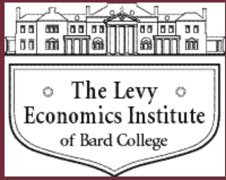

LEVY INSTITUTE

Public Policy Brief

THE ECONOMIC CONSEQUENCES OF GERMAN UNIFICATION

The Impact of Misguided Macroeconomic Policies

JÖRG BIBOW

No. 67, 2001

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Preface

With the fall of the Berlin Wall in 1989 and the ensuing reunification of East Germany with West came great expectations for a renaissance that would presage an even stronger German economy. Although the cost associated with moving an antiquated socialist economy toward its capitalist counterpart was anticipated to be significant, German industrial efficiency was expected to quickly overcome the challenges that would be encountered. Things turned out rather differently. After a period of initial euphoria and relatively strong economic performance at the beginning of the 1990s, the country spent the rest of the decade mired in sluggish growth, in contrast to the economic expansion occurring in other parts of the world, such as the United States.

Conventional wisdom blamed Germany's poor economic performance and rise in public debt on unification. The government and the central bank (Bundesbank) put in place fiscal and monetary policies—higher taxes, increased social security contribution rates, and spending cuts—aimed at reducing borrowing and, in turn, containing the threat of inflation, the Bundesbank's main criterion for assessing the success of these initiatives. The results—low inflation and less volatile government financial and structural balances compared to other countries, such as the United States, and the economy's recovery (albeit in five years) from an extended period of sluggish growth—supported the perception that the government's and Bundesbank's policies were a success.

In this brief, Jörg Bibow takes exception to the notion that these policies effectively stabilized the economy as it absorbed the cost of unification. His analysis of the German economy—before, during, and after unification—shows that the country's poor economic performance relative to previous periods was a result of tight, procyclical fiscal and monetary policies that dramatically dampened economic activity and led to an extended period of sluggish

growth. Blame for anemic growth and high unemployment, he believes, should be placed squarely on the country's finance department and central bank rather than on unification. Bibow maintains that the Bundesbank's vested interest in maintaining its reputation as an instrument for battling inflation, combined with its apparent lack of understanding of economic theory and its forbearing influence on the government's fiscal policy, was the main reason why the economy performed so badly. As the central bank gradually reduced interest rates, its actions were too little, too late. Moreover, the bank's single-minded determination to reduce public borrowing and curtail inflation actually proved inflationary, as a result of tax-push channels. Despite these unintended effects, the Bundesbank was not deterred from then forcing inflation down to extremely low levels, resulting in high unemployment,slow growth, and fiscal deterioration.

Bibow's observations and conclusions are consistent with the results of other Levy Institute analyses of European topics, such as the future of the euro and the role of institutions and policies in creating high European unemployment. If he is correct, then the German government, the Bundesbank, and the European Central Bank, which is now in charge of monetary policy throughout the European Union, should revise their tight fiscal and monetary policies and refrain from pursuing policies that cause tax-push inflation. Otherwise, they will continue to unwittingly support sluggish growth at the public's expense in the form of high unemployment rates and reduced prosperity for many years to come.

According to Bibow's analysis, the U.S. government and Federal Reserve appear to employ greater latitude in conducting macroeconomic policies, including countercyclical initiatives, which might account for the policies' higher rate of success. The experience here shows that more growth can occur without necessarily leading to higher inflation. In the face of the current recessionary environment, further interest rate reductions, tax cuts, and increased deficit spending may be warranted. Likewise, the European Central Bank, its member central banks, and member states should take greater heed of the reasons behind the success story of the U.S. economy during the 1990s.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
November 2001

The Economic Consequences of German Unification

After German unification in October 1990, the economic performance of western Germany (formerly known as West Germany) was initially strong. However, it deteriorated by 1992 and remained dismal for the remainder of the 1990s. During this time, the unemployment rate nearly doubled, as gross domestic product (GDP) growth averaged a meager 1.5 percent per year. The government's fiscal strategy after 1992 was to raise taxes, increase social security contribution rates (payments by workers/employers into the social security program), and cut spending, all of which was meant to reduce its borrowing requirements. Public finances deteriorated and resulted in protracted budget deficits and soaring public indebtedness.

The Bundesbank, Germany's central bank, attributed almost the whole of the rise in the overall public sector debt-to-GDP ratio (20 percentage points) since 1989 to the costs of unification. The bank viewed unification as a risk to price stability with the threat of runaway inflation, and it responded by severely tightening monetary policy.

Conventional wisdom holds that the drastic deterioration in Germany's public finances and the country's exceptionally poor economic performance during most of the 1990s was a direct and apparently inevitable result of German unification. This brief challenges this viewpoint. It shows that thoroughly unsound macroeconomic demand policies were pursued by the government and the Bundesbank that conflicted with both economic theory and the best practices of more successful countries. Moreover, western Germany was not brought to its knees by a collapsing eastern German economy that was merely 10 percent the size of western Germany's GDP. Rather, ill-timed and extraordinarily tight fiscal and monetary policies of exceptional length and degree caused a severe and protracted deflationary economic environment. Thus, the happiest political event in Germany's

post–World War II history provoked its most burdensome economic policy disaster, at a time when the country was in a position to easily achieve a more favorable economic performance.

In light of the disappointing economic developments in eastern Germany since unification, this study focuses on western Germany, which had the potential to lift eastern Germany out of its economic malaise as a result of its well-established and advanced market economy. The analysis begins with a discussion of the former West Germany's economic and budgetary positions from 1988 to 1990, and provides a preliminary assessment of the magnitude of the fiscal challenge posed by unification. This is followed by a theoretical investigation of the sustainability issue of public finances. The study then analyzes whether unification posed any risk of unstable debt dynamics, and examines the degree of fiscal consolidation that would have been required to regain a sustainable public finance position. Next, a review of Germany's fiscal and monetary policies shows that the German government created a fiscal paradox by embarking on fiscal consolidation in a procyclical and inexplicably aggressive way, while the Bundesbank, in turn, magnified the depressive effects of fiscal policy. By simulating German public finances under alternative growth scenarios, the analysis ultimately reveals that only one-third of the actual rise in Germany's debt ratio and a limited rise in the tax burden may be properly attributed to unification.

