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## Germany's slump explaining the unemployment crisis of the 1990s

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**Germany's Slump**  
**Explaining the Unemployment Crisis of the 1990s**

by  
Ludger Lindlar and Wolfgang Scheremet

Berlin, June 1998

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# Germany's Slump

## Explaining the Unemployment Crisis of the 1990s

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## **Abstract**

According to a widespread view, Germany's unemployment crisis is caused by rigid labour markets, low profitability and increasing international competition. We argue that this view does not provide a convincing explanation for the dramatic rise in Germany's unemployment rate since 1989, first because no distinction is drawn between the situation in the Eastern part of Germany and that in the Western part of Germany, and second because supply-side conditions in the Western part of Germany have not generally deteriorated. We argue that Germany's slump is the result of a series of adverse supply and demand shocks since unification. Supply shocks dominated in the East, demand shocks in the West. These shocks were mainly policy-induced. The adoption of an extremely overvalued exchange rate and rapid wage increases in East Germany magnified the general problems of transition, resulting in a loss of employment of more than a third and a sustained structural weakness of its economy. The wage explosion was made possible by the government's failure to create a proper institutional framework for wage negotiations. The unification shock to the East added at least 2.5 percentage points to Germany's overall unemployment rate, as measured by the OECD definition. We attribute some 1.5 to 2.5 percentage points of the present unemployment rate to the weak economic growth of the last several years and the impact of the increasing tax wedge on the wage level. Weak growth has been largely the consequence of uncoordinated, contradictory and procyclical macroeconomic policies that have been adopted since unification, while the increasing tax wedge has been mostly driven by the decision of the government to finance unification partly through the social security system. Econometric evidence suggests a structural break in aggregate wage-setting in West Germany, with increased nominal flexibility in recent years and insignificant persistent effects since the 1980s. Hence, aggregate wage setting in the Western part of Germany is highly responsive to unemployment, while in the Eastern part, it is not.

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## 1 Introduction<sup>1</sup>

Since unification, Germany's unemployment increased substantially, both in comparison to the previous decade and to other OECD countries (graph 1). Including the East, the rate of unemployment has almost doubled since 1989. Measured by the OECD definition, it is now at 10 percent, while another 5 percent of the labour force is supported by various labour market policies while not actively seeking a job.<sup>2</sup> After a dramatic rise in 1996 and 1997, unemployment is expected to stabilise in 1998. However, Germany is not in the midst of what economists would typically call a recession. Rather, Germany suffers from a sustained slump. After the recovery from the 1992/93 recession, equipment investment in West Germany almost stagnated for three years and only recently started to increase (graph 2). Even in the East, investment activity is slackening while unemployment has risen again. Without doubt, Germany is in the midst of the worst labour market slump in postwar history.

By and large, economists in Germany share the widespread view that Germany's unemployment crisis is rooted in rigid labour markets, low profitability and increasing international competition.<sup>3</sup> The empirical evidence that has been disseminated in the economic policy debate appears to be so convincing that economists have become concerned more with the inability of the political system to implement structural reforms than with diagnosis itself.

We argue that the prevailing view cannot convincingly explain the rise in Germany's unemployment since 1989. This is because the impact of unification on Germany's economy is insufficiently recognised. Unification raised the Federal Republic's population by a quarter, it was accompanied by a fall in East Germany's level of employment of more than a third, it created an income gap of 300 per cent within the nation, and it led to a gross reallocation of an annual 7 per cent of West Germany's GDP to the East. We argue that most, if not all of the in-

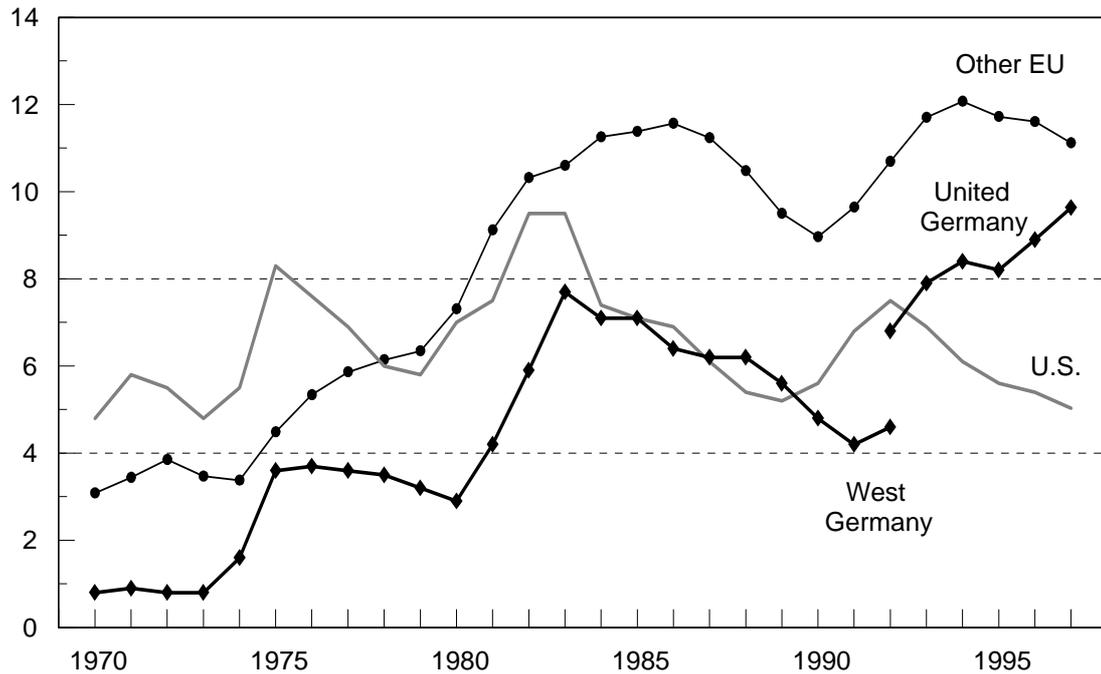
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2 Sachverständigenrat (1997), pp. 96, 317; authors' calculations.

3 The literature by labour economists tends to deliver a less clear-cut diagnosis. For surveys, see Franz and Steiner (1995), Franz (1996a) pp. 341-392, Franz (1997).

Graph 1 **Unemployment rates compared, 1970-97<sup>a</sup>**  
(in per cent, standardised OECD data)



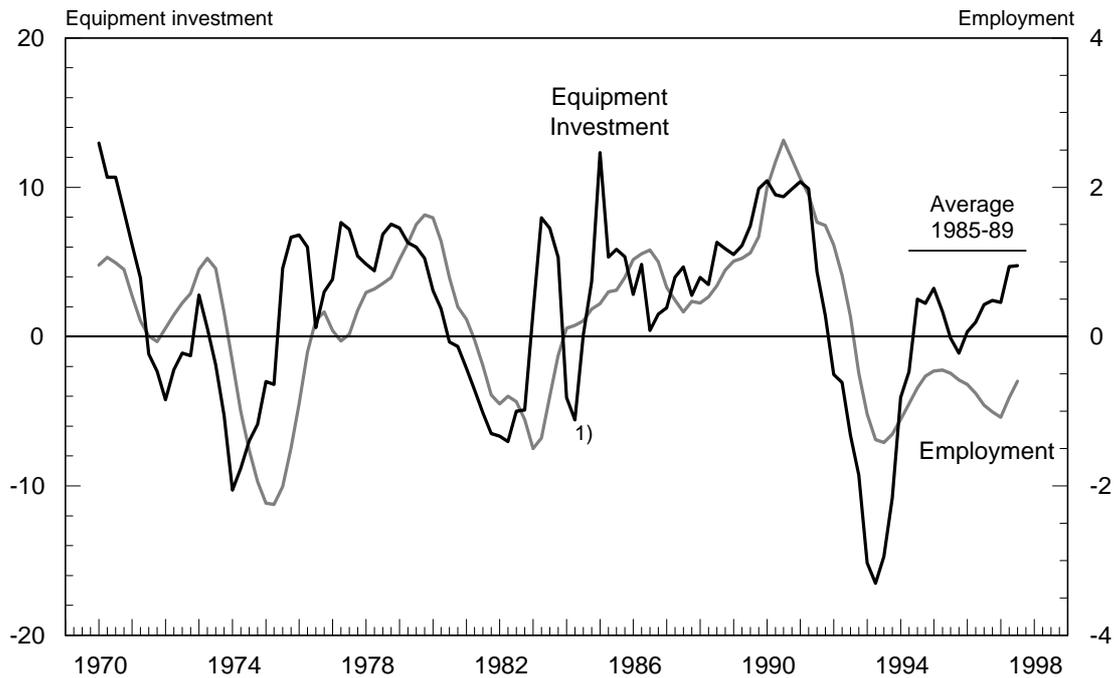
a) The values for 1997 are based on seasonally adjusted figures for the first three quarters. Sources: OECD, *Quarterly Labour Force Statistics*, various issues; authors' calculations.

crease in unemployment should be attributed to unification and the economic policies adopted thereafter.

However, it is difficult to express the effect of unification on the German economy in an analytically accurate way because unification created a dual economy with strong interdependencies. For the sake of simplification, we frequently treat the situation in the 'two Germanys' separately. We suggest a threefold decomposition of the rise in the unemployment rate into (i) a unification effect, visible as a 'jump' in the unemployment rate by two percentage points in 1992, where the standardised unemployment rate was for the first time reported for Germany as a whole; (ii) a recession effect in the form of an increase in 1993/94, and (iii) a stagnation effect in the form of a lack of decline in 1995 and a strong increase in 1996/97. We consider the failure of unemployment to decline since the last recession to be the real puzzle.

Before we indicate how this puzzle could be solved, we deal with the unification shock (part 2). Thereafter, we structure our discussion around three broad sets of questions: Have macroeconomic supply-side conditions in the western part of Germany deteriorated since the late 1980s (part 3)? Have labour markets

Graph 2 **Equipment investment and employment in West Germany, 1970-97**  
(annual average growth rates, quarterly data, in per cent)



Total economy; equipment investment at constant prices; employment refers to the total number of persons employed. Seasonally adjusted data, the years refer to the first quarter. 1) The decline in investment in early 1984 was strongly influenced by a strike in the metal-working industry and a temporary investment tax credit granted in the previous year. Sources: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

become more rigid in microeconomic terms, or do labour and product market rigidities constitute the major constraint to higher employment (part 4)? Can a series of adverse demand-shocks account for the rise in unemployment, and if so, was there a better policy mix available (part 5)?

## 2 The unification shock

Unification was met by a declining economy in the East and a prospering economy in the West. Since the early 1980s, macroeconomic supply-side conditions had improved substantially in West Germany.<sup>4</sup> Corporate profitability recovered to the level of the early 1970s while effective average tax rates on profit income experienced a significant decline. The budget of the public sector was consolidated, and in 1989 a small surplus was achieved. The rate of inflation declined to 2

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4 See, *inter alia*, Sachverständigenrat (1988), and Giersch, Paqué and Schmieding (1992).

per cent annually, supported by falling world market prices for oil. From 1985 to 1989, 1.2 million jobs were created, 0.7 million of which were in the service sector. The standardised unemployment rate declined parallel with that of the U.S. Seen from a supply-side perspective, the main shortcomings were a more fundamental tax reform, high subsidies to allying sectors such as agriculture, coal and steel, and insufficient progress in privatisation and deregulation. Long-term unemployment was above the level of the 1970s but substantially below that of most other European countries. The enormous increase in the current account surplus, reaching a level of 5 per cent of GDP in 1989, gave rise to concerns. Nevertheless, Germany was probably economically better prepared for unification than at any time since the 1960s. What went wrong?

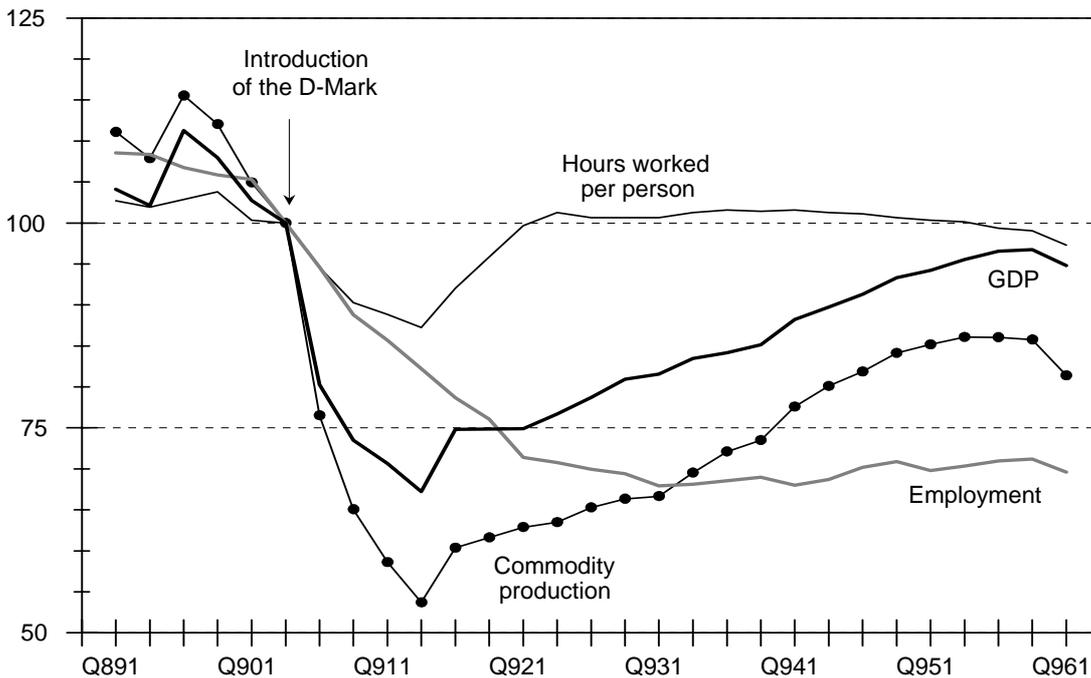
In West Germany, unification led to a strong but rather short-lived boom; the unemployment rate fell temporarily to near 4 per cent. Meanwhile, East Germany experienced one of the worst depressions in modern economic history.<sup>5</sup> Joblessness increased within two years from virtually zero to more than 30 per cent of the work force. The labour market slump started with the introduction of the D-mark on 1<sup>st</sup> July 1990 (graph 3). Despite warnings by many experts, the Bundesbank included, the government decided to convert flow values, in particular output prices and wages, by a 1:1 rate; stock values, in particular corporate debt, were converted by 2 GDR-mark per D-mark. It became apparent later on that the 1:1 conversion factor implied a revaluation of output prices of East German firms by more than 300 per cent.<sup>6</sup> Furthermore, with the introduction of the D-mark, East German consumers switched to Western goods that were previously not available or not affordable. This magnified the output collapse in import-competing sectors while those producers that gained a comparative advantage were barely prepared to satisfy a potentially higher output demand. The extreme appreciation of product prices and the change in the demand structure were the most important causes for the dramatic decline in domestic demand for East German products. Foreign sales were partly stabilised by subsidised exports to the COMECON member states. After these subsidies were phased out, a loss of the

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5 For more details, see Sinn and Sinn (1991), Hoffmann (1992, 1993), Flassbeck and Horn (1996), and the various “Adjustment Reports“ by the Deutsches Institut für Wirtschaftsforschung, Institut für Weltwirtschaft, and the Institut für Wirtschaftsforschung (1991 ff).

6 For more details, see Akerlof et al. (1991), Sinn and Sinn (1991), pp. 41-50.

Graph 3 **Production and employment in East Germany, 1989-96**  
(1990.2 = 100)



Quarterly data, GDP and commodity production at constant prices. The huge adjustment in relative prices since unification suggests that one should interpret the output data for 1989-91 merely as tendency indicators. Sources: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

markets in Eastern Europe followed the loss of the domestic market. Within less than a year, East Germany's commodity production dropped by 50 per cent.

Employment experienced a sustained decline until 1992. Measured against the 1989 level of nearly 10 million, more than 3.5 million jobs had been lost. Only about one third of this decline in employment occurred in the form of rising unemployment. About one million persons found a new job in West Germany, either as commuters or as migrants. A further 0.9 million people went into early retirement, training and job-creating schemes, or withdrew from the labour force. Without these measures, the present unemployment rate in East Germany would have been at more than 30 per cent instead of the actual level of 17 per cent (by national definition).

