highest rate of inflation of the three countries over the decade of the 1990s, it has also had the fastest growth of aggregate output. This may be due as much to its earlier start in implementing economic reforms as to better economic policy, just as its higher rate of inflation may better reflect its higher pre-stabilization situation than a poorer ability to restrain the growth of the money supply than displayed by the other two countries considered in this paper. Recently, this output growth has slowed somewhat due to a fall in exports to Russia and the Ukraine due to the financial crises in those countries. As inflation has slackened and as the nominal anchor of the crawling peg has decreased in importance with a further widening of the bands, Poland, like the Czech Republic, has adopted inflation targeting as the framework for its monetary policy. In 1998, the Monetary Policy Council has set a goal of lowering Polish inflation to 6.8-7.8% in 1999 and 4% as measured by the CPI by the year 2003.

### ***Lessons and Their Implications for Monetary Policy***

All three countries have stabilized inflation at moderate levels and, excepting the recent recession in the Czech Republic, in generating sustained growth. Although different initial conditions and the different starting times of stabilization programs resulted in

---

<sup>7</sup> One reason for the fiscal turnaround was that inflation caused firms to overestimate their profits due to a failure to account properly for the effects of inflation on inventories.

<sup>8</sup> See Koch (1997) for details.

somewhat different paths, the trajectories of their growth and inflation have converged. Indeed, by the second half of 1998, inflation seemed to be falling toward single-digit levels in the three countries. In the Czech Republic, the monthly year-on-year rate of inflation as measured by the CPI fell to 6.8% in December 1998. In Hungary the comparable figure was 10.5%, and in Poland it was to 8.6%. These harbingers of the end of double-digit inflation were accurate only for the Czech Republic where, in the first half of 1999, the CPI grew between 1 and 2 percent on a month-on-month basis. In Hungary, inflation accelerated and exceeded 10% by summer's end. Polish CPI growth increased on a month-on-month basis, raising doubts about whether the NBP's inflation targets for the year will be achieved.

Whether the three countries can continue with the process of deflation and achieve West European rates of CPI growth in the next few years depends on three factors. The first and most important of these is whether they can continue to support monetary policy with the appropriate fiscal policy. The instances in which fiscal policy was tightened in these three countries, Poland in 1993, the Czech Republic in 1997 and Hungary in 1995, amply demonstrate the effectiveness of fiscal policy in influencing both the domestic economy and exports and imports. Also evident in all three countries is a tendency for passive fiscal policy to lead to gradually larger fiscal deficits. The second factor influencing the course of inflation in the region is the international environment. All three countries benefited greatly from the fall in the prices of imports, particularly those of fuels and raw materials. Agricultural prices have also been stable due to good harvests and to cheap imports from the EU. In early 1998, all three countries also benefited from the general strength, if not the actual appreciation, of their currencies. This trend reversed itself in late 1998 as oil prices began to increase and as the currencies of all three countries weakened, setting the stage for higher import prices to feed through to the domestic price level.

The third factor influencing the course of inflation in the Czech Republic and in Poland is whether a new approach to monetary policy based on inflation targeting will be effective. The belief of both the CNB and the NBP is that, if inflation targeting can be made credible, then much of the persistence effect of past inflation will be reduced as central bank credibility is strengthened and as inflationary expectations become more forward looking rather than backward looking.

The success of inflation targeting in the Czech Republic and in Poland depends on whether the central banks of these countries have the policy autonomy to carry out a policy of inflation targeting and whether the institutional and policy environment is conducive to doing so. To begin with, it is unclear what either the CNB or the NBP mean by inflation targeting. For example, McDonough (1997) argues that inflation targeting means that the central bank has only one objective, the future price level, to the exclusion of other nominal and real targets such as employment or the level of aggregate output. This may be something of an extreme view, as Masson *et al.* (1997) take inflation targeting to mean that the central bank has inflation as the "primary goal" (p. 6) and that this goal "takes precedence over all other objectives" (p.9). Dittmar *et al.* (1999) take a seemingly even more permissive view, claiming that inflation targeting means that the "...central bank...focuses on inflation but also cares about...employment, output growth..." The issue of what the central banks mean by inflation targeting is not academic, because Dittmar *et al.* show that the consequences of including additional goals can be quite costly in terms of the variability of inflation,

especially when measured over longer periods. Neither the CNB nor the NBP have made much of an effort to indicate precisely what they mean by inflation targeting. Such lack of clarity may provide the banks with a measure of flexibility in setting goals and objectives, but it does little to make the process of setting monetary policy more credible or transparent, and thus it may not help to alter the inflationary expectations of the population.

Inflation targeting is viewed as having important advantages over other forms of monetary policy. First, it provides a nominal anchor, the price level, for monetary policy. Second, inflation targeting implies a transparent policy target, one that both the public and the government can understand and observe. This leads to the third advantage, namely that the central bank's accountability is increased, and, to the extent that the bank meets its goals, its credibility is increased as well.

However, Masson *et al.* (1997) argue that there are important prerequisites that must be met if inflation targeting is to lead to low and stable inflation. The first of these is central bank independence. *De jure*, the operational independence of the CNB and the NBP is on a par with that of the industrialized countries that use inflation targeting. However, this is less so in the case of goals to be pursued. For example, the CNB was widely criticized for maintaining high interest rates in 1998, perhaps as the result of a backward-looking approach to interest rate determination, but such criticism of tactics need not be seen as an infringement on the CNB's independence. More troubling is that in 1998, as the Czech economy slid into recession, the leaders of the two major parties met with the Governor of the CNB and criticized him for the Bank's failure to pay sufficient attention to employment and output in its policy decisions. In Poland, the Bank is concerned not only about the inflation target, but also about the nominal exchange rate, in large part due to considerations surrounding Poland's prospective entry into the EU.

A second prerequisite is that there be no fiscal dominance, meaning that the central bank's policy not be dictated by the need to finance the fiscal deficit of the government. Again, *de jure*, both countries have safeguards against the central bank being forced to finance the government. Nevertheless, in reality, and especially if we consider the banking system as a whole, this becomes a troublesome issue. In Poland, the seignorage to GDP ratio has been a relatively high by international standards. In the Czech Republic, commercial banks do not receive interest on required reserves, another form of revenue for the government. In both countries, as mentioned above, the commercial banking sector has tended to have a healthy appetite for government debt at the expense of lending to the business sector. Thus the *de jure* ability of the central banks to avoid having to finance the government may be subverted by the commercial banks' evident willingness to do so.