The Former West German Economy on the Eve of Unification

Any assessment of the economic consequences of German unification over the 1990s must be impressed by the favorable economic shape of the former West Germany as the happy event drew near. After having grown rather sluggishly since the 1981–82 recession as a result of fiscal austerity and Bundesbank restraint, which led to weak demand, slack investment, and underutilized capacity, growth of the former West German economy picked up markedly toward the end of the decade. GDP grew at 3.7 and 3.6 percent in 1988 and 1989, respectively, almost double the pace of previous years. The year 1989, when the Berlin Wall came down, was the finest year in a decade. There was noninflationary and broad-based GDP growth due to strong domestic and foreign demand that yielded a high employment growth rate, a balanced budget, and a trade surplus of 5 percent of GDP.

Producer price inflation remained stable at around 2 percent, while headline CPI inflation was 2.8 percent, which was perfectly in line with the inflation trend during the 1980s. Exports, traditionally relied upon for igniting demand-led growth, performed strongly. Fiscal and monetary policies contributed (although belatedly) to the recovery in domestic demand as a result of income tax cuts in 1986 and 1988 (and also in 1990), along with an accommodative monetary stance in the aftermath of the 1987 stock market crash that lasted until mid-1989.

Not surprisingly, the former West Germany's economy coped rather smoothly with the strains that unification put on its resources. In fact, real GDP grew at a solid rate of 5 percent in both 1990 and 1991, and it was not only robust, but also noninflationary (Appendix, Table 1). Investment, potential output, and labor productivity grew rapidly, with the result that supply-side growth was both strong and broad-based.Employment growth was evenly distributed and included people previously classified as structurally unemployed. Moreover, the influx of labor from the former East Germany provided important supply-side relief, so that general labor market pressures were abated.

At this time,there was an expectation that the former West Germany's open economy would continue to experience strong growth, and, as a result, a concern that the economy would experience inflationary pressures. Also evident was the Bundesbank's tendency to underestimate the amount of spare capacity and supply-side elasticity of the economy (when unemployment was still above 6 percent in 1989). It is shown in this brief that the concern about inflation was unfounded and the actions of the Bundesbank counterproductive.

The Fiscal Challenge

Official estimates of fiscal transfers from western to eastern Germany by the German Finance Ministry are about DM 180 billion per year since 1991, or roughly 6.5 percent of western Germany's GDP. This figure, however, is the sum of all unification-related expenditures and tax reliefs (comprising a large share of entitlements). Therefore, these estimates should subsequently deduct federal revenues in eastern Germany to yield proper net transfers from western to eastern Germany of some DM 120–140 billion per year since 1991, or roughly 4.5 percent of western Germany's GDP (Appendix, Table 1).

However, net transfers are not an appropriate measure of the financing or borrowing requirements resulting from unification. Income and employment multipliers generated from gross fiscal transfers to eastern Germany also benefit western Germany's public finances by raising exports to eastern Germany and abroad. Therefore, actual financing requirements are expected to be considerably lower than DM 120–140 billion. This expectation is confirmed by the fact that, starting from a balanced budget in 1989, the budget swung close to a 3-percent deficit of GDP during the 1990–91 period and resulted in an overall budget deficit of DM 85 billion in 1991. This was a result of three main factors: reduced revenues as a result of the final stage of the income tax reform that came into effect in 1990 (DM 40 billion), net fiscal transfers attributable to unification (DM 106 billion), and increased revenues related to increases in tax and social security contribution rates (DM 25 billion). This shows that, initially, measures aimed at financing the cost of unification by means other than borrowing were introduced on a limited scale. The sharp rise in deficit spending in 1990–91 was one aspect of fiscal policy that was both inevitable and not inconsistent with economic theory. The fiscal boost helped to stabilize growth in western Germany at a time when other countries were hit by recession. The question arises whether or not this situation posed any risk of unstable debt dynamics.

Public Finances and the Economy: Theory and the German Experience

Public Debt and Deficits

Concern about the public debt is closely related to the idea that rising public indebtedness implies rising taxes to service the debt. Evsey Domar's seminal essay on the "burden of debt" (1944) established the fundamental relationship between the growth rate in an economy and the deficit-to-GDP and debt-to-GDP ratios. His work showed that if an economy grew at a constant rate and a government borrowed at a constant deficit ratio, then the debt ratio in each period will not explode, but gradually approach a constant (the ratio of the deficit ratio over the economy's growth rate). Similarly, the tax rate required to service the debt will approach a constant, so that a higher tax rate may not be required to service a rising debt. In a growing economy, the higher the GDP growth rate, the lighter the burden

of debt. Domar concluded that the debt burden is essentially a problem associated with achieving a growing national income.

Luigi Pasinetti (1998a, b; 2000) defines sustainability of public finances in a way that renders Domar's conclusion operational and applicable to specific economic situations. Public finances are judged sustainable as long as the public debt grows at a rate equal to or smaller than the nominal GDP growth rate. The point is that a stable debt ratio implies a stable tax burden on taxpayers on account of the public debt. An example is provided by the Maastricht criteria of 3 percent and 60 percent for the deficit and debt ratios, respectively. According to the stability relationship, internal consistency of the Maastricht criteria presupposes a 5 percent nominal GDP growth rate, since this rate with an annual budget deficit of 3 percent of GDP leads to a stable debt ratio of 60 percent.

Additional insight is gained from focusing on "primary," as opposed to total, budget balances. Primary balances are net of interest payments on the public debt. According to Pasinetti (1998a, b), the boundary relationship between the primary deficit and debt ratio crucially depends on the difference between the interest rate and the growth rate. The greater the difference, the greater the primary budget surplus needed to keep any given debt ratio stable. Otherwise,some primary public expenditures would have to be cut to keep the overall tax burden constant and the debt ratio from rising.

