II

Economic Developments in the Federal Republic of Germany

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The Real Economy

Overview

In 1989, for the second year in a row, the pace of economic growth in the Federal Republic of Germany (FRG) exceeded most projections.[1] Real GDP rose by 3¼ percent, and, with an unusually fast rise in investment income from abroad, real GNP grew by 4 percent, the highest rate seen in a decade (Table 1, and Chart 1 in Chapter I). The principal source of stimulus was strong foreign demand, particularly from European trading partners. Despite an acceleration of investment, domestic demand expanded less quickly than in 1988, as consumption growth slowed noticeably. Indeed, the increase in investment in 1989, although markedly stronger than in any other year since 1979, was exceeded by the rise in national saving; as a result, the excess of national saving over investment, the mirror image of the external current account surplus, widened by ½ of 1 percentage point of GNP to 4½ percent. Despite continued rapid growth of demand, underlying inflationary pressures remained moderate, with economy-wide unit labor costs rising by less than 1 percent; the rate of increase of consumer prices did double in 1989 to 2¾ percent, but this was due principally to indirect tax measures introduced at the beginning of the year and a deterioration in the terms of trade. There was a notable improvement in labor market conditions—job creation far exceeded the expansion of the labor force resulting from higher immigration—and the unemployment rate fell by ¾ of 1 percentage point.

Data for the first half of 1990 indicated continued strong growth and, for the year as a whole, GNP is expected to rise by about 4½ percent, spurred by the increased demand emanating from German economic, monetary, and social union (GEMSU). The unemployment rate is projected to fall by a further ½ of 1 percentage point in 1990 despite rapid growth in the labor force. Although the rise in oil prices has boosted consumer prices in the second half of the year, consumer price inflation is expected to be about the same as in 1989 (2¾ percent). A significant decline in the current account surplus is likely, reflecting the diversion of part of west Germany's saving surplus from foreign use to financing the resource needs in the area formerly constituting the German Democratic Republic (GDR).

Table 1. Federal Republic of Germany: Indicators of Economic Performance

(Percent change from previous year)

	1987	1988	1989	1990
Real GDP	1.7	3.7	3.3	4½
Real GNP	1.6	3.7	3.9	4½
Real domestic demand	2.8	3.7	2.7	4¾
Unemployment (percent of labor force)	7.9	7.7	7.1	6½
Consumer price index	0.2	1.3	2.8	2¾
Current account (percent of GNP)[1]	4.1	4.2	4.6	3¼

Sources: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen*; Deutsche Bundesbank, *Monthly Report*; and authors' estimates.

[1] Before July 1, 1990 defined as the current account balance of west Germany vis-à-vis areas other than east Germany. From July 1, 1990 defined as the current account of the entire deutsche mark currency area.

Aggregate Demand

Real Domestic Demand

In 1989, final domestic demand rose by 2¼ percent, somewhat slower than the 3 percent rate of increase over the previous three years (Table A1). This reflected weaker

[1] This chapter deals with developments in the area within the boundaries of the FRG prior to unification with the GDR on October 3, 1990.

growth of private consumption and a decline in public consumption; gross fixed investment, on the other hand, picked up steam.

The relative weakness of private consumption was a response to the slower expansion of real disposable income: although nominal disposable income increased at about the same pace as in 1988, growth of real disposable income was almost halved as a result of higher consumer price inflation (Tables A2 and A3).[2] The effect on consumption of the slower real income growth was moderated, however, by a fall in the household saving rate.

Real public consumption declined in 1989, reflecting reductions in health care expenditure in response to the 1989 health reform. The fall in medical expenses was in part a technical reaction to the surge in the demand for health services that had occurred in the previous year in anticipation of cuts in entitlements under the 1989 reform. The modest nominal increase in civil service wages and salaries (2½ percent) also restrained public consumption.

Business fixed investment was boosted by a number of factors. Among these, the high degree of capacity utilization in manufacturing, accelerator effects related to strong export growth, the favorable liquidity situation,[3] and positive profit expectations (related in part to the single market program of the European Community—EC) were important. Machinery and equipment investment grew particularly rapidly (9¾ percent), but business construction, which benefited from a mild winter, also expanded at a strong pace (5¾ percent).

Nonbusiness investment, which is almost entirely construction, also picked up steam in 1989. Residential building responded to housing shortages in the major urban areas, the strong real income and savings positions of households and, perhaps, also to expectations of a rise in mortgage interest rates;[4] higher rates of household formation and the large influx of ethnic Germans from the countries of Eastern Europe may also have played a role.[5] As a result, the number of dwellings completed rose by 14½ percent and the number of residential building permits by 29 percent. Public construction recorded its fastest growth rate since 1986 (3¾ percent), reflecting favorable financing conditions at the state and local government levels.

Inventory investment contributed ½ of 1 percentage point to the rate of growth of GNP in 1989. It should be noted that this category of expenditure also includes statistical discrepancies—in the FRG the output measure of GNP is statistically better founded than the expenditure measure. Thus, a comparatively high contribution to growth from stockbuilding could reflect an underestimation of one or more of the other expenditure components.[6]

Data for the first half of 1990 indicated an acceleration of domestic demand. Private consumption grew at an annualized rate of 7 percent after relatively slow growth (2 percent) in the course of 1989. Important factors were the boost to disposable income from the tax cut which took effect in January 1990, the falling out of the inflation effects of the indirect tax increase of 1989, and spending by immigrants and visitors from the GDR.[7] Investment growth was even stronger, particularly in the first quarter of 1990, when the mild winter allowed construction expenditure to expand at an extraordinarily fast rate. For 1990 as a whole, the growth of final domestic demand is projected to be twice that of 1989. Most of the increase reflects an acceleration of private consumption, after its sluggish expansion in 1989, but public consumption and fixed investment are also expected to contribute to faster demand growth.

