Economic Trends 2002/2003

Germany in recession

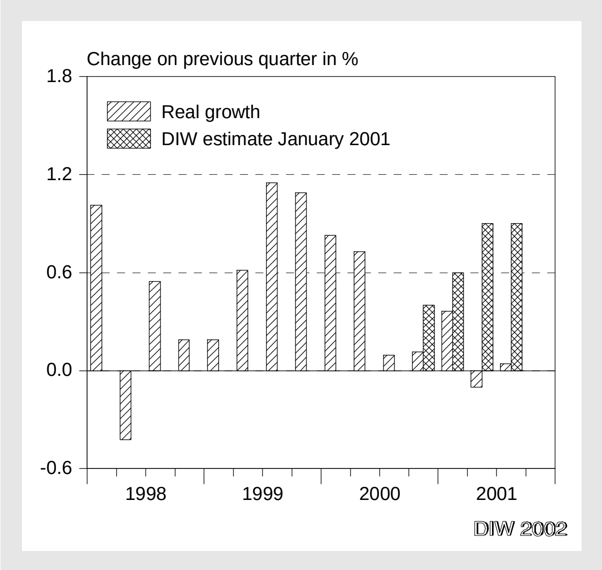
Until recently there was still hope that the weakening of economic activity in Germany would not lead to a recession. Yet ultimately the burdens dragging the economy down, not least those in the wake of the terrorist attacks of 11 September, proved too strong: it is virtually certain that German output declined perceptibly during the second half of 2001.

Seldom have the predictions made in the spring of a given year been so far off the reality that became apparent just a few months later. Clearly, a number of the negative factors that restricted growth could not have been foreseen. They include the inflationary effects of the crisis in animal farming and the rising oil prices, which led to a markedly weaker rise in real incomes than had been expected in the light of the significant tax cuts. Nor could the economic burdens resulting from last year's geopolitical upheavals be forecast. While this partly explains why the forecasts were so far off the mark, it is in no way a complete explanation.

In this report one year ago the DIW asked 'Is the upturn already coming to an end?'[1] The answer given was that, in view of the stimulatory effects of the tax cuts, the upturn was expected to continue, albeit at a substantially reduced pace, given the tighter monetary stance and the downturn in the USA, signs of which were already evident at that time. If last year's forecast is compared with current developments, major differences emerge (cf. table 1 and figure 1). Domestic demand, in particular, had been forecast to be substan-

[1] Economic Trends 2001/2002. In: *Economic Bulletin*, vol. 38, no. 1, January 2001.

Figure 1
Estimate and Actual GDP[1] Growth in Germany
Adjusted for seasonal influences and number of working days[2]



1 At 1995 prices. — 2 Using the Berlin Method (BV4).
Sources: Federal Statistical Office; DIW Berlin calculations.

Table 1
Contribution to Increase in GDP
in percentage points

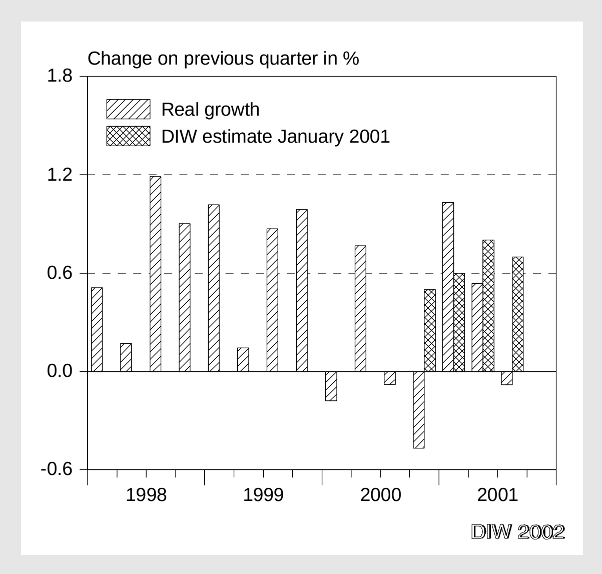
	DIW estimate January 2001		DIW estimate January 2002		Difference between estimates	
	2001	2002	2001	2002	2001	2002
Domestic demand	2.2	2.3	–0.6	0.3	–2.9	–2.0
Private consumption	1.4	1.3	0.7	0.4	–0.7	–0.9
Government consumption	0.1	0.1	0.3	0.3	0.2	0.1
Machinery	0.5	0.6	–0.3	–0.5	–0.8	–1.1
Other equipment	0.1	0.1	0.1	0.1	0.0	–0.1
Construction	–0.3	–0.1	–0.7	–0.1	–0.5	0.0
Investment in stocks	0.4	0.2	–0.7	0.1	–1.1	–0.1
External surplus/deficit	0.3	0.4	1.2	0.3	0.9	–0.1
Exports	2.4	2.5	1.6	0.5	–0.9	–2.0
Imports	2.1	2.1	0.4	0.2	–1.8	–1.9
GDP	2.5	2.7	0.6	0.6	–2.0	–2.1

Sources: Federal Statistical Office; DIW Berlin calculations.

Figure 2

Estimate and Actual Growth of Private Consumption[1] in Germany

Adjusted for seasonal influences and number of working days[2]



1 Including private non-profit organisations. — 2 Using the Berlin Method (BV4).
Sources: Federal Statistical Office; DIW Berlin calculations.

tially higher, as had, linked to this, imports. An important demand component of which an overly optimistic view was taken was private consumption (cf. figure 2). This forecasting error is due partly to the fact that inflation was higher than had been expected, and partly to the weakening of employment growth as the year progressed. Both factors together meant that real incomes rose less than had been forecast.

Even more serious is the forecasting error regarding investment in equipment (cf. figure 3). This shows that the picture painted of the course of domestic demand had been fundamentally flawed. The same is true of inventories, although this partly also reflected revisions made by the Federal Statistical Office. The collapse of investment in the first half of the year is a sign of the marked deterioration in firms' expectations of future economic trends. There were several main reasons for this. In the course of the first half of last year there was a succession of 'bad news': the rise in oil prices hit both the purchasing power of private households and corporate profitability; on top of this came the crisis in animal farming and, above all, the serious downturn in the USA. Thus, firms were caught in the pincers of deteriorating sales and profitability expectations, on the one hand, and less favourable financing conditions as a result of monetary tightening on the other.

What also emerged was a correlation much stronger than in previous cycles, and one that was therefore inadequately taken into account in previous prognoses: the collapse in domestic investor confidence in the wake of the US downturn came much more swiftly and was much more pronounced than expected. This manifested itself immediately in a decline in investment activity, provoking the slide towards recession.

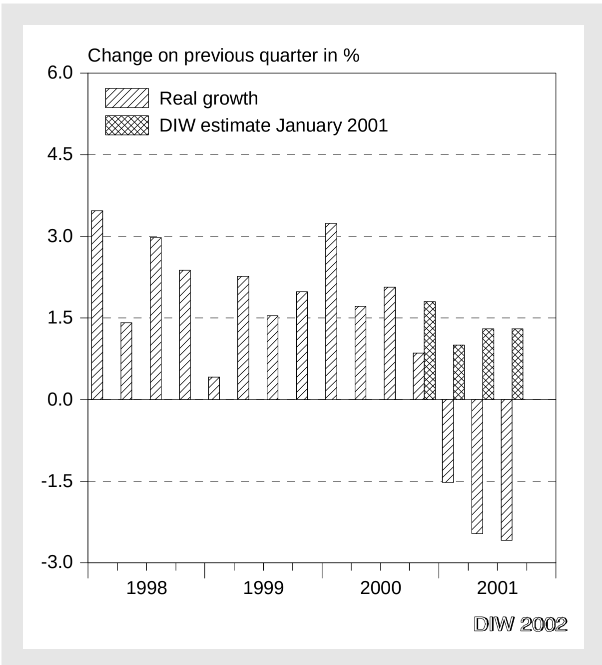
On the basis of all the available indicators, the extent of any recession will be moderate (cf. figure 4). The US economy is expected to stabilise as early as the beginning of this year, with a perceptible recovery beginning in the spring (cf. figure 5). This should have a positive impact on Germany through two channels. First, investor confidence can be expected to stabilise once again, so that investment will bottom out in the first half of the year. Second, export growth will pick up significantly once more. In contrast to earlier cycles it is forecast that investment will recover before export growth strengthens again. Even so, Germany once again conforms to the pattern of an upturn that is reliant on external economic impulses (cf. figures 6 and 7).

Predictions of when a cyclical turning point will occur are always subject to considerable uncertainty. This has a perceptible effect on annual average growth rates. Here it is assumed that the upturn will occur in the second quarter of 2002: in that case annual average

Figure 3

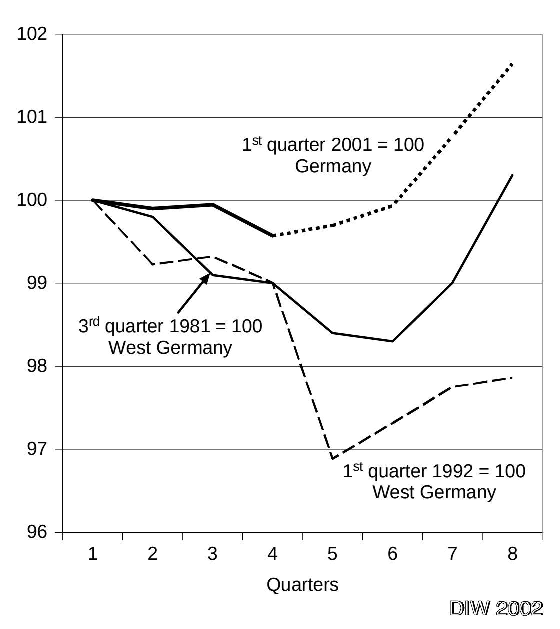
Estimate and Actual Growth of Investment in Machinery in Germany

Adjusted for seasonal influences and number of working days[2]