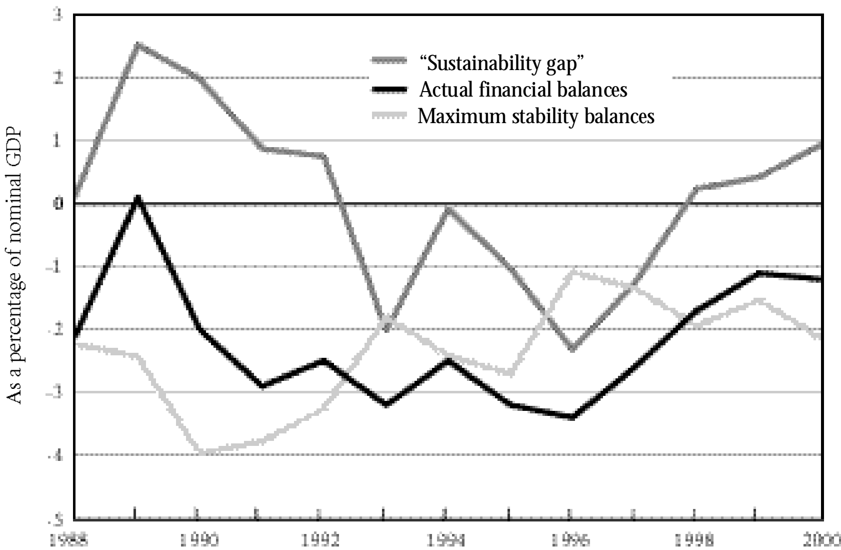
A test may now be performed as to whether public finances in any particular year were sustainable, that is, whether or not the particular parameters prevalent in that year would have implied a rising debt ratio. For this purpose, the maximum stability balance is defined as the deficit ratio that is indefinitely sustainable given the actual rate of nominal GDP growth and actual debt ratio for a particular period. The difference between the actual financial balance and the maximum stability balance yields the "sustainability gap." A non-negative gap implies sustainable debt dynamics in the form of a nonrising debt ratio.

Applying Pasinetti's sustainability concept to Germany's public finance position over the period from 1988 to 2000 shows significant positive gaps in the period to 1992, followed by a period of protracted negative gaps until 1998 (Figure 1). The problem of unsustainable public finances arose only with the sharp recession of 1992–93, and abated with the

long-delayed recovery of 1997–98. The same result is evident when analyzing the sustainability question in terms of primary balances (Figure 2). Therefore, it is clear that unification per se did not pose any immediate risk of unstable debt dynamics, and there was no immediate need for fiscal consolidation.

It is important to recognize the interdependencies between the key parameters defining the sustainability of public finances (interest rates, deficit and debt ratios, and GDP growth rates). Rising interest rates directly raise the debt servicing cost and likely have a negative impact upon GDP growth. If public expenditures are cut or taxes increased in order to reduce borrowing requirements, GDP growth will again be negatively affected. In either case, keeping the debt ratio from rising is made more difficult, and matters are made still more difficult as a rising debt ratio in turn raises the interest burden. A potential inherent instability emerges here. This highlights the fact that any consolidation strategy must avoid disturbing any favorable alignment among the key parameters. Unfortunately, the strategies of the

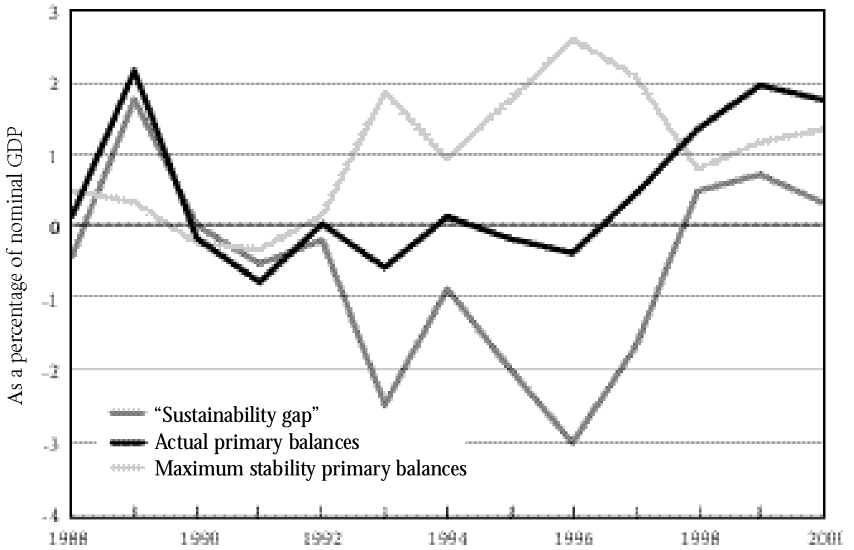
Figure 1 Sustainability of German Public Finances with Reference to Total Budget Balances



Note: A positive (negative) "sustainability gap" implies a falling (rising) debt ratio on account of the total deficit.

Source: OECD, *Economic Outlook* 67, June 2000

Figure 2 Sustainability of German Public Finances with Reference to Primary Balances



Note: A positive (negative) "sustainability gap" implies a falling (rising) debt ratio on account of the interest burden.

Source: OECD, *Economic Outlook* 67, June 2000

government and the Bundesbank after unification did not heed the existing favorable alignment between Germany's key economic parameters.

German Fiscal Policy and the Fiscal Paradox

From 1989 to 1991, the German government deliberately relied upon borrowing to take up almost the whole of unification's fiscal brunt. By 1991, an overall budget deficit of DM 85 billion (a deficit ratio of 2.9 percent) had replaced a budget that was balanced in 1989. Starting in 1992 and under mounting pressure from the Bundesbank, the government began to introduce a series of new fiscal measures aimed at cutting its borrowing requirements. Between 1992 and 1995 a cumulative fiscal tightening occurred that was far in excess of initial borrowing requirements. A study by Heilemann and Rappen (1997) estimated that by 1995, the total effect of expenditure savings and increases in tax and social security contribution rates was sufficient to finance almost the whole of gross fiscal transfers amounting to DM 180 billion. Yet by 1996, Germany's deficit ratio stood at 3.4 percent, well

above the deficit ratio in 1991. A glaring fiscal paradox emerges here. Clearly, something must have gone seriously wrong.

Since public finances and the economy are interdependent, the budget balance is an endogenous variable, rather than a policy instrument per se. On the one hand, fiscal policy affects the level of aggregate demand and economic activity. On the other, the state of the economy is a key influence on the overall budgetary position. The notion of "automatic stabilizers" refers to the natural role of the budget to passively reduce instability in the economic system when public expenditures and revenues are functions of economic activity. By contrast, "discretionary" fiscal policy measures actively stimulate or retard aggregate demand through budgetary means over and above the economy's impact on the budget.