Foreign Balance

In 1989, for the first time since 1985, the real foreign balance made a significant contribution to real GNP growth (amounting to 1¼ percentage points). Half of this resulted from an unusually large increase in the surplus on real net factor services from abroad,[8] reflecting the rise in net foreign assets, a higher rate of return on foreign assets,[9]

[2] The sources of the rise in nominal disposable income were somewhat different than in 1988. Income from employment and distributed profits accelerated. However, these factors were offset by a slower expansion of social transfers to private households and a quicker growth of personal income taxes. The latter reflected the resumption of fiscal drag after the tax cuts of 1988.

[3] In 1989, enterprises financed 88 percent of gross investment out of retained earnings, depreciation, and net capital transfers; in 1988, this ratio had been even higher at 97 percent. Retained earnings in 1988–89 averaged 4½ percent of national income at factor prices, compared with 3 percent in 1986–87 and ½ of 1 percent in 1984–85.

[4] Mortgage interest rates rose by more than 1½ percentage points during 1989.

[5] The influx of GDR citizens was concentrated in the last three months of the year and therefore had little effect on the average level of construction activity in 1989.

[6] In 1988, for instance, a year with a similarly high contribution to growth from stockbuilding, there were indications that the size of the foreign balance was underestimated because of problems with a new foreign trade reporting system that had been introduced in January 1988.

[7] Spending on consumer goods in the FRG by GDR residents should, conceptually, have been accounted for as FRG exports to the GDR. However, statistical coverage of such purchases was no longer feasible after the fall of the Berlin wall. As a consequence, private consumption expenditure in the FRG in 1990 has been to some extent overestimated and exports correspondingly underestimated.

[8] Exports of real factor services surged by 27 percent, while factor payments abroad rose by only 10 percent in real terms.

[9] The rise in the rate of return in 1989 was due principally to higher short-term interest rates. The increase in short-term interest rates was particularly notable for deutsche mark denominated assets but this also benefited the net investment income account as, at the end of 1988, 40 percent of the FRG's net short-term external asset position was denominated in deutsche mark. At the long end, interest rate movements were less favorable to the investment income account as changes in yield differentials favored the deutsche mark (U.S. dollar yields actually declined) and the FRG is a substantial net long-term debtor in deutsche mark denominated assets. However, interest movements at the long-end were less marked than at the short-end and, moreover, get reflected in the existing stock of assets only with substantial lags.

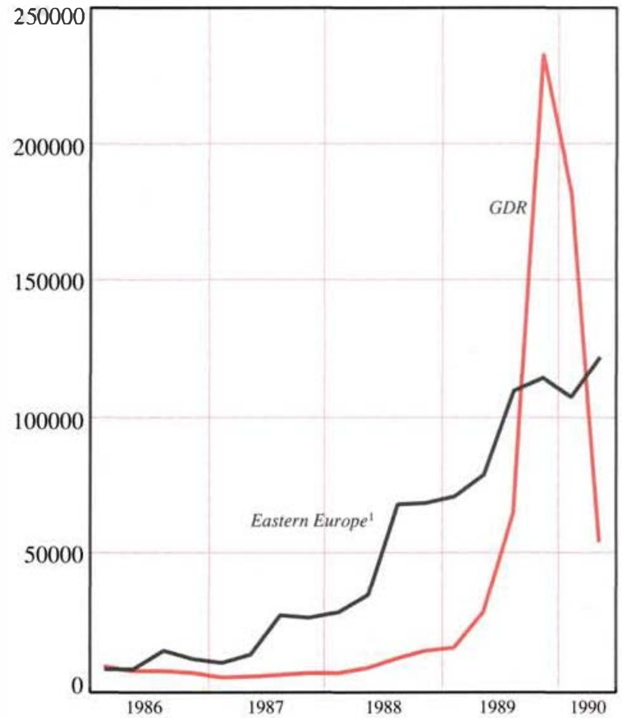
and the depreciation of the deutsche mark.[10] Real net exports of goods and nonfactor services gained strongly, too, reversing part of the decline that occurred in 1986-87. The rate of growth of exports of goods and nonfactor services jumped from 5½ percent in 1988 to 9¾ percent in 1989, owing to strong foreign demand (in particular from European countries) and the real effective depreciation of the deutsche mark in 1988 and the first half of 1989. Despite the depreciation of the deutsche mark and slower growth of GDP, imports of goods and nonfactor services quickened, rising by 8¾ percent in 1989 compared with 5¾ percent in the previous year.

In the balance of payments, the rise in the real foreign balance more than offset a deterioration in the terms of trade, and the current account surplus widened by DM 16 billion to DM 104 billion (Table A4). About two fifths of the increase reflected a higher trade surplus (Table A5).[11] The services balance improved even more, from a deficit of DM 8½ billion in 1988 to a surplus of DM 7 billion in 1989, largely due to the rise in net factor incomes (Table A6). Partially offsetting these gains, the deficit on supplementary items and transfers widened by DM 6½ billion.