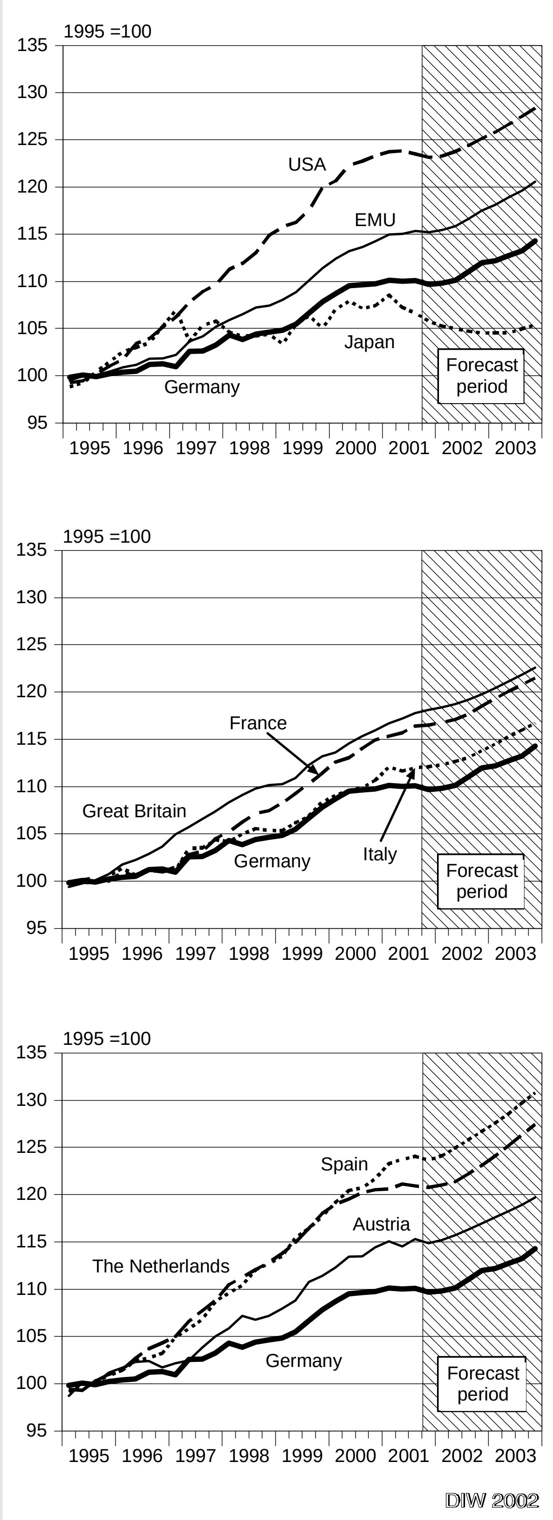
1 At 1995 prices. — 2 Using the Berlin Method (BV4).
Sources: Federal Statistical Office; DIW Berlin calculations.

Figure 4
Comparison of Business Cycles



1 Real GDP, adjusted for seasonal influences and the number of working days (BV4). — 2 From 4th quarter of 2001 onwards, DIW Berlin prognosis.
Sources: DIW Berlin calculations.

Figure 5
Gross Domestic Product[1] in International Comparison



1 Seasonally adjusted, at constant prices.
Sources: OECD; Federal Statistical Office; DIW Berlin calculations.

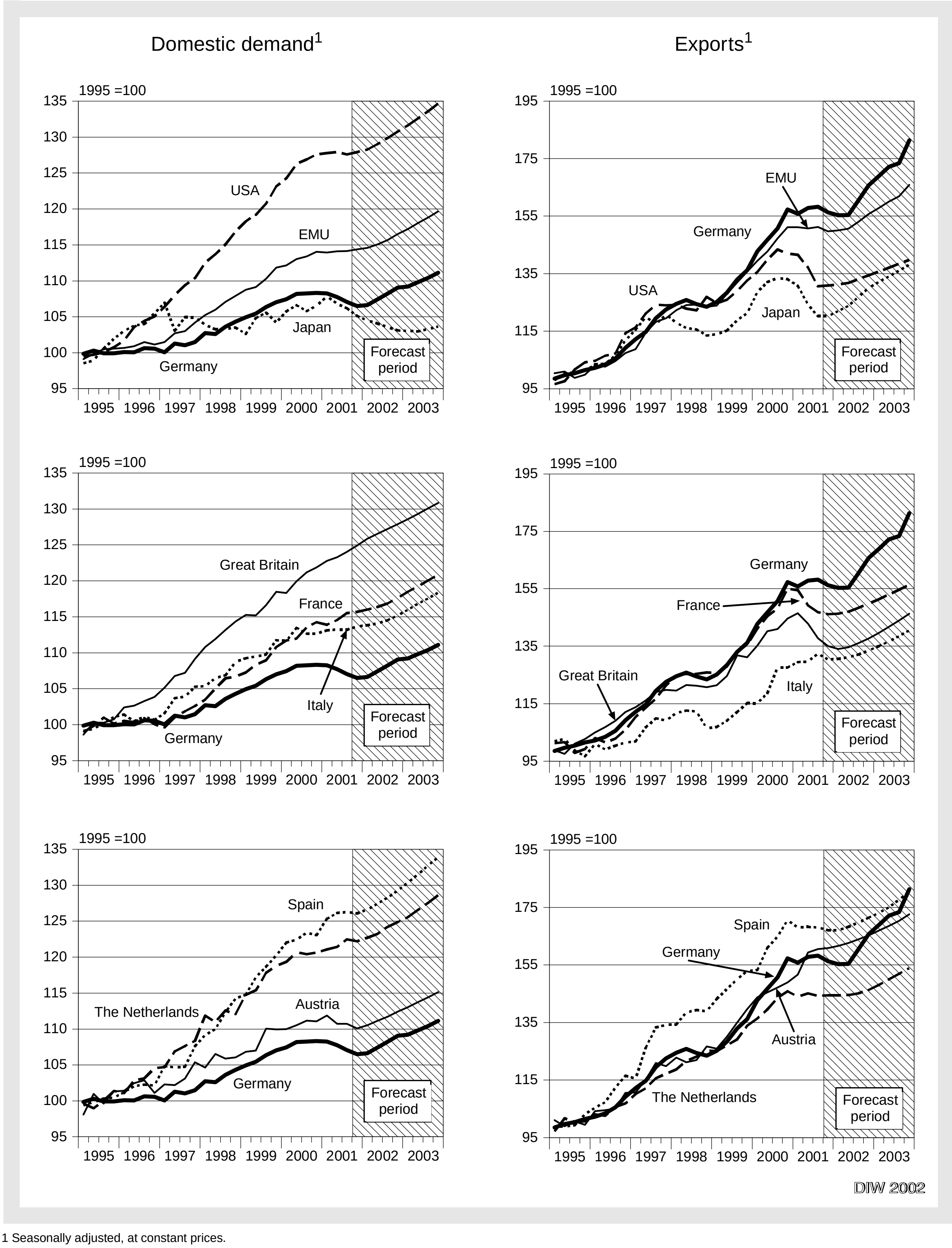
growth will be in the order of 0.6% (cf. figure 8). If the turning point occurs one quarter sooner, the figure calculated for 2002 is 1.1%. If, on the other hand, growth picks up one quarter later, GDP will actually contract slightly, on annual averages, by 0.1%.

Without the rapid pick-up in economic growth in the USA, the German economy would face stagnation, if not actual recession, until at least the middle of this year. It is only then, namely, that the stimulatory impact of last year's relaxation of monetary policy will be fully felt. The fact that consumer prices are rising much less fast while nominal incomes rise faster implies an expansionary impulse, although one that is not, by itself, strong enough to turn the business cycle. Consequently, the growth of domestic demand in Germany will remain weak in international comparative terms.

In its early stages the expected upturn will, as usual, be rather strong, although it will not even come near the pace achieved in 1999/2000: the global economic environment is too unfavourable and the domestic economic impulses too weak for that. In 2003 the upturn is expected to continue at a modest pace: GDP growth of 2% is forecast. However, this is subject to the conditions that there are no further external economic disturbances, fiscal policy makers permit the built-in stabilisers to function to their full extent, and the monetary authority