Finally, central banks following an inflation targeting policy should avoid other nominal targets. In the case of Poland, the intervention bands for the zloty are quite wide, but, as mentioned above, the zloty's exchange rate continues to be pegged to the US\$ and to the Euro. The Czech Republic's koruna officially floats, but it is quite possible that the CNB maintains an informal peg to the DM and intervenes in the market to support this unstated peg. Thus both central banks may well face conflicts between alternative nominal goals in the future.

It is too early to pass judgment on the effectiveness of inflation targeting in the two countries. In the first half of 1999, inflation in the Czech Republic was below the target

range, largely due to the recession from which the country is only very slowly recovering. In Poland the inflation in mid-1999 was at or above the upper limit of the NBP's forecast. These potential failures to achieve inflation goals do not mean that inflation targeting can not be a workable policy regime in the longer term. Nevertheless, there is a danger that either undershooting and overshooting of inflation targets may convince the population that their central banks have little impact on the rate of inflation, thus undermining policy credibility

#### **IV. CONCLUSIONS**

The Czech Republic, Hungary and Poland have made considerable progress in stabilizing and liberalizing their economies. Monetary policy has made a significant contribution to stabilization, and there has been a remarkable development of in these countries' financial institutions and markets. Nevertheless, the relative newness and fragility of these markets and institutions is of concern because of the heavy burden placed on monetary authorities in the battle to reduce inflation. It will be important to continue to strengthen the capital market in these countries and to provide more active fiscal policy support for monetary policy.

## REFERENCES

- Abarbanell, Jeffery S. and Bonin, John P., "Bank Privatization in Poland: The Case of Bank Slaski". *Journal of Comparative Economics*, Vol. 25, No. 1, pp. 31-61, August, 1997.
- Bartlett, David L., *The Political Economy of Dual Transformations: Market Reform and Democratization in Hungary*. Ann Arbor: The University of Michigan Press, 1997.
- Begg, David. "Monetary Policy during Transition: Progress and Pitfalls in Central and Eastern Europe, 1990-6". *Oxford Review of Economic Policy, Special Issue: Economics of Transition in Eastern and Central Europe*, Vol. 13, No.2, pp. 33-46, Summer, 1997.
- Bonin, John P. and Leven, Bozena, "Polish Bank Consolidation and Foreign Competition: Creating a Market-Oriented Banking Sector". *Journal of Comparative Economics*, Vol. 23, No. 1, pp. 52-72, August, 1996.
- Brada, Josef C. and Kutan, Ali. M., "The Persistence of Moderate Inflation in the Czech Republic". *Post-Soviet Geography and Economics*, Vol. 40, No. 2, pp. 121-134, March, 1999.
- Cottarelli, Carlo and Szapáry, György, eds., *Moderate Inflation: The Experience of Transition Economies*. Washington: International Monetary Fund and National Bank of Hungary, 1998.
- Czech National Bank, *Inflation Report*, July, 1998.
- Desai, Raj, "Reformed Banks and Corporate Governance in the Czech Republic". *Post-Soviet Geography and Economics*, Vol.37, No.8, pp. 463-494, October, 1996.
- Dittmar, Robert, Gavin, William T., and Kydland, Finn E., "Price Level Uncertainty and Inflation Targeting". Mimeo, 1999 (forthcoming: *Review*, Federal Reserve Bank of St. Louis).
- Fink, Gerhard and Haiss, Peter R., "Central European Financial Markets from an EU Perspective". Paper presented at the Meetings of the Allied Social Sciences Association, New York, 1999.
- Halpern, László and Wyplosz, Charles, "Equilibrium Exchange Rates in Transition Economies". *International Monetary Fund Staff Papers*, Vol. 44, No. 4, pp. 430-461, December, 1997.
- Jílek, Josef and Jílková, Jirina, "The Reaction of Residents and Nonresidents to the Widening of the Intervention Band of the Czech Koruna". *Eastern European Economics*, Vol. 36, No. 1, pp. 66-81, January-February, 1998.
- Koch, Elmar B., *Exchange Rates and Monetary Policy in Central Europe – A Survey of Some Policy Issues*. Oesterreichische National Bank Working Paper 24. Vienna, September, 1997.
- Kornai, János, *Struggle and Hope: Essays on Stabilization and Reform in a Post-socialist Economy*. Cheltenham, UK and Northampton, MA: Edward Elgar, 1997.

Krzak, Maciej, "Persistent Moderate Inflation in Poland and Hungary". *Focus on Transition* 2/1996. Vienna: Oesterreichische Nationalbank, 1996.

Masson, Paul, R., Savastano, Miguel A., and Sharma, Sunil, "The Scope for Inflation Targeting in Developing Countries". IMF Working Paper WP/97/130. Washington, October, 1997.

McDonough, William R., "A Framework for the Pursuit of Price Stability". *Federal Reserve Bank of New York Policy Review*, Vol. 13, No. 3, August, 1997, pp. 1-8.

Meyendorff, Anna and Snyder, Edward A., "Transactional Structures of Bank Privatizations in Central Europe and Russia". *Journal of Comparative Economics*, Vol. 25, No. 1, pp. 5-30. August, 1997.

Slay, Ben, "Polish Banks on the Road to Recovery". *Post-Soviet Geography and Economics*, Vol.37, No.8, pp. 511-522, October, 1996.

Snyder, Edward A. and Kormendi, Roger C., "Privatization and Performance of the Czech Republic's Komerční Banka". *Journal of Comparative Economics*, Vol. 23, No. 1, pp. 63-97, August, 1997.

Szapáry, György and Jakab, Zoltán M., "Exchange Rate Policy in Transition Economies: The Case of Hungary". *Journal of Comparative Economics*, Vol. 26, No. 4, pp. 691-717, December, 1998.

Wellisz, Stanislaw, "Inflation and Stabilization in Poland, 1990-95". In Mario I. Blejer and Marko Skreb, eds., *Macroeconomic Stabilization in Transition Economies*. Cambridge: Cambridge University Press, 1997.

Williamson, John, "Advice on the Choice of an Exchange Rate Policy". In Claassen, E. M., ed., *Exchange Rate Policies in Developing and Post-Socialist Countries*. San Francisco: ICS Press, 1991.