In the first half of 1990, the real foreign balance provided a stimulus to growth (amounting to ½ of 1 percent of GNP), but this was not sufficient to offset the decline in the foreign balance that took place in the second half of 1989; the real foreign balance was thus below the level in the first six months of 1989. For 1990 as a whole, the real foreign balance is expected to be broadly unchanged. However, with a terms of trade gain, the nominal surplus on goods and services, on a national accounts basis, is likely to rise. This increasing surplus of the western part of Germany (on a national accounts basis) masks a notable shift in composition, with a significant surplus vis-à-vis the eastern part of Germany (compared with small deficits in the past) concealing a decline in the surplus against other areas.[12] Excluding transactions between the western and eastern parts of Germany,[13] the external surplus is likely to decline in 1990 as the pace of domestic expansion, higher capacity utilization, and a real appreciation of the deutsche mark boost imports and discourage exports. Furthermore,

Chart 1. Federal Republic of Germany: Immigration from the German Democratic Republic and Eastern Europe, First Quarter 1986–Second Quarter 1990

(In thousands)



Source: Bundesanstalt für Arbeit, *Arbeitsmarkt in Zahlen*.
[1] Ethnic Germans from Eastern Europe (*Aussiedler*).

looking at the transactions of what now constitutes the deutsche mark currency area, the decline will be even greater—from over DM 100 billion in 1989 to about DM 80 billion in 1990.[14]

Employment, Wages, and Prices

Over the past three years, the labor force in the FRG has been boosted by high immigration from Central and Eastern Europe. Chart 1 shows that the number of immigrants rose notably from mid-1987. Initially, this was due to the inflow of ethnic Germans (*Aussiedler*) from Eastern Europe but, from the summer of 1989, also reflected the surge in GDR citizens moving to the FRG (*Übersiedler*). In 1989, 377,000 ethnic Germans and 344,000 GDR citizens migrated to the FRG;[15] the cor-

[10] For a given rate of return on foreign currency assets, a depreciation of the deutsche mark results in higher earning valued in terms of deutsche mark.

[11] Table A5 provides a geographical breakdown of the trade account. The trade surplus widened by DM 15½ billion vis-à-vis European countries, but fell by DM 8 billion vis-à-vis the United States.

[12] In the past, there have been two approaches to recording the external transactions of the FRG. The national accounts incorporated all external transactions, including those with the GDR, whereas the external trade and balance of payments data excluded transactions with the GDR. This had little material effect on the quantification of the FRG's external trade and current account position as the balance on transactions between the FRG and the GDR was, until 1990, relatively small.

[13] This corresponds to the basis of calculation that had previously been used in the trade and balance of payments accounts (see the previous footnote). As of July 1, 1990, the balance of payments data cover the entire deutsche mark area.

[14] This calculation assumes that the balance of the GDR on transactions with areas other than the FRG was relatively small in 1989 and the first half of 1990.

[15] In addition, about 200,000 asylum seekers were recorded.

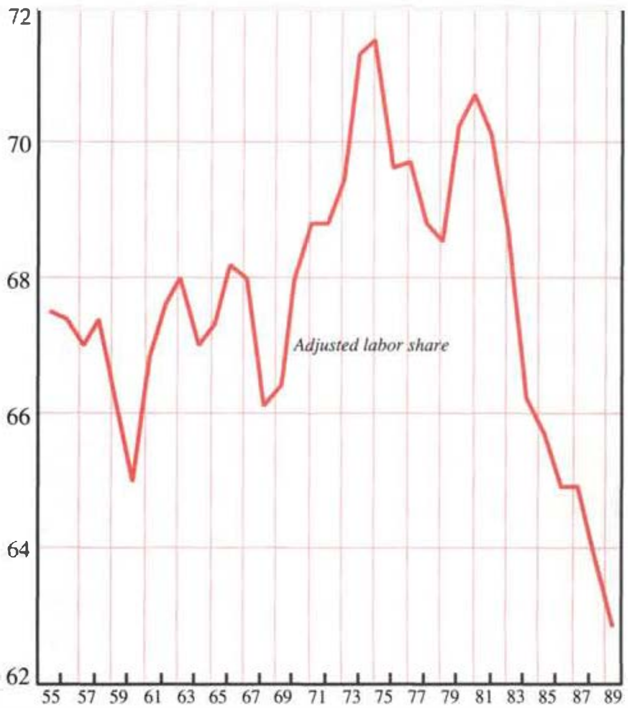
responding numbers for 1988 were 203,000 ethnic Germans and 40,000 GDR citizens. Despite the sharp increase in immigration, however, the growth of the labor force in 1989 (½ of 1 percent) was a little slower than in 1988 (Table A7).[16] Employment, on the other hand, grew by 1½ percent in 1989, almost twice the rate of increase of the previous year. As a result, the unemployment rate fell from 7¾ percent in 1988 to 7 percent in 1989.

In the first half of 1990, employment growth strengthened. On average, the number of people employed was 2½ percent higher than in the corresponding period of 1989. Although the labor force also rose markedly (by 1½ percent), reflecting the large immigration of ethnic Germans in 1989 and of GDR citizens after the fall of the Berlin wall, the unemployment rate was about ½ of 1 percentage point lower than a year earlier.[17] Immigration remained strong in the first six months of 1990: the cumulative inflow of GDR citizens and ethnic Germans amounted to 470,000 adding, over time, a potential ¾ of 1 percent to the FRG labor force. The inflow of GDR citizens was concentrated in the early months of the year and fell off significantly after March 1990 as the political outlook in the GDR improved in the wake of the general election and as prospects for GEMSU became clearer. In January–March, 184,000 people moved from the eastern part of Germany to the west, but only 55,000 migrated over the next three months.[18] The number of ethnic Germans immigrating into the FRG from Eastern Europe (232,000) was, however, more evenly distributed over the six-month period.