The extent of job loss has no parallel in other transition economies in Central and Eastern Europe.<sup>7</sup> At first glance, this development is surprising because East Germany's accession to the Federal Republic solved two fundamental problems

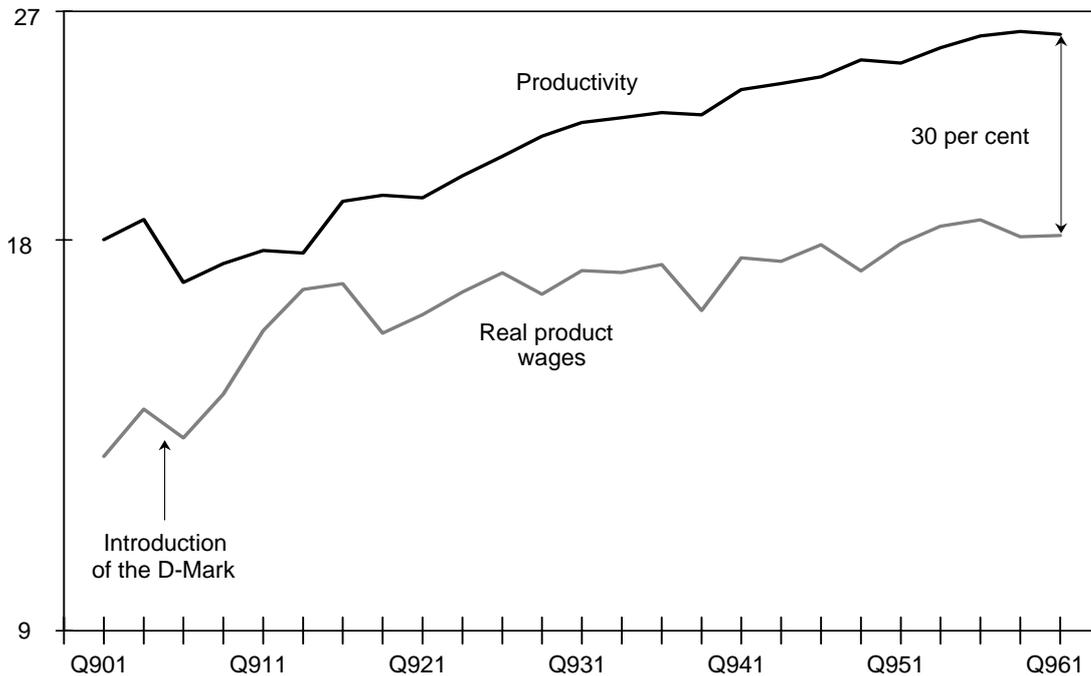
7 Blanchard (1997), chapter 1.

of the transition process virtually overnight – monetary stabilisation and the creation of a legal order for the market economy. Moreover, unification with the wealthy West Germany promised a much faster and larger inflow of funds for infrastructure and private investment. Both should have contributed to a shorter transition crisis and a faster process of catching-up. The main reason for the dramatic decline in employment were the introduction of a highly overvalued exchange rate and extremely rapid wage increases (graph 4). Between early 1990 and the middle of 1991, real product wages almost doubled while productivity stagnated. Moreover, wages continued to rise despite strongly increasing unemployment.

How was this possible? The most popular, but never fully-elaborated explanation is the “conspiracy hypothesis“. It states that the huge wage increase was the outcome of an agreement between West Germany’s employer’s associations and unions that took over wage negotiations in the East. Both parties wanted to limit competition from the East. Employers feared low price competition on the product market, while unions wanted to prevent mass migration to the West which would put pressure on the existing wage level. Because social security benefits became tied to wages in the East as well, the collective bargaining parties were able to externalise the cost of mass unemployment to the social security system. It has also been suggested that the wage hike helped Western unions to increase their membership in the East (Burda 1991). In its most extreme version, the argument goes that the driving force behind the wage hike came only from West German unions which were prepared to risk a mass destruction of East German employment in order to preserve their cartel power in the West (von Hagen 1997).

However, this account overlooks a number of important aspects.<sup>8</sup> The rapid wage increases in the months before and after the currency reform were mainly based on contracts made under the old regime. Initially, the managers of the state-owned companies, whose salaries were tied to the average wage, and West German employer’s organisations bargained with representatives of the West German unions that quickly replaced the communist labour organisations. The negotiations took place at a climax of high expectations, nourished by leading West German politicians who promised “flourishing landscapes“. It was gener-

Graph 4 **Productivity and wages in East Germany, 1990-96**  
(D-mark per hour at 1991 prices, logarithmic scale)



Quarterly data, GDP and hourly wages at constant prices, GDP deflator. The huge adjustment in relative prices and the changing composition of demand since 1991 suggests that the GDP deflator has a substantial measurement bias. However, this bias affects productivity and product wages equally. Sources: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

ally expected that East Germany's economy would be rebuilt rather quickly along the lines of the highly-developed western part of Germany, driven by a massive inflow of private and public investment. It was even suggested that wages should take the lead in East Germany's catching-up process, although many experts warned of the disastrous consequences, in particular in conjunction with the proposed currency reform. East German workers were clearly interested in wage increases, but not at the price of massive job losses. While one major objective of the Western union leadership was indeed to limit mass migration from the East, it is unlikely that unions were initially prepared to tolerate a massive job loss in the East, particularly because this would have jeopardised a large part of the new union membership in the East, adding 50 per cent to membership in the West.

It was only in the new round of wage negotiations in the second half of 1990 that the unemployment benefits became tied to the average wage level, as is the

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8 For more details, see Scheremet (1996) and Scheremet and Zwiener (1996); for related arguments, see Sinn and Sinn (1991), pp. 155-8, and Franz (1992).

case in West Germany. Under these circumstances, the disposable income of dismissed workers increased even after dismissal, if the wage settlements were high enough. Moreover, eventual losses incurred by East German firms would partly be covered by the privatisation agency, the Treuhandanstalt, and hence by the Federal budget. Despite the fact that the Treuhandanstalt owned a majority of firms in East Germany well into 1992, it was legally not entitled to bargain on behalf of the firms in its portfolio. The government hesitated to become directly involved in the wage bargaining process because this would have created tensions with the German constitution that protects the freedom of collective bargaining among private parties. Moreover, a government intervention would have been highly unpopular in the East. The wage hike abated with increasing privatisation, because private ownership meant that the employers' side incurred losses from excessive wage increases. Hence, the ultimate cause for the disastrous wage hike was the institutional vacuum the government created in the East: wage bargaining without ownership responsibility and without a threat of income losses through unemployment.

East Germany's labour market stabilised from 1992 to 1995. While manufacturing and the public sector continued to downsize, new jobs were created in the construction sector and in private services. Investment in construction has served as a pillar of economic development. The construction boom has been largely driven by massive government support. Although overall productivity improved substantially since 1992 and clearly outpaced the increase in wages (graph 4), the share of gross profits in the GDP is still only at 30 per cent, while it is at 48 per cent in the West. Hence, growth still depends on huge transfers from the West. Moreover, part of these transfers, in particular generous tax allowances for investors, have favoured capital-intensive investment projects that had a comparatively low impact on the level of employment. After the massive subsidisation of investment in building expired at the end of 1996, unemployment in East Germany rose again and the rate of output growth started to fall behind that of West Germany.<sup>9</sup> On top of that, the government decided to phase out a number of labour market programs. Both contributed to an additional increase of 0.5 per cent in Germany's overall unemployment rate.

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<sup>9</sup> See DIW, IfW, and IfW (1991 ff.).

Overall, the ‘East-Germany’ effect contributed directly to at least 2.5 percentage points of the rise in Germany’s overall unemployment rate since 1989, if measured by the OECD definition. On top of that, there may be an indirect effect because about one million East Germans shifted their labour supply to the West, either as migrants or as commuters. The unification shock may have contributed to an increase in the West German rate of unemployment as well, if the macroeconomic wage-setting did not fully take this additional labour supply into account. Section 3.3 addresses this question.

### **3 Supply-side problems? Macroeconomics**

The analysis thus far suggests that the huge increase in East Germany’s unemployment rate in 1990-92 was caused by the adoption of a highly overvalued exchange rate, extremely rapid wage increases and the general problems of transition, while the increase in West Germany’s unemployment rate in 1993/94 can largely be attributed to the sharp recession. What remains puzzling is the failure of the unemployment rate to decline afterwards, as would normally happen in the wake of a sustained business cycle upswing. If Germany had experienced a normal recovery, this would indicate that structural unemployment has increased. Yet Germany experienced its slowest recovery in postwar history. One may be tempted to conclude that the burden of unification, namely a substantial increase in social security contributions and taxes, has led to excessive wage increases and a corporate profit squeeze rendering a recovery of investment and employment impossible. Moreover, the corporate sector might have responded with increasing investment abroad, while price competitiveness in the tradable sector might have substantially deteriorated. On top of that, the fiscal deficit may have crowded out investment.

In the following, we look at profitability and taxation (3.1), at the ubiquitous ‘competitiveness’ issue (3.2) and at macroeconomic wage-setting (3.3). The analysis refers, as far as this is still possible, to the western part of Germany.

#### **3.1 Profitability**

In Germany, supply-side economists have traditionally combined classical economics which focuses on income distribution and investment with neo-classical

economics which emphasises incentives and factor substitution. In a nutshell, the model can be summarised as follows: investment requires profits; profits arise from entrepreneurial activities; and wages, taxes, regulations and inflation threaten profits. Hence, the government should create supply-side conditions that allow entrepreneurs to realise profits. It is argued that unemployment mainly comes from excessive and inflexible wages which lead to lower investment and higher capital intensity. Disequilibrium wages are attributed to union bargaining power and to labour market regulations. Although the possibility of demand-side problems is not ruled out on purely theoretical grounds as is the case with ‘New Classical Macroeconomics’, it is argued that in reality, the demand side has never been a lasting constraint to higher output and employment. Since the 1980s, this approach has dominated economic policy and policy-oriented research.<sup>10</sup>

The rate of profit, the share of profit and the taxation of profit income have traditionally played a key role in explaining investment behaviour. For the present purpose, we choose the rate of profit in the business sector and the average effective rate of taxation on profits. We ignore the share of profit because this indicator has a weaker theoretical foundation, although its development would support the following argument even more. There are various measures for the rate of profit. For our purpose, it is most useful to use the measure of the Council of Economic Experts (graph 5), with one modification: In order to control for demand-side effects, we have calculated the rate of profit at full capacity utilisation. The empirical evidence shows that aggregate profitability in Germany experienced a sustained decline from the early 1970s to the early 1980s and a sustained improvement until the early 1990s. The remarkable feature of the 1993 recession was a relatively short decline and a very rapid recovery of full-utilisation profitability. The profitability in Germany as a whole is lower due to the East Germany effect but it shows a sustained improvement in the last several years. Overall, there is no indication that a slump in pre-tax profitability since the 1993 recession can explain the weak investment performance in West Germany.<sup>11</sup>

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10 See, *inter alia*, the annual reports of the Council of Economic Experts. For an application to Germany’s postwar history, see Giersch, Paqué, and Schmieding (1992).

11 Alternative estimates of the rate of return in the privat sector are broadly consistent with this statement, c.f. Boss et al. (1997), p. 48, and OECD (1997c), p. A28.

However, the Council of Economic Experts has recently emphasised, among other things, that manufacturing profitability has substantially deteriorated since the end of 1980s and that the massive outflow of foreign direct investment (FDI) indicates higher profits abroad.<sup>12</sup> We leave the latter question for the next section and note here only that a profitability problem in manufacturing at constant aggregate profitability implies a boost of profitability in other sectors. This should have led to an expansion of investment and employment in those sectors. This was not the case. One might argue that excessive product market regulations in the service sector prevented higher investment. In section 4.2, we show that the evidence does not lend clear support to this view.

Even if the pre-tax rate of return in West Germany's private sector does not indicate a profitability problem, it might be the case that the burden of unification, requiring an annual gross transfer of 7 per cent of GDP to the East,<sup>13</sup> adversely affected investment. However, annual net transfers to the East required only 4 per cent of West Germany's GDP because the Federal budget also received tax revenues from the East. The transfers to the East were mainly financed by an increase in the budget deficit and by higher social security contributions and taxes. Initially, public expenditures in the West were cut only moderately.

There are two principal channels by which this kind of fiscal policy can exert a negative impact on private sector investment activity: via crowding out or via higher taxes on profits. One fact that speaks in favour of the crowding-out hypothesis is that during 1989/90, the long-term interest rate rose by nearly two percentage points in nominal terms and by one percentage point in real terms.<sup>14</sup> Apparently, financial markets expected higher deficits and higher inflation. However, the increase in the long-term interest rate was short-lived. During all of the 1990s, the real interest rate was on average slightly lower than during the 1980s. While it cannot be ruled out *a priori* that compensatory forces were at work, it appears that Germany is well-integrated into the world capital market and that

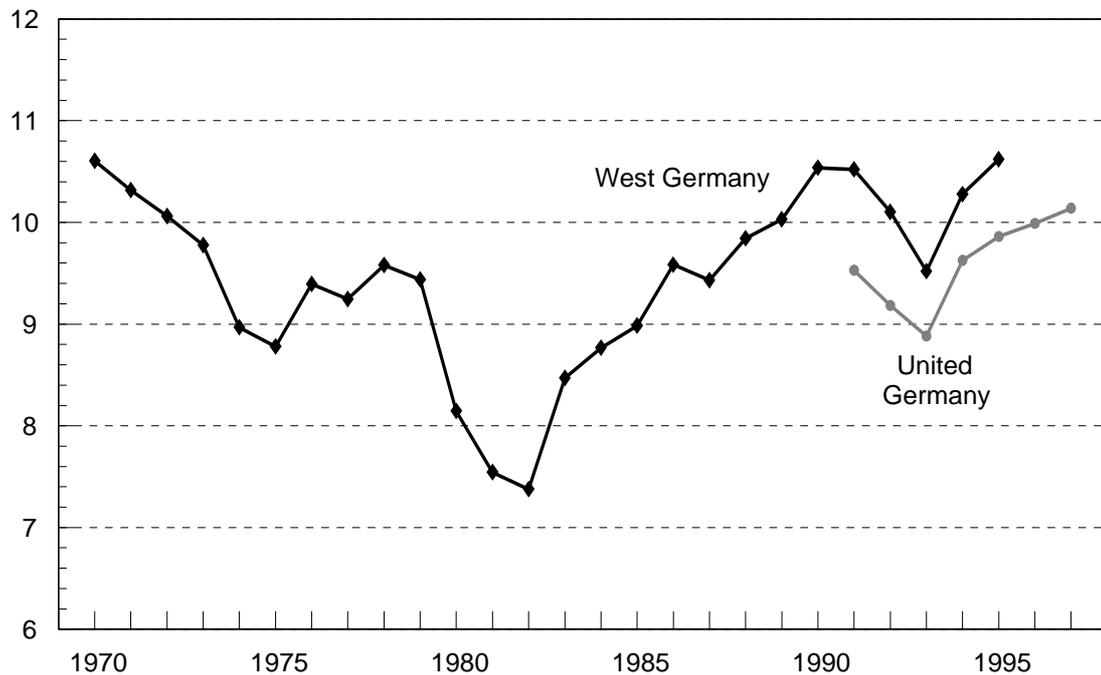
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12 Sachverständigenrat (1997), pp. 47-49; see also Carlin and Soskice (1997), pp. 58, 73-4, who argue on the basis of manufacturing that low profitability is Germany's most critical problem.

13 Heilemann and Rappen (1996).

14 OECD, *Economic Outlook Database* (November 1997); authors' calculations; real interest rates were calculated, using the GDP deflator of the same year.

Graph 5 **Rates of return on fixed capital in the business sector in Germany, 1970-1997**  
(at full capacity utilisation<sup>1</sup>; in per cent)



Gross operating surplus minus imputed labour income from entrepreneurial activity relative to the net capital stock at purchaser prices (including inventories); private sector without agriculture. From 1996 on, data for West Germany are not provided. Estimate for 1997. Capacity utilisation refers to West Germany throughout. 1) In order to control for cyclical influences, the rate of return has been divided by capacity utilisation. The effect of utilisation on profitability is, however, small. Source: Sachverständigenrat 1997, pp. 255-6; authors' calculations.

the unification-induced budget deficit, 4 per cent of GDP, was too small to significantly impact the world interest rate.