Thus the actual budget balance is a function of the output gap plus the structural budget balance. The output gap affects the cyclical budget balance, which captures the effects of automatic stabilizers on the budget. The structural budget balance is the hypothetical budgetary stance, which corresponds to potential output. A change in the structural budget balance is a measure of discretionary fiscal stimuli. Whether discretionary fiscal measures should be applied to stabilize the economy is controversial. Allowing the automatic stabilizers to do their natural work, however, is universally seen as sound finance (Taylor 2000).

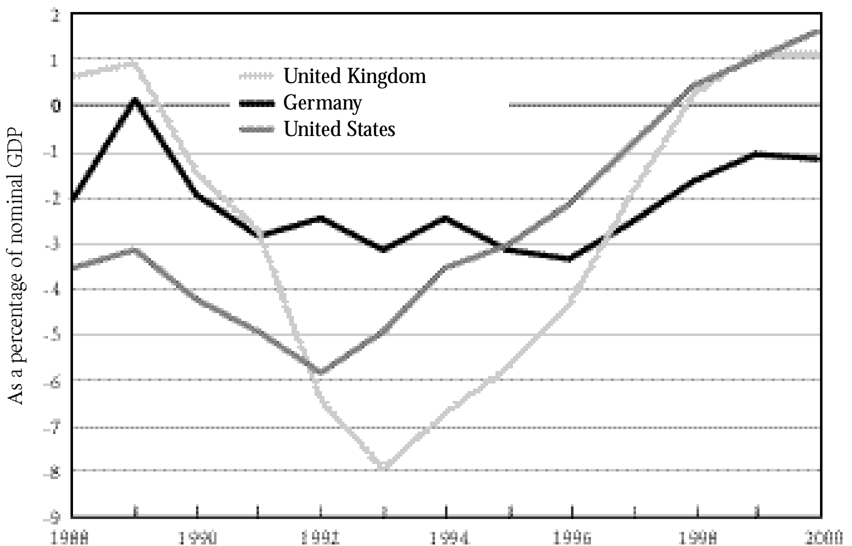
So much for theory. The practice of German fiscal policy over the recessionary 1992–97 period began with cuts in structural deficits at the onset of recession in 1992. Tax hikes and expenditure cuts were undertaken with the intention of reducing public borrowing. These measures were enacted under mounting pressure from the Bundesbank, which argued that cuts in public borrowing were needed to prevent inflation. Rather than preventing inflation, however, these measures caused inflation. Hikes in indirect taxes and government-administered prices pushed headline CPI inflation higher, peaking at 4.0 percent in 1992. Moreover, as a result of the recession's onset in 1992–93, borrowing requirements soared. In response, new rounds of indirect tax and administered price increases were implemented by the government, with the intention of keeping borrowing requirements low and pressure from the Bundesbank at bay. These actions caused further "tax-push" inflation before the inflation rate fell rather sluggishly to below 2 percent by 1995; this, in turn, discouraged the Bundesbank from monetary

easing and encouraged ongoing pressures for continued fiscal consolidation (Bibow 1998). Another far-reaching consequence of this bizarrely inconsistent policy was higher wage inflation. While the economy deteriorated, the budget failed to improve.Essentially, the worsening financial balances overcompensated for any improvement in structural balances. Consolidation efforts failed, as the destabilized economy (and cyclical balances) backfired on the budget.

After six years of consolidation efforts, the deficit ratio finally improved to 2.6 percent in 1997, enabling Germany to meet the Maastricht hurdle of 3 percent. Strong growth in the United States and other trading partners proved highly instrumental in preventing Germany from slipping into another outright recession. Nevertheless,Germany's debt ratio was still rising, as nominal GDP growth had declined to a rate as low as 2.2 percent. It appears that Domar's warning that choking off growth would not lighten the burden of debt was not taken very seriously.

Comparing German practice with the best practices of other countries is instructive here (Figure 3). In the 1990s, Germany was out of sync with the

Figure 3 General Government Financial Balances



Source: OECD, *Economic Outlook* 67, June 2000

United States and the United Kingdom. When Germany was experiencing strong noninflationary growth at the beginning of the decade, both the United States and the United Kingdom were hit by recessions. When Germany fell into recession in 1992, both the United States and the United Kingdom were undergoing recoveries. While Germany's deficit ratio languished at around 3 percent of GDP until 1997, the United States and the United Kingdom improved their fiscal balances from 1993 onward and experienced surpluses by 1998, implying falling absolute levels of debt. Although Germany's public finances had started to improve by 1997, they were in a significantly and comparatively worse state by the end of the decade. Why were the United States and the United Kingdom more successful in consolidating their public finances?

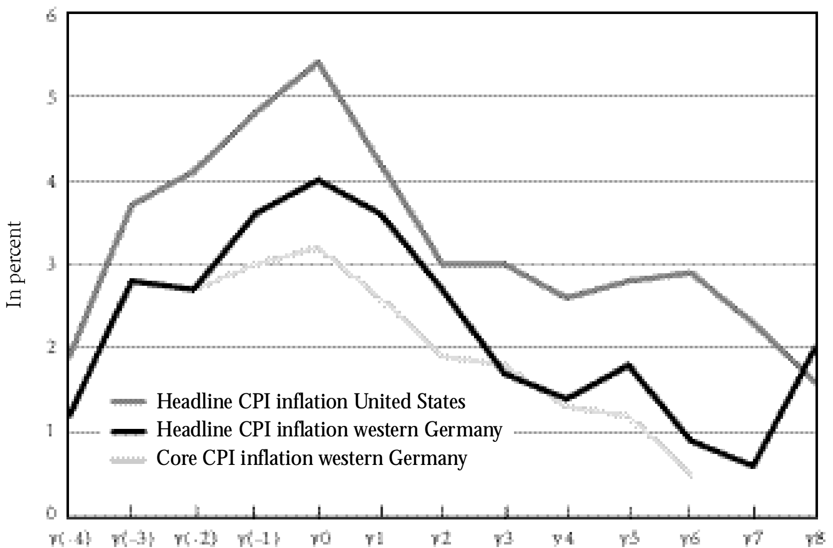
Given that Germany's economy was out of sync with the economies of these other countries, it is useful to compare consolidation strategies on a synchronized basis in which the base year is 1990 for the United States and the United Kingdom and 1992 for Germany. This approach illustrates the crucial timing factor. Structural and financial balances were allowed to deteriorate markedly when recession hit the United States and the United Kingdom. They subsequently improved when the recovery took hold. By contrast, Germany embarked on cutting structural deficits at the onset of recession. The fiscal tightening was not only untimely, but also unusually stringent relative to Germany's own past experience and by international standards (Heilemann and Reinicke 1995). Germany thus pursued a rather counterproductive route toward fiscal consolidation.Given the interdependencies between the state of the economy and the state of public finances, fiscal policy is far more likely to achieve its ends by behaving in a stabilizing rather than a destabilizing way, namely, by conducting its affairs in a countercyclical rather than a procyclical mode. Therefore, if its fiscal policy had been more in line with economic theory and had followed the best-practices example of the United States and the United Kingdom, Germany could have easily achieved a more favorable economic performance in the 1990s. The same can be said for Germany's monetary policy.