Despite the strong economy in 1988 and 1989, cost pressures remained subdued. In 1988, the rise in hourly earnings (3¼ percent) was almost matched by the rise in productivity, with the result that unit labor costs remained virtually stable. In 1989, unit labor costs rose by almost 1 percent, reflecting faster growth of hourly earnings (3¾ percent) and slower productivity growth (2¾ percent). The relatively small rise in unit labor costs in 1988–89 allowed profit margins to widen and, thus, the decline in the labor share of national income since the beginning of the 1980s continued (Chart 2).[19] In 1989, the labor share was sharply lower than in the 1970s when it had been historically high; indeed, since 1986, the labor share has been beneath the low level of 1960.

Chart 2. Federal Republic of Germany: Labor Share of Net National Product, 1955–89[1]

(In percent)



Source: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen.*

[1] Adjusted for changes in the composition of employment between dependent employment (employees) and self-employment; measured as the share of employee compensation in net national product, holding the distribution of employment between dependent employment and self-employment constant at the level of 1970.

The fall in the labor share in the 1980s was related to market pressures for an unwinding of the excessive increase of the labor share in the 1970s[20] and the conciliatory stance in successive wage rounds taken by the trade unions; for most of the 1980s, the unions put greater emphasis than previously on a reduction in the statutory number of hours worked per week and less on wage demands. In 1988–89, the strength of the economy, in conjunction with the prevalence of moderate multiyear wage agreements, reached when the outlook was less buoyant, seems to have been an important factor behind the further decline in the labor share.

More recently, however, it appears that the wage climate has been changing, albeit not radically. Whereas, in 1989, the major sectors of the economy remained covered under

[16] Of the 720,000 immigrants, only a comparatively small proportion were in the labor force in 1989. First, many of the immigrants of working age underwent some form of retraining. Second, the large surge in immigration from the GDR in the second half of 1989 had a relatively small effect on the average labor force for the year. Finally, a sizable number of ethnic Germans from Eastern Europe started learning the German language. The number of participants in German language courses rose from 32,000 in mid-1988 to 63,000 at the end of 1988 and to 109,000 at the end of 1989; almost all were ethnic Germans.

[17] Despite continued large-scale immigration, the number of unemployed immigrants fell from 261,000 in December 1989 to 231,000 in September 1990.

[18] From July 1, 1990, data on migration from the GDR to the FRG have not been collected.

[19] The measure used in Chart 2 adjusts the conventional national accounts measure of the labor share (which incorporates only labor income earned by employees) for shifts between dependent and self-employment.

[20] Various studies showed the emergence of a significant wage gap (the difference between the prevailing wage level and that needed to ensure full employment) in the FRG in the 1970s (see, for example, Leslie Lipschitz, "Wage Gaps, Employment, and Production in German Manufacturing" (unpublished; International Monetary Fund, 1986)).

multiyear wage agreements, contracts covering 11 million of the 18 million private sector employees expired in 1990. In the new agreements replacing these expiring ones, there has been a return to one-year contracts; further reductions in the work week have been delayed; and pay increases have been less moderate. The new agreements implied a rise in tariff wages and salaries of 6 percent on average for 1990.[21] Multiyear agreements covering 7 million private sector workers have remained in effect in 1990; the average increase implicit in these contracts amounted to 3 percent. With government sector workers also covered by a multiyear agreement, earnings per employee are expected to rise by close to 5 percent in 1990, compared with 3 percent in 1989, and unit labor costs to increase by 2½ percent (after a 1 percent rise in 1989).

Consumer price inflation, at 2¾ percent, was higher on average in 1989 than in any other year since 1983 (Chart 3). However, excluding the effects of the increase in excise taxes and postal prices at the beginning of 1989, the rise in the consumer price index (CPI) was about 2 percent, compared with 1¼ percent in 1988 and ¼ of 1 percent in 1987. This acceleration in the CPI (after adjusting for increased taxes) mainly reflected a 4½ percent increase in import prices in 1989. However, from the middle of 1989, import prices fell, owing to a strengthening of the deutsche mark and declining international commodity prices. As a result, the 12-month rate of increase of the CPI came down from 3 percent in the final quarter of 1989 to 2¼ percent in the second quarter of 1990. The downward trend in import prices came to an end in June 1990 and the subsequent increase in oil prices is expected to add ¾ of 1 percentage point to the level of the CPI in the last few months of the year. For 1990, on average, the CPI is expected to increase by 2¾ percent with about ¼ of 1 percentage point reflecting the influence of higher oil prices.