The widespread complaints about excessive income taxes in Germany's business community suggest that the burden of unification may have largely been shouldered by profits. Yet this is not true. Rather, the average effective rate of taxes on profits continued to decline that had started in the early 1980s (graph 6), largely due to a succession of smaller tax reforms and more-generous rules for the determination of the tax base. The average tax on profits is now substantially lower than during the early 1970s, while taxes on labour and social security contributions continue to increase. The sustained decline in the average tax rate on profits since unification can largely be explained by the very generous depreciation allowances that the government introduced to encourage private investment in the East. This effect out-weighted the increase in income tax rate by 7.5 per cent of the tax burden to finance unification (*Solidaritätszuschlag*).

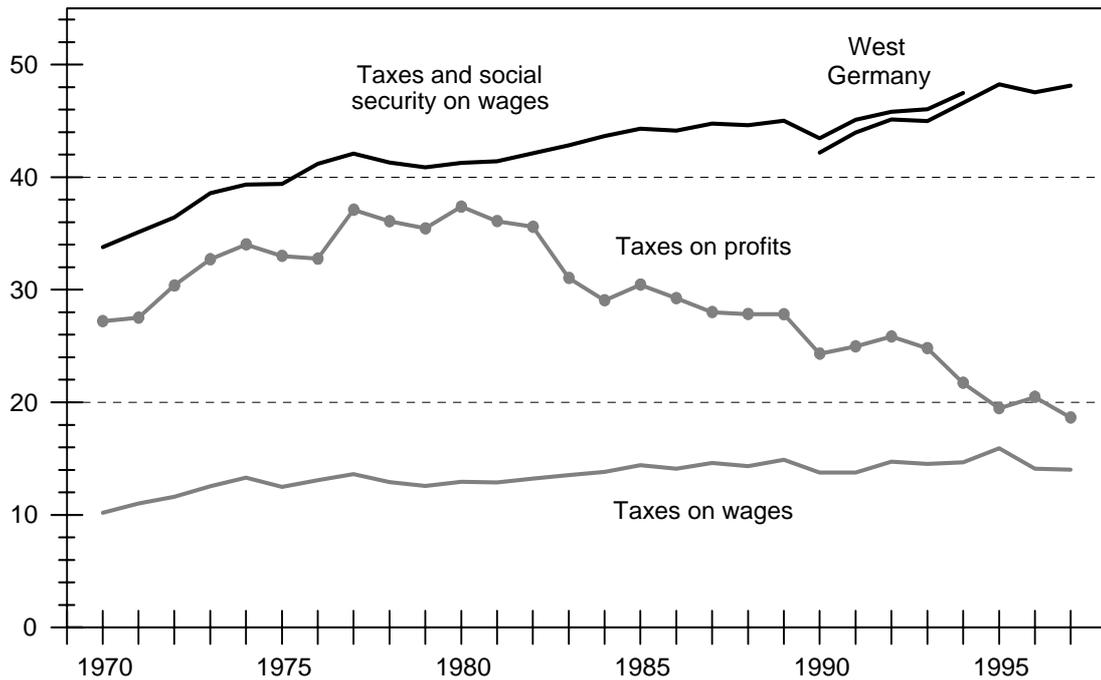
The German tax system has high statutory tax rates on corporate income but the corporate tax base is exceptionally low, owing to generous depreciation allowances and fairly liberal accounting standards. This explains why average effective taxes on profit are low even by international standards.<sup>15</sup> In 1996, the government suggested a tax reform that would bring income taxation more in line with international standards, namely by reducing the maximum statutory tax rate to 39 per cent and by broadening the tax basis through lower depreciation allowances, tighter accounting rules and fewer exemptions. In effect, the tax system would have become more transparent, less distortionary and less prone to tax evasion. Although the government proposal initially implied a net reduction of the overall tax burden of some one per cent of GDP, this was clearly in conflict with the need to meet the fiscal convergence criteria of the Maastricht treaty. Given the weak state of the economy, the government promised that the tax reform would deliver substantial gains in investment and employment, in particular through more direct investment from abroad. These promises were generally criticised as exaggerated.

In 1997, the tax reform failed because the political opposition raised equity concerns and assumed its veto power in the second chamber (*Bundesrat*), while the government was not prepared to make concessions to an extent which would have been interpreted as political weakness. The failure of the tax reform has led to widespread frustration, and it has become increasingly common to argue that the German tax system discourages investment. While this argument is not convincing on logical grounds,<sup>16</sup> the failure of the tax reform certainly gave a bad signal to investors in the context of a bad state of the economy. However, in the absence of a reliable impact analysis and in view of the already-low average effective tax rate on profit income, we find those arguments unconvincing which attribute the persistent slack in investment and employment to the failure of the tax reform. But this conclusion is also based on our analysis of Germany's external position to which we now turn.

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15 OECD (1997b), p. 22. International comparisons of marginal effective tax rates based on a neoclassical investment model suggest that Germany's tax system is broadly supportive to investment; see Jorgenson (1993), Köddermann and Wilhelm (1996), pp. 93-99.

Graph 6 **Average effective tax rates on wages and profits in Germany, 1970-97** (in percent of the respective tax base)



From 1990 onward, unless otherwise stated, Germany as a whole. Wages refer to total gross labour compensation. Taxes on wages include income tax before child care allowances (Kindergeld) plus the share in ‘solidarity tax’ plus tax refunds for employees (§46 EStG). Taxes on profits include personal income tax (veranlagte Einkommensteuer) plus the share in ‘solidarity tax’ plus tax refunds for employees (§46 EStG), corporate income tax, other taxes from profit, taxes on property and taxes on business (Gewerbesteuer). Estimate for 1997. Sources: *Statistisches Bundesamt, Bundesministerium der Finanzen*, estimates by the DIW; authors’ calculations.

### 3.2 ‘Competitiveness’

There exists a widespread belief that Germany faces a structural ‘competitiveness problem’ due to excessive wage costs and high tax rates. It is argued that a cost problem in trade and Germany’s limited attractiveness for foreign capital have contributed to the dramatic fall in industrial production and employment during the 1993 recession and to the disappointing investment and employment performance since 1995. This assessment has been endorsed in a sustained campaign by the employers’ associations. Initially, it also found support with the govern-

16 An inefficient tax system that is broadly supportive to investment does not discourage investment simply because it has not been replaced by a more efficient tax system that is

ment.<sup>17</sup> By now, probably a majority of academic economists are prepared to link Germany's unemployment crisis to a problem in competing internationally. For example, the scientific advisory board to the Ministry of Economic Affairs has delivered an analysis of 'long-term unemployment' arguing:

“Sustained unemployment is above all a concomitant of increasing competition in a rapidly-integrating world economy. [...] Germany as a location (*Standort Deutschland*) competes internationally with its institutional framework and its factor cost for mobile capital that creates new jobs. Those countries that fall short in competition have to face unemployment, a declining propensity to invest and lower growth rates. In this case, capital intensity increases at home while new jobs are created abroad. Today, Germany has the highest wage costs, on average a low return on capital, and paralysing regulations which also apply to the labour market. The tax burden is far higher than for Germany's most important competitors on the world market. The social expenditure rate is very high and still increasing. Consequently, the propensity to invest at home is declining while the propensity to invest abroad is increasing.”<sup>18</sup>

This reasoning contrasts strongly with traditional doctrine of international economics. Broadly speaking, the traditional doctrine is centred around three concepts: Comparative advantage, purchasing power parity (PPP) and the adjustment mechanism. The principle of comparative advantage states that countries export those goods that they can produce relatively cheaply and import those goods that they cannot. In long-run equilibrium, trade is based on specialisation among countries along comparative advantage, while the exchange rate reflects the PPP of the respective currencies in their tradable sector. Hence, all trading countries are, so to speak, equally 'competitive', regardless of their absolute level of costs. Comparative advantage and PPP are linked by the adjustment mechanism.

A problem of 'competitiveness' arises if, for whatever reason, the exchange rate becomes overvalued in comparison to PPP. Correspondingly, the domestic tradable sector suffers a profit squeeze. Overvaluation is usually accompanied by a loss of currency reserves. This requires adjustment of the real exchange rate. In the case of flexible exchange rates, adjustment implies that the nominal exchange rate has to depreciate at a constant rate of domestic inflation. In the case of fixed exchange rates, the rate of domestic inflation has to fall at a constant nominal ex-

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broadly supportive to investment.

17 Bundesregierung (1993).

change rate. The main disagreement in the literature is to what extent real economic activity is involved in the adjustment process, how persistent deviations from PPP can be, and to what extent international asset markets influence the adjustment process.<sup>19</sup>

The traditional approach assumes implicitly that trade is balanced in equilibrium. More recently, it has been emphasised that deficits or surpluses in the current account may be an equilibrium phenomenon, reflecting differences in national savings behaviour between countries.<sup>20</sup> For example, if consumers at home have a lower rate of time preference than consumers abroad, the respective country will initially be a net importer of savings (i.e. capital). It has been stressed that differences in government savings behaviour have a similar effect on the current account.

In the German economic policy debate, this reasoning has been largely pushed into the background by the doctrine of ‘locational competition’ (*Standortwettbewerb*).<sup>21</sup> Theoretically, it is a broad generalisation of the concept of tax competition. It is argued that with growing internationalisation of economic activities, nation-states compete for internationally mobile factors of production, namely capital. Countries with open and flexible markets, relatively low wages and taxes, and a sufficient provision of local public goods, namely infrastructure, are expected to attract more internationally-mobile capital than other countries. It is believed that the pace of globalisation has dramatically increased in the 1990s and that factor demand has consequently become substantially more elastic with respect to the factor price. In the case of labour, it is suggested that a high wage

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18 Wissenschaftlicher Beirat (1996), pp. 30-1, translation by the authors; similar arguments can be found in Sachverständigenrat (1995 ff). However, in earlier reports such as those from 1988 and 1992 complaints about Germany’s competitive position were not supported.

19 See Dornbusch and Giovanini (1990), and Isard (1995).

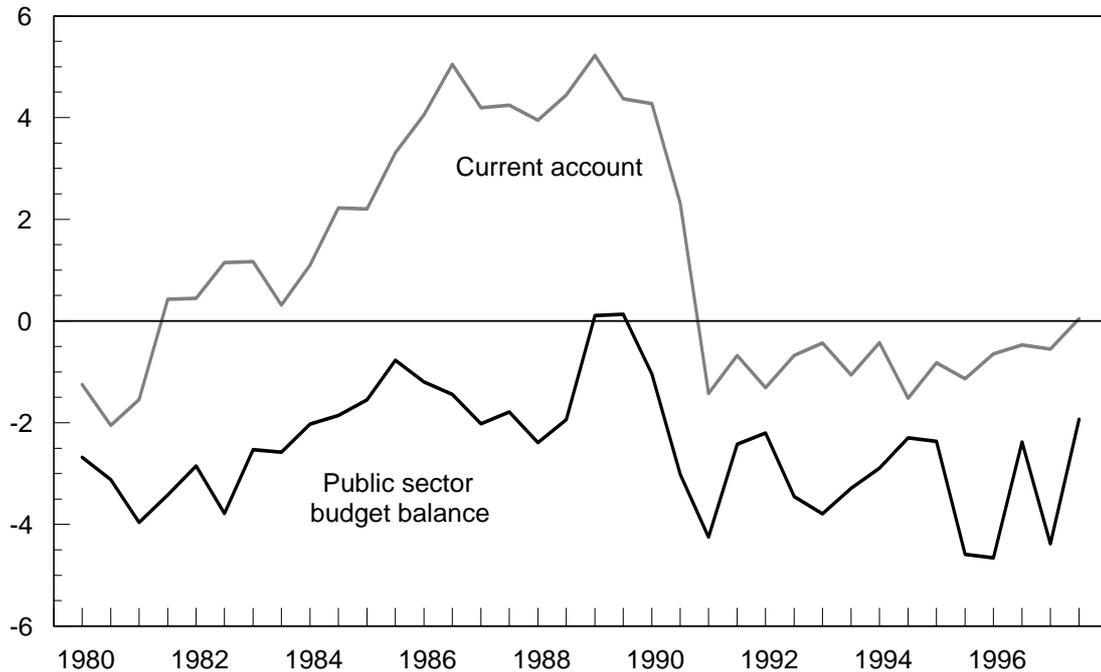
20 See, *inter alia*, Obstfeld and Rogoff (1996).

21 So far, the concept of ‘locational competition’ has had little impact on the international literature. The catalogue of the Library of Congress just lists Siebert (1995) under this heading. The catalogue of the Kiel library scores 13 items, most of them published by the Kiel Institute. The database of the Journal of Economic Literature which contains all articles published in significant journals since 1969 scores only 4 papers, six including ‘Standortwettbewerb’. ‘Tax competition’, however, appears 96 times in the title. All this should not come as a surprise, because the only elaborate model of ‘locational competition’ is the recently published dissertation by the Kiel economist Lorz (1997). For an overview, see Siebert (1996).

level provides firms an incentive not only to increase capital intensity at home (upward movement on the labour demand curve) but also to relocate the entire production process abroad (inward shift of the labour demand curve). Furthermore, an increase in capital costs through higher tax rates is expected to magnify the impact of substitution of capital by labour (upward movement on the demand-for-capital curve) through a dislocation to countries where capital costs have remained unchanged or declined (inward shift of the demand-for-capital curve). If real wages are not sufficiently flexible, unemployment will increase with growing ‘locational competition’.

In the following, we leave aside theoretical considerations and concentrate on two empirical questions, closely related to the doctrine of ‘locational competition’: (i) is there a positive and increasing net outflow of internationally-mobile capital from Germany, and (ii) if so, is this net outflow a main cause for the slump in domestic investment since 1994? Judged by Germany’s current account, we could close the investigation immediately. Since unification, Germany has transformed from a net exporter of capital to a net importer of capital (graph 7). This appears to be completely at odds with the widespread image of capital leaving Germany on a massive scale. However, the swing in Germany’s current account has been strongly influenced by unification: from 1989 to 1991, the public sector budget balance swung from a slight surplus to a massive deficit. The flow of private capital to the East only gradually increased, and little came from abroad. Given the huge investment requirements in the East and the natural desire of its inhabitants to narrow the consumption gap to the West, one could argue that the current account deficit is less than one would expect.

Graph 7 **Current account and public sector budget balance in Germany, 1980-1997**  
(in per cent of GDP)



Semi-annual data, the years refer to the first half of the year. Partly estimates for 1997. Sources: OECD, *Economic Outlook Database* (November 1997); authors' calculations.

However, the focus of concern is not on the capital accounts but on direct investment abroad that is believed to have crowded out investment in the domestic economy. The key piece of evidence, regularly cited in policy papers and in the business press, is a figure derived from Germany's balance-of-payments statistic showing an increasing outflow of FDI, in particular in the last several years, while inflows almost stagnate. While this development has widely been interpreted as an indication for Germany's limited attractiveness for foreign investors and as contributing factor to the labour market slump (Franz 1997), it has remained unclear how large the adverse effect on domestic investment was. If we follow this line of reasoning, we can provide a rough estimate. Assuming that other forms of international capital flows such as portfolio investment and credits are not relevant to domestic investment,<sup>22</sup> that each unit of FDI is equal to one

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22 We note that Germany's balance on portfolio investment records a substantial net-inflow. From 1990-96, it was 60 per cent higher than the recorded net-outflow of FDI; see Sachverständigenrat (1997), p. 387, authors' calculations

unit of physical investment,<sup>23</sup> and that FDI and private domestic investment are close substitutes, we are able to calculate a counterfactual level of private domestic investment. If since 1989 net-outflows of FDI had remained a constant fraction of GDP, private domestic investment in GDP in 1996 would have been at 19.1 per cent of GDP instead of the actual 18.5 per cent.<sup>24</sup>

Even this fairly moderate number may be too large. A recent Bundesbank study<sup>25</sup> shows that there are large discrepancies between the inflowing FDI as reported in Germany's balance of payments statistics and the corresponding figures reported in the outflow data of the respective home countries. To take the most important example: From 1984 to 1994, the U.S. balance of payments statistics reported an outflow of FDI to Germany of 32 billion D-marks while the German balance of payments statistics reported -6 billion DM, i.e. a declining stock of FDI. The main reason for this discrepancy is that the German statistic has not yet followed the international convention of reporting credits between the mother companies and their German affiliates as FDI. Furthermore, the U.S., the largest direct investor in Germany, records much higher reinvested profits, partly due to different measurement conventions. The Bundesbank study suggests that, on the whole, German data on FDI inflows show a much higher measurement bias than those derived from outflow data of other OECD countries.