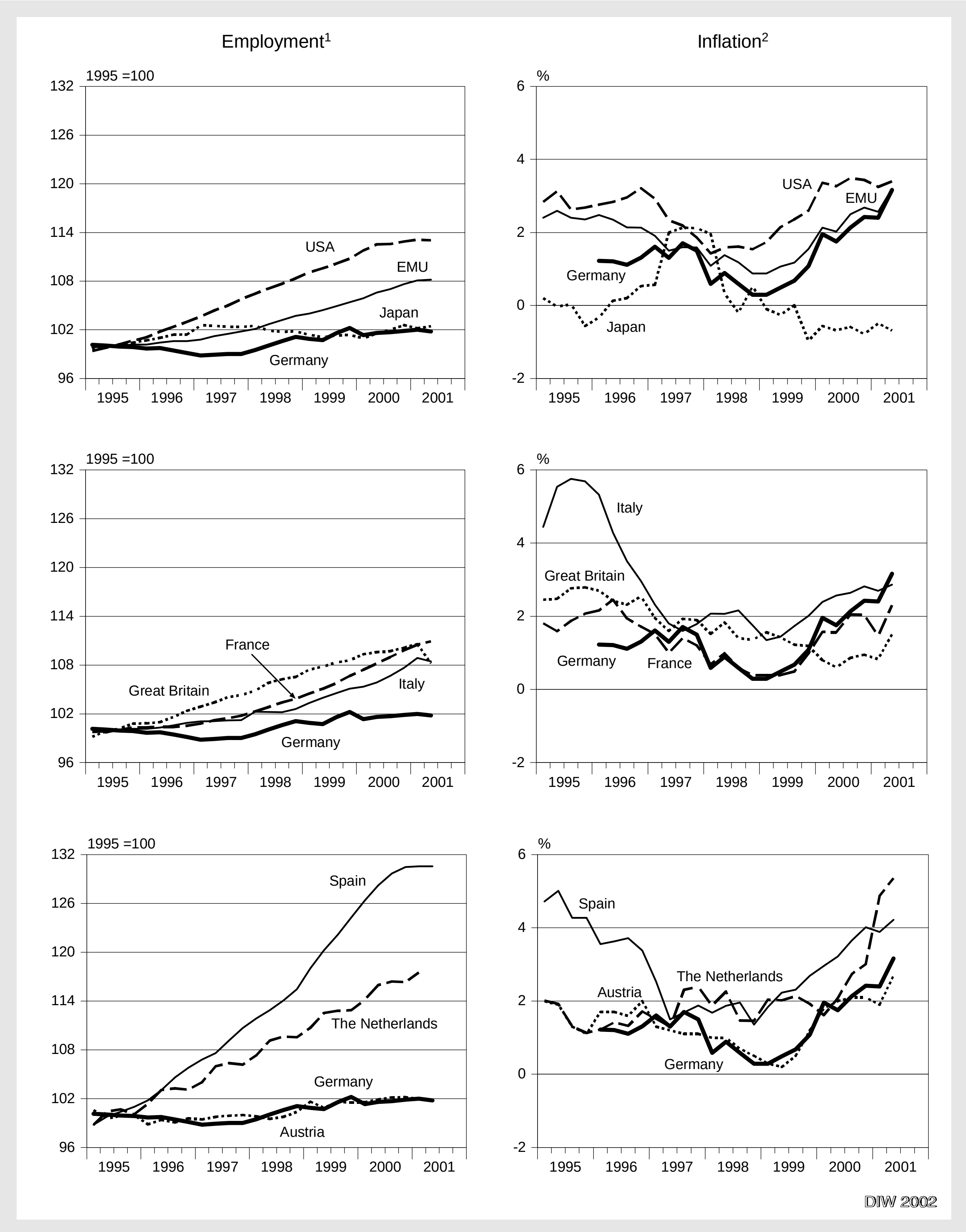
Figure 6

Domestic Demand and Exports in International Comparison



1 Seasonally adjusted, at constant prices.
Sources: OECD; Federal Statistical Office; DIW Berlin calculations.

Figure 7
Employment and Inflation in International Comparison

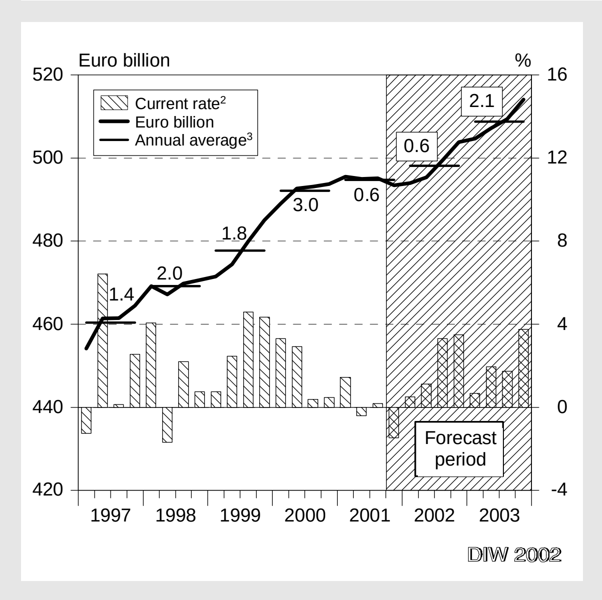


1 Seasonally adjusted. Calculated on the basis of the working population; Netherlands on the basis of the number of people gainfully employed. For EMU countries based on the index of people gainfully employed. — 2 Western Europe; harmonised index of consumer prices. Change compared with previous year as a percentage.
Sources: OECD; ECB.

Figure 8

Real Gross Domestic Product in Germany

Adjusted for seasonal influences and number of working days[1]

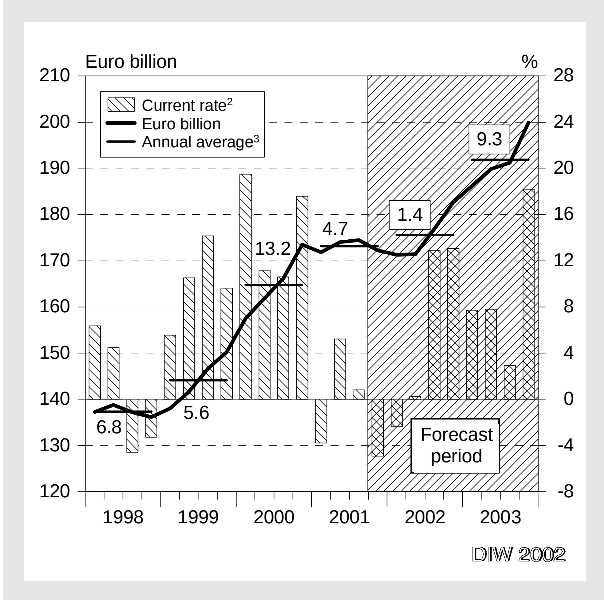


1 Using the Berlin Method (BV4). — 2 Change on previous quarter as % extrapolated to an annual rate (right-hand scale). — 3 Change on previous year as %.
Sources: Federal Statistical Office; DIW Berlin calculations.

Figure 9

Real Exports

Adjusted for seasonal influences and number of working days[1]



1 Using the Berlin Method (BV4). — 2 Change on previous quarter as % extrapolated to an annual rate (right-hand scale). — 3 Change on previous year as %.
Sources: Federal Statistical Office; DIW Berlin calculations.

maintains its current expansionary course. If, as occurred in 2000, the ECB tightens its stance once again just as the upturn is strengthening, developments in 2003 will be less favourable than forecast here.

Temporary decline in exports

Until the autumn of 2001 exports remained at the high level achieved towards the end of 2000. Since then, however, exports have declined markedly (cf. figure 9). In the case of intermediary goods, sales abroad had been declining since the start of the year, followed in the late summer by severe losses in investment and consumer goods.

Given the weakness of the global economy, German exports will continue to decline slightly in the first half of next year. They are expected to gradually recover in the second half of the year. Initially the impulse will come from the rise in inventories. A pronounced upturn is expected for both consumer and investment goods in the second half of the year. Once again, exports to the eastern European countries will expand more than proportionally (cf. table 2 and figure 10), and, given expectations of a stable world market price of oil, sales to the

Box 1

Assumptions

- The price of oil remains within a corridor of between US-$ 22 and 25 per barrel. In the medium term the oil price stabilises at the lower end of OPEC's target corridor of US-$ 22 to 28.
- The euro appreciates slightly in the course of 2002. By year's end the exchange rate is around US-$ 0.95 to the euro. A further appreciation in the course of 2003 is assumed, taking the euro to US-$ 1.10.
- The European Central Bank cuts its base rate during the first quarter of 2002 by 0.25 of a percentage point. For the rest of the prognosis period no further changes in the base rate occur.
- This year collectively agreed wages rise by around 2.3%. Next year the rate of increase is 2.4%.
- The cuts in income tax are implemented in 2003 as planned.

Table 2

Regional Trends in German Exports (Special Trade)

Country group	1998	1999	2000	2001[7]	1998	1999	2000	2001[7]	1998	1999	2000	2001[7]
	Euro billion				Shares as a percentage				As a percentage of GDP			
EU	274	293	337	264	56.6	56.9	56.6	55.4	14.3	14.9	16.7	17.8
of which: EMU	210	230	265	207	43.2	45.1	44.4	43.3	10.9	11.7	13.1	14.0
EFTA[1]	26	27	31	25	5.4	5.4	5.1	5.2	1.4	1.4	1.5	1.7
NAFTA[2]	53	59	71	58	10.9	11.8	11.8	12.2	2.7	3.0	3.5	3.9
Eastern Asia[3]	34	36	47	38	7.0	7.2	7.8	8.0	1.8	1.8	2.3	2.6
Central and Eastern Europe[4]	45	43	53	52	9.2	8.5	8.9	10.8	2.3	2.2	2.6	3.5
Mercosur[5]	8	7	7	6	1.6	1.3	1.2	1.3	0.4	0.3	0.4	0.4
Other[6]	45	44	51	34	9.3	8.9	8.6	7.1	2.4	2.3	2.5	2.3
Total	485	510	597	477	100.0	100.0	100.0	100.0	25.2	25.8	29.5	32.2

1 Switzerland, Norway, Iceland, Liechtenstein. — 2 USA, Canada, Mexico. — 3 Japan, China/Hong Kong, Taiwan, Singapore, Thailand, Indonesia, Malaysia, Philippines, South Korea. — 4 Poland, Hungary, Czech Republic, Slovakia, Bulgaria, Romania, Russia, Ukraine, Belarus. — 5 Brazil, Argentina, Uruguay, Paraguay plus Bolivia and Chile (associates). — 6 Africa, Australia and Oceania, other countries in Asia and Latin America. — 7 January to September.
Sources: Federal Statistical Office; DIW Berlin calculations.

oil-producing countries will also remain at a high level. With German exporters remaining highly competitive – as measured by their relative unit labour costs – exports to other industrialised countries can be expected to pick up substantially. Overall the volume of exports will be only slightly higher in 2002 than last year (+1.4%). For 2003, though, a substantial increase is forecast: 9.3%.

Marked decline in investment in equipment

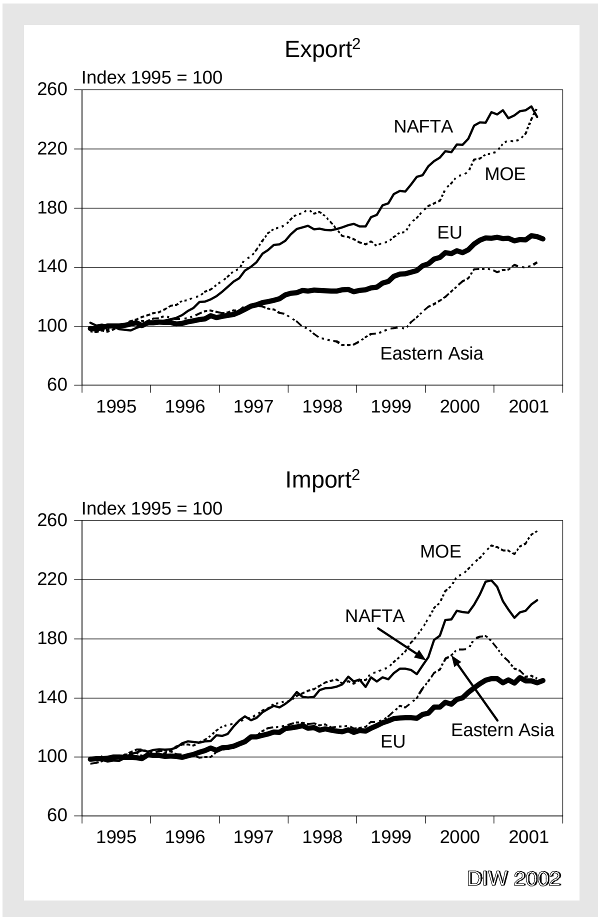
Real investment in equipment collapsed in 2001 (cf. figure 11). Both foreign and domestic demand weakened significantly in the course of last year, dampening the propensity to invest. Capacity utilisation declined continuously. On top of this came the uncertainty in the wake of the 11 September attacks. Firms' less optimistic operating expectations and the decline in incoming manufacturing orders both point to a further weakening in investment in equipment at the start of this year.

In the course of this year investment will initially continue to decline, but will stabilise once the economic recovery gains hold. The reason for the recovery is that the improved profitability expectations in the USA will swiftly make their effects felt in Germany, exerting a positive influence on the investment climate. In this context the favourable financing conditions will also play a significant part. As domestic consumer demand picks up and exports stabilise in the second half of the year, investment will receive an additional boost.

Given the increased demand for security technology and their software components, investment in the category of 'other plant', unlike investment in equipment, will grow consistently throughout the prognosis period.