## APPENDIX: FIGURES

FIGURE 1: GROWTH OF REAL GDP

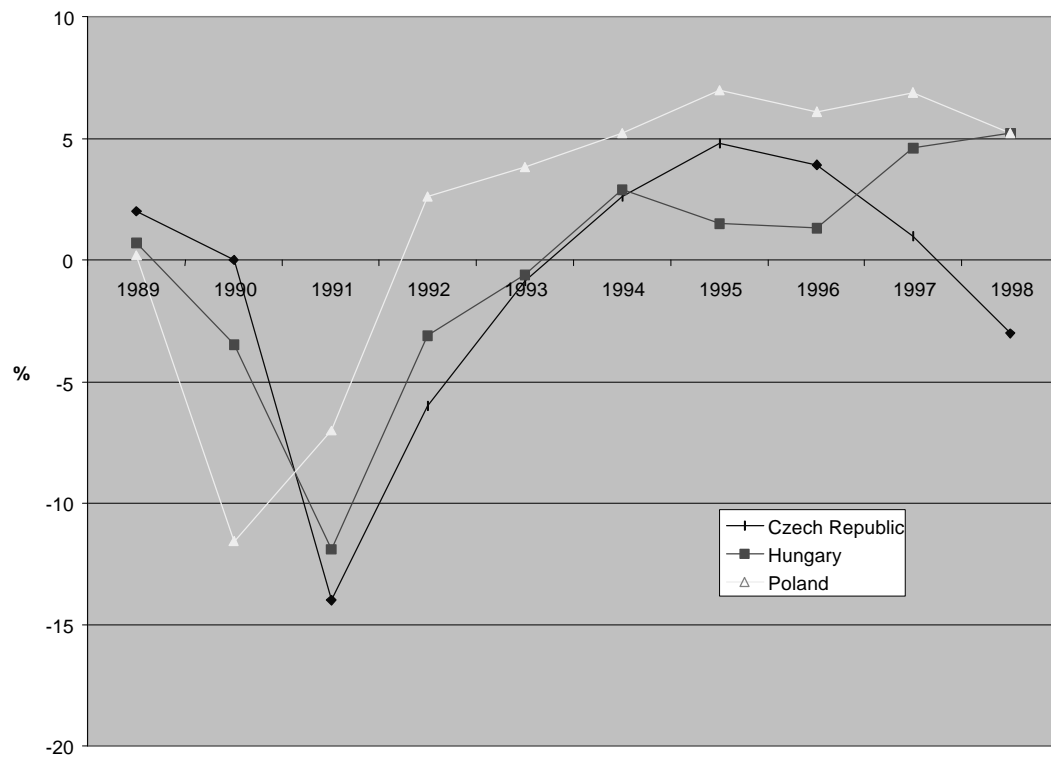
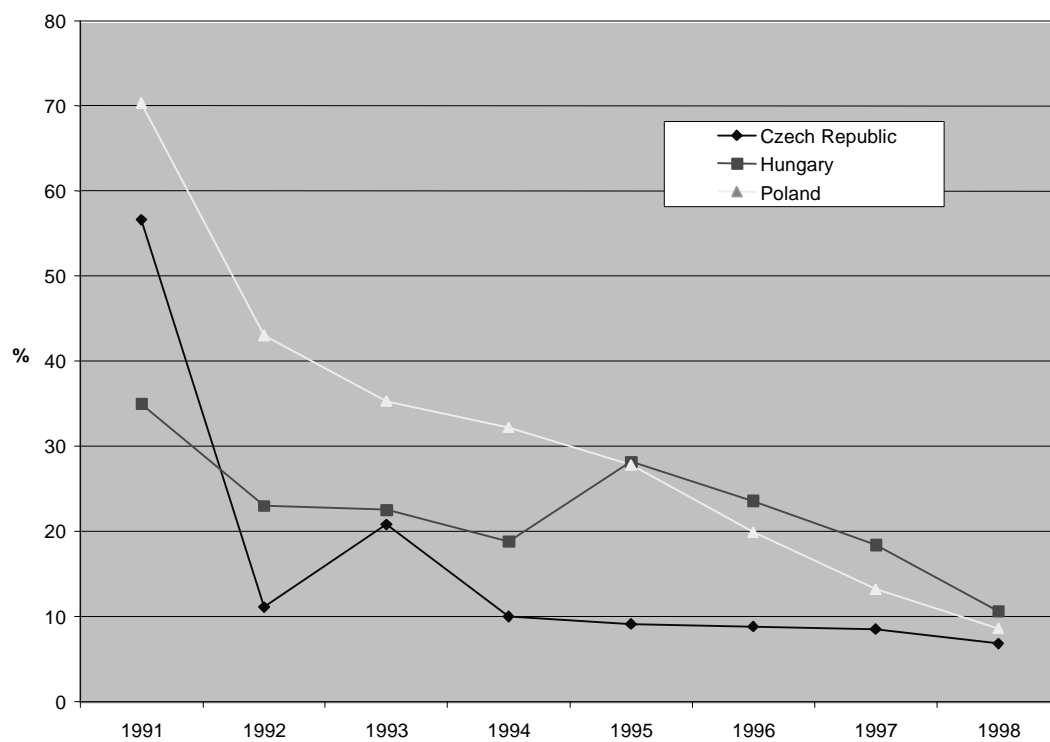


FIGURE 2: INFLATION (CPI)