Graph 8 compares the FDI inflows to Germany as measured by German balance-of-payments statistics with the FDI inflows that a Bundesbank study has constructed from outflow data of other OECD countries. The alternative inflow data also seems to be more in line with what one would expect from economic theory (Caves 1996). The move towards the Single Market, unification and the opening up of Eastern Europe should have made Germany more attractive as a location for FDI. This was underscored by the unification boom. FDI showed a strong increase in 1989-91, also relative to GDP and to the overall FDI inflows in the OECD. In contrast, the official data merely show a short increase in 1989, and little inflow thereafter. If those data were correct, Germany's new locational

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23 Which is wrong because, on average, 80 per cent of world-wide FDI merely involves change of ownership, say Volkswagen buys Rolls Royce.

24 Sachverständigenrat (1997), table 65\*, Statistisches Bundesamt, Fachserie 18, Reihe 1.3, 1996; authors' calculations.

25 Jost (1997), summarised and extended in Deutsche Bundesbank (1997).

advantage would have been wiped out in a single year, i.e. 1990. The subsequent recession and the appreciation of the D-mark are likely to have discouraged FDI inflows. The alternative figures mirror this development much more clearly than the official ones.

In 1995, the gross outflow of FDI, as measured by German statistics, increased from 28 billion to 55 billion D-marks.<sup>26</sup> This gave rise to much concern. Surprisingly, however, the alternative outflow statistics suggest that in 1995, FDI inflows to Germany more than doubled (graph 8), although it is unclear why. Finally, the development of the alternative net balance of FDI suggests that the slump in domestic investment has not been caused to any significant degree by a decline in Germany's attractiveness for FDI, let alone for other forms of capital. We will deal with the concerns of the 'traditional doctrine' about overvaluation and trade performance in section 5.

### **3.3 Wage-setting**

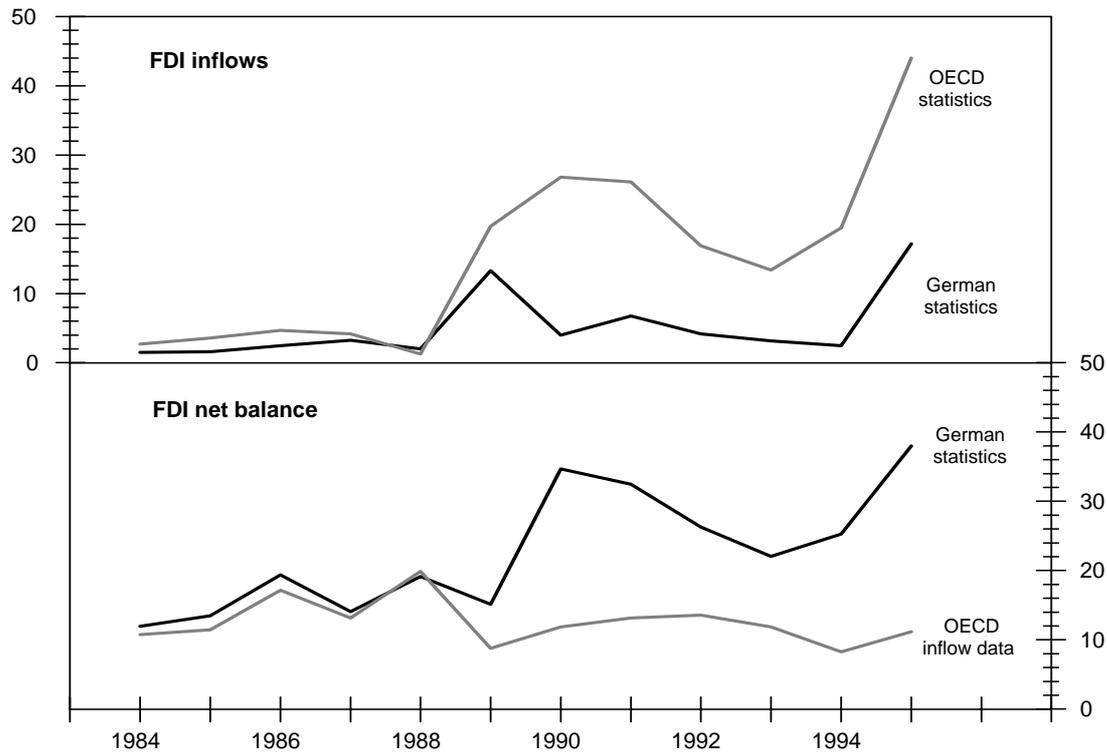
Rigidities in macroeconomic wage determination have always played a prominent role in explaining Germany's high unemployment rate. However, many participants in the economic policy debate tend to derive the existence of rigidities in macroeconomic wage setting from the existence of unemployment. One example for this *prima facie* reasoning is Berthold and Fehn, who have claimed that "by now it is evident that the wage bargaining system in Germany is almost as different from a free market situation as one can imagine."<sup>27</sup> In the following, we will investigate whether this kind of reasoning can be supported by evidence. The starting point is the well-known Phillips-curve relationship that relates nominal wage increases positively to increases in prices and productivity and negatively to the labour market slack, as measured by the rate of unemployment. In turn, price increases depend positively on wage increases and negatively on productivity increases and on the product market slack:

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26 In 1996, it remained as high as 42 billion D-mark, and the data for 1997 suggest a similar level. The OECD outflow data are not yet available.

27 Berthold and Fehn (1996), pp. 589.

Graph 8 **Foreign direct investment in Germany, 1984-95**  
(18 OECD economies only<sup>1</sup>, in billion D-mark)



1) Approximately 95 per cent of the stock of FDI in Germany is owned by residents of this country group. Data for earlier years are missing for some smaller countries, most notably for Switzerland 1984-92. The FDI net balance was calculated with data on total outflows (German balance of payments statistics). The above shown FDI net balance therefore overstates the true net outflow. Recent data on FDI outflows based on OECD statistics have not been provided. However, Jost (1997), p. 7, shows that the discrepancy on the outflow side is much smaller. Sources: Deutsche Bundesbank (1997), pp. 64, 71, partly based on OECD, *Foreign Direct Investment Statistics*; authors' calculations.

$$\Delta w_t = \alpha_0 + \alpha_1 \Delta p_t + \alpha_2 \Delta q_t + \alpha_3 U_t + \alpha_4 \Delta \text{wedge}_t \quad (1)$$

$$\Delta p_t = \beta_0 + \beta_1 \Delta w_t + \beta_2 \Delta q_t + \beta_3 A_t + \beta_4 \Delta \text{pim}_t \quad (2)$$

where

- w gross labour compensation per hour (in logs)
- p GDP deflator (in logs)
- q hourly labour productivity (in logs)
- U unemployment rate, national definition

wedge	difference between gross labour compensation and net take-home pay per hour <sup>28</sup> (in logs)
A	rate of capacity utilisation
pim	import prices (in logs)
$\Delta$	first difference (growth rate for variables in logs)

The underlying theory is provided by the imperfect competition model<sup>29</sup> where on the labour market unions bargain with firms over nominal wage increases while on the product market firms have sufficient market power to set the price as a mark-up over marginal cost. In principle, unions have an incentive to demand higher wages while firms aim at higher prices. With given money supply, there is a rate of unemployment that equilibrates the desired mark-up over wages of prices by unions (the real wage) with the desired mark-up of prices over wages by firms (the unit profit). In the short run, with a given capital stock, this model provides a basic specification of the macroeconomic supply-side of an economy.

The above model also includes the wedge between gross labour compensation and net take-home pay in the wage equation and import prices in the price equation. The wedge variable takes into account that only the income available for consumption matters for the welfare of the representative union member. Hence, unions have an incentive to demand higher gross wages in face of increasing taxes and social security contributions. However, this does not imply that unions succeed. A coefficient of one of the wedge variable would indicate that unions are able to shift the tax burden in full onto the employers,<sup>30</sup> a coefficient of zero would imply that workers have to bear the entire taxes incidence. The import price variable takes into account that during the 1970s and 1980s, price shocks from imported raw materials had a profound influence on the rate of inflation.

We can also test for hysteresis and persistence in aggregate wage setting, if we include the change of the unemployment rate in the wage equation.<sup>31</sup> Replacing

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28 Layard, Nickell, and Jackman (1991), among others, have used the log difference between the real product wage and the real consumption wage. However, the use of an additional price variable would create a problem of exogenous right-hand-side variables.

29 Blanchard (1986), Layard, Nickell, and Jackman (1991), Lindbeck (1993), Franz (1996b).

30 Note that the variables have been expressed in logs; this allows to interpret the estimated coefficients as elasticities.

31 See Hansen (1991), Franz and Gordon (1993), Fitzenberger (1995), and Franz (1996b), pp. 33.

$U_t$  by  $[U_t - U_t^*]$ , that is the deviation of the actual unemployment rate from the structural unemployment rate ( $U_t^*$ ), (1) becomes

$$\Delta w_t = \alpha_0 + \alpha_1 \Delta p_t + \alpha_2 \Delta q_t + \alpha_3 [U_t - U_t^*] + \alpha_4 \Delta \text{wedge} \quad (3)$$

If  $U_t^*$  does not only depend on the structural characteristics of the labour market ( $Z_t$ ) but also on the unemployment rate of the previous year,

$$U_t^* = \gamma_1 Z_t + \gamma_2 U_{t-1}, \quad (4)$$

we obtain

$$\Delta w_t = \alpha'_0 + \alpha_1 \Delta p_t + \alpha_2 \Delta q_t + \alpha_3 (1 - \gamma_2) U_t + \alpha_3 \gamma_2 \Delta U_t + \alpha_4 \Delta \text{wedge} \quad (5)$$

$$\text{with } \alpha'_0 = \alpha_0 - \alpha_3 \gamma_1 Z_t$$

Three cases can be distinguished: (i) Only changes of the unemployment rate are significant ( $\gamma_2 = 1$ ). In this case, ‘insiders’ (job holders) negotiate wages that are just high enough to guarantee their own employment, while disregarding unemployment among outsiders.<sup>32</sup> This would imply full hysteresis. (ii) Both current changes and past levels affect wage growth; hence we have persistence in wage bargaining ( $0 < \gamma_2 < 1$ ). (iii) Only the level of the unemployment rate has a significant effect on wage growth ( $\gamma_2 = 0$ ). Wages would then be determined according to the pure Phillips curve model. Any deviation of the present rate of inflation from the structural unemployment rate would merely result from a sluggish adjustment of prices and nominal wages to exogenous shocks (nominal rigidities), compared to a full or partial ‘ratchet effect’ that emerges if real wages are downwardly inflexible (real rigidities).

In order to account for the strong interdependence between wage and price determination, we have estimated the wage equation and the price equation simultaneously. We have chosen a model of error correction that allows us to distinguish between short-run changes in the variables and, in brackets, an adjustment to

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32 Note that increasing unemployment in the present period implies job losses of insiders. This restrains their wage demand. However, the stock of unemployment does not affect wage setting, if cost of labour turn-over, social norms and harassment prevent unemployed outsiders to underbid the wages of the incumbent insiders; see Lindbeck (1993), pp. 37-47, and, in more detail, Lindbeck and Snower (1988).

long-run levels.<sup>33</sup> If the long-run coefficient of prices in the wage equation is not significantly different from one, the system will adjust, other variables held constant, to a fixed real wage. If the long-run coefficient of productivity is not significantly different from one, the wage share will be constant in the long run. The error correction term therefore reflects deviations of the wage share and the wedge from their equilibrium level.

$$\begin{aligned} \Delta w_t = & \alpha_0 + \alpha_1 \Delta p_t + \alpha_2 \Delta q_t + \alpha_3 U_{t-1} + \alpha_4 \Delta U_{t-1} + \alpha_5 \Delta \text{wedge} \\ & - \lambda_w [w_{t-1} - \alpha_{11} p_{t-1} - \alpha_{12} q_{t-1} - \alpha_{13} \text{wedge}_{t-1}] \end{aligned} \quad (6)$$

$$\begin{aligned} \Delta p_t = & \beta_0 + \beta_1 \Delta w_t + \beta_2 \Delta q_t + \beta_3 A_t + \beta_4 \Delta \text{pim}_t \\ & - \lambda_p [p_{t-1} - \beta_{11} w_{t-1} - \beta_{12} q_{t-1}] \end{aligned} \quad (7)$$

Both equations have been estimated as a linear equation<sup>34</sup> with annual data<sup>35</sup>, covering the period from 1970 to 1997. Because wage negotiations in Germany usually take place at the beginning of the year, we have lagged both the level and the rate of change of the unemployment rate. Several tests on parameter stability indicate a structural break in the wage equation around 1992.<sup>36</sup> Because the last five years are much too short to allow for a separate regression, we have re-estimated the system for the sub-period from 1980 to 1997. The results of both regressions are consistent with the model (table 1). All coefficients have either the theoretically expected signs and are significantly different from zero, or they are

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33 The model is based on a modified version of Franz and Gordon (1993); we have included those variables in the error correction term that are co-integrated, as indicated by the Johansen test.

34 Judged by the adjusted R2, the SER and the SSR, there is not sufficient evidence for a non-linear relationship between the rate of wage growth and the rate of unemployment.

35 Regressions with quarterly data are plagued by an unstable seasonal pattern and time-varying lags between wage settlements and their implementation

36 A formal Chow-test using the SSR of two sub-samples or a CUSUM test could not be applied because the appropriate sub-samples do not contain sufficient data to estimate the whole system simultaneously. Instead, we analysed the residuals of each equation separately, ignoring the interdependence of wages and prices. The CUSUM test indicates a structural break in the wage equation in 1992, while the price equation appear to be stable over time. Franz and Gordon (1993) have identified a structural brake in the early 1970s. We therefore started the regression with 1970. An additional shift parameter in their regression for 1980 and 1990 did not indicate a structural break in the 1980s. This corresponds to our findings.

insignificant where the model allows for this possibility. The most important results are:

First of all, wages and prices are highly interdependent. Wage settlements fully incorporate inflation because both the short-run and the long-run coefficient of prices in the wage equation are not significantly different from one. In turn, prices are mainly driven by the trend in unit labour costs.<sup>37</sup> In the short run, however, prices are also influenced by the rate of capacity utilisation and by import prices. The strong feedback from prices to wages suggests a rather high degree of nominal wage flexibility. A change in the inflation rate will be fully incorporated in the next round of wage negotiations. For the entire period, the value of the error correction term in the wage equation is 0.29. However, for the period from 1980 to 1997, the value of the error correction term triples to 0.74. Disturbances are by and large corrected after one year.

Second, there is clear evidence for persistence in wage determination for the entire period. Both the level and the change of the unemployment rate are statistically significant. Moreover, both variables have the same effect. However, if we exclude the 1970s, the hysteresis effect vanishes and the coefficient of the unemployment level increases in absolute terms from -0.27 to -0.63. This indicates a pure Phillips curve relationship with a stronger responsiveness of wage settlements to the level of unemployment. It is not entirely clear whether this result mainly stems from the impact of the last several years or whether it also holds for the 1980s. A decade is too short to test this conjecture with annual data. Nevertheless, our results suggest that the well-documented evidence on persistence effects in wage determination in West Germany<sup>38</sup> may have been heavily influenced by developments of 1970s.

Third, there is evidence for a positive impact of the tax wedge on wages, both in the short run and in the long run. For the entire period, the long-run coefficient of the wedge is 0.22. This implies that an increase in the wedge of one percent increases the wage level by a fifth.<sup>39</sup> However, both the value of the short-run and the long-run coefficient decline in the sub-period from 1980 to 1997. This indi-

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37 In contrast, Franz and Gordon (1993) do not find a statistically significant effect of the lagged labour share ( $w-q-p$ ) on the prices. This would imply no feedback from wages to prices.

38 See, *inter alia*, Burda (1990), Möller and Völker (1991), Franz and Gordon (1993).

cates that unions have succeeded less in shifting the tax incidence. Nevertheless, even for the sub-period from 1980 to 1997, the elasticity of the tax wedge with respect to wages is substantial, namely 0.16.