Figure 10

Regional Trends in German Foreign Trade[1]



1 On the classification of countries to regions see table 2. — 2 Special trade, nominal; seasonally adjusted using the Berlin Method (BV4); moving three-month average.
Sources: Federal Statistical Office; DIW Berlin calculations.

Box 2

Forecasting German exports

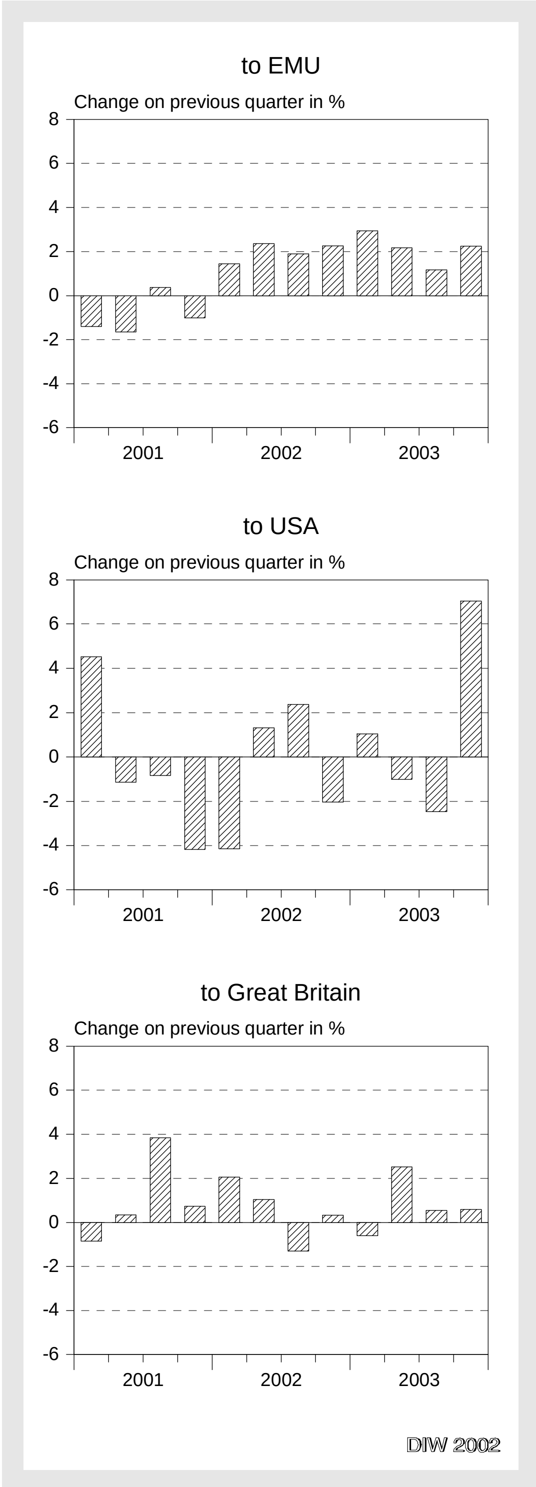
The forecast for German exports is based primarily on econometric estimations of German goods exports to the EMU, the USA and the UK (cf. figure). All the estimation equations are one-equation error correction models, each consisting of a cointegration relationship (which can be interpreted as a long-term economic equilibrium) and the short-run dynamic adjustment. In the long run changes in goods exports are determined by foreign demand and by the price competitiveness of German exporters. The estimation equation for the EMU also contains a linear trend in the long-term relationship reflecting the increased international division of labour within the currency area. Demand from the USA and the other EMU countries is modelled using investment demand in the countries in question, which, unlike consumer demand, was found to be significant. For the UK GDP is used as an indicator of total demand. In all three equations price competitiveness is expressed in terms of the real external value of the D-Mark. All the estimations are based on unadjusted values.

The first step in estimating total German exports is to estimate goods exports to the EMU, the USA and the UK. To this end the future values of the explanatory variables are inserted for the corresponding regions and countries on the basis of the relevant forecast by the DIW. This ensures consistency between the various partial prognoses. Subsequently the results of the three forecasts are summed and year-on growth rates calculated. Total exports are determined to a very considerable extent by the forecasted goods exports to these three most important economic areas, which account for 63% of total exports. On the basis of these results, and taking into account exports to those countries and regions that do not form part of the econometric estimations, the forecast values for real total exports are calculated.

For service exports, which currently account for around 11% of total exports, an estimation procedure is used.

Figure

Forecast for German Exports

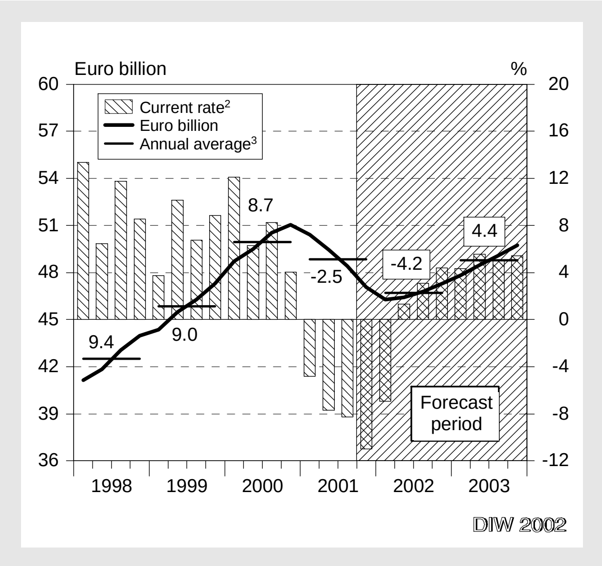


1 From 3rd quarter of 2001 onwards, DIW Berlin prognosis.
Sources: DIW Berlin calculations.

Figure 11

Real Investment in Machinery and Investment and in Other Equipment

Adjusted for seasonal influences and number of working days[1]



1 Using the Berlin Method (BV4). — 2 Change on previous quarter as % extrapolated to an annual rate (right-hand scale). — 3 Change on previous year as %.
Sources: Federal Statistical Office; DIW Berlin calculations.

On annual averages, in 2002 investment in both equipment and 'other plant' will contract by more than 4%, only to rise by more than 4.5% in 2003.

Imports under the influence of domestic demand trends

Since the start of 2001 imports have fallen primarily because of the adjustment in inventories to weak domestic demand. The decline in purchases of industrial inputs from abroad was particularly strong. Given the expected pick-up in domestic economic activity, but also the export recovery, imports will expand, initially slowly, but then more strongly in the second half of the year. On annual averages, the growth figure for 2002 is calculated at just around 1% (cf. figure 12): in 2003 import growth will be of a similar order of magnitude to that of exports. The trend towards increasing economic integration and international division of labour will continue, raising imports as a share of output.[2] The terms of trade will improve over the prognosis period. Given the forecast import and export trends, net exports will be up by around euro 5 billion in 2002 and by almost another euro 3 billion in 2003.

Employment trends deteriorate once more

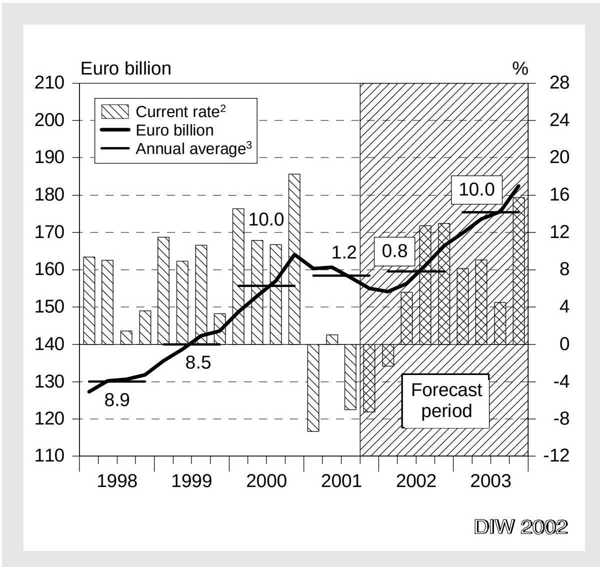
Last year the German labour market fell under the shadow cast by stagnating economic growth. Both the number in employment and the volume of working hours fell in the second half of the year, while unemployment rose substantially. The annual rate of employment growth was slightly positive (0.2%), but this was due only to the statistical overhang at the start of the year; overall 65 000 more people were in employment in 2001 than the previous year (cf. table 3).

The situation on the German labour market will continue to deteriorate until the middle of next year. Not until the end of the year will employment rise slightly once more. In terms of annual averages, around 70 000 fewer people will be in employment (–0.2%) than in 2001. The volume of working hours will decline at a slightly higher annual rate (–0.3%). Employment is forecast to continue to contract in the construction industry, although at a slower pace. In industry net job losses are expected to continue until the middle of the year; in the service sector the employment trend will be slightly positive.