Monetary Policy and the Bundesbank

On the eve of unification the Bundesbank established an ultratight monetary policy. As significant increases in indirect taxes and administered prices

pushed up headline inflation, the Bundesbank further tightened monetary policy, causing real short-term interest rates to peak at 5 to 6 percent. Thereafter, interest rate cuts were extraordinarily sluggish and only fell below 2 percent by 1996–97 (Bibow 2001a). Moreover, until the spring of 1996 the sluggish easing of interest rates was fully offset by DM appreciation. In essence, the monetary condition established in late 1989 remained unchanged over the next six years. As a consequence, capacity utilization plunged with the recession of 1992–93 and remained stuck at severely depressed levels for several years. The role of a successful monetary policy is to sufficiently counterbalance any deflationary effects from planned fiscal consolidation. Instead, the Bundesbank's monetary policy grossly magnified the deflationary consequences of the peculiar fiscal consolidation strategy that Germany embarked upon in 1992 (Bibow 2001a).

Figure 4 Synchronized Consumer Price Inflation in Western Germany and the United States



Note: The base year (y0) corresponds to 1990 in the U.S.'s case and to 1992 in Germany's; the measure of core CPI inflation excludes "tax-push" inflation.

Sources: OECD, *Economic Outlook* 67, June 2000; Bundesbank, *Statistisches Bundesamt,* Weeber 1998

Conventional wisdom suggests that this doubly deflationary policy mix was inevitable, given the threat of unstable debt dynamics and runaway inflation posed by unification and Germany's inflexible labor markets. The above analysis has exposed one striking fact—contractionary macroeconomic demand policies, not unification, caused the 1992–93 recession and pushed Germany into a situation of unstable debt dynamics. Another striking fact is that, to begin with,there was only a very small rise in inflation in Germany in the early 1990s (Figure 4); moreover, this negligible rise was caused by taxation policies that were enacted when the economy delivered robust GDP growth rates. A further truly striking fact is that these developments did not prevent the Bundesbank from subsequently pushing headline CPI inflation from its 1992 peak of 4 percent to almost zero, while it appears that the U.S. Federal Reserve cautiously avoided trying to push inflation below 2 percent. These facts, combined with a comparison of consumer price and wage trends in Germany and the United States during the 1990s, suggest that Germany's doubly deflationary policy mix was not inevitable.

The point is that by pushing up headline inflation, tax-push inflation tends to drive up wage inflation as well. Nevertheless, claims that there were excessive wage hikes in Germany at this time were unjustified. For one thing, wage inflation peaked at comparable levels in Germany and the United States in the early 1990s. Moreover, western German wage inflation remained markedly below that of the United States after 1992. Given that tax and contribution rates increased significantly during this period, real disposable income fell for a large part of the German population. It can therefore be argued that the degree of wage moderation in Germany was both excessive and ineffective. It was excessive relative to depressed productivity growth,as wage disinflation merely compensated the tax-push inflation imposed by ill-conceived macroeconomic policies. It was ineffective because it was used by the Bundesbank to enhance the bank's anti-inflation credentials and maximize its prestige, rather than to promote employment (which would have required significant monetary easing). By comparison, the Federal Reserve's monetary policy of easing interest rates when inflation was still above 3 percent yielded sufficient productivity increases to offset (relatively higher) U.S. wage inflation as CPI inflation rates declined. This policy initiative sparked the strong investment boom of the 1990s that saw strong GDP and employment growth and falling inflation rates. Clearly, the Bundesbank's aggressive and single-minded pursuit of price stability was not inevitable. Such a policy

strategy merely reflected both the Bundesbank's preferences and its failure to grasp the perverse consequences of a policy mix combining tight money and fiscal consolidation.

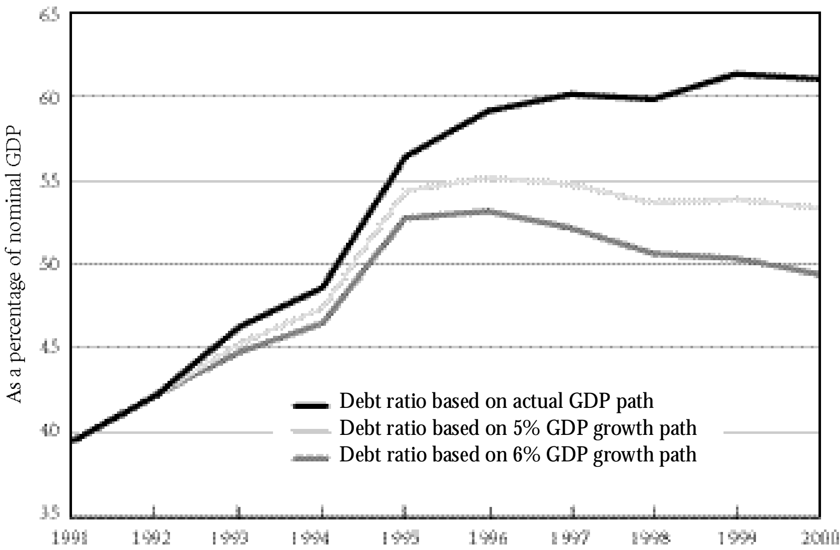
Among the perverse consequences of Germany's peculiar policy mix, the role of tax-push inflation in pushing up headline CPI inflation and keeping it there best reflects how very counterproductive Germany's policies really were. As von Hagen (1992, p.215) succinctly stated, "The Bundesbank gave a high priority to credibility considerations and chose a tight stance without too much regard to the risk of unnecessarily choking off the economic growth badly needed in the transition phase." Unfortunately, the net result was that German society paid a steep price in terms of high unemployment and low economic growth, which also had stark consequences for public finances.