These results have a number of implications for the evaluation of West German wage policy since unification. Most importantly, the widespread assessment of powerful unions in West Germany that fail to moderate their wage claims in face of disinflation and high unemployment is not supported by econometric evidence. Excluding the 1970s, macroeconomic wage-setting can be characterised by a pure Phillips curve relationship with relatively low nominal rigidities. This suggests that wage settlements react fairly quickly to a declining rate of unemployment (1990-92) as well as to an increasing rate of unemployment (1993-94, 1996-97). Forecast errors are usually reversed within a year. Furthermore, the responsiveness of aggregate wage settlements to unemployment suggests that the unification-induced increase of labour supply from East Germany through migration and commuting had not an adverse effect on the equilibrium unemployment rate in West Germany. In turn, the failure of the unemployment rate to return to the pre-recession level in the 1980s and the 1990s may better be explained by others factors, for example by a loss of skills among long-term unemployed and a capital shortage following an extended period of slow growth.

Since unification, the rate of taxes and social security contributions on labour income has risen by some 17 per cent. An ex-post simulation with our model shows that the sharp increase in the tax wedge since 1991 drove up the long-run real wage by some 3 per cent. If we take a standard estimate of the wage elasticity of labour demand of 0.3, this would imply a decline in the level of employment from 1991 to 1997 by approximately 0.9 per cent. However, this estimate does not take macroeconomic repercussion effects into account; it can therefore be regarded as only tentative. Nevertheless, the decision of the German govern-

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39 Tullio, Steinherr and Buscher (1996) estimate for 1977-90 coefficients ranging from 0.19 to 0.26.

ment to finance a large part of the transfers to the East via higher taxes on labour appears to have contributed to the rise in unemployment.<sup>40</sup>

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40 Note that each tax drives a wedge between the gross wage and the net wage, c.f. Lindbeck (1993), pp. 88-91. However, taxes on labour alone drive a greater wedge because the tax base is smaller than, say, income or consumption expenditures.

Table 1 **Simultaneous estimates of wage and price equations for West Germany, 1970-1997**

	1970-97		1980-97	
<b>Wage equation</b>				
Constant <sup>1)</sup>	-0.79	(5.2)	-2.29	(4.5)
$\Delta p$	1.00*		1.00*	
$\Delta q$	0.33	(5.1)	0.41	(5.5)
$U_{t-1}$	-0.27	(4.3)	-0.63	(7.6)
$\Delta U_{t-1}$	-0.29	(3.3)	0.08	(0.4)
$\Delta \text{wedge}$	0.15	(6.5)	0.08	(3.3)
Error correction term	0.29	(5.4)	0.74	(5.0)
$p_{t-1}$	1.00*		1.00*	
$q_{t-1}$	0.29	(2.1)	0.40	(6.8)
$\text{Wedge}_{t-1}$	0.22	(3.8)	0.16	(5.6)
Adjusted R <sup>2</sup>	0.98		0.93	
SER	0.00515		0.00413	
Durbin-Watson	2.11		2.07	
SSR	0.00053		0.00017	
<b>Price equation</b>				
Constant	0.51	(4.0)	0.51	(2.6)
$\Delta w$	0.48	(16.5)	0.52	(5.4)
$\Delta q$	-0.50	(4.1)	-0.23	(3.0)
A <sup>2)</sup>	0.08	(2.4)	0.35	(0.8)
$\Delta \text{pim}$	0.02	(2.5)	0.02	(0.2)
Error correction term	0.10	(3.9)	0.10	(2.5)
Unit labour costs <sup>3)</sup>	1.00*		1.00*	
Adjusted R <sup>2</sup>	0.94		0.83	
SER	0.0051		0.00507	
Durbin-Watson	2.03		1.70	
SSR	0.000454		0.00031	

All variables except U and A are in logs.  $\Delta$  denotes differences. t-statistics in brackets. Estimation method: Iterative Three-Stage Least Squares. Instruments:  $\alpha_0$ ,  $\beta_0$ ,  $\Delta q$ ,  $q(-1)$ ,  $\Delta U(-1)$ ,  $U(-1)$ ,  $\Delta \text{wedge}$ ,  $\text{wedge}(-1)$ ,  $w(-1)$ ,  $p(-1)$ , A,  $\Delta \text{pim}$ ,  $\text{pim}(-1)$ . \*) Restricted to 1; the unrestricted value of the coefficient is not significantly different from 1; the Wald test suggests that the restriction improves the efficiency of the estimate. 1) Not identical to  $\alpha'_0$  in equation (5) because different dimensions in the variables of the error correction term influence the estimated constant. 2) Deviation from the mean rate of capacity utilisation 1970-97, normalised around 0. 3) Prices minus wages and productivity. Sources: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

#### **4 Supply-side problems? Microeconomics**

Contrary to the 1970s and the early 1980s, deteriorating macroeconomic supply-side conditions and real wage rigidities cannot provide a plausible account for the slump in investment and huge increase in unemployment. This suggests that microeconomic rigidities may be the key problem. The most important evidence comes from a comparison to the U.S., where the unfettered forces of competition seem to have laid the foundations for a sustained expansion of employment since the early 1990s. This is at least what many observers have stressed. While it would go far beyond the scope of this paper to address the relationship between microeconomic flexibility and employment growth in detail, we will briefly deal with two problems that feature prominently in the recent literature: First, to what extent can microeconomic labour market rigidities provide a convincing explanation of West Germany's labour market slump (4.1)? Second, are product market regulations in the service sector a major constraint on a sustained increase in employment (4.2)?

##### **4.1 Labour market rigidities**

Starting with the work of Phelps (1967) and Friedman (1968), a large part of the literature relies on a decomposition of the unemployment rate into a structural and a cyclical component.<sup>41</sup> The structural component, initially called 'natural', is considered to be exclusively determined by the characteristics of the labour market. This approach is closely linked to the Phillips-curve model discussed above. The structural rate of unemployment can be interpreted as the rate of unemployment where the rate of inflation is stable (NAIRU). Any attempt to lower the actual rate of unemployment permanently below the NAIRU through expansionary monetary policies will inevitably lead to a permanently higher rate of inflation, but not to less unemployment. Main determinants of the NAIRU are considered to be: job search activity; unemployment benefits that raise the reservation wage of job-seekers; shifts in the bargaining power of unions or employers' associations; wage structures that are not sufficiently flexible with respect to sectoral, regional and skill-specific labour market disequilibria; and employment protec-

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41 For an influential argument in the 'natural rate' tradition, see OECD (1994, 1997a).

tion, restrictions on hours worked and social security contributions that make labour more expensive.

The most analytically puzzling development of the 1980s was an increase in the estimated NAIRU in Germany, as in most other European countries, that could no longer be traced to a change in the structural characteristics of the labour markets.<sup>42</sup> The analytically even more puzzling development of the 1990s was a strong increase in West Germany's unemployment rate that went hand in hand with decreasing labour market rigidity, in particular since 1995.<sup>43</sup> Recent reform measures of the government and of the collective bargaining parties have been adopted in a piecemeal fashion, and many economists believe that the rate of reform is much too low, given the dramatic deterioration of labour market performance. From the perspective of the 'natural rate' theory, it is nevertheless difficult to understand why unemployment continues to rise.<sup>44</sup>

However, the rate of unemployment might even rise without a change in labour market rigidities, if the nature and direction of structural change necessitates more flexibility. Since the late 1970s, the wage-premium of skilled workers has substantially increased in the U.S. and in the U.K. while the wage level of less-skilled workers has declined in relative and partly even in absolute terms. A rapidly growing body of literature has identified two largely complementary factors behind this development: skill-biased technological change (SBTC), in particular the spread of computers, and increasing trade with newly developing countries.<sup>45</sup> In continental Europe, particularly in countries such as Germany, wage structures have remained fairly rigid. Hence, SBTC and international trade are likely to have caused a fall in the demand for unskilled labour. This, in turn, may be a major force behind the rise in Europe's unemployment rate.

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42 For example, the OECD Jobs Study (1994), Vol. I, p. 67, reports: „Despite considerable effort, it has been hard to identify changes in the basic structural determinants of the natural unemployment rate that are large enough to account for the observed trend increase in the actual rate during the 1980s.“ See also Scarpetta (1996), pp. 65-70.

43 For a survey of recent measures, see OECD (1997d), pp. 118-139.

44 An alternative explanation would refer to the interaction of macroeconomic shocks and labour market structures, leading to 'hysteresis effects' in the unemployment rate, see, *inter alia*, Blanchard and Summers (1986) and Lindbeck (1993). However, our econometric estimate in part 3.3 does not lend support to this view.

A second variant of the structural theory of unemployment that has been developed for Germany<sup>46</sup> relates rising unemployment to de-industrialisation. De-industrialisation occurs mainly in recessions, such as those following both oil-price shocks. Due to a lower capital intensity, the service sector offers only relatively low wages for less-skilled workers while generous unemployment benefits keep the reservation wage of dismissed manufacturing workers high. Skill-upgrading is difficult because most dismissed production workers are older and shaped by the experience of decades of manual work. Hence, unemployed workers would often rather queue at the factory gates than accept massive income losses and possibly also social degradation in the service sector. As extended joblessness frustrates search intensity and because employers use unemployment duration as a negative screening device, a steadily-growing pool of long-term unemployed production workers emerges. Passive labour market policies and rigid wage structures in the service sector prevent long-term unemployed persons from taking any new job later on that would sustain them.

What does the evidence suggest for Germany? The Council of Economic Experts has estimated for the early 1990s that mismatch may account for a fifth of West Germany's overall rate of unemployment.<sup>47</sup> Entorf (1995, 1996) has applied a new measure for labour market mismatch that shows a sharply declining matching efficiency during the 1970s, and a further, but moderate deterioration until the early 1990s. Both studies give no indication as to the importance of skill-specific mismatch. In support of the de-industrialisation hypothesis, it has been pointed out that the rate of long-term unemployment among blue-collar workers has increased from close to zero in the early 1970s to as high as 3.8 per cent in the late 1980s, that most of the mobility between occupations and sectors occurs between generations rather than within the same generation, and that the unemployment rate for less-skilled workers is substantially higher than that for skilled workers (table 2, panel A).<sup>48</sup>

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45 See, *inter alia*, Wood (1994), and Berman, Bound, and Machin (1997); for surveys of the literature, see Lawrence (1996) and Lindlar and Trabold (1998).

46 Klodt and Stehn (1995), pp. 200-247, Klodt, Maurer, Schimmelpfennig (1997), pp. 135-209.

47 Sachverständigenrat (1994), p. 254.

48 See footnote 46.

Table 2 **Skill-specific unemployment rates<sup>1</sup> in West Germany, 1975-1996**  
(in per cent)

	1975-79	1980-85	1986-90	1990-95	Increase 1991-96 <sup>a</sup>	Share in 1996
<b>A. Unemployment rates</b>						
Total	3.5	6.4	7.2	7.0	71	100,0
Less-skilled <sup>2</sup>	5.5	11.4	15.3	16.7	68	46,7
Occupational Education <sup>3</sup>	2.6	4.7	5.2	5.2	79	42,5
Occupational Schools <sup>4</sup>	1.6	2.4	2.5	2.4	66	5,1
College <sup>5</sup>	2.5	3.4	3.4	3.1	57	1,8
University <sup>6</sup>	1.6	3.5	4.4	3.8	37	3,9
<b>B. Relative unemployment rates (university = 1.0)</b>						
Less-skilled <sup>2</sup>	3.6	3.3	3.5	4.4	..	..
Occupational Education <sup>3</sup>	1.7	1.4	1.2	1.4	..	..
Occupational Schools <sup>4</sup>	1.0	0.7	0.6	0.6	..	..
College <sup>5</sup>	1.6	1.0	0.8	0.8	..	..
University <sup>6</sup>	1.0	1.0	1.0	1.0	..	..

1) Officially registered unemployed as per cent of the civil labour force with the respective skill level, excluding apprenticeships. The original specifications by skill-level are: 2) Ohne abgeschlossene Berufsausbildung. 3) Betriebliche Berufsausbildung. 4) Berufsfach-/Fachschule. 5) Fachhochschule. 6) Universität. a) Percentage increase in the absolute number of unemployed by skill-category. Sources: Reinberg (1997), appendix 1, Bundesanstalt für Arbeit (1997), pp. 7; authors' calculations.

Fitzenberger and Franz (1997) have estimated that an equalisation of skill-specific unemployment rates in West Germany would require, other variables constant, an increase in the wage spread between the median wage of less-skilled workers and that of medium-skilled workers of 15 per cent and an increase in the wage spread between the median wage of less-skilled workers and that of highly-skilled workers of 45 per cent. However, an equalisation of the unemployment rates between different skill groups implies a falling demand for skilled workers and an increasing demand for less-skilled workers. This does not necessarily imply that the overall unemployment rate will decline. Moreover, the evidence shows that unskilled workers have generally higher unemployment rates, even in the U.S.<sup>49</sup> This is because unskilled workers generally have higher job turnover rates, and their job turnover is more frequently interrupted by an extended period

49 Layard, Nickell, and Jackman (1991), chapter 6; Nickell/Bell (1997).

of unemployment. Hence, equal unemployment rates across skill levels might not be a useful reference point.

Another problem is that macroeconomic developments may also affect the change of skill-specific unemployment rates over time. In order to control for macro-effects, relative unemployment rates among different skill-groups provide more meaningful information. The evidence shows that since the late 1970s, the rate of long-term unemployed blue-collar workers *relative* to that of white-collar workers has only moderately increased.<sup>50</sup> This suggests that the de-industrialisation hypothesis may only account for a rather small part of the overall increase of unemployment. Similarly, the rate of unemployment of less-skilled workers *relative* to those of highly-skilled workers shows also no large upward trend since the late 1970s (table 2, panel B), indicating an only moderate increase in mismatch. Interestingly, this number has risen by a similar magnitude in the U.S.<sup>51</sup> However, the picture looks more favourable for the mismatch-hypothesis if the unemployment rate among less-skilled workers is compared to that of medium-skilled workers; the ratio rose from 2.1 to 3.1 (table 2, panel B).

The data show that since 1991, unemployment in all skill categories has increased dramatically (table 2, column 5). Unemployment of less-skilled workers has largely risen in line with overall unemployment. The largest increase in unemployment has occurred among workers with an occupational education, while unemployment among workers with a university degree increased below average. The lower increase of unemployment among the latter group also suggests that mismatch unemployment has increased, but the share of this group in total unemployment appears to be too small to suggest a large effect. Overall, table 2 is not inconsistent with the view that aggregate developments have dominated structural trends. Indeed, if rigid wage structures were among the key constraints to employment generation, highly-skilled labour would be heavily underpriced. In the last several years, this should have led to a substantial decline the level of unemployment among highly-skilled workers. Yet, their level of unemployment continues to be much higher than before the recession.

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50 From 1.8 (1974-79) to 2.4 (1987-92); Klodt and Stehn (1995), table 45, authors' calculation.

51 Nickell/Bell (1997), table 10.2, report an increase in the relative unemployment rate of low-skilled vs. high-skilled workers from 3.9 per cent in 1975-78 to 4.5 per cent in 1987-91.

## 4.2 Product market regulations

Another line of argument suggests that employment generation in continental Europe may be seriously constrained by product market regulations and by high minimum wages in the service sector. This argument has been advanced most prominently by the McKinsey Global Institute which has issued a series of policy studies on this subject.<sup>52</sup> The comparison to the U.S. has been found to be particularly revealing. The McKinsey Global Institute (1997) has estimated that since 1970, the U.S. economy has increased labour input in the non-manufacturing market sector from 200 to 280 employed persons per 1000 capita, while in the West German economy it declined from 190 to 160 employed persons.<sup>53</sup> The McKinsey study shows that labour productivity in many West German service industries is substantially lower than in the U.S. and suggests that higher productivity frequently goes hand in hand with higher employment. The McKinsey study identifies industry-specific product market regulations and high wages for low-skilled workers as the main barriers to higher output and more employment in the German economy.

One year before McKinsey completed its study on Germany's presumed service-sector gap, the German Institute for Economic Research (DIW) argued in a widely-discussed article that Germany's presumed gap in services is largely an effect of the official sectoral-structure statistics that disguise the true importance of service jobs for the economy (table 3).<sup>54</sup> Based on a classification according to job activity instead of sector and on a more complete coverage of actual employment, household panel data reveal that Western Germany has largely closed the service gap to the U.S. According to those data, both countries employed three quarters of the workforce in service activities in 1993. The main difference between sector and occupation statistics is explained by the greater use of service activities within German industry and the greater use of industry activities within the U.S. service sector. One major reason for this pattern is the fact that German manufacturing has to a far smaller extent out-sourced service activities. Another

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52 See in particular and most recently McKinsey (1997); for a similar arguments, see *inter alia* Grömling and Lichtblau (1997).