<b>2008</b>		
B01-08	<b>Euro-Diplomatie durch gemeinsame „Wirtschaftsregierung“</b>	<i>Martin Seidel</i>
<b>2007</b>		
B03-07	<b>Löhne und Steuern im Systemwettbewerb der Mitgliedstaaten der Europäischen Union</b>	<i>Martin Seidel</i>
B02-07	<b>Konsolidierung und Reform der Europäischen Union</b>	<i>Martin Seidel</i>
B01-07	<b>The Ratification of European Treaties - Legal and Constitutional Basis of a European Referendum.</b>	<i>Martin Seidel</i>
<b>2006</b>		
B03-06	<b>Financial Frictions, Capital Reallocation, and Aggregate Fluctuations</b>	<i>Jürgen von Hagen, Haiping Zhang</i>
B02-06	<b>Financial Openness and Macroeconomic Volatility</b>	<i>Jürgen von Hagen, Haiping Zhang</i>
B01-06	<b>A Welfare Analysis of Capital Account Liberalization</b>	<i>Jürgen von Hagen, Haiping Zhang</i>
<b>2005</b>		
B11-05	<b>Das Kompetenz- und Entscheidungssystem des Vertrages von Rom im Wandel seiner Funktion und Verfassung</b>	<i>Martin Seidel</i>
B10-05	<b>Die Schutzklauseln der Beitrittsverträge</b>	<i>Martin Seidel</i>
B09-05	<b>Measuring Tax Burdens in Europe</b>	<i>Guntram B. Wolff</i>
B08-05	<b>Remittances as Investment in the Absence of Altruism</b>	<i>Gabriel González-König</i>
B07-05	<b>Economic Integration in a Multicore World?</b>	<i>Christian Volpe Martincus, Jennifer Pédussel Wu</i>
B06-05	<b>Banking Sector (Under?)Development in Central and Eastern Europe</b>	<i>Jürgen von Hagen, Valeriya Dinger</i>
B05-05	<b>Regulatory Standards Can Lead to Predation</b>	<i>Stefan Lutz</i>
B04-05	<b>Währungspolitik als Sozialpolitik</b>	<i>Martin Seidel</i>
B03-05	<b>Public Education in an Integrated Europe: Studying to Migrate and Teaching to Stay?</b>	<i>Panu Poutvaara</i>
B02-05	<b>Voice of the Diaspora: An Analysis of Migrant Voting Behavior</b>	<i>Jan Fidrmuc, Orla Doyle</i>
B01-05	<b>Macroeconomic Adjustment in the New EU Member States</b>	<i>Jürgen von Hagen, Iulia Traistaru</i>
<b>2004</b>		
B33-04	<b>The Effects of Transition and Political Instability On Foreign Direct Investment Inflows: Central Europe and the Balkans</b>	<i>Josef C. Brada, Ali M. Kutan, Tanner M. Yigit</i>
B32-04	<b>The Choice of Exchange Rate Regimes in Developing Countries: A Multinomial Panel Analysis</b>	<i>Jürgen von Hagen, Jizhong Zhou</i>
B31-04	<b>Fear of Floating and Fear of Pegging: An Empirical Analysis of De Facto Exchange Rate Regimes in Developing Countries</b>	<i>Jürgen von Hagen, Jizhong Zhou</i>
B30-04	<b>Der Vollzug von Gemeinschaftsrecht über die Mitgliedstaaten und seine Rolle für die EU und den Beitrittsprozess</b>	<i>Martin Seidel</i>
B29-04	<b>Deutschlands Wirtschaft, seine Schulden und die Unzulänglichkeiten der einheitlichen Geldpolitik im Eurosystem</b>	<i>Dieter Spethmann, Otto Steiger</i>
B28-04	<b>Fiscal Crises in U.S. Cities: Structural and Non-structural Causes</b>	<i>Guntram B. Wolff</i>
B27-04	<b>Firm Performance and Privatization in Ukraine</b>	<i>Galyna Grygorenko, Stefan Lutz</i>
B26-04	<b>Analyzing Trade Opening in Ukraine: Effects of a Customs Union with the EU</b>	<i>Oksana Harbuzyuk, Stefan Lutz</i>
B25-04	<b>Exchange Rate Risk and Convergence to the Euro</b>	<i>Lucjan T. Orlowski</i>
B24-04	<b>The Endogeneity of Money and the Eurosystem</b>	<i>Otto Steiger</i>
B23-04	<b>Which Lender of Last Resort for the Eurosystem?</b>	<i>Otto Steiger</i>
B22-04	<b>Non-Discretionary Monetary Policy: The Answer for Transition Economies?</b>	<i>Elham-Mafi Kreft, Steven F. Kreft</i>
B21-04	<b>The Effectiveness of Subsidies Revisited: Accounting for Wage and Employment Effects in Business R+D</b>	<i>Volker Reintaler, Guntram B. Wolff</i>
B20-04	<b>Money Market Pressure and the Determinants of Banking Crises</b>	<i>Jürgen von Hagen, Tai-kuang Ho</i>
B19-04	<b>Die Stellung der Europäischen Zentralbank nach dem Verfassungsvertrag</b>	<i>Martin Seidel</i>