Fiscal Consequences of Unification

The fiscal damage caused by sluggish growth due to the deflationary policy mix can be estimated by simulating the evolution of public finances under alternative growth scenarios (Figure 5). Two hypothetical scenarios that both modestly assume a soft landing in 1992 followed by 5-percent and 6-percent nominal GDP growth rates, respectively, are compared with actual developments (the base case). The first scenario corresponds to the former West Germany's unimpressive record in the 1980s and the implicit Maastricht parameter of a 5-percent nominal GDP growth rate. The second scenario is closer to the former West Germany's long-term nominal growth rate of 6 percent, as well as to the U.S. growth rate during the 1990s. A useful starting point is to estimate the effect of higher growth rates on the debt ratio, given the absolute level of debt actually accumulated and in lieu of any other effects on public finances. Analysis of the two scenarios shows that by the end of 2000, Germany's debt as a percentage of nominal GDP would have been in the range of 50 to 55 percent, rather than in excess of 60 percent.

Higher GDP growth rates, however, would also have been accompanied by higher tax revenues and lower government expenditures relative to the base case, which was characterized by soaring unemployment. Estimates of German tax and expenditure elasticities show that a 1-percent increase in

Figure 5 The Effects of Hypothetical GDP Growth Paths on Germany's Debt Ratio



Note: The first scenario assumes 5 percent annual nominal GDP growth after 1992; the second scenario assumes 6 percent annual nominal GDP growth.

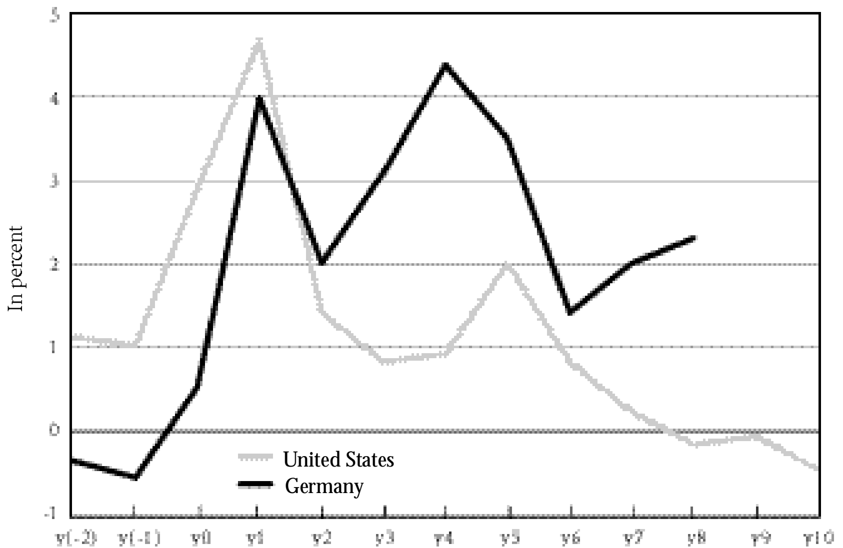
Source: OECD, *Economic Outlook* 67, June 2000

GDP reduces the budget deficit by roughly one-half of 1 percent of GDP (Organization for Economic Co-operation and Development 1999). Taking these effects of higher GDP growth into account, hypothetical budget deficits associated with the two scenarios would have been significantly below the maximum stability deficit. This implies that these hypothetical budget deficits would have led to substantial declines in the debt ratio, to about 50 percent from 60 percent. Simulation of *ex ante* deficit reductions thereby confirms that an extraordinarily severe fiscal tightening occurred after 1991 and that Germany's untimely and overly ambitious consolidation strategy had largely gone to waste.

While soaring unemployment in western Germany was the key channel through which poor GDP growth wrecked Germany's public finances, primary deficits and the interest burden on the debt should also be examined. The Bundesbank (1997, p.23) estimated that the interest rate–growth rate differential added about 7.5 percentage points to Germany's debt ratio from

1992 to 1996. It also stated that the top-heavy interest rate–growth rate differential was currently the prevailing pattern worldwide. However, while the synchronized growth spreads for Germany and the United States both collapsed in the wake of the early 1990s recession, the United States managed to reestablish a favorable growth spread in due course, while Germany got stuck with an unfavorable growth spread, owing to the fact that GDP growth remained persistently depressed (Figure 6). This pattern had stark fiscal implications for Germany, as the interest burden soared in light of the impact of government bond yields in association with a much lower growth rate. The impact's magnitude can be estimated by dividing the change in the debt ratio into the contributions due to the primary budget balance and the (growth-adjusted) interest burden on the stock of debt in the previous period, then recalculating the evolution of Germany's public finances from 1992 to 1996 on the basis of the U.S. growth spread (Appendix, Table 2). The results show that 5 percentage points of Germany's debt ratio was directly attributable to the effects of the Bundesbank's long-run tight monetary

Figure 6 Synchronized Growth Spreads: Germany and the United States



Source: OECD, *Economic Outlook* 67, June 2000

policy on the interest burden. Moreover, by the end of the 1990s the interest-burden gap between the U.S. performance scenario and Germany had swelled to 10 percentage points.

Bundesbank Assumptions and Calculations

As a result of a balanced budgetary position before unification,the former West Germany could pursue either significant tax cuts at the 40-percent debt ratio established at the time or set the debt ratio on a declining trend. After unification, however, conventional wisdom views the subsequent protracted budget deficits and soaring debt ratio to have been caused by unification.