Figure 12

Real Imports

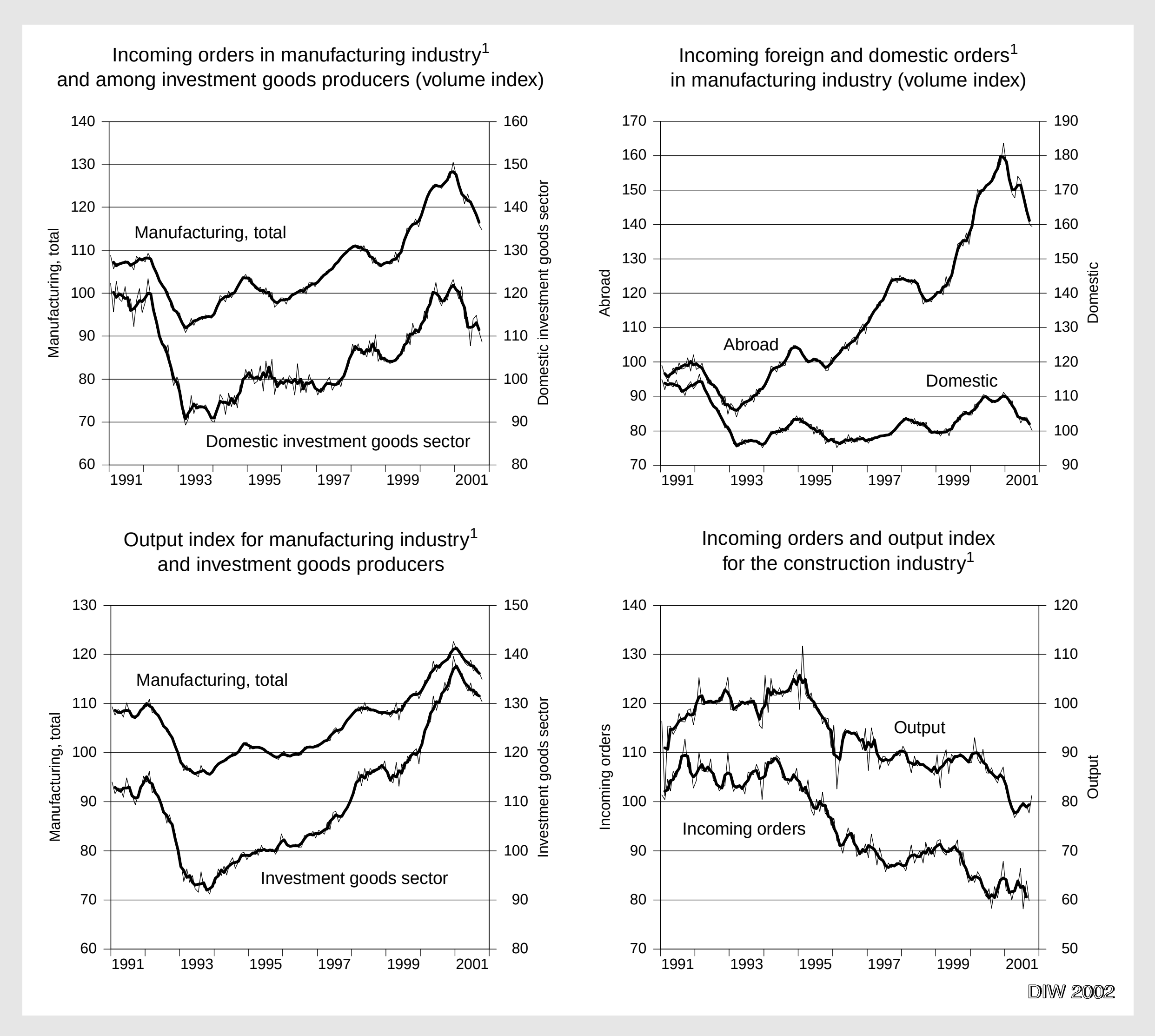
Adjusted for seasonal influences and number of working days[1]



1 Using the Berlin Method (BV4). — 2 Change on previous quarter as % extrapolated to an annual rate (right-hand scale). — 3 Change on previous year as %.
Sources: Federal Statistical Office; DIW Berlin calculations.

[2] In 2003 the value of imports is forecast to be just under 28% of GDP; the average figure for the 1990s was only just over 24%.

Figure 13
Economic Trends in West Germany
1995=100



1 Figures adjusted for seasonal deviations and the number of working days using the Berlin Method (BV4) and moving three-month average.
Sources: Federal Statistical Office; DIW Berlin calculations.

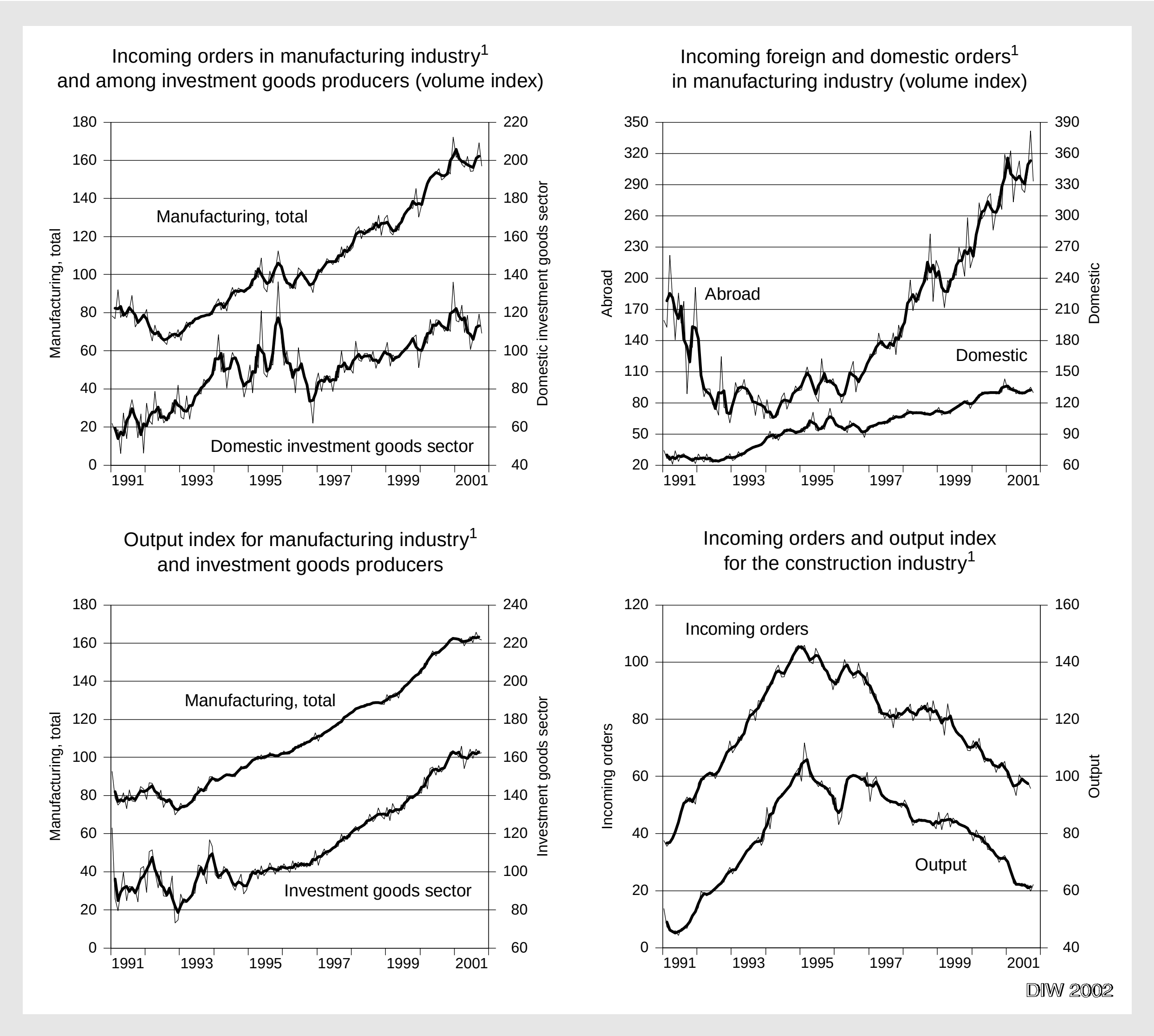
Unemployment rose markedly in the course of last year. Even so, on annual averages the unemployment figure (3.85 million) was fractionally below the 2000 figure (3.9 million). On seasonally adjusted figures unemployment can be expected to cross the 4-million threshold at the beginning of the year and not fall below this until the start of 2003. Annual average registered unemployment is also expected to be in excess of 4 million. This would put the unemployment rate at 9.5% on national definitions. In western Germany it is depressed demand that is the dominant factor behind the employment figures; in eastern Germany, on the other hand, structural measures, including cuts in labour market policy measures and the declining labour supply have a determining role, so that the unemployment rate in the region remains more or less unchanged. The introduction of the 'job aqtiv' law[3] will, considered by itself, have a positive impact on the labour market as it will help to accelerate placement of the unemployed and expand job-creation measures.

[3] Translator's note: a raft of labour market policy measures, to some extent modelled on the structure of the European Employment Strategy, to promote the integration of the unemployed via activation, qualification, training, and other measures.

Figure 14

Economic Trends in East Germany

1995=100



1 Figures adjusted for seasonal deviations and the number of working days using the Berlin Method (BV4) and moving three-month average.
Sources: Federal Statistical Office; DIW Berlin calculations.

Eastern Germany

In 2001 economic growth in eastern Germany was again slower than in the west of the country (cf. figures 13 and 14). Indeed, the east German economy contracted for the first time since unification, output falling by 0.75%. The pace of job losses accelerated.

The precipitous contraction of the construction industry continues apace, actually accelerating last year. Housing construction, in particular, is still on a downward trend. Thus, construction activity as a proportion of total economic activity has continued to fall towards the west German level, although on a per capita basis building investment remains higher in the east. This is no longer the case for housing construction, however. Given the large numbers of unused buildings and the declining population, this year housing construction will once again contribute to a decline in construction activity in the region, although this will be less pronounced than last year. Given the tight fiscal position of state and local governments in eastern Germany, further cutbacks in public construction investment are also to be expected. For at least the first half of this year no improvement in commercial building activity is likely.

Table 3
Key Forecast Figures for Germany

	1999	2000	2001	2002	2003
Gross domestic product[1] (percentage change over previous year)	1.8	3.0	0.6	0.6	2.1
Western Germany	.	3.2	0.7	0.6	2.1
Eastern Germany (excluding Berlin)	.	2.1	–0.7	0.2	1.2
Gainfully employed[2] (in 000s)	38 083	38 701	38 765	38 693	38 849
Unemployed (in 000s)	4 100	3 889	3 852	4 040	3 959
Unemployment rate[3] (as a percentage)	9.7	9.1	9.0	9.5	9.2
Not gainfully employed[4] (in 000s)	3 416	3 133	3 114	3 296	3 215
Percentage not gainfully employed[5]	8.2	7.5	7.4	7.9	7.7
Consumer prices[6] (percentage change over previous year)	0.6	2.0	2.5	1.4	1.3
Unit labour costs[7] (percentage change over previous year)	0.6	–0.2	1.5	1.6	0.7
Balance of payments on current account[8] (Euro billion)	–16.8	–20.3	–2.0	5.0	5.0
Public sector financial balance[9]					
Euro billion	–30.7	23.9	–57.2	–57.3	–51.8
as % of nominal GDP	–1.6	1.2	–2.8	–2.7	–2.4

1 At 1995 prices. — 2 National (annual average based on quarterly figures). — 3 Unemployed as a percentage of the national workforce. — 4 In accordance with the convention of the International Labour Organization (ILO). — 5 Persons not gainfully employed as a percentage of the national workforce. — 6 Price index for the cost of living of all private households. — 7 Labour costs (wages paid per employee) in relation to labour productivity (gross domestic product at 1995 prices per person gainfully employed). — 8 As defined by the Balance of Payments statistics. — 9 As defined by the national income and expenditure accounts (ESVG95 – Europäisches System volkswirtschaftlicher Gesamtrechnungen – European System of Integrated Economic Accounts); Net financial investment 2000 including special receipts from issuing mobile telephony licences (Euro 52.3 billion).
Sources: Federal Statistical Office; German Bundesbank; DIW Berlin calculations; 2001 to 2003: DIW Berlin estimate and forecast.

All in all, the crisis in the east German construction industry is set to continue.