B18-04	<b>Transmission Channels of Business Cycles Synchronization in an Enlarged EMU</b>	<i>Iulia Traistaru</i>
B17-04	<b>Foreign Exchange Regime, the Real Exchange Rate and Current Account Sustainability: The Case of Turkey</b>	<i>Sübüdey Togan, Hasan Ersel</i>
B16-04	<b>Does It Matter Where Immigrants Work? Traded Goods, Non-traded Goods, and Sector Specific Employment</b>	<i>Harry P. Bowen, Jennifer Pédussel Wu</i>
B15-04	<b>Do Economic Integration and Fiscal Competition Help to Explain Local Patterns?</b>	<i>Christian Volpe Martincus</i>
B14-04	<b>Euro Adoption and Maastricht Criteria: Rules or Discretion?</b>	<i>Jiri Jonas</i>
B13-04	<b>The Role of Electoral and Party Systems in the Development of Fiscal Institutions in the Central and Eastern European Countries</b>	<i>Sami Yläoutinen</i>
B12-04	<b>Measuring and Explaining Levels of Regional Economic Integration</b>	<i>Jennifer Pédussel Wu</i>
B11-04	<b>Economic Integration and Location of Manufacturing Activities: Evidence from MERCOSUR</b>	<i>Pablo Sanguinetti, Iulia Traistaru, Christian Volpe Martincus</i>
B10-04	<b>Economic Integration and Industry Location in Transition Countries</b>	<i>Laura Resmini</i>
B09-04	<b>Testing Creditor Moral Hazard in Sovereign Bond Markets: A Unified Theoretical Approach and Empirical Evidence</b>	<i>Ayşe Y. Evrensel, Ali M. Kutan</i>
B08-04	<b>European Integration, Productivity Growth and Real Convergence</b>	<i>Taner M. Yigit, Ali M. Kutan</i>
B07-04	<b>The Contribution of Income, Social Capital, and Institutions to Human Well-being in Africa</b>	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B06-04	<b>Rural Urban Inequality in Africa: A Panel Study of the Effects of Trade Liberalization and Financial Deepening</b>	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B05-04	<b>Money Rules for the Eurozone Candidate Countries</b>	<i>Lucjan T. Orlowski</i>
B04-04	<b>Who is in Favor of Enlargement? Determinants of Support for EU Membership in the Candidate Countries' Referenda</b>	<i>Orla Doyle, Jan Fidrmuc</i>
B03-04	<b>Over- and Underbidding in Central Bank Open Market Operations Conducted as Fixed Rate Tender</b>	<i>Ulrich Bindseil</i>
B02-04	<b>Total Factor Productivity and Economic Freedom Implications for EU Enlargement</b>	<i>Ronald L. Moomaw, Euy Seok Yang</i>
B01-04	<b>Die neuen Schutzklauseln der Artikel 38 und 39 des Beitrittsvertrages: Schutz der alten Mitgliedstaaten vor Störungen durch die neuen Mitgliedstaaten</b>	<i>Martin Seidel</i>
<b>2003</b>		
B29-03	<b>Macroeconomic Implications of Low Inflation in the Euro Area</b>	<i>Jürgen von Hagen, Boris Hofmann</i>
B28-03	<b>The Effects of Transition and Political Instability on Foreign Direct Investment: Central Europe and the Balkans</b>	<i>Josef C. Brada, Ali M. Kutan, Taner M. Yigit</i>
B27-03	<b>The Performance of the Euribor Futures Market: Efficiency and the Impact of ECB Policy Announcements (Electronic Version of International Finance)</b>	<i>Kerstin Bernoth, Juergen von Hagen</i>
B26-03	<b>Sovereign Risk Premia in the European Government Bond Market (überarbeitete Version zum Herunterladen)</b>	<i>Kerstin Bernoth, Juergen von Hagen, Ludger Schulknecht</i>
B25-03	<b>How Flexible are Wages in EU Accession Countries?</b>	<i>Anna Iara, Iulia Traistaru</i>
B24-03	<b>Monetary Policy Reaction Functions: ECB versus Bundesbank</b>	<i>Bernd Hayo, Boris Hofmann</i>
B23-03	<b>Economic Integration and Manufacturing Concentration Patterns: Evidence from Mercosur</b>	<i>Iulia Traistaru, Christian Volpe Martincus</i>
B22-03	<b>Reformzwänge innerhalb der EU angesichts der Osterweiterung</b>	<i>Martin Seidel</i>
B21-03	<b>Reputation Flows: Contractual Disputes and the Channels for Inter-Firm Communication</b>	<i>William Pyle</i>
B20-03	<b>Urban Primacy, Gigantism, and International Trade: Evidence from Asia and the Americas</b>	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>
B19-03	<b>An Empirical Analysis of Competing Explanations of Urban Primacy Evidence from Asia and the Americas</b>	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>

B18-03	<b>The Effects of Regional and Industry-Wide FDI Spillovers on Export of Ukrainian Firms</b>	<i>Stefan H. Lutz, Oleksandr Talavera, Sang-Min Park</i>
B17-03	<b>Determinants of Inter-Regional Migration in the Baltic States</b>	<i>Mihails Hazans</i>
B16-03	<b>South-East Europe: Economic Performance, Perspectives, and Policy Challenges</b>	<i>Iulia Traistaru, Jürgen von Hagen</i>
B15-03	<b>Employed and Unemployed Search: The Marginal Willingness to Pay for Attributes in Lithuania, the US and the Netherlands</b>	<i>Jos van Ommeren, Mihails Hazans</i>
B14-03	<b>FCIs and Economic Activity: Some International Evidence</b>	<i>Charles Goodhart, Boris Hofmann</i>
B13-03	<b>The IS Curve and the Transmission of Monetary Policy: Is there a Puzzle?</b>	<i>Charles Goodhart, Boris Hofmann</i>
B12-03	<b>What Makes Regions in Eastern Europe Catching Up? The Role of Foreign Investment, Human Resources, and Geography</b>	<i>Gabriele Tondl, Goran Vuksic</i>
B11-03	<b>Die Weisungs- und Herrschaftsmacht der Europäischen Zentralbank im europäischen System der Zentralbanken - eine rechtliche Analyse</b>	<i>Martin Seidel</i>
B10-03	<b>Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises: Evidence from Transition Economies</b>	<i>Josef C. Brada, Vladimír Tomsík</i>
B09-03	<b>The European Central Bank and the Eurosystem: An Analysis of the Missing Central Monetary Institution in European Monetary Union</b>	<i>Gunnar Heinsohn, Otto Steiger</i>
B08-03	<b>The Determination of Capital Controls: Which Role Do Exchange Rate Regimes Play?</b>	<i>Jürgen von Hagen, Jizhong Zhou</i>
B07-03	<b>Nach Nizza und Stockholm: Stand des Binnenmarktes und Prioritäten für die Zukunft</b>	<i>Martin Seidel</i>
B06-03	<b>Fiscal Discipline and Growth in Euroland. Experiences with the Stability and Growth Pact</b>	<i>Jürgen von Hagen</i>
B05-03	<b>Reconsidering the Evidence: Are Eurozone Business Cycles Converging?</b>	<i>Michael Massmann, James Mitchell</i>
B04-03	<b>Do Ukrainian Firms Benefit from FDI?</b>	<i>Stefan H. Lutz, Oleksandr Talavera</i>
B03-03	<b>Europäische Steuerkoordination und die Schweiz</b>	<i>Stefan H. Lutz</i>
B02-03	<b>Commuting in the Baltic States: Patterns, Determinants, and Gains</b>	<i>Mihails Hazans</i>
B01-03	<b>Die Wirtschafts- und Währungsunion im rechtlichen und politischen Gefüge der Europäischen Union</b>	<i>Martin Seidel</i>
<b>2002</b>		
B30-02	<b>An Adverse Selection Model of Optimal Unemployment Assurance</b>	<i>Marcus Hagedorn, Ashok Kaul, Tim Mennel</i>
B29B-02	<b>Trade Agreements as Self-protection</b>	<i>Jennifer Pédussel Wu</i>
B29A-02	<b>Growth and Business Cycles with Imperfect Credit Markets</b>	<i>Debajyoti Chakrabarty</i>
B28-02	<b>Inequality, Politics and Economic Growth</b>	<i>Debajyoti Chakrabarty</i>
B27-02	<b>Poverty Traps and Growth in a Model of Endogenous Time Preference</b>	<i>Debajyoti Chakrabarty</i>
B26-02	<b>Monetary Convergence and Risk Premiums in the EU Candidate Countries</b>	<i>Lucjan T. Orlowski</i>
B25-02	<b>Trade Policy: Institutional Vs. Economic Factors</b>	<i>Stefan Lutz</i>
B24-02	<b>The Effects of Quotas on Vertical Intra-industry Trade</b>	<i>Stefan Lutz</i>
B23-02	<b>Legal Aspects of European Economic and Monetary Union</b>	<i>Martin Seidel</i>
B22-02	<b>Der Staat als <i>Lender of Last Resort</i> - oder: Die Achillesverse des Eurosystems</b>	<i>Otto Steiger</i>
B21-02	<b>Nominal and Real Stochastic Convergence Within the Transition Economies and to the European Union: Evidence from Panel Data</b>	<i>Ali M. Kutan, Taner M. Yigit</i>
B20-02	<b>The Impact of News, Oil Prices, and International Spillovers on Russian Financial Markets</b>	<i>Bernd Hayo, Ali M. Kutan</i>