For instance, according to the Bundesbank (1997, p.19), "it can at least be said that more than half of the increase in the overall indebtedness of the central, regional and local authorities since 1989 (totaling about DM 1,200 billion) is attributable to reunification." This assertion amounts to attributing almost the whole of the rise in Germany's debt ratio from 1989 to 1996 to unification. Apart from attributing 7.5 percentage points to the interest burden (1992–96), the Bundesbank estimated that "inherited debts" from eastern Germany added about 12.6 percentage points to the debt ratio (1990–96). This indebtedness related to the Redemption Fund for Inherited Liabilities, which by 1997 had assumed the debts of the Debt Processing Fund, the Treuhand Agency, eastern German housing enterprises, former German Democratic Republic (GDR) social institutions, and "equalization claims" (a total of DM 340 billion). In addition, the Bundesbank (1997, p.19) asserted that the "indebtedness of the eastern German Länder [state] Governments and local authorities plus the new borrowing by the 'German Unity' Fund and the bulk of that by the ERP [European Recovery Program] Special Fund since 1990 can be ascribed unambiguously to reunification." This amounts to additional borrowing of some DM 235 billion.

Revised Assumptions and Calculations

To begin with, it is not clear that borrowing by eastern German governments should have pushed up Germany's debt ratio. By 1996 eastern German government debt, the interest expenditure ratio, and debt per inhabitant ratio were actually lower than those of western Germany. The question as to whether noninherited debts due to current deficits drove up

Germany's debt ratio is far more complex than the Bundesbank makes it appear. It is unsafe to assume, as the Bundesbank seems to do, that lower deficit spending would not affect GDP. It may well be the case that too little, rather than too much, *ex ante* deficit spending was undertaken by the authorities in their quest to create an environment that would allow eastern Germany's economy to catch up to that of western Germany.

In calculating the rise in indebtedness owing to unification, three main adjustments should be made to the Bundesbank's assumptions and calculations.First, transfers financed by borrowing through the German Unity Fund were already included in the net transfer estimates and their effect on the public finance position, as discussed earlier. Therefore, to include the fund's borrowing as a stock-adjustment factor would be to count it twice, so those transfers are excluded here. Second, the debt incurred by the ERP Special Fund after 1989 (DM 27 billion) is also excluded. The fund's main role was to finance low-interest loans to the eastern German economy; therefore, it should not be construed as raising indebtedness as a result of unification. Instead, it illustrates rather well that by causing an unfavorable growth spread, the inconsistent policies discussed earlier also provoked a soaring interest burden. Third, redemptions until 1997 and prospective debts of the Indemnification Fund should be included as inherited debts. Therefore, total inherited debts are properly estimated to be somewhat higher, at DM 365 billion, rather than DM 340 billion as estimated by the Bundesbank.

A more appropriate approach to estimating the fiscal cost of unification is to focus directly on net fiscal transfers in relation to western German GDP and on stock adjustments due to inherited debts in relation to total German GDP (Appendix, Table 3). If economic policies had allowed a more benign nominal growth rate of 5 or 6 percent, then the fiscal burden from current transfers would have declined to roughly 3.5 percent by the end of the decade. Stock adjustments from inherited debts would have increased the debt ratio by about 8 percentage points (roughly one-third of the actual increase in the debt ratio) and increased the interest burden on the debt by about 0.5 percent of GDP.

In sum, the price Germany would have had to pay as an investment in order to get and keep its unified future on track is significant in any event. The fiscal options available before unification were no longer applicable. However, the debt ratio rose beyond what was unavoidable because there

were ill-guided attempts at keeping it too low. Therefore, the actual consequences of unification were excessive in light of the policies chosen by the government under pressure from the Bundesbank and the ensuing fiscal tightening believed to be necessary to cope with the challenge of unifying the economy.

Summary and Conclusions

The initial sharp rise in deficit spending in 1990–91 as a result of unification was both inevitable and not out of line with economic theory. The fiscal boost helped to stabilize noninflationary domestic demand growth in Germany at a time when other countries were experiencing a recession. However, a key fiscal mistake occurred when an ill-timed and overly ambitious consolidation crusade by the government began in 1992. Moreover, the long run of tight money orchestrated by the Bundesbank between 1990 and 1995 magnified the counterproductive effects of fiscal policy. The Bundesbank was the primary source of pressure for fiscal consolidation at any price, since it based its reputation on maintaining very low inflation.

Ironically, the Bundesbank's deflationary quest proved to be counterproductive, as the overall fiscal tightening and deterioration of public finances after 1992 were far in excess of what would have been required to cope with the challenges and responsibilities of unification. At the most critical stage, the Bundesbank's argument that fiscal consolidation would prevent inflation did not hold, and measures undertaken to cut borrowing actually pushed inflation higher. With recession, public finances deteriorated and inflation declined rather sluggishly, owing to continued tax-push inflation. Unfortunately, this did not stop the Bundesbank from squeezing inflation down to zero by 1999. As a result, the period from 1993 to 1999 stands out by far as Germany's worst economic performance on record. The stark consequences of high unemployment, slow growth, and fiscal deterioration, however, were anything but inevitable.

To an important extent, Germany's structural problems today are a reflection of these unsound fiscal and monetary policies. The country (and Europe) paid a dear price for a policy experiment based on doctrines and beliefs whose relation to economic theory was anything but clear. The dis-

mal results of the great German deflation of the 1990s cannot be blamed on unification, nor do they represent the burden of unification. Instead, they are the economic consequences of the self-serving policies of the Ministry of Finance and the Bundesbank.