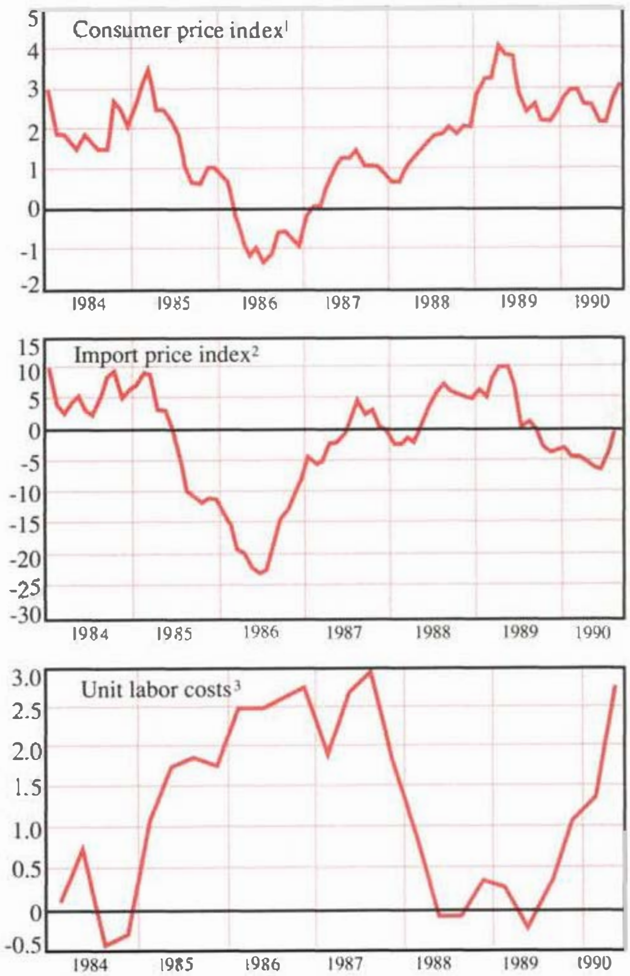
The moderate domestic price environment has been reflected in sectoral statistics. In July 1990, before increased oil prices began to affect statistics, industrial producer prices were only 1½ percent higher than 12 months earlier and agricultural producer prices in the first half of the year were actually lower than in the corresponding period of 1989. The only significant exception to this picture was in the construction sector. Reflecting excess demand, prices for residential construction have been accelerating since early 1988. In 1989, they rose by 3½ percent and in August 1990 they exceeded their year-earlier level by 6½ percent.[22] It should be noted that, historically, construction prices have tended to lead inflationary developments in the FRG (Chart 4).

[21] The new agreements were generally not in effect for the full calendar year; thus, on a full-year basis, they implied a somewhat larger rise in wages.

[22] Demand pressures in this sector were also reflected in a new wage agreement in the construction sector, reached in the second quarter of 1990, which provided for an effective increase in wages of about 8 percent.

Chart 3. Federal Republic of Germany: Inflation, 1984–90

(Annualized rate in percent)



Source: Deutsche Bundesbank, *Monthly Report, Supplement 4*.

[1] The increase over the previous six months of the seasonally adjusted consumer price index, converted to an annual rate.

[2] The increase over the previous six months of the seasonally adjusted import price index, converted to an annual rate.

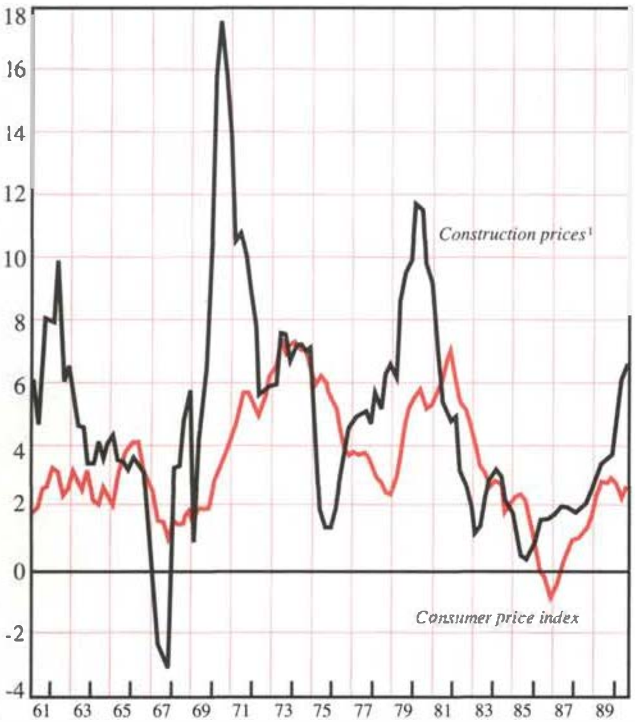
[3] Moving average of unit labor costs (in the total economy) in the current and in the previous quarter relative to the corresponding calculation for the previous year.

Potential Output and Capacity Utilization

Most estimates of economy-wide potential output in the western part of Germany suggest that the output gap which opened up in the course of the 1981–82 recession will have been closed in 1990. A new study, presented in Chapter VII, confirms the impression that capacity utilization is high. Indeed, the study finds that, adjusted for institutional rigidities in the labor market, output in

Chart 4. Federal Republic of Germany: Construction Prices and Consumer Prices, First Quarter 1961–Third Quarter 1990

(Percent change from the corresponding quarter of the previous year)



Sources: Deutsche Bundesbank, *Monthly Report*; and International Monetary Fund, Data Fund.

[1] Residential construction.

1988 was at about its potential level.[23] Sectoral data present a similar picture. Demand pressures in the construction sector have already been noted. In manufacturing, pending capacity limits are suggested by order backlogs, overtime worked, reported shortages of skilled labor, and the Ifo Institute's indicator of capacity utilization.[24] Historical experience would suggest that, in such an environment, inflation pressures are likely to emerge. Chart 5 illustrates that the joint trajectory of inflation and the output gap has tended to take the form of backward bending loops since the early 1960s.[25] While the chart does suggest that, in the last three years, inflationary pressures have increased in line with historical experience, caution needs to be exercised in such an interpretation as the picture is distorted by the low inflation rate in 1986–87 related to the large terms of trade gain. As already observed, the underlying inflationary pressures in the economy, with the exception of the construction sector, were relatively moderate.