B19-02	<b>East Germany: Transition with Unification, Experiments and Experiences</b>	<i>Jürgen von Hagen, Rolf R. Strauch, Guntram B. Wolff</i>
B18-02	<b>Regional Specialization and Employment Dynamics in Transition Countries</b>	<i>Iulia Traistaru, Guntram B. Wolff</i>
B17-02	<b>Specialization and Growth Patterns in Border Regions of Accession Countries</b>	<i>Laura Resmini</i>
B16-02	<b>Regional Specialization and Concentration of Industrial Activity in Accession Countries</b>	<i>Iulia Traistaru, Peter Nijkamp, Simonetta Longhi</i>
B15-02	<b>Does Broad Money Matter for Interest Rate Policy?</b>	<i>Matthias Brückner, Andreas Schaber</i>
B14-02	<b>The Long and Short of It: Global Liberalization, Poverty and Inequality</b>	<i>Christian E. Weller, Adam Hersch</i>
B13-02	<b>De Facto and Official Exchange Rate Regimes in Transition Economies</b>	<i>Jürgen von Hagen, Jizhong Zhou</i>
B12-02	<b>Argentina: The Anatomy of A Crisis</b>	<i>Jiri Jonas</i>
B11-02	<b>The Eurosystem and the Art of Central Banking</b>	<i>Gunnar Heinsohn, Otto Steiger</i>
B10-02	<b>National Origins of European Law: Towards an Autonomous System of European Law?</b>	<i>Martin Seidel</i>
B09-02	<b>Monetary Policy in the Euro Area - Lessons from the First Years</b>	<i>Volker Clausen, Bernd Hayo</i>
B08-02	<b>Has the Link Between the Spot and Forward Exchange Rates Broken Down? Evidence From Rolling Cointegration Tests</b>	<i>Ali M. Kutan, Su Zhou</i>
B07-02	<b>Perspektiven der Erweiterung der Europäischen Union</b>	<i>Martin Seidel</i>
B06-02	<b>Is There Asymmetry in Forward Exchange Rate Bias? Multi-Country Evidence</b>	<i>Su Zhou, Ali M. Kutan</i>
B05-02	<b>Real and Monetary Convergence Within the European Union and Between the European Union and Candidate Countries: A Rolling Cointegration Approach</b>	<i>Josef C. Brada, Ali M. Kutan, Su Zhou</i>
B04-02	<b>Asymmetric Monetary Policy Effects in EMU</b>	<i>Volker Clausen, Bernd Hayo</i>
B03-02	<b>The Choice of Exchange Rate Regimes: An Empirical Analysis for Transition Economies</b>	<i>Jürgen von Hagen, Jizhong Zhou</i>
B02-02	<b>The Euro System and the Federal Reserve System Compared: Facts and Challenges</b>	<i>Karlheinz Ruckriegel, Franz Seitz</i>
B01-02	<b>Does Inflation Targeting Matter?</b>	<i>Manfred J. M. Neumann, Jürgen von Hagen</i>
<b>2001</b>		
B29-01	<b>Is Kazakhstan Vulnerable to the Dutch Disease?</b>	<i>Karlygash Kuralbayeva, Ali M. Kutan, Michael L. Wyzan</i>
B28-01	<b>Political Economy of the Nice Treaty: Rebalancing the EU Council. The Future of European Agricultural Policies</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B27-01	<b>Investor Panic, IMF Actions, and Emerging Stock Market Returns and Volatility: A Panel Investigation</b>	<i>Bernd Hayo, Ali M. Kutan</i>
B26-01	<b>Regional Effects of Terrorism on Tourism: Evidence from Three Mediterranean Countries</b>	<i>Konstantinos Drakos, Ali M. Kutan</i>
B25-01	<b>Monetary Convergence of the EU Candidates to the Euro: A Theoretical Framework and Policy Implications</b>	<i>Lucjan T. Orlowski</i>
B24-01	<b>Disintegration and Trade</b>	<i>Jarko and Jan Fidrmuc</i>
B23-01	<b>Migration and Adjustment to Shocks in Transition Economies</b>	<i>Jan Fidrmuc</i>
B22-01	<b>Strategic Delegation and International Capital Taxation</b>	<i>Matthias Brückner</i>
B21-01	<b>Balkan and Mediterranean Candidates for European Union Membership: The Convergence of Their Monetary Policy With That of the European Central Bank</b>	<i>Josef C. Brada, Ali M. Kutan</i>
B20-01	<b>An Empirical Inquiry of the Efficiency of Intergovernmental Transfers for Water Projects Based on the WRDA Data</b>	<i>Anna Rubinchik-Pessach</i>
B19-01	<b>Detrending and the Money-Output Link: International Evidence</b>	<i>R.W. Hafer, Ali M. Kutan</i>