53 McKinsey measures employed persons in full-time equivalents. Services exclude the public sector and social services.

54 These results were confirmed by Klodt, Maurer, and Schimmelpfennig (1997).

important reason is the insufficient coverage of employment below the social security threshold wage in official German statistics. A fuller coverage of this kind of employment is estimated to add 7 per cent to recorded employment in West Germany, leading to a substantially higher level of employment in industries such as distributive services.<sup>55</sup> Nevertheless, even if service activities are measured by job activity, West Germany's service employment *per capita* is lower than in the U.S. However, this is entirely due to macroeconomic factors, namely a higher employment rate in the U.S.<sup>56</sup>

In general, the empirical literature suggests that deregulation and privatisation can improve productivity and consumer welfare considerably, while employment may increase or decline, depending on the elasticity of the product demand with respect to price and quality.<sup>57</sup> From a macroeconomic perspective, deregulation may improve the level of employment through declining mark-ups of firms, through a positive link between service-sector regulations and labour intensity and through the impact of lower prices on aggregate demand.<sup>58</sup> Because West Germany appears to have rather substantial productivity gaps in a number of service industries,<sup>59</sup> deregulation promises substantial gains in productivity and consumer welfare. With respect to employment gains, the available evidence is scant. The coincidence of rising unemployment and significant advances in privatisation and deregulation – the partial privatisation of the national railway, the national telecommunication agency, the Federal postal service, more liberal shop opening hours and, of course, the complete dismantling of the communist economic system in the East – makes it difficult to disentangle the effects of more product market competition from other influences on the level of employment.

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55 Schupp, Schwarze, and Wagner (1997), Haisken-De New, Horn, Schupp, and Wagner (1997).

56 Note that service employment (SE) per capita (N) can be decomposed into  $SE/N = SE/E \cdot E/WN \cdot WN/N$ , where E is total employment and WN is the working age population.

57 Winston (1993), Hoj, Kato, and Pilat (1995).

58 For a survey, see van Bergeijk and Haffner (1996), Gersbach and Sheldon (1996).

59 Pilat (1996) and Ark, Monnikhof and Mulder (1998).

Table 3 **Structure of employment according to sector and to job activity in West Germany and in the U.S., 1993**  
(in per cent of total employment)

	Classification according to		Job structure by sector		
	sector employed	job activity	agriculture	industry	services
West Germany					
Agriculture	2.1	1.8	83.5	0.1	0.2
Industry <sup>1</sup>	38.6	25.4	0.5	56.6	4.7
Services <sup>2</sup>	<u>59.3</u>	<u>72.8</u>	16.0	43.3	95.1
U.S.					
Agriculture	4.2	2.5	47.0	0.5	0.7
Industry <sup>1</sup>	23.7	25.9	4.0	62.5	15.0
Services <sup>2</sup>	<u>72.2</u>	<u>71.6</u>	49.0	37.0	84.3

1 Including construction. – 2 Including the public sector. Sources: Haisken-De New, Horn, Schupp, and Wagner (1996), based on data of the German Socio-economic Panel (GSOEP) and the U.S. Census of Private Households.

Overall, our evidence on microeconomic supply-side problems is less conclusive. On the one hand, we have presented evidence against some simplified and influential arguments; on the other hand, there are huge gaps in empirical research, in particular for the last several years. If we take the evidence of this and the last chapter together, we would instead suggest that structural unemployment in West Germany has not increased much since the late 1980s, at least not independently of macroeconomic developments. However, this assessment is clearly influenced by our analysis of demand-side problems, to which we turn now.

## 5 Demand-side problems

Since unification, the West German economy has been exposed to an unusually large number of positive and negative demand shocks that destabilised the economy and that led to considerably lower growth, compared to the second half of the 1980s (graph 9). The main force behind the destabilisation of the German economy was fiscal policy that first overheated the economy through massive deficits during the early 1990s and later on switched to a pro-cyclical budget consolidation. The overheating of the economy led to a substantial surge in wage settlements; it invited monetary policy to become extremely tight. This in turn was the main reason for the extraordinarily severe recession in 1992/93. The restric-

tive monetary policy also contributed to the EMS crisis and the overshooting appreciation of the D-mark between 1992 and 1995. We first give an account of how the slump unfolded (5.1), followed by an investigation into possible alternatives to the macroeconomic policies adopted since unification (5.2).

### **5.1 The unfolding of the slump**

To illustrate the unfolding of the slump, we have divided the period under consideration into four different periods. Each of them was characterised by specific shocks, namely the overheating of the economy through extremely expansionary fiscal policy (1990-91), the consequences of sharp monetary restraint (1992-93), fiscal restraint, too-high wage settlements and currency overvaluation (1994-95), and finally, continued fiscal restraint, sharp wage restraint and depressed consumer demand (1996-97).<sup>60</sup>

#### **Stage 1: Overheating of the economy, 1990-91**

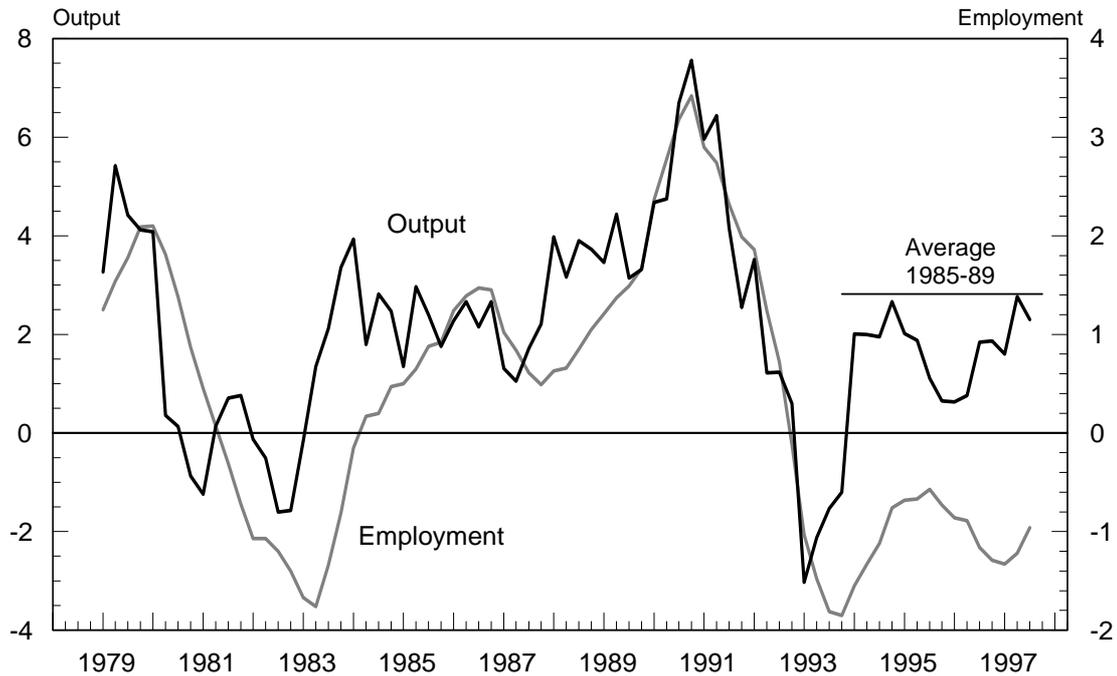
Already in 1990, the West German economy experienced a further acceleration of growth. High growth was fuelled mainly by a reform in income taxation that became effective at the beginning of 1990. The tax reform led to a decline in the private sector tax burden of 33 billion D-mark in 1990. On top of that came the additional demand from East Germany which soared from 18 billion DM in 1989 to 220 billion DM in 1992.<sup>61</sup> This demand push was largely financed by public transfers of well over 200 billion per annum, that is, 7 per cent of West Germany's GDP. In reaction to unification, long-term interest rates rose by 2 per cent in nominal terms and by one per cent in real terms. Initially, however, the increase in capital costs was overcompensated by the massive demand pulse from fiscal expenditures. Moreover, in 1990, the West German economy was in its seventh year of sustained prosperity, and many investors held the belief that the business cycle was more or less a thing of the past. Firms reacted to the additional demand impulse from unification with a marked expansion of capacities and employment (graph 2 above).

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<sup>60</sup> For more details, see DIW (1990-98).

<sup>61</sup> Scheremet and Zwiener (1996).

Graph 9 **Output and employment in West Germany, 1970-97**  
(annual average growth rates, quarterly data, in per cent)



Seasonally adjusted data, GDP at constant prices; employment refers to the total number of persons employed. The years refer to the first quarter. Sources: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

During the peak of expansion, employment increased on an annual basis by almost 3 per cent per quarter. The unemployment rate declined to 4 per cent and labour became increasingly scarce. Wage settlements reacted with nominal increases of 6 per cent in 1990 and 1991, compared to 4 per cent during the late 1980s. Due to the relatively high degree of openness, firms were only partly able to shift the higher cost pressure onto prices. The excess demand was to a large extent satisfied by production capacities from abroad, in particular from the rest of Western Europe.

For the government, it became increasingly apparent that unification could not be financed solely by additional growth, as it was initially planned. Consequently, the government decided on a number of tax increases and expenditure cuts. However, those measures fell far short of compensating the 1990 tax reform's reduction of the tax burden. The entire expansionary fiscal impulse was 72 billion D-marks in 1991 and 30 billion D-marks in 1992 (table 4). This huge fiscal impulse contributed directly to 40 per cent of the output increase in 1991. Due to

Table 4 **Demand Impulses<sup>1</sup> of the Public Sector, 1990-97**  
(+ positive impulse, - negative impulse, in billion DM)

	1990	1991	1992	1993	1994	1995	1996	1997
Total Expenditure	-2	132	48	-49	-33	18	-75	-43
Public Consumption	-4	37	5	-24	-4	1	-11	-21
Gross Investment	-1	10	5	-6	-4	-7	-10	-7
Interest Payments	-2	4	14	-11	0	23	-4	-1
Transfers <sup>3</sup>	5	82	25	-8	-25	1	-50	-14
Total revenues	27	-57	-5	44	22	-1	59	35
Taxes	28	-20	3	33	-4	6	52	35
Social Security	1	-34	1	5	-19	6	3	3
Other Revenues <sup>2</sup>	-2	-2	-9	6	2	-1	10	2
Financial Balance <sup>3</sup>	25	76	44	-4	-55	18	17	-9
Demand Impulse <sup>4</sup>	27	72	30	6	-55	-5	-12	-8
Change in GDP <sup>5</sup>	168	186	224	88	165	130	83	103

1) Deviations of the actual level from the trend level, as extrapolated from the level of the previous year by potential production at current prices. If government revenues or spending remain constant as a share of potential output, fiscal policy is neutral to aggregate demand. Both discretionary and cyclical changes in the budget are treated as relevant to demand. – 2) Excluding net-revenues by the Bundesbank. – 3) Excluding transfers to the rest of the world. – 4) Excluding interest payments. 5) At current prices. Source: DIW (1998), DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*; authors' calculations.

the transition crisis in the East, it were mainly West German producers who benefited from the additional demand.

### **Stage 2: The consequences of monetary restraint set in, 1992-93**

Initially, the overheating of the economy led less to an acceleration of inflation than to an increasing deficit in the current account. However, from the middle of the year 1991 onwards, the government started to increase indirect taxes, social security rates and administrative fees in order to control for the rising deficit. Consequently, the rate of inflation soared, albeit temporarily, to 4 per cent. The Bundesbank viewed this development as a serious threat to price stability. The Bundesbank was already concerned about the substantial increase in money supply in the wake of unification. Enlarged money supply (M3), which includes credits and savings deposits, increased through the currency union by 15 per cent, which was substantially higher than the increase in potential production. Accor-

ding to the Bundesbank, this implied higher inflation. From the outset, its efforts were aimed at correcting the presumed monetary overhang. Moreover, the Bundesbank predicted an overheating of the economy through fiscal deficits. Consequently, the Bundesbank raised short-term interest rates substantially above long-term rates (graph 10).<sup>62</sup> Even in 1992, when the consequences of monetary restriction became apparent and long-run interest rates were in decline, the Bundesbank continued to increase the discount rate. Now, the main concern was with the very high wage settlements of 6 per cent in nominal terms. This wage settlement partly reflected the unwillingness of unions to bear the burden of the unification-induced increase in social security contributions. The monetary restraint was magnified by a real appreciation of the D-mark of nearly 10 per cent (graph 11), following the EMS-crisis in late 1992. As the positive fiscal impulse petered out, the monetary restraint became dominant and West Germany slumped into a recession. The recession was the deepest in postwar history.

### **Stage 3: Fiscal restraint and overvaluation of the D-mark, 1994-95**

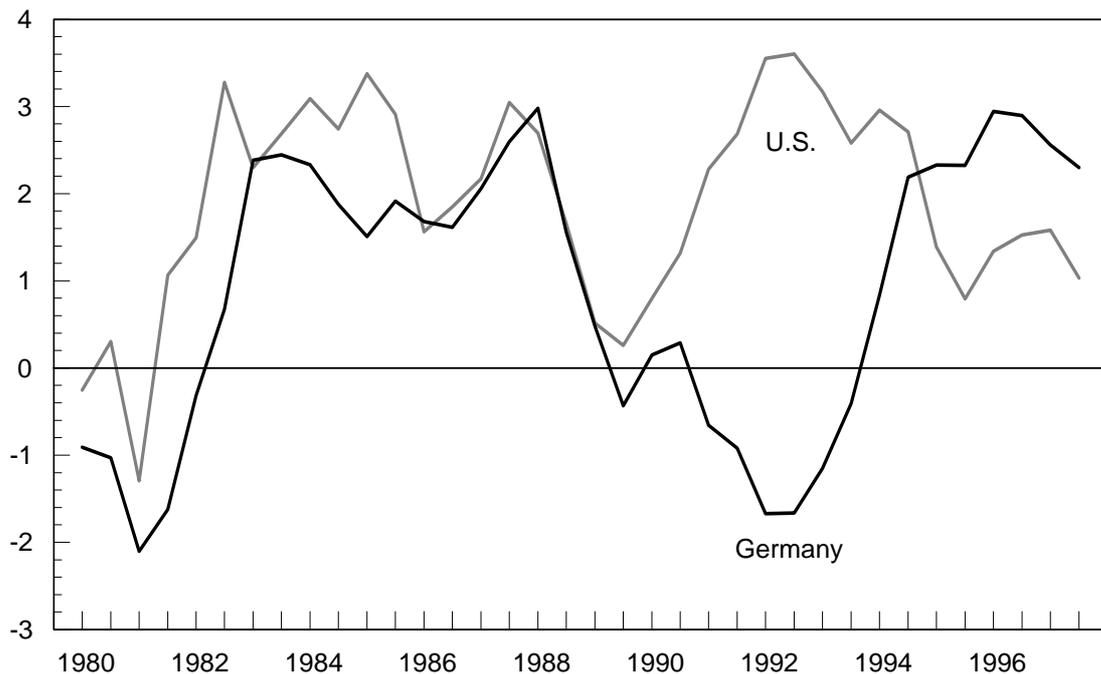
Wage policy reacted to the recession and to the rise in unemployment with pronounced restraint in 1993 and 1994. Because of inertia in price-setting (table 1, above), the rate of inflation declined with a lag. Moreover, the consumer price index, the Bundesbank's key indicator for inflationary pressure, was heavily influenced by an increase in indirect taxes and administrated prices. Despite a much lower increase in unit labour costs, the Bundesbank was reluctant to lower interest rates.<sup>63</sup> In contrast to the U.S. where monetary restriction before the last recession by the Fed was only short-lived, the yield curve remained inverse for about four years (graph 10). Moreover, the return of the yield curve to normality in 1994 was less a result of lower short-term interest rates than of higher long-term interest rates. This rise in the long-term interest rate was heavily influenced by the Federal Reserve which reacted to a presumed overheating of the U.S.

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62 The literature has shown that the term-structure of interest rates in a good predictor of recessions; see, *inter alia*, Estrella and Mishkin (1997), Smets and Tsatsaronis (1997).

63 Horn (1998) shows that the U.S. Federal Reserve also uses labour market indicators, in particular unit labour costs, as indicator for monetary policy, while the Bundesbank relies mostly on the current rate of inflation. Because prices are relatively rigid in the short-run, German monetary policy tends to react too late.