In these circumstances, what can explain the rapid growth of output in conjunction with limited price pressure? It is true that the strong immigration into the FRG in conjunction with the higher level of investment has boosted potential output growth. Moreover, the analysis in Chapter VII suggests that, based on past experience, the inflationary pressures of recent years have not been inconsistent with measured levels of capacity utilization. But even taking these factors into account, the supply elasticity in the FRG in 1988–90 has surprised many. In part, price pressures may have been delayed by multiyear wage agreements. There are grounds for believing, however, that potential growth has been faster than measured by increases in potential labor and capital inputs. First, greater flexibility in working arrangements (e.g., shift working) has boosted the available supply of capital services in a way not captured by measures of the capital stock based on investment data. Second, the downward movement of the labor share has lowered the "equilibrium" level of unemployment and the high level of immigration may have had a significant effect on the bargaining power of unions. The growth pattern in the present upswing (Chart 6) would seem to support the view that supply conditions have improved in the last few years.[26]

Developments in Money and Financial Markets

Overview

Money market conditions were tightened considerably in the FRG during 1989. As a result, and despite the buoyant economy, the expansion of M3 slowed to a growth rate of 4¾ percent during the year (fourth quarter to fourth quarter), compared with an increase of 6¾ percent in the course of 1988. Thus, in 1989, after three years of overshooting, the Deutsche Bundesbank met its monetary target (M3 growth of about 5 percent).

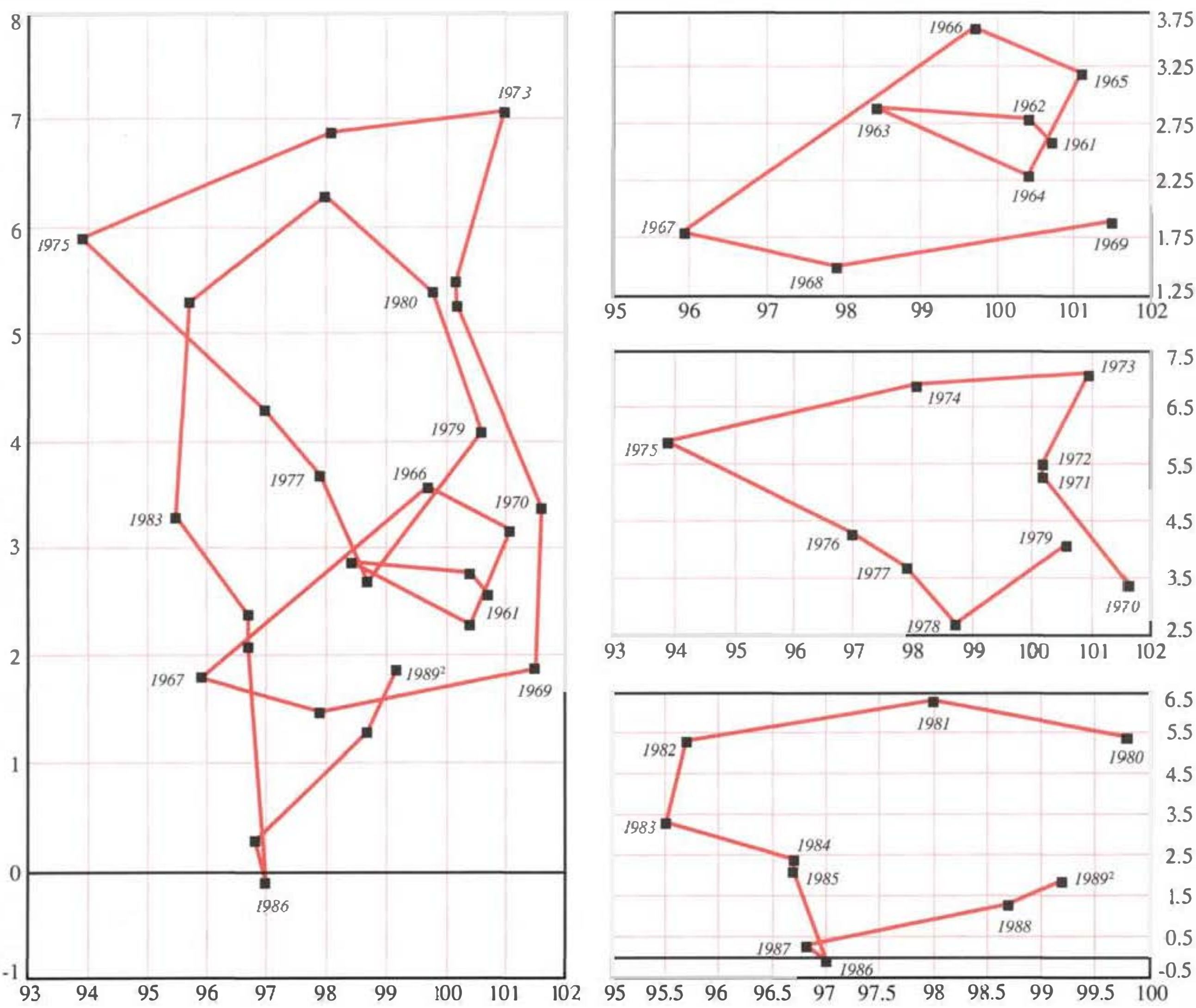
[23] In Chapter VII, the level of potential output, after taking account of institutional rigidities in the labor market, is denoted the quasi-potential output level.

[24] See Chart 1 in Chapter I.

[25] Analytically, such counterclockwise movements in inflation-output space can be explained by models incorporating rational expectations and sluggish price-wage adjustments. Taking 1961 as a starting point, three of these counterclockwise movements in inflation-output space can be identified. The first loop stretched from 1961 to about 1969. Its diameter was comparatively small, centered on a high degree of capacity utilization and a low rate of inflation. The second loop extended from 1970 to 1979, with a much larger diameter, and its center at a higher inflation rate and smaller capacity utilization. Whereas the first and second loops took about a decade to complete, the third loop is longer-lived. Its diameter is similar to that of the second loop, but its center is characterized by a much lower inflation rate.