B18-01	<b>Monetary Policy in Unknown Territory. The European Central Bank in the Early Years</b>	<i>Jürgen von Hagen, Matthias Brückner</i>
B17-01	<b>Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries</b>	<i>Mark Hallerberg, Patrick Marier</i>
B16-01	<b>Sources of Inflation and Output Fluctuations in Poland and Hungary: Implications for Full Membership in the European Union</b>	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B15-01	<b>Programs Without Alternative: Public Pensions in the OECD</b>	<i>Christian E. Weller</i>
B14-01	<b>Formal Fiscal Restraints and Budget Processes As Solutions to a Deficit and Spending Bias in Public Finances - U.S. Experience and Possible Lessons for EMU</b>	<i>Rolf R. Strauch, Jürgen von Hagen</i>
B13-01	<b>German Public Finances: Recent Experiences and Future Challenges</b>	<i>Jürgen von Hagen, Rolf R. Strauch</i>
B12-01	<b>The Impact of Eastern Enlargement On EU-Labour Markets. Pensions Reform Between Economic and Political Problems</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B11-01	<b>Inflationary Performance in a Monetary Union With Large Wage Setters</b>	<i>Lilia Cavallar</i>
B10-01	<b>Integration of the Baltic States into the EU and Institutions of Fiscal Convergence: A Critical Evaluation of Key Issues and Empirical Evidence</b>	<i>Ali M. Kutan, Niina Pautola-Mol</i>
B09-01	<b>Democracy in Transition Economies: Grease or Sand in the Wheels of Growth?</b>	<i>Jan Fidrmuc</i>
B08-01	<b>The Functioning of Economic Policy Coordination</b>	<i>Jürgen von Hagen, Susanne Mundschenk</i>
B07-01	<b>The Convergence of Monetary Policy Between Candidate Countries and the European Union</b>	<i>Josef C. Brada, Ali M. Kutan</i>
B06-01	<b>Opposites Attract: The Case of Greek and Turkish Financial Markets</b>	<i>Konstantinos Drakos, Ali M. Kutan</i>
B05-01	<b>Trade Rules and Global Governance: A Long Term Agenda. The Future of Banking.</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B04-01	<b>The Determination of Unemployment Benefits</b>	<i>Rafael di Tella, Robert J. McCulloch</i>
B03-01	<b>Preferences Over Inflation and Unemployment: Evidence from Surveys of Happiness</b>	<i>Rafael di Tella, Robert J. McCulloch, Andrew J. Oswald</i>
B02-01	<b>The Konstanz Seminar on Monetary Theory and Policy at Thirty</b>	<i>Michele Fratianni, Jürgen von Hagen</i>
B01-01	<b>Divided Boards: Partisanship Through Delegated Monetary Policy</b>	<i>Etienne Farvaque, Gael Lagadec</i>
<b>2000</b>		
B20-00	<b>Breakin-up a Nation, From the Inside</b>	<i>Etienne Farvaque</i>
B19-00	<b>Income Dynamics and Stability in the Transition Process, general Reflections applied to the Czech Republic</b>	<i>Jens Hölscher</i>
B18-00	<b>Budget Processes: Theory and Experimental Evidence</b>	<i>Karl-Martin Ehrhart, Roy Gardner, Jürgen von Hagen, Claudia Keser</i>
B17-00	<b>Rückführung der Landwirtschaftspolitik in die Verantwortung der Mitgliedsstaaten? - Rechts- und Verfassungsfragen des Gemeinschaftsrechts</b>	<i>Martin Seidel</i>
B16-00	<b>The European Central Bank: Independence and Accountability</b>	<i>Christa Randzio-Plath, Tomasso Padoa-Schioppa</i>
B15-00	<b>Regional Risk Sharing and Redistribution in the German Federation</b>	<i>Jürgen von Hagen, Ralf Hepp</i>
B14-00	<b>Sources of Real Exchange Rate Fluctuations in Transition Economies: The Case of Poland and Hungary</b>	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B13-00	<b>Back to the Future: The Growth Prospects of Transition Economies Reconsidered</b>	<i>Nauro F. Campos</i>

B12-00	<b>Rechtsetzung und Rechtsangleichung als Folge der Einheitlichen Europäischen Währung</b>	<i>Martin Seidel</i>
B11-00	<b>A Dynamic Approach to Inflation Targeting in Transition Economies</b>	<i>Lucjan T. Orłowski</i>
B10-00	<b>The Importance of Domestic Political Institutions: Why and How Belgium Qualified for EMU</b>	<i>Marc Hallerberg</i>
B09-00	<b>Rational Institutions Yield Hysteresis</b>	<i>Rafael Di Tella, Robert MacCulloch</i>
B08-00	<b>The Effectiveness of Self-Protection Policies for Safeguarding Emerging Market Economies from Crises</b>	<i>Kenneth Kletzer</i>
B07-00	<b>Financial Supervision and Policy Coordination in The EMU</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B06-00	<b>The Demand for Money in Austria</b>	<i>Bernd Hayo</i>
B05-00	<b>Liberalization, Democracy and Economic Performance during Transition</b>	<i>Jan Fidrmuc</i>
B04-00	<b>A New Political Culture in The EU - Democratic Accountability of the ECB</b>	<i>Christa Randzio-Plath</i>
B03-00	<b>Integration, Disintegration and Trade in Europe: Evolution of Trade Relations during the 1990's</b>	<i>Jarko Fidrmuc, Jan Fidrmuc</i>
B02-00	<b>Inflation Bias and Productivity Shocks in Transition Economies: The Case of the Czech Republic</b>	<i>Josef C. Brada, Arthur E. King, Ali M. Kutan</i>
B01-00	<b>Monetary Union and Fiscal Federalism</b>	<i>Kenneth Kletzer, Jürgen von Hagen</i>
<b>1999</b>		
B26-99	<b>Skills, Labour Costs, and Vertically Differentiated Industries: A General Equilibrium Analysis</b>	<i>Stefan Lutz, Alessandro Turrini</i>
B25-99	<b>Micro and Macro Determinants of Public Support for Market Reforms in Eastern Europe</b>	<i>Bernd Hayo</i>
B24-99	<b>What Makes a Revolution?</b>	<i>Robert MacCulloch</i>
B23-99	<b>Informal Family Insurance and the Design of the Welfare State</b>	<i>Rafael Di Tella, Robert MacCulloch</i>
B22-99	<b>Partisan Social Happiness</b>	<i>Rafael Di Tella, Robert MacCulloch</i>
B21-99	<b>The End of Moderate Inflation in Three Transition Economies?</b>	<i>Josef C. Brada, Ali M. Kutan</i>
B20-99	<b>Subnational Government Bailouts in Germany</b>	<i>Helmut Seitz</i>
B19-99	<b>The Evolution of Monetary Policy in Transition Economies</b>	<i>Ali M. Kutan, Josef C. Brada</i>
B18-99	<b>Why are Eastern Europe's Banks not failing when everybody else's are?</b>	<i>Christian E. Weller, Bernard Morzuch</i>
B17-99	<b>Stability of Monetary Unions: Lessons from the Break-Up of Czechoslovakia</b>	<i>Jan Fidrmuc, Julius Horvath and Jarko Fidrmuc</i>
B16-99	<b>Multinational Banks and Development Finance</b>	<i>Christian E. Weller and Mark J. Scher</i>
B15-99	<b>Financial Crises after Financial Liberalization: Exceptional Circumstances or Structural Weakness?</b>	<i>Christian E. Weller</i>
B14-99	<b>Industry Effects of Monetary Policy in Germany</b>	<i>Bernd Hayo and Birgit Uhlenbrock</i>
B13-99	<b>Financial Fragility or What Went Right and What Could Go Wrong in Central European Banking?</b>	<i>Christian E. Weller and Jürgen von Hagen</i>
B12-99	<b>Size Distortions of Tests of the Null Hypothesis of Stationarity: Evidence and Implications for Applied Work</b>	<i>Mehmet Caner and Lutz Kilian</i>
B11-99	<b>Financial Supervision and Policy Coordination in the EMU</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B10-99	<b>Financial Liberalization, Multinational Banks and Credit Supply: The Case of Poland</b>	<i>Christian Weller</i>
B09-99	<b>Monetary Policy, Parameter Uncertainty and Optimal Learning</b>	<i>Volker Wieland</i>
B08-99	<b>The Connection between more Multinational Banks and less Real Credit in Transition Economies</b>	<i>Christian Weller</i>