Graph 10 **Monetary policy compared, 1980-97: The yield curve**  
(difference between the long-term and the short-term interest rate)



Semi-annual data, the years refer to the first half of the year. Partly estimates for 1997. Sources: OECD, *Economic Outlook Database* (November 1997); authors' calculations.

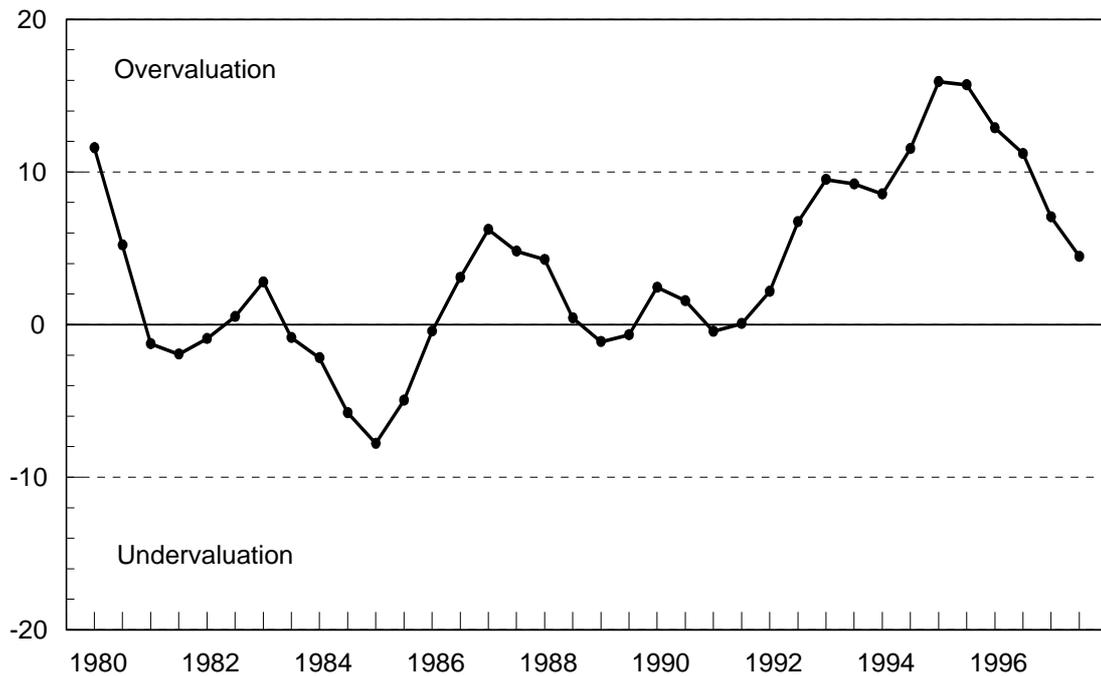
economy with monetary restraint. Hence, Germany, as well as Europe as a whole, was already confronted with rising cost of capital in an early phase of the upswing.

However, this apparently inflexible monetary policy followed its own logic. Traditionally, the Bundesbank views the powerful actors in Germany's political economy, in particular generous finance ministers and ambitious unions leaders, to be a major potential threat to price stability. Once these actors have broken the rules of the game and inflation accelerates, the Bundesbank not only has to regain control; it also has to re-build its anti-inflationary reputation. This implies that a sharp monetary restriction is usually followed by a gradual relaxation. This asymmetrical monetary strategy clearly fails to provide investors with much confidence during the upswing.<sup>64</sup>

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64 See, *inter alia*, Carlin and Soskice (1997), p. 68-70.

Graph 11 **Real effective exchange rate of the D-mark<sup>1</sup>, 1980-1997<sup>2</sup>**  
(average of 1981.1-1992.1 = 0; deviation in per cent<sup>3</sup>)



1) A real effective exchange rate (REER) is an index of a nominal exchange rate at constant domestic prices relative to a weighted index of the same indicator for the major trading partners. Based on consumer prices and export market shares as weights. 2) Semi-annual data, the years refer to the first half of the year. Partly estimates for 1997. 3) The main problem with REER is the arbitrary choice of the base year. However, except for the unit labour cost in manufacturing, the indices of REER for Germany are stationary for 1981.1-1992.1. If on average purchasing power parity holds for this period, the equilibrium exchange rate is equal to the average level. Sources: OECD, *Economic Outlook Database* (November 1997), updated for 1997.2 with Bundesbank data; authors' calculations.

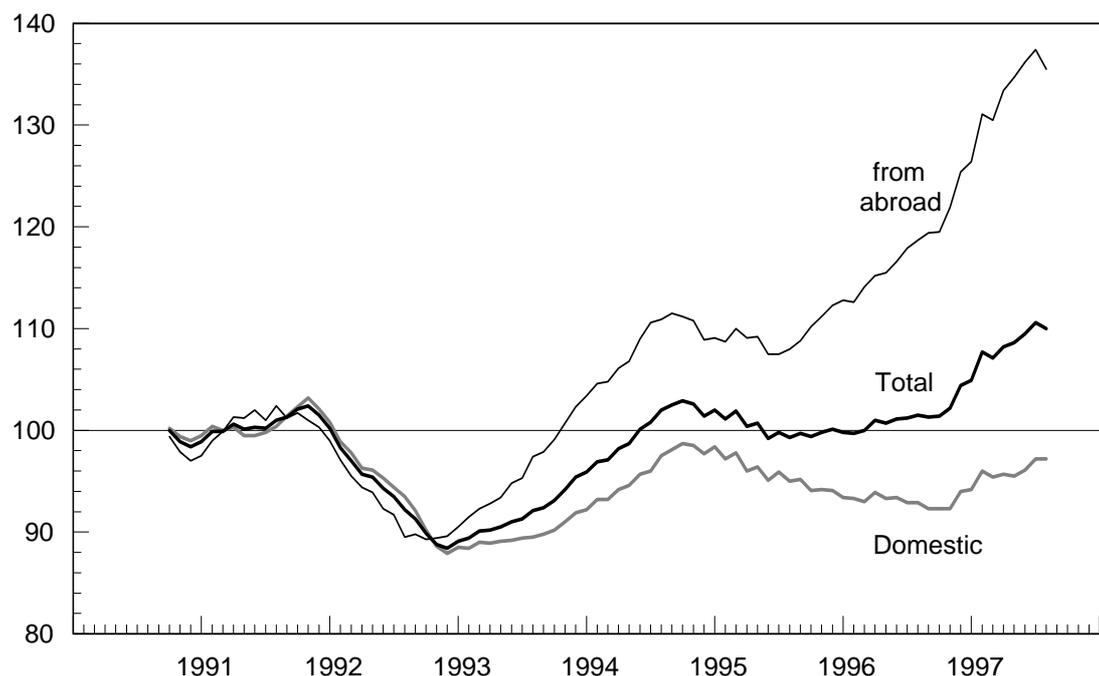
In the face of the rising deficit, the government opted for a sharp budget consolidation (table 4). In 1993, in the midst of Germany's worst postwar recession, many public expenditures were drastically cut. Nevertheless, the overall fiscal stance was slightly anti-cyclical because of automatic stabilisers. In 1994, fiscal policy became fully restrictive, because taxes rates continued to increase while transfers were cut. In the early recovery phase, the private sector was therefore confronted with an adverse demand shock of 55 billion D-marks which was, in absolute terms, a third as high as the overall increase in nominal GDP. The continuation of the moderate business cycle upswing despite higher long-term interest rates and fiscal contraction owed much to wage restraint and to the upswing in exports. Most business cycle indicators and forecasts even suggested an acceleration of growth.

In this rather favourable climate of early 1995, a new round of collective wage bargaining took place. In contrast to earlier years, it was characterised by sharp confrontation. In the metal industry, the employers' association offered no wage increase at all. Rather, the employers demanded wage cuts of 10 per cent. This unprecedented hard-line strategy can only be understood from the background of the ongoing 'competitiveness debate'. However, a strategy of confrontation was not supported by the majority of the members in the Federal Association of Employers. Those firms that operated on the international market experienced a rapid recovery of their export sales (graph 12, below) and a corresponding improvement in profits. In reaction to the extreme demands of the employers in the metal-working industry, unions opted for a hard line as well. The unions' strategy was not a call for an extensive strike but to select a prospering regional industry where they could expect the least resistance. As the strikebound firms feared losing market shares, they were interested in a swift conflict settlement rather than in an extended and costly industrial conflict. Hence, unions were able to achieve, partly to their own surprise, a nominal wage increase of more than 5 per cent. This excessive wage settlement set the pace for the rest of the economy. At the same time, the Exchange Rate Mechanism of the EMS came under pressure again. In spring of 1995, accumulated inflation differentials led into an overshooting real appreciation of the D-mark of another 7 per cent (graph 11, above).

Within a short period of time, investors' expectations were severely disappointed twice. In the early 1990s, firms expanded production capacities in expectation of a rapid and steady expansion in unified Germany. The 1992/93 recession revealed that firms had built up a capital stock that was substantially oversized. The recession was severe but short-lived. As early as 1994, firms started to regain confidence. Investment demand recovered, although cautiously. However, as early as 1995, the decision to invest was again proven wrong. This drawback had a strongly adverse effect on the general business outlook, in particular because it was widely interpreted as proof that the last recession was not merely a recession but the onset of a deep structural crisis.

#### **Stage 4: Wage restraint and depressed consumer demand, 1996-97**

Graph 12 **Incoming orders in German manufacturing, 1991-1997**  
(monthly data, 1991 = 100)

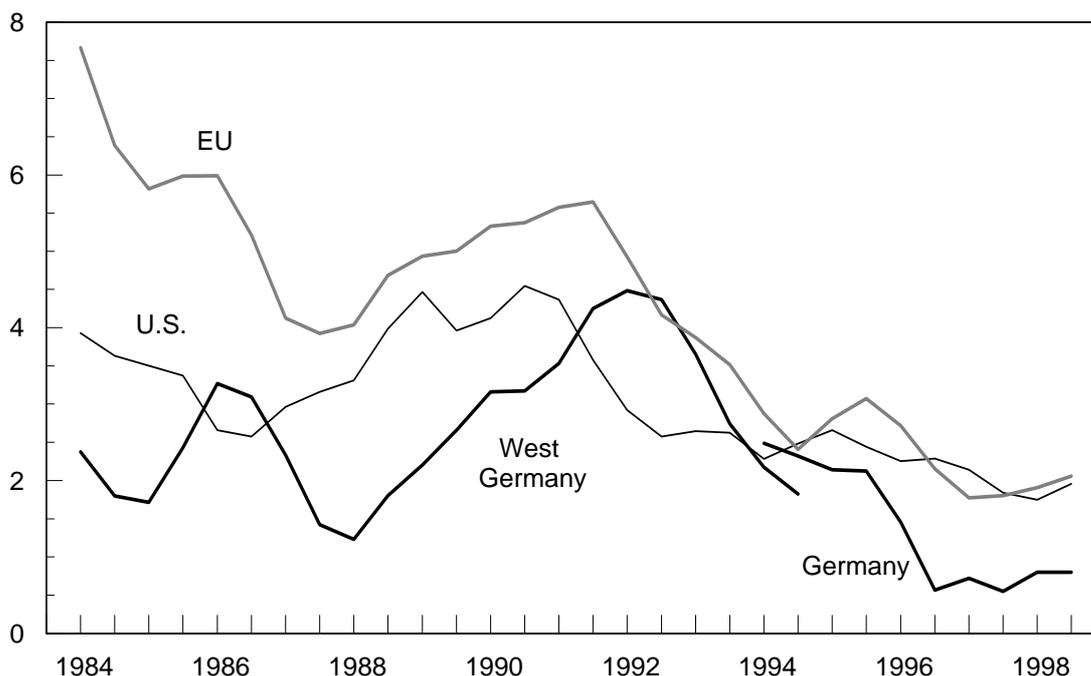


Three month moving average of seasonally adjusted data. The years refer to March. This indicator is only available for manufacturing. Sources: *Statistisches Bundesamt*; authors' calculations.

Since 1996, the development of demand was highly dichotomous. While the export sector recovered rather quickly from the overvaluation peak in 1995, the producers for the domestic markets faced stagnant or even declining demand. In late 1997, incoming orders in manufacturing from abroad were nearly 40 per cent above the level of 1991 (graph 12), while incoming orders from the domestic market were little above the recession level of 1993, and much less below the level of 1991. The situation in services looked less bleak, but bleak enough.

In the face of rising unemployment and the mistaken wage policy in 1995, unions reacted with strong wage moderation. In 1996, hourly labour compensation in West Germany rose in nominal terms by only 2 per cent, in 1997 by only 1.3 per cent, while profits increased by 4.9 per cent and 10 per cent respectively. The potentially positive effect of low nominal wage increases on the level of employment appear to have been out-weighted by weak consumer demand and by disinflation. In 1996, consumer expenditure rose in real terms by only 1.3 per cent, in 1997 by as little as 0.3 per cent. In contrast, consumer expenditures in the rest of

Graph 13 **Inflation rates in Germany<sup>1</sup>, the EU and the U.S., 1984-98<sup>2</sup>**  
(GDP deflator, in per cent)



Semi-annual data, the years refer to the first half of the year. Partly estimates for 1997. 1) A Bundesbank report has recently argued that the consumer price index for Germany may overstate the rate of inflation by at least 0.75 percentage points (Hoffmann 1998). This would imply that the GDP deflator is presently close to or even below zero. 2) Before 1994, the data for Germany as a whole are distorted by the adjustment of relative prices in East Germany, following the successive liberalisation of formerly state-controlled prices, in particular rent. Estimates for 1998, excluding for Germany the expected effect of an increase of the VAT in April 1998. Sources, Germany: DIW, *Vierteljährliche volkswirtschaftliche Gesamtrechnung*, updated by the spring forecast of the leading economic research institutes; EU, U.S.: OECD, *Economic Outlook Database* (November 1997); authors' calculations.

the EU rose on average by 2.2 per cent.<sup>65</sup> While in small, highly-open economies like that of the Netherlands, the negative impact of wage moderation on domestic consumption can be compensated by a real depreciation of the currency and therefore by higher export demand. This effect is more limited in large, open economies like Germany where domestic demand accounts for 80 per cent of total demand.

This weakness of demand was enhanced by tight fiscal policy aiming to meet the Maastricht deficit criteria. Monetary policy was, despite deflationary tendencies, not prepared to lower interest rates. Hence the rate of inflation, measured by the GDP deflator, dropped below one per cent (graph 13). If we take into account

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65 DIW (1998).

that the officially measured rate of inflation has an approximate upward bias of at least 0.75 per cent, the German economy is probably on the brink of deflation. In 1998, the measured rate of inflation in Germany will remain substantially below that of the U.S. and the EU. What is even more striking, however, is the response of major actors in macroeconomic policy. The ‘annual economic report’ of the Federal government praises that ‘price stability is not endangered’ and the Bundesbank celebrates the near stability of prices as an achievement that has to be preserved.<sup>66</sup>

## 5.2 An interpretation

How does the evidence from part 3.3 and 5.1 fit together? We can illustrate our explanation with a simple model of the labour market under imperfect competition (graph 14).<sup>67</sup> The LS curve describes labour supply which is assumed to be, in line with the evidence, fairly inelastic with respect to the wage level. The wage setting curve WS is a downward-sloping function of the level of employment relative to labour supply; it depends positively on the level of productivity, on unemployment benefits and on the tax wedge. The LD curve is the price-determined labour demand curve of firms; it is an upward-sloping function of the wage level. The LD curve depends positively on technological progress, on the capital stock and on aggregate demand, and negatively on the degree of monopoly power on the product market, as measured by the mark-up of prices over marginal costs. The intersection of the WS and the LD curves defines the equilibrium rate of employment (and unemployment) where the mark-up of prices over wages is consistent with the mark-up of wages over prices.