[26] Growth cycles have tended to be M-shaped with the second "peak" of the "M" somewhat lower than the first. In the present cycle, however, the second peak indicates a strengthening in the later part of the upswing.

Chart 5. Federal Republic of Germany: Inflation-Output Loops, 1961–89[1]



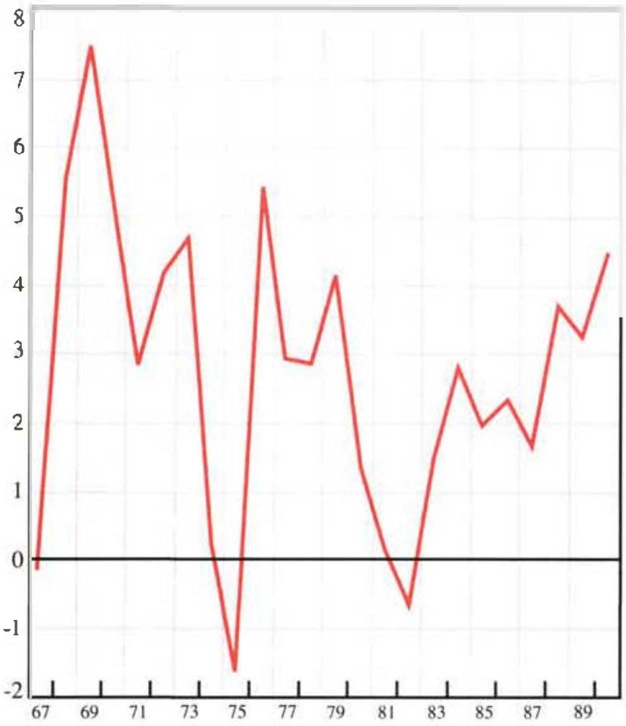
Sources: International Monetary Fund, Data Fund; and authors' calculations.
[1] The vertical axes show the percent change in the consumer price index and the horizontal axes show actual GDP in percent of potential.
[2] Inflation rate excluding the effects of the 1989 increase in indirect taxes.

Despite the tighter monetary stance, the deutsche mark lost value in the first half of 1989, as adverse sentiment in the foreign exchanges was reflected in large long-term capital outflows. In the second half of the year, with the abolition of the withholding tax on interest (which had come into effect in January 1989) and prospects of higher real yields on investments in Germany, the long-term capital account turned around and the exchange rate recovered. On balance, the deutsche mark gained in value during the course of 1989 (December to December), by ¾ of 1 percent against the U.S. dollar and by 3¾ percent in nominal effective terms.

In the first nine months of 1990 monetary growth continued to be restrained and short-term money-market rates rose gradually. There was, however, a sharp rise in long-term interest rates, particularly in response to the announcement in early February of plans for German economic and monetary union. In September, the external value of the deutsche mark was about ½ of 1 percent higher in nominal effective terms than in December 1989, with appreciations against the U.S. dollar and the yen largely offset by a weakening against currencies participating in the exchange rate mechanism of the European Monetary System, the Swiss franc, and the pound sterling.

Chart 6. Federal Republic of Germany: Pattern of Growth Cycles, 1967–90

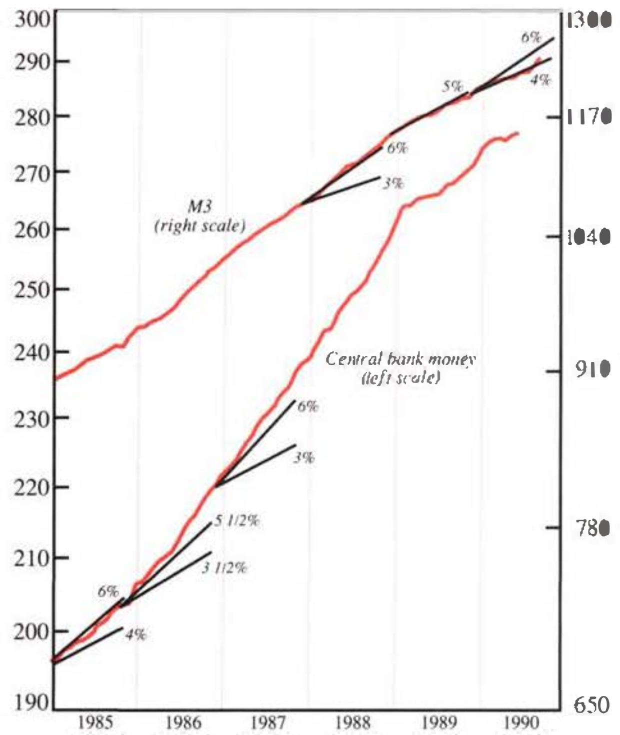
(Percent change of GDP)



Sources: International Monetary Fund, Data Fund; and authors' projection for 1990.

Chart 7. Federal Republic of Germany: Monetary Targets and Monetary Developments, January 1985–September 1990

(In billions of deutsche mark)[1]



Source: Deutsche Bundesbank, *Monthly Report, Supplement 4.*
[1] Log scale.