Large parts of the service sector have also failed to develop as hoped. This is true both of public services, which have suffered further job losses and consumer-oriented services, and this in spite of the income tax cuts and a marked rise in per capita wages: the impact of the declining population is felt particularly strongly in consumer services. Inflation also had a negative effect, because in the basket of goods purchased by east German households food items have a greater weight than in eastern Germany, and food prices rose particularly sharply. Business in the hotel and catering sector was particularly bad: nevertheless, tourism managed to record positive growth rates in 2001, albeit not as high as in the previous year.

As in previous years, industrial output expanded. Exports of industrial goods grew particularly strongly, and east German firms can also be expected to have increased their sales to west Germany. Clearly, the subsidies available in the region, the improved infrastructure and the lower wages costs have enabled eastern Germany to become an attractive location for industrial production. Yet the increasing degree to which the region has become integrated within a supra-regional division of labour means that east German industry has felt the effects of the global economic downturn: industrial output lost momentum during the course of 2001. The available indicators suggest, however, that the weakening has been less pronounced than in western Germany.

Even so, this year eastern Germany will once again fail to match the – very modest – growth rate achieved by western Germany. Private and government consumption remain weak, and investment – especially in construction – will decline. Positive impulses are not to be expected until the second half of the year from the general improvement in the economic climate; the prime beneficiaries will be industry and activities linked to industrial production.

Economic policy

Economic policy facing new challenges

The weakening of economic activity in the euro zone and the recessionary trends in Germany throw down a new challenge to economic policy. Unlike those in 1992/93 and 1981/82, the weakening is not the result of a conscious decision by economic policy makers: on those occasions the Bundesbank attempted to ensure the maintenance of price stability by severely tightening its monetary policy.

Until the middle of 2001 European monetary policy was intended to slow down what the ECB saw as an excessively high rate of growth and to counter any threat of inflation. Yet at no time was monetary policy so tight that a stagnation throughout the euro zone was inevitable; this is true especially for the monetary parameters as a whole, which, given the substantial depreciation of the euro, could be considered neutral.[4] Meanwhile fiscal policy in 2001, given the substantial tax cuts in many of the euro zone countries, was actually expansionary. Last but not least, wage and salary growth in the currency area was perfectly consistent with price stability, in spite of the hike in oil prices. Thus, from an economic policy perspective the cyclical downturn was an accident, albeit one with disastrous consequences for growth and employment.

The general bewilderment with which recent developments have been received demands that their causes be examined more closely. As already mentioned in the section on the world economy, the prime reasons are the cumulative effects of the negative shocks and the synchronous collapse in confidence in the USA, Europe and Germany. Econometric studies, for example by the German Council of Economic Experts, show that such a 'globalisation of moods' does indeed exist. Indeed, this is an automatic consequence of the increasing global integration of goods and capital markets. Thus, it is hardly surprising when even domestic firms take a correspondingly more pessimistic view of the economic situation. A loss of confidence has an immediate impact on investment. In the short run marginal investment projects are abandoned or postponed. Such 'contagion' tends to synchronise investment cycles. This is one explanation for why, contrary to what the standard business-cycle parameters suggested, investment in the euro zone, too, more or less collapsed as early as in the spring of 2001. This phenomenon had not been observed in the same intensity in earlier cycles.

[4] The German Economy in the Autumn of 2001, Six Institutes' Report. In: *Economic Bulletin*, vol. 38, no. 11, November 2001.

These findings are particularly worrying for one reason. If impulses spread in the way just described, cyclical fluctuations will tend to overshoot: even if the situation in a given region is, in domestic terms, stable, it can be destabilised, if no countermeasures are taken, by contagion from external economic impulses of the type described above.

The decisive question is whether and how economic policy makers should react to the changed circumstances. Many observers, notably the German Council of Economic Experts, claim that in such a situation a steady hand, rather than policy activism, is called for. If this is interpreted as recommending a policy that does not destabilise market expectations through erratic action, then this is always correct. However, if it is interpreted as sticking to existing implicit or explicit rules, then we must ask whether the changed circumstances might have made existing rules obsolete and whether precise adherence to them means provoking destabilisation. This is particularly true when the stability of the business cycle is threatened by external shocks. This calls for greater flexibility from all those policy actors with a bearing on business-cycle policy.

Fiscal policy makers must reconsider their consolidation strategy. By revising its stability programme, the German government has admitted that, under the prevailing circumstances, it will have to depart from the consolidation path pursued so far, at least temporarily. Recent budgetary developments have revealed starkly just how dependent on cyclical developments the attainment of consolidation targets really is. If the faster transmission of external impulses means that even greater cyclical fluctuations are to be expected, then the consolidation strategy cannot simply ignore this fact. Rather, greater attention must be given to those elements that permit fiscal policy to adopt an anti-cyclical course. A major obstacle to greater fiscal flexibility in Germany is the weak tax base of local authorities. This reduces the effect of anti-cyclical measures taken by central government, such as bringing forward the tax reform. In order to remedy this, the taxation powers of local government must be increased.

Monetary policy is also called upon to review its strategy in the light of these developments. After all, under present conditions price stability can quickly come under threat in both directions. What is not required – although demands for a steady hand might suggest this – is for rules to be followed yet more strictly, if not mechanically. The ECB was right to point out, in its October *Monthly Bulletin,* that this is not appropriate given the inevitable limitations of models and their diversity. Rather, what is important is that the measures taken by the ECB are oriented more clearly towards the future and are more flexible than has been the case to date. Given the unavoidable lags before changes in base rates make their effects felt, this is the only way that infringements of the stability goal in both directions can be prevented at an early stage. A wait-and-see attitude does not stabilise expectations, but rather causes the market to see the onset of a cyclical weakening or overheating as ever more probable. To hesitate is thus to destabilise. Seen in this light, the argument that the ECB was unable to cut interest rates more quickly last year – as it was repeatedly urged to do by the DIW – because the current rate of inflation was too high does not hold water. Those price rises were, namely, as the ECB itself conceded, primarily one-off effects that subsided once more, as expected in the course of the year. Thus, the monetary authority did indeed have scope for early cuts in interest rates in order to cushion the downturn. Given the rapid spread of the confidence crisis, such action would have been urgently needed, particularly with a view to stabilising expectations. A clearly expansionary monetary policy stance was the only way in which the downturn could have been kept within tight bounds.

Under the prevailing economic policy conditions, it can be expected that the main impulse for recovery will come solely from the highly expansionary stance of economic policy in the USA. The impulse is thus based in that economic area whose economic situation, particularly on the labour market, can be classified as favourable, in terms of a longer run comparison with Europe and Japan. At the very least, the USA is currently far closer to the full-employment goal, despite the recession, than the euro zone.

The upturn expected in Germany under these conditions will, initially at least, lack the dynamism that comes from domestic demand. It is sustainable only for as long as the markets are prepared to accept the very substantial foreign trade deficits by the USA that it implies. If this were not to be the case – contrary to the assumptions on which the prognosis is based – a dramatic appreciation of the euro would be likely, which would swiftly choke off exports as a source of European economic growth. The squeeze on exports could, in turn, also bring this upturn to an early end.

In this report one year ago, the DIW wrote 'Last year's strong cyclical expansion in Germany has somewhat lightened the heavy burden of unemployment. Even so, the still high level of unemployment remains the economic policy target that is being most flagrantly missed. Thus, it remains the case that economic policy must be set in such a way that the employment growth that has just begun is continued at a brisk pace.'[5] This call for a more expansionary economic policy, one relying on domestic demand, has become even more urgent following last year's cyclical downturn. Yet Europe and particularly Germany are once again risking everything on the one card, the 'external economy', contenting themselves with economic growth of around 2.5% for the euro zone and around 2% for Germany – once again not enough to lastingly reduce unemployment.

Limited room for fiscal policy action

In the summer of last year the DIW called for the planned package of tax cuts in Germany to be brought forward in the event of a threat of recession. It also argued in favour of increases in spending items that would boost growth, such as public investment, education and science. In the autumn this was also the majority view of the six leading German economic research institutes. Since then the economic downturn has accelerated and the budget deficit will be substantially greater than originally expected. So far fiscal policy has by and large permitted the built-in stabilisers to do their work; yet this is not likely to be fully the case in the current year. The impact of the built-in stabilisers will be reduced by the behaviour of state and in particular local governments, which react to revenue losses by cutting spending. All in all, German fiscal policy in the current year will by broadly cyclically neutral, i.e. government finances will neither exert a significant restrictive effect on the economy nor provide a positive impulse. Is a cyclically neutral policy appropriate in a recessionary phase?

By way of its multi-annual reform of taxation, the federal government – in a federally constituted state it is primarily the federal level that must set the course for cyclically motivated activities – has the opportunity of linking up measures designed to raise growth and improve allocative efficiency with cyclical considerations. The federal government has failed to take this opportunity. From a cyclical point of view there could have been no better time than 1.1.2001 to implement the tax cuts of euro 7 billion (or 0.3% of GDP) originally planned for 2003. This would have bolstered private purchasing power, all the more so because this stage of the reform – raising of the basic tax-free allowance and lowering of the opening rate of income tax – would have favoured those on low incomes, who spend a relatively high proportion of their income. There are no administrative obstacles to bringing forward the tax reform, so that – as a second-best solution – it would be relatively simple to introduce the tax cuts on 1 April of this year, which would strengthen the forecast upturn in its initial

[5] Economic Trends 2001/2002. In: *Economic Bulletin*, vol. 38, no. 1, January 2001.

stage. Tax reimbursement cheques, as sent out in the USA, would only slightly accelerate the transposition of the measure into purchasing power. An alternative to bringing forward the tax reform remains an increase in growth-promoting expenditure.

The German government rejected calls for the tax reform to be brought forward with reference to, among other arguments, the observation that substantial tax cuts in previous years had not prevented the economic downturn. And indeed, it would be quite wrong to believe that an economy can be prevented from sliding into recession, not to mention 'turned around', by fiscal policy measures alone. Yet there can be no doubt that the 2001 tax reform made a significant contribution to stabilising the economy. Without this measure the contraction would have been much more severe. If the economic expectations have not been fulfilled then this is not because the tax cuts did not produce any effects, but rather because these effects were more than offset by other influences, such as the loss of purchasing power resulting from the oil-price hike, and also the counteracting impact of the restrictive spending policy by the three tiers of German government.

Another reason given by the German government for its wait-and-see attitude is the credibility problem that it would face if it were to abandon the deficit targets formulated in the stability programme. The first question that arises is whether sticking to this programme in a recessionary phase will not cause irreparable damage, and whether this damage is not more serious than a possible failure to meet deficit targets. Credibility is just as likely to be damaged if policy makers, facing a stiff cyclical headwind, stick to a fair-weather scenario that no longer reflects reality.