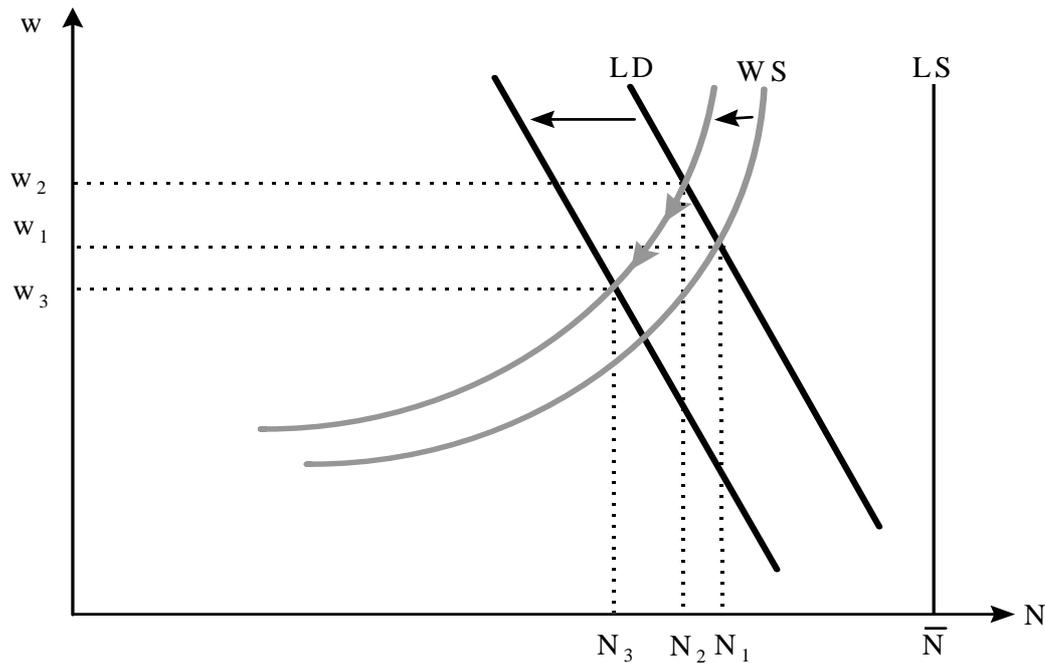
If we ignore trend improvements in productivity that move, *ceteris paribus*, the LD and the WS curve simultaneously, our argument implies that the wage setting function has shifted inwards because of the rise in the tax wedge. This has led to a lower level of employment ( $N_2$ ). On the other hand, the increase in labour supply through immigration from the East has been incorporated into wage settlements. In our model, this would imply a simultaneous outward movement of the WS and the LS curve. The wage hikes of 1991-92 and of 1995 (inward shift of

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66 Bundesregierung (1998), chapter E.3, Deutsche Bundesbank (1998), pp. 11.

67 See in particular Lindbeck (1993), chapter 4.

Graph 14 **Rising Unemployment in West Germany: A Stylised Model**



the WS curve)<sup>68</sup> were, except for the wedge-effect, reversed in the following years. One may argue that firms have become more careful with respect to their hiring decision because episodes of aggressive wage policies have undermined the credibility of unions to deliver, when necessary, a lasting wage restraint.<sup>69</sup> However, the sharp and sustained wage restraint since 1996 and our econometric model suggest that this reasoning does not carry the weight of evidence.

A second major cause for the increase in unemployment was the inward shift of the LD function following the succession of negative demand shocks, namely the consequences of sharp monetary restraint (1992-93), fiscal restraint and currency overvaluation (1994-95), and continued fiscal restraint and depressed consumer demand (1996-97). The important point here is that the sustained slack in demand has led to a slower growth of the capital stock and consequently to a shortage of capital relative to the WS curve.<sup>70</sup> This shortage of capital can be ex-

68 For the matter of simplification, we ignore instances where firm are not on their LD curve and unions are not on their WS curve. Due to nominal inertia, this is typically the case in times of macroeconomic shocks that render expectations inconsistent while cost of adjustment prevent quick changes of prices and wages.

69 As stressed by the Council of Economic Experts (1997), p. 9.

70 The view that a sustained slack in investment is a major cause behind the rise in unemployment has also been endorsed by the Council of Economic Experts and by the major economic research institutes. However, many economist believe that there is always a possibility to substi-

plained by a high net-closure rate among firms that can be observed for the last several years and by an insufficient replacement of scraped vintages of the surviving firms. The inward shift in the LD curve explains why a wage restraint in reaction to rising unemployment (movement down the WS curve) has not led to an increase in employment. Moreover, one might argue that the disinflationary impulse of wage restraint invited the Bundesbank to lower its inflation target. In turn, a lower growth rate of money supply may have prevented positive real balance effects of falling prices on aggregate demand.

Moreover, in face of a weak and uncertain product demand, there is a clear incentive on behalf of the firms to increase hours and work effort of the existing work force first and to expand employment only if the demand expansion is sustained.<sup>71</sup> This is because costs of dismissal are relatively high and many firms make extensive use of firm-specific human capital. Hence, hiring new workers implies substantial investment on behalf of the firms. This investment is sunk cost; if firms have to dismiss workers because of an unexpected decline in product demand, they cannot recover them. Hence, a sustained slump may lead to a further inward shift of the LD curve.

Nevertheless, the present situation of low employment ( $N_3$ ) is not stable. In absence of any further adverse demand shock, investment will gradually recover, in particular because profitability is fairly high. Macroeconomic and structural policies can principally accelerate recovery. However, the scope for expansionary macroeconomic policy is limited. Although the extremely low rate of inflation suggests that the Bundesbank could further lower the interest rate, a major policy shift in the lieu of the European Monetary Union would only be feasible in agreement with the other participating countries. The sustained fiscal deficit has largely deprived fiscal policy from room for manoeuvre. Structural policies to promote employment are more difficult to implement and less effective in a situation of insufficient demand. A tax reform could principally accelerate investment demand but it would be most effective if combined with budget deficits or further expenditure cuts. For both, there is not much scope.

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tute capital by labour. Hence, capital is never too short, if wages are sufficiently flexible. This may be the case. However, with the possible exception of Japan, we are unaware of any OECD economy that exhibits this kind of extreme wage flexibility in the short run.

71 Abraham and Houseman (1993).

Hence, we expect that the LD curve will only gradually shift outwards. If a sustained period of mass unemployment leads to a loss of skills among long-term unemployed, the pressure of high unemployment on wage setting will gradually decline, leading to an inward shift of the WS curve.

### **5.3 An alternative policy mix**

Our analysis suggests that the unification shock hit policy makers not fully prepared to master the challenges ahead. Where West Germany's inherited institutions and policies were principally capable of dealing with these challenges, they performed remarkably well. Germany's foreign policy has rightly been considered a great success. The Federal Republic's law and public administration were efficiently implemented in the East. The enormous resources channelled into the rebuilding of the infrastructure laid foundations for the catching-up process. The privatisation policy by the Treuhandanstalt was criticised for various reasons, but after all, privatisation was completed within four years.<sup>72</sup> This has few parallels in Eastern Europe. However, where the challenges demanded unorthodox policies and major sacrifices, unification was far less successful. The main flaw was an improper assignment of macroeconomic policies, including the institutional setting for collective bargaining in the East. What were the alternatives?

A realistic alternative to the policies chosen in the East would have included a conversion factor of 3 GDR-mark per D-mark instead of the 1 to 1 rate in the currency union, a social contract to prevent extreme wage increases backed by a substantial increase in disposable incomes through direct transfers, and the introduction of unemployment benefits that were not tied to the wage level. Although the direct interference of the government in the collective bargaining process of the private sector is not permitted by the German constitution, the government was initially the owner of almost all East German firms. The government had therefore every right to assume ownership responsibility in collective bargaining. A policy of a realistic exchange rate and wage restraint would have only worked as a package. Without an institutionalised wage restraint, the benefits from a more realistic exchange rate would have been wiped out by even higher wage increases. A social contract between the government and the unions to prevent ex-

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<sup>72</sup> For more details, see Brücker (1997).

cessive wage increases would have broken down for political reasons, if the transition crisis had increased the misery in the East, while it would have broken down for economic reasons without the threat of income losses through unemployment. It is perhaps fair to argue that initially, appropriate policies were not chosen because of uncertainty about the likely developments after the currency union. However, at the end of 1990, the true extent of the transition crisis and the labour market slump became apparent. The failure of the government to reverse its labour market policy from 1991 on can no longer be attributed to forecasting errors.

Although a substantial part of the transfers to the East was endogenous to the wage-setting mechanism rather than a conscious political decision, we may nevertheless ask whether the actual amount of transfers could have been financed other than by increasing the deficit and the social security contributions, later followed by an increase in income taxes and a moderate increase in value-added taxes. Under the condition that the investment rate in the West should have remained constant, the principal alternatives of fiscal policy would have been (i) an increase in the value-added tax by several percentage points, (ii) substantial cuts in public consumption expenditures, (iii) an accelerated out-phasing of subsidies to ailing sectors in the West and (iv) an increase in public borrowing just high enough to generate revenues for investment expenditures in the East.

It is not easy to co-ordinate this kind of fiscal policy in a federal state where the central government, the federal states and the communities have their own claims on taxes and expenditures, while vested interests prevent policy makers from setting new priorities in a flexible way. However, the advent of unification was a unique occasion. Initially, people were prepared to accept major sacrifices. Therefore, major tax increases and deep cuts in public expenditures would have faced much less resistance than during times of ‘normal business’. This opportunity was missed. The government was initially convinced that unification would be largely self-financing through the revenues generated by the privatisation of East Germany’s state sector. Moreover, the government felt that the announcement of budget cuts and tax increases for the West might endanger its victory in the December 1990 general election, although the political opposition was demanding nothing less. As the West German economy started to slide into

its worst postwar recession in 1992, the euphoria of unification disappeared. Fiscal policy had returned to ‘normal business’.

The choice for a fiscal restraint at the onset of unification would have given the Bundesbank an opportunity for more monetary accommodation of the unification process without sacrificing the goal of a reasonably low rate of inflation. A more-restrictive fiscal policy and a less-restrictive monetary policy would have lessened the adverse affects of German unification on the participating economies of the EMS; it would most likely have prevented the EMS crisis of 1992 and the overshooting appreciation thereafter. Although it would not have prevented a recession, the recession would have been less severe. An increase in the value-added tax of several percentage points would have created inflationary pressure if unions had attempted to shift the increasing tax onto firms. However, given the historically exceptional situation, an income policy to achieve a temporary wage restraint would certainly not have been out of reach, particularly if the burden of unification had been more equally shouldered.

Under this alternative macroeconomic policy mix, the decline in employment in the East would most likely have been substantially smaller, the economy in the West would have been less overheated, the subsequent recession would have been less severe, and the room for anti-cyclical monetary and fiscal policies to manoeuvre in recent years would have been much greater, even under the constraint of the Maastricht convergence criteria. We suggest that under a less uncoordinated, contradictory and procyclical policy mix, West Germany would have experienced a steady recovery of output and employment from the last recession. Although Germany’s unemployment rate would have increased, it would have been largely because of the unavoidable transformation crisis in the East.

While there is no space to discuss in detail why these kinds of policies were not realised nor even seriously considered, it should nevertheless be mentioned that it was not the lack of competent advice, from various sources. Inadequate policies can partly be attributed to the government’s unrealistic assessment of the challenges ahead. More important, however, was the government’s failure to understand that unification required a very different assignment of macroeconomic policies than those prevailing during the 1980s. This may perhaps be a lasting legacy of supply-side economics.

## 6 Final Assessment

According to a widespread view, Germany's unemployment crisis is caused by rigid labour markets, low profitability and increasing international competition. We argue that this view does not provide a convincing explanation for the dramatic rise in Germany's unemployment rate since 1989, first because no distinction is drawn between the situation in the Eastern part of Germany and that in the Western part of Germany, and second because supply-side conditions in the Western part of Germany have not generally deteriorated. We argue that Germany's slump is the result of a series of adverse supply and demand shocks since unification. Supply shocks dominated in the East, demand shocks in the West. These shocks were mainly policy-induced. The adoption of an extremely overvalued exchange rate and rapid wage increases in East Germany magnified the general problems of transition, resulting in a loss of employment of more than a third and a sustained structural weakness of its economy. The wage explosion was made possible by the government's failure to create a proper institutional framework for wage negotiations. We suggest that the unification shock to the East contributed at least 2 percentage points to the rise in Germany's overall unemployment rate in the early 1990s. Another 0.5 percent has to be attributed to the out-phasing of active labour market programs and the depression in the construction sector, following the cuts in government subsidies. Moreover, to each registered unemployed person in the East we have to add another person who is financed by labour market programs other than unemployment insurance.

The empirical evidence suggests that macroeconomic supply-side conditions in West Germany have not generally deteriorated since the late 1980s. The rate of return on fixed capital in the business sector remains higher than during the 1980s. The burden of financing unification has largely been shifted onto the shoulders of labour and of future generations while the effective average tax rate on profit income has continued to decline. The behaviour of long-term interest rates does not suggest that the budget deficit led to a significant crowding-out of private sector activities. The growing net-outflow of FDI that has served as key evidence for West Germany's structural supply problem appears to be largely due to a failure of Germany's balance of payments statistics to record inflowing FDI properly. Econometric evidence suggests a structural break in aggregate wage-setting in West Germany, with increased nominal flexibility in recent years and

insignificant persistent effects since the 1980s. Hence, aggregate wage setting in West Germany is highly responsive to unemployment.<sup>73</sup> Increasing mismatch does not provide a good explanation for the labour market slump, because unemployment has sharply increased across *all* skill-categories, and skilled workers without university degrees were affected most.

We attribute some 1.5 to 2.5 percentage points of the present unemployment rate to the weak economic growth of the last several years and the impact of the increasing tax wedge on the wage level. Weak growth has been largely the consequence of uncoordinated, contradictory and procyclical macroeconomic policies that have been adopted since unification, while the increasing tax wedge has been mostly driven by the decision of the government to finance part of unification through the social security system and by the costs of high unemployment.

Let us recapitulate the unfolding of events. Unification gave a boost to the West German economy largely through a huge fiscal expenditure impulse and the surge of demand from the East. Instead of financing the massive transfers to the East via higher value-added taxes and lower public consumption expenditures in the West, the government raised the deficit and social security contributions significantly. In order to contain inflationary pressures that were believed to emanate from unification, monetary policy opted for extreme restriction from 1990 to 1993 throughout, raising the short-term interest rate substantially above the long-term rate. The overheating of the economy through fiscal policy led to an artificial build-up of employment and capacities in the West, while parts of Europe were already in recession. The increase in social security contributions created additional wage pressure because unions were not prepared to pay the bill. After the effects of fiscal expansion had petered out, West Germany entered its worst postwar recession. The effect of monetary restriction was magnified by an appreciation of the D-mark following the EMS-crisis in late 1992. Unemployment increased substantially in 1993 and 1994.

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73 This may sound implausible in face of the frequently cited evidence on West Germany's extremely high wage level. However, all of these data refer only to manufacturing production workers. Lindlar and Scheremet (1998) have constructed a new database for the business sector and the overall economy. These data show that West Germany belongs to a larger group of high wage economies, as do the U.S.

The onsetting upswing in 1994 was supported by strong wage moderation and by a slow monetary relaxation, while fiscal policies, aimed at meeting the Maastricht convergence criteria, became increasingly restrictive. Germany would have experienced a sustained but moderate upswing, had the exchange rate not continued to appreciate in real terms in 1995, resulting in an overvaluation of approximately 16 percent. In consequence, unemployment started to increase again. This led to very strong wage moderation by unions while productivity continued to increase. Without any compensatory expansion from monetary and fiscal policy or from exports, wage restraint depressed consumption, domestic demand and investment. As a concomitant, the rate of inflation dropped close to zero while profits soared. Since 1996, the depreciation of the D-mark paved the way for an export boom but so far, the external impulse has not been strong enough to boost creeping domestic demand. Under these circumstances, there has been little incentive for firms to increase investment and employment.

We suggest that employment policy has to address three problems: unemployment due to a demand slump in Germany as a whole, unemployment due to excessive wages in the East, and structural unemployment in the West. The most promising measures for reducing unemployment appear to be those aimed at creating the conditions for a sustained increase in demand, because demand-deficient unemployment is usually the most easy kind to combat. Moreover, a lasting recovery of the German economy is likely to provide a better climate for economic policies addressed at the problems of post-unification unemployment in the East and of structural unemployment in the West. The dilemma, however, is twofold: the ruling economic policy dogma has effectively stigmatised Keynesian recommendations as a dangerous idea of the past, while Germany's commitment to Maastricht and the sustained fiscal deficit have largely deprived the government of its means to follow those recommendations. In consequence, the recovery of investment and employment will only be gradual. It is the unemployed who will have to pay the price for policy mistakes of the past. Perhaps a lasting price, if the demand-deficient unemployment of today becomes the structural unemployment of tomorrow.

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