Appendix

Table 1 Some Key Facts about Germany's Economic Performance in the 1990s

	Western Germany								The Burden	
	GDP			Employment	Unemployment Rate	Inflation			Net Fiscal Transfers	
Year	DM Billion	Nominal %	Real %	000's	Commonly Used %	CPI %	PPI %	Wages %	DM Billion	% of GDP (Western Germany)
1990	2426.0	9.1	5.0	28479	6.2	2.7	1.7	4.7	45	1.9
1991	2647.6	9.1	5.0	29189	5.5	3.6	2.5	5.9	106	4.0
1992	2813.0	6.2	1.8	29457	5.8	4.0	1.4	5.9	114	4.1
1993	2840.5	1.0	-2.0	29002	7.3	3.6	0.0	2.7	128	4.5
1994	2962.1	4.3	2.1	28656	8.3	2.7	0.6	3.2	126	4.3
1995	3049.8	3.0	0.9	28464	8.4	1.7	1.7	3.6	140	4.6
1996	3112.3	2.0	1.1	28156	9.1	1.4	-0.6	2.2	140	4.5
1997	3202.6	2.9	2.3	27884	9.9	1.8	1.1	0.8	136	4.2
1998	3329.0	3.9	2.7	27915	9.4	0.9	-0.3	1.5	141	4.2
1999	3402.5	2.3*	1.4*	n.a.	8.8	0.6	-1.0	1.8	144[P]	4.2

Notes: Western German data (GDP, employment and unemployment) for 1990-98 based on ESA 1979 national accounting conventions, estimates for 1999. German data based on ESA 1995. Net fiscal transfers as estimated by Federal Finance Ministry.

Sources: Statistisches Bundesamt, Deutsche Bundesbank (1997), Federal Finance Ministry

[1] Maastricht definition

* Estimate

[P] Planned

(continued)

Table 1 Some Key Facts about Germany's Economic Performance in the 1990s (cont.)

	Germany			
	GDP (nominal)	Budget Balance[1]	Public Sector (as a percentage of nominal GDP)	
Year	DM Billion	DM Billion	Budget Balance[1]	Public Debt[1]
1990	n.a.	-49.7	-2.0	43.8
1991	2938.0	-85.2	-2.9	41.5
1992	3155.2	-78.9	-2.5	44.1
1993	3235.4	-103.5	-3.2	47.1
1994	3394.4	-84.9	-2.5	49.4
1995	3523.0	-112.7	-3.2	57.1
1996	3586.5	-121.9	-3.4	59.8
1997	3666.5	-95.3	-2.6	60.9
1998	3784.4	-64.3	-1.7	60.7
1999	3877.2	-42.6	-1.1	61.0

Notes: Western German data (GDP, employment and unemployment) for 1990–98 based on ESA 1979 national accounting conventions, estimates for 1999. German data based on ESA 1995. Net fiscal transfers as estimated by Federal Finance Ministry.

Sources: Statistisches Bundesamt, Deutsche Bundesbank (1997), Federal Finance Ministry

[1] Maastricht definition

* Estimate

[P] Planned

Table 2 Estimating the Weight of the (Growth-Adjusted) Interest Burden

	Debt Ratio	Change in the Debt Ratio (in percentage points)				Alternative Hypothetical Scenario Based on U.S. Performance		
			Which the Bundesbank (1997) Attributes to					
Year	At Year End % (1)	At Year End (2)	Primary Budget Balance % of GDP (3)	Interest Burden Effect Based on German Growth Spread (4)	Assumption of Inherited (East German) Debt (5)	Interest Burden Effect Based on U.S. Growth Spread (6)	U.S. Interest Rate % (7)	U.S. Growth Rate % (8)
1991	41.1				1.0			
1992	43.7	2.6	0.3	0.3	2.1	0.6	7.0	5.6
1993	47.8	4.1	0.9	2.0	0.3	0.3	5.9	5.1
1994	50.1	2.3	-0.3	1.1	2.0	0.4	7.1	6.2
1995	57.7	7.7	-0.5	1.8	6.8	0.9	6.6	4.6
1996	60.3	2.6	-0.3	2.3	0.4	0.4	6.4	5.6
Σ1992 –1996	—	19.3	0.1	7.5	12.6	2.6	—	—
1997	60.9	0.6	0.5	2.0	—	0.1	6.4	6.2
1998	60.7	-0.2	1.4	0.8	—	-0.1	5.3	5.5
1999	61.0	0.3	2.0	1.2	—	-0.1	5.6	5.7
2000	61.1	0.1	1.8	1.4	—	-0.3	6.6	7.1
Σ1992 –2000	—	20.1	5.8	12.9	—	2.2	—	—

Note: For reasons of comparability the figures stated in columns (1) to (5) for the years 1991 to 1996 are the original ones the Bundesbank used in its calculation in 1997 (except for the one percentage point attributed to debt assumptions in 1991 that actually arose over 1990–1991). By contrast, columns (1) to (5) for the years 1997 to 2000 as well as columns (6) to (8) are based on OECD (2000) data.

Sources: OECD, *Economic Outlook* no. 67, June 2000, Deutsche Bundesbank (1997, p. 24)

Table 3 Estimating the Fiscal "Burden" of Unification

	Actual GDP Growth				Hypothetical 5% GDP Growth			Hypothetical 6% GDP Growth		
Year	GDP^{W} DM Billion	Net Fiscal Transfers DM Billion	Transfer Ratio	Inherited Debts/GDP^{g}	GDP^{W} DM Billion	Transfer Ratio	Inherited Debts/GDP^{g}	GDP^{W} DM Billion	Transfer Ratio	Inherited Debts/GDP^{g}
1990	2426.0	45	1.9		2426.0	1.9		2426.0	1.9	
1991	2647.6	106	4.0		2647.6	4.0		2647.6	4.0	
1992	2813.0	114	4.1	365/	2780.0	4.1	365/	2806.5	4.1	365/
1993	2840.5	128	4.5	3877.2	2919.0	4.4	4340.8	2974.9	4.3	4682.7
1994	2962.1	126	4.3	= 9.4%	3065.0	4.1	= 8.4%	3153.4	4.0	= 7.8%
1995	3049.8	140	4.6		3218.3	4.4		3342.6	4.2	
1996	3112.3	140	4.5		3379.2	4.1		3543.2	4.0	
1997	3202.6	136	4.2		3548.2	3.8		3755.8	3.6	
1998	3329.0	141	4.2		3725.6	3.8		3981.1	3.5	
1999	3402.5	144^{p}	4.2		3911.9	3.7		4220.0	3.4	

Notes: Transfer ratios refer to western German GDP (based on ESA 1979 national accounting conventions) while contribution of inherited debts to rise in debt ratio refers to German GDP (based on ESVG 1995 national accounting conventions).

Sources: Statistisches Bundesamt, German Federal Finance Ministry

^{W} Western Germany

^{g} Germany

^{p} Planned

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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.

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