In addition, we must ask whether the German government is not adhering to an overly restrictive interpretation of the Stability and Growth Pact: after all, up to the reference value of 3% of GDP fiscal policy does have room for manoeuvre. It is only if this target is missed that a credibility problem arises. Although the Maastricht treaty permits the reference value to be temporarily exceeded even if the decline in GDP is less than 2%, the country in question must convince the Ecofin Council that this is an exception and temporary in nature. If the Council does not accept this evaluation, the policy of the member state indeed comes up against a serious problem, quite apart from the loss of confidence in view of the heavy emphasis placed on the deficit targets in the economic policy debate. As far as the current situation is concerned, it should be noted that annual average growth rates in Germany are still positive, making it difficult to claim a sudden downturn as an exceptional situation justifying a breach of the ceiling. However, within the limitations set by the 3% ceiling countries are free to act at any time. In other words, it is not the target set by a government in its national stability programme, but rather the European Stability and Growth Pact that sets the constraint, particularly in a recession.

Thus, the far more relevant question is whether this framework for national fiscal policy offers significant cyclical 'breathing space', or whether the limits are set too low to permit an appropriate fiscal policy reaction. In the run-up to the implementation of the Maastricht treaty the DIW repeatedly pointed out that, in an economic crisis, national fiscal policy would be too tightly restrained by the limit chosen, and thus that the 3% limit was a mistake in the overall design. These fears now appear to be being confirmed, for it is not only in a serious recession – defined as a decline in real GDP of at least 2% – that both unemployment and fiscal deficits rise sharply. This occurs in a period of economic stagnation or even sluggish growth. Any attempt by fiscal policy to respect the reference value while at the same time taking an anti-cyclical stance inevitably amounts to trying to square the circle.

Nor is it possible to resolve this dilemma by distinguishing between cyclical and structural deficits. It is a widely held view that governments should accept cyclically induced deficits while at the same time reducing structural deficits.[6] Such a distinction throws up thorny problems, however: determining the cyclical 'gap', or the fact that unemployment follows the cycle with a time lag or that taxes on profits are 'distorted' due to the assessment lag. How are tax cuts to be evaluated in cyclical terms? In the debate they normally come under the structural deficit.[7] Above all else, though, it must be recognised that a reduction in the structural components of the deficit – however these might be defined – in a recession have negative effects on aggregate demand, just as when government is not prepared to accept cyclically induced deficits and offsets the resulting revenue losses by cutting spending. From the point of view of the business cycle, the distinction between structural and cyclical deficits is irrelevant. Those investors and consumers that are directly affected by fiscal policy decisions perceive the cutbacks as a loss of income or demand irrespective of the motive behind them.

All in all, the fiscal deficit forecast here leaves German fiscal policy with little room for manoeuvre, once the built-in stabilisers have been permitted to do their work. Bringing forward the planned tax cuts would, even allowing for the self-financing effects, exhaust this scope.

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[6] This is a position taken by the German Council of Economic Experts, for instance.

[7] Last year almost half of the deficit resulted from the tax cuts introduced in January 2001.

Yet this leaves unresolved the problem that public investment urgently needs to be boosted in order to arrest the decline in public investment. At 1.6% of GDP, public investment will reach a historic low in 2002 and will also be considerably below the European average. Even if such a comparison does raise problems of definition – to varying degrees infrastructure investments are performed by public-sector companies that are not recorded under the heading public sector – the finding is clear: if Germany has declined in economic dynamism then this is partly due to the decline in government spending on infrastructure. For Germany to reach the EU average, public investment would have to be raised by almost one percentage point of GDP, i.e. by euro 20 billion. Studies of investment requirements point to the massive need for public capital spending in both eastern and western Germany.

Yet it is precisely local government that is particularly hard hit by the decline in tax revenues, as the revenue losses from trading tax (*Gewerbesteuer*) go far beyond the extent of the economic slowdown.[8] It is therefore of vital importance that additional revenues are provided to local government. Given that many state governments also face problems raising revenue, it is first and foremost central government that should take the initiative. It has the necessary instruments at its disposal, for under Art. 104(4) of the German constitution it may grant local authorities financial support for particularly important investment projects. Such support would also offset the revenue losses incurred by local government resulting from the acquisition of UMTS licences by telecommunications companies. Another possibility would be to reduce the extent to which local authorities must transfer trading tax revenue to state and central government, or to increase the share of VAT revenues going to local authorities. A higher proportion of VAT receipts would benefit local authorities in eastern Germany almost as much as those in the west of the country, whereas the reduced importance of trading tax revenue in eastern Germany would disadvantage it in relative terms if the option of reducing the transfer of trading tax revenue were chosen. In the medium term what is really needed is a fundamental reform of the system of local government financing.

The conclusion to be drawn from these considerations is that the scope for discretionary fiscal measures in the current year is constrained by the narrowness of the gap between the forecast deficit and the reference value set out in the Maastricht treaty. This scope should nevertheless be used. In that case fiscal policy makers must choose between additional public investment and bringing forward tax cuts. Infrastructural decay may well be the more serious problem, so that priority should be given to boosting public capital spending.

Monetary policy

European Monetary Union (EMU) has, on the whole, been a success during the first three years of its existence. However, the ECB has exhibited a general bias towards policy restriction in its actions that constitutes a barrier to the full development of the growth potential of the euro zone. Of course, the ECB has had a difficult job. Not only did new structures have to be created and tested and a uniform monetary policy for eleven (and from 2001, with the addition of Greece, twelve) countries formulated and implemented, but also three negative external shocks had to be overcome: the repercussions of the Asian crisis of 1998/99, the oil-price shock 1999/2000, and the synchronous global economic downturn in 2001, marked by recessions in the USA and Japan. In the past each of these shocks would almost certainly have led to significant exchange-rate turbulence within Europe. The D-Mark would have come under appreciation pressure, exacerbating, in Germany, the restrictive impact of the negative exogenous shock by further reducing export demand, whereas countries whose currency faced depreciation would have been forced to take counteraction in the form of higher interest rates, exacerbating the restrictive impulse by dampening down domestic demand.

Thus, one of the main expectations placed in the single currency has already materialised; the end to exchange-rate fluctuations within the euro zone, with a stabilising effect on real-economic developments.[9]

The ECB reacted swiftly to the Asian crisis by cutting interest rates, thus helping to prevent any serious economic downturn and permitting strong growth in the euro zone in 2000. However, the ECB's reaction to the oil-price shock and the current serious global economic downswing evinced its concern about its as yet

[8] Indeed, the tax has become even more cyclically sensitive since the removal of trading capital from the tax base, as the tax is now raised solely on profits (and this is de facto concentrated on a small number of medium and large enterprises). Alongside the losses emanating from tax reform – and not merely from income tax, but also from trading tax, whose tax base is derived from corporation tax – a number of one-off effects also come into play, such as the increased use of special tax concessions in the context of mergers and restructuring.

[9] In addition to ending exchange-rate turbulence within the euro zone, the second main advantage of a common currency – efficiency gains as economies become increasingly integrated and lower transaction costs associated with currency changes (e.g. hedging transactions) – has also made itself felt, albeit covertly, in the past three years. Clearly, the introduction of euro notes and coins will make this advantage of the common currency much clearer to consumers.

unproven record as a guardian of the value of money, which lent something of a restrictive bias to its actions.

Not only did the ECB, in November 1999, reverse the interest-rate cut made in response to the Asian crisis, it continued to raise rates in the year 2000, by a total of 1.75 percentage points. The last hike in rates occurred in October 2000, when there were already signs of a weakening in economic activity. The restrictive attitude on the part of the ECB that this manifests reflects the fact that it considers only a relatively slow rate of growth (2.25%) to be compatible with price stability in the medium term.[10] Consequently it wanted to significantly reduce the pace of growth in order to bring it into line with the trend growth rate of the past. Furthermore, unlike the US Federal Reserve, the ECB reacted to the drastic rise in import prices, which led to a considerable spike in the consumer price level. This largely reflected the rise in the price of crude oil, a negative supply shock that was exacerbated by the marked depreciation of the euro.

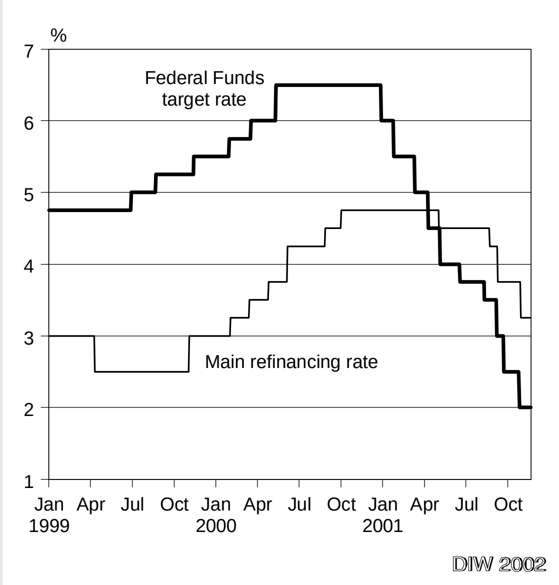
Yet given that wage trends were moderate, and there were no real signs of intensifying wage pressure due to labour market bottlenecks, or supplementary wage demands in reaction to the spike in consumer prices, neither the strong growth recorded in 1999/2000 nor the oil-price shock in fact called for a monetary policy reaction. A sustained, strong upturn would have led, given pay moderation, to higher employment and lower unemployment, while the spike in the price level, as a one-off effect, would have had no influence on the medium-term inflation trend.

Then, in the first half of 2001, the ECB reacted hesitantly and weakly, in accordance with its restrictive bias, to the signs that domestic demand was weakening and the deteriorating global economic climate. Whereas the American central bank, in reaction to what it saw as the excessive flattening of growth, loosened policy as early as January 2001, cutting rates by the summer by 3 percentage points, until the end of August the ECB reacted to its own downward revision of growth expectations with a rate cut of just one-quarter of a point. By the end of last year the Federal Reserve had cut rates by a total of 4.75 points, to 1.75%, whereas the ECB reduced rates by just 1.5 points, to 3.25% (cf. figure 15). This is despite the fact that growth is likely to be below 1.5% in both the current and the coming year, so that, even on the ECB's calculations, a significant output gap will arise in the euro area.

Figure 15

ECB Main Refinancing Rate and Federal Funds Target Rate

January 1999 to November 2001



1 The decisive interest rate is that at which the main refinancing operations are conducted. Since the ECB's decision to shift, in June 2000, from a quantity bid to an interest-rate bid it has been termed minimum bid rate for the main refinancing operations; previously it was called main refinancing rate.