B07-99	<b>Comovement and Catch-up in Productivity across Sectors: Evidence from the OECD</b>	<i>Christopher M. Cornwell and Jens-Uwe Wächter</i>
B06-99	<b>Productivity Convergence and Economic Growth: A Frontier Production Function Approach</b>	<i>Christopher M. Cornwell and Jens-Uwe Wächter</i>
B05-99	<b>Tumbling Giant: Germany's Experience with the Maastricht Fiscal Criteria</b>	<i>Jürgen von Hagen and Rolf Strauch</i>
B04-99	<b>The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data</b>	<i>Christian Weller</i>
B03-99	<b>The Macroeconomics of Happiness</b>	<i>Rafael Di Tella, Robert McCulloch and Andrew J. Oswald</i>
B02-99	<b>The Consequences of Labour Market Flexibility: Panel Evidence Based on Survey Data</b>	<i>Rafael Di Tella and Robert McCulloch</i>
B01-99	<b>The Excess Volatility of Foreign Exchange Rates: Statistical Puzzle or Theoretical Artifact?</b>	<i>Robert B.H. Hauswald</i>
<b>1998</b>		
B16-98	<b>Labour Market + Tax Policy in the EMU</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B15-98	<b>Can Taxing Foreign Competition Harm the Domestic Industry?</b>	<i>Stefan Lutz</i>
B14-98	<b>Free Trade and Arms Races: Some Thoughts Regarding EU-Russian Trade</b>	<i>Rafael Reuveny and John Maxwell</i>
B13-98	<b>Fiscal Policy and Intranational Risk-Sharing</b>	<i>Jürgen von Hagen</i>
B12-98	<b>Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero</b>	<i>Athanasios Orphanides and Volker Wieland</i>
B11A-98	<b>Die Bewertung der "dauerhaft tragbaren öffentlichen Finanzlage" der EU Mitgliedstaaten beim Übergang zur dritten Stufe der EWWU</b>	<i>Rolf Strauch</i>
B11-98	<b>Exchange Rate Regimes in the Transition Economies: Case Study of the Czech Republic: 1990-1997</b>	<i>Julius Horvath and Jiri Jonas</i>
B10-98	<b>Der Wettbewerb der Rechts- und politischen Systeme in der Europäischen Union</b>	<i>Martin Seidel</i>
B09-98	<b>U.S. Monetary Policy and Monetary Policy and the ESCB</b>	<i>Robert L. Hetzel</i>
B08-98	<b>Money-Output Granger Causality Revisited: An Empirical Analysis of EU Countries (überarbeitete Version zum Herunterladen)</b>	<i>Bernd Hayo</i>
B07-98	<b>Designing Voluntary Environmental Agreements in Europe: Some Lessons from the U.S. EPA's 33/50 Program</b>	<i>John W. Maxwell</i>
B06-98	<b>Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues</b>	<i>Kenneth Kletzer</i>
B05-98	<b>Estimating a European Demand for Money (überarbeitete Version zum Herunterladen)</b>	<i>Bernd Hayo</i>
B04-98	<b>The EMU's Exchange Rate Policy</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B03-98	<b>Central Bank Policy in a More Perfect Financial System</b>	<i>Jürgen von Hagen / Ingo Fender</i>
B02-98	<b>Trade with Low-Wage Countries and Wage Inequality</b>	<i>Jaleel Ahmad</i>
B01-98	<b>Budgeting Institutions for Aggregate Fiscal Discipline</b>	<i>Jürgen von Hagen</i>
<b>1997</b>		
B04-97	<b>Macroeconomic Stabilization with a Common Currency: Does European Monetary Unification Create a Need for Fiscal Insurance or Federalism?</b>	<i>Kenneth Kletzer</i>
B-03-97	<b>Liberalising European Markets for Energy and Telecommunications: Some Lessons from the US Electric Utility Industry</b>	<i>Tom Lyon / John Mayo</i>
B02-97	<b>Employment and EMU</b>	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B01-97	<b>A Stability Pact for Europe</b>	<i>(a Forum organized by ZEI)</i>

---

ISSN 1436 - 6053

---

Zentrum für Europäische Integrationsforschung  
Center for European Integration Studies  
Rheinische Friedrich-Wilhelms-Universität Bonn

Walter-Flex-Strasse 3  
D-53113 Bonn  
Germany

Tel.: +49-228-73-1732  
Fax: +49-228-73-1809  
[www.zei.de](http://www.zei.de)