Sources: European Central Bank; Federal Reserve Board.

The ECB has also exacerbated its decision-making problems by according the growth of the money supply a prominent position as an independent, indeed the first, pillar within its two-pillar strategy. Because the money supply is not suited to use as a reliable, forward-looking indicator of price trends, the ECB merely sets a reference value for the rate of monetary growth, which is to be attained over the medium term. Some observers misinterpret the reference value as an intermediary target, however, and then expect and/or call for semi-automatic reactions to deviations of the actual values from the reference value. Yet the evolution of the money supply since the start of monetary union clearly shows that a mechanistic reaction by monetary policy to deviations from the reference value would not be in accordance with the goal of price stability. Money supply growth has been influenced by a number of temporary or one-off factors that offer no indication at all of a future threat to price stability.[11] More recently portfolio

[10] Although the ECB indicates a range for the increase in potential GDP growth of between 2% and 2.5%, if account is taken of the other variables (2% for the rise in the price level and an allowance of between 0.5% and 1% for the secular decline in the velocity of circulation of money), then the figure that emerges is 2.25%. Cf. *ECB Monthly Bulletin*, October 1999, p. 10 ff.

[11] The one-off influences include the introduction of minimum-reserve requirements in a number of member states at the start of monetary union and the increased need for transaction balances as a result of the price-level spikes in 2000 and 2001; cf. ECB, *Monthly Bulletin*, May 2001, p. 11 ff., and Bundesbank, *Monthly Bulletin*, June 2001, p. 41 ff.

restructuring has raised the growth rate of M3: such restructuring results from an increased demand for short-term securities, which form part of M3, in consequence of the greater uncertainty surrounding economic developments in the future. They do not constitute demand-relevant liquidity and thus have no connection with inflationary pressure in the future. Once the bear stock market has been overcome, funds are likely to be switched out of such assets, leading to a correspondingly weaker growth of M3.

The ECB correctly draws attention to the fact that the relationship between money supply and prices holds only in the medium term. Thus, de facto its strategy amounts to one of 'inflation targeting'. If it assumes, based on new econometric studies,[12] that there is in fact, in the euro zone, a stable relationship between the growth of the money supply and inflation, at least in the medium term, then it is perfectly reasonable for the money supply to be used as one indicator among many within the framework of an inflation targeting approach. Monetary growth that significantly and over an extended period consistently exceeds the trend rate of growth of productive potential, the normative rate of inflation, and the (inverse) trend change in the velocity of circulation of money cannot be reconciled with the degree of price stability targeted by the ECB. In the short run, though, this relationship is much looser. Short-run fluctuations in the rate of money supply growth, often caused by specific factors, such as increased uncertainty about future interest-rate movements, therefore do not constitute reliable indicators for price trends in the next one or two years. Thus, for short-run inflation forecasting the status of money supply growth as an indicator is conditional on those indicators, such as the output gap and unemployment, and thus the decisive variable of unit labour costs.

In view of this, the ECB was correct in choosing a reference value rather than a target for the rate of money supply growth. What was questionable, however, was the initial choice of 4.5% as the reference value and the confirmation of this figure for 2002.[13] Here again the restrictive bias becomes apparent. The assumed rate of economic growth in the medium term (potential growth) that is compatible with price stability that underpins this value, namely 2.25%, is too low. The same is true of the allowance for the trend decline in the velocity of circulation of money (0.75%).[14] A strict orientation towards this reference value would lock in the euro zone economy to the slow average growth rates recorded in the 1990s, and thus into high rates of unemployment.

To the extent that wage growth remains as moderate as it has been in recent years, it is to be hoped that the ECB will recognise this as a factor that permits a faster rate of non-inflationary growth. This potential can only be realised if wage restraint is 'given due credit' by the monetary authority. This means not only if the ECB maintains interest rates at their current level, but also if it increases the reference value in the coming years. If, on the other hand, wage trends were to deviate from their moderate growth path, the ECB would be forced to tighten the monetary reins in order to prevent a wage-price spiral from the outset.

Wages and salaries

It is often claimed that in times of economic weakening, pay bargainers bear a special responsibility. By agreeing moderate wage settlements that do not exploit the scope created by productivity growth, even allowing for price increases, they can help, it is claimed, to overcome the recession. This view amounts to the demand for flexible nominal wages. From the point of view of an individual company, low wages in times of crisis are always a good thing. From the macroeconomic perspective, however, different conclusions must be drawn.

This can be shown very well with respect to the current cyclical setback, which, at heart, is due to a global weakness of demand. Although the oil-price rise in 2000 is to be understood as a negative supply shock, this was absorbed in the course of the first half of 2001, primarily by virtue of the then extremely moderate growth of wages and salaries (cf. figure 16). For current developments it is unlikely to be relevant any longer as a negative impulse, particularly given that oil prices have now fallen substantially. What is still having an effect is the demand weakness resulting for the euro zone as a whole from both the loss of purchasing power due to the oil-price shock and from the sharp fall in global demand. Thus, the economic policy of the euro zone as a whole, and particularly in Germany, must be oriented towards stabilising demand trends.

In such circumstances wage moderation in the sense indicated above can turn into a boomerang. This can be shown with reference to a model, closed economy with a constant capital stock, employment level, output and thus also productivity. What happens when employers cut wage rates by, say, 10% and then, to gain market share, reduce their prices by, say, 5%? In the first

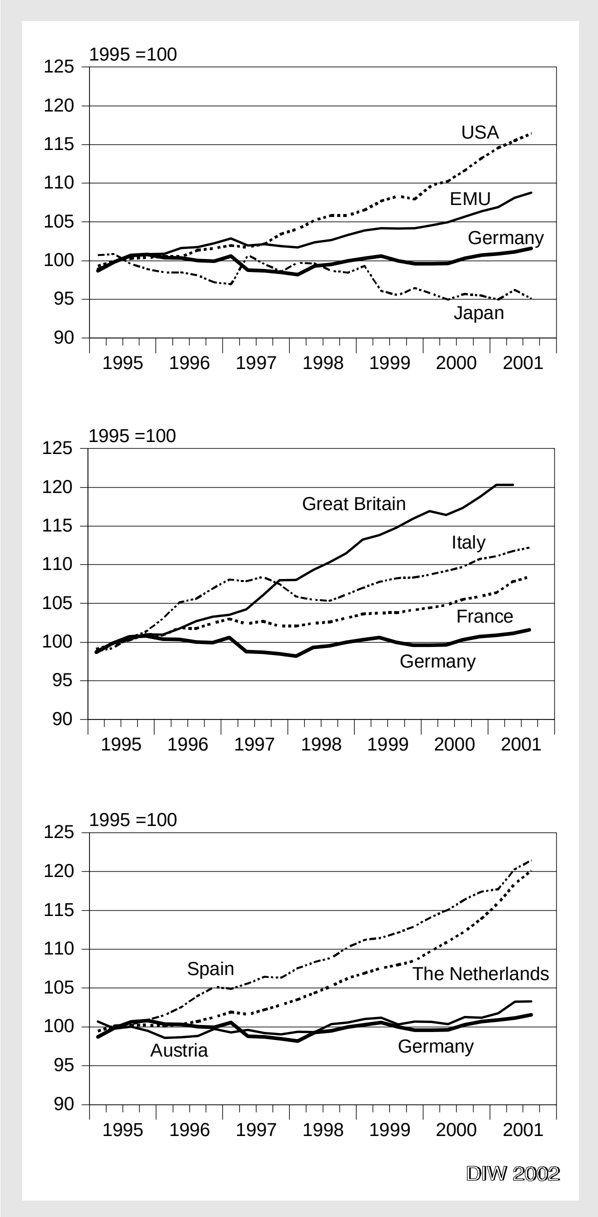
[12] Cf. C. Brand and N. Cassola, 'A money demand system for euro area M3', *ECB Working paper* no. 39, and G. Coenen, 'The demand for M3 in the euro area', *ECB Working paper* no. 6.

[13] Cf. *ECB Monthly Bulletin*, December 2001, p. 11ff.

[14] Cf. Economic Trends 2001/2002. In: *Economic Bulletin*, vol. 38, no. 1, January 2001.

Figure 16

Unit Labour Costs[1] in International Comparison



1 Gross income from dependent employment in relation to real GDP; seasonally adjusted.
Sources: OECD; Federal Statistical Office; DIW Berlin calculations.

instance unit labour costs fall by around 5%. Yet this does not automatically increase the total volume of profits, for total profits depend on how the quantity of consumer goods sold reacts to the cut in wages. It can be expected to fall. Given that in this example nominal wages fall by 10% while consumer good prices fall by just 5%, real income has declined by around 5%. Experience shows that wage-earners initially cut their real consumption, but by less than this amount. However, this is at the cost of running down their net financial assets, i.e. savings. In such a case total profits can indeed rise, but given the falling volume of sales and fears that the decline in saving will be merely temporary, firms will have no incentive to invest their additional profits in job-creating real capital. Firms may use their additional revenue to finance rationalisation investment, but this is highly unlikely to create jobs and will rather be to the detriment of employment and thus real incomes. But if total output and employment fall, it is clear that wage moderation is not a step towards the goal of stabilising economic developments, but, on the contrary, a step in the other direction.

At first sight the demand gap could be closed by the 'rest of the world', as wage moderation raises domestic competitiveness vis-à-vis foreign competitors; by gaining market share exports could be expanded. Yet this can only work in small, open economies. Germany is not in this category. The success of such an approach depends on the assumption – which is unrealistic in the long run for a large country – that other countries do not follow the wage-moderation example. If this is not the case then the competitive advantage is quickly lost and the demand loss remains. Ultimately, the attempt, faced with weak demand, to improve international competitiveness via wage moderation is a microeconomically oriented strategy that ignores macroeconomic interlinkages.

This conclusion should not be taken as carte blanche for excessive wage increases. From a macroeconomic perspective wage bargainers cannot be called upon to overcome a cyclical weakening caused by a loss of demand. It is not the case that higher wages necessarily mean more demand. Wage increases that exceed the sum of productivity growth and the target inflation rate of the central bank either endanger price stability – leading to higher interest rates – or squeeze profits directly, thus worsening the economic situation. As soon as wage increases lead to a deterioration in supply-side conditions, the potential demand boost resulting from the wage increases can no longer be realised. For wage and salary earners, too, redistribution in their favour merely exacerbates the situation. This would set a negative supply shock on top of the negative demand shock, a recipe for a deep recession. For these reasons cyclical fluctuations are best countered by means of a rigid nominal wage policy that does not aim at redistribution in either direction.

'Arbeitskreis Konjunktur' in the DIW
(Study Group 'Business Cycle')