Monetary Aggregates

In December 1988, the Central Bank Council of the Bundesbank announced a target for growth of M3 of around 5 percent from the fourth quarter of 1988 to the fourth quarter of 1989. As in the previous year, it used M3 as its monetary target, but it deviated from its usual practice of announcing a target range.[27]

During the early months of 1989, money growth was faster than targeted: in the first quarter, M3 was 6 percent (at an annual rate) above the target base (Table A8). Monetary growth in January was affected by a shift out of longer-term financial assets into monetary assets and currency in particular; this, apparently, was influenced by the withholding tax on interest.[28] The demand for currency abated after the announcement in April that the withholding tax would be abolished on July 1. Reflecting this and the influence of interest rate increases by the Bundesbank, monetary growth slowed and, by June, M3 was below its target path. From June to December, M3 grew at a rate of a little under 5 percent and, in the final quarter of 1989, it stood 4¾ percent above the target base (Chart 7). However, an extended M3 aggregate, taking into account, in addition, the deutsche mark deposits of German nonbanks on the Euromarkets and holdings of short-term bank bonds, grew by 8¼ percent over this period.[29]

In December 1989, the Central Bank Council announced its monetary target for 1990. The underlying assumptions

[27] Before the announcement of monetary targets in December 1987, the targeted monetary aggregate had been central bank money (CBM). Between 1979 and 1988 the target had been announced in the form of a range of growth rates. Box 1 in Chapter X contains a discussion of monetary policy instruments and procedures in the FRG. See also Leslie Lipschitz and others, *The Federal Republic of Germany: Adjustment in a Surplus Country*, IMF Occasional Paper, No. 64 (Washington: International Monetary Fund, January 1989), pp. 8–9.

[28] It is likely that the imposition of the withholding tax increased the demand for liquid assets as investors deliberated on how to place funds withdrawn from longer-term assets. It is, however, less easy to explain why the withholding tax would have encouraged currency holdings of German residents to grow faster than other liquid components of broad money. Investor misunderstanding as to the nature of the withholding tax may have been responsible. For example, some investors may have feared that the confidentiality of their holdings with financial institutions was threatened.

[29] The faster growth of extended M3 was reflected particularly in a sharp jump in Euromarket deposits of companies. It is not clear how the "moneyness" of these deposits compares with the components of M3.

of the target (which, as usual, was set in a medium-term context) were an expansion of about 2½ percent in productive potential, an increase of 2 percent in the price level, and a trend reduction in velocity of ½ of 1 percent. On this basis, M3 was targeted to grow in the range of 4–6 percent; thus, the midpoint of the range corresponded to the target that had been set in the previous year. From July 1, 1990—the effective date of the currency union with the GDR—the Bundesbank has controlled monetary policy for the entire deutsche mark currency area. As of October 1990, however, no official pronouncement had been made as to how this would affect the design and implementation of monetary policy. Meanwhile, the Bundesbank has continued to publish separately monetary data for the western part of Germany.[30] On this basis, M3 in September was 5 percent (at an annual rate) above the target base and thus in the middle of the target path. The extended M3, however, continued to grow somewhat faster than M3.[31]

Financial Market Developments

Interest Rate Developments

Following its restrictive policy stance in the second half of 1988, the Bundesbank continued to push interest rates to higher levels through 1989. The discount and Lombard rates were increased on four occasions, in three steps of 50 basis points in the first half of the year (January 20, April 21, and June 30) and by a further 100 basis points later in the year (October 6); at the end of 1989, the discount and Lombard rates stood at 6 percent and 8 percent, respectively (Table A9 and Chart 8). The rate on repurchase transactions—the Bundesbank's principal tool for managing the money markets on a week-to-week basis—rose by a similar amount during the year, with the increase more evenly spread.

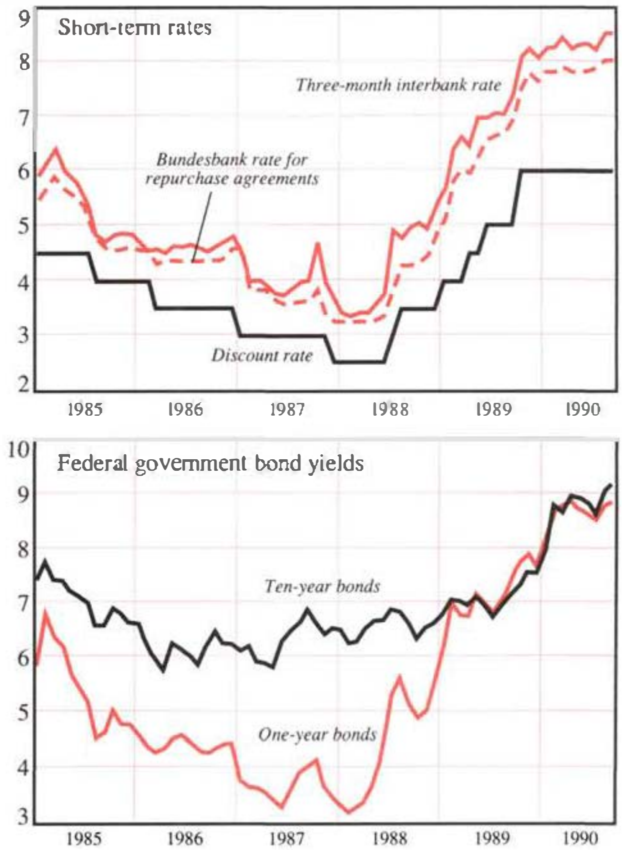
Market forces were also generating upward pressure on interest rates. The economy was growing at a rapid pace and there were fears of inflationary pressures related to the rising capacity utilization, the upcoming wage round, and the weakness of the deutsche mark in the first half of the year. The three-month interbank rate increased by almost 3 percentage points between December 1988 and December 1989, ending the year at just over 8 percent.

Meanwhile, the rise in long-term bond yields was more moderate; in December 1989, the yield on public authority bonds with maturity of nine–ten years was less than 1 percentage point above its level one year earlier. The increase was concentrated in the latter part of 1989, apparently influenced by developments in Eastern Europe, particularly in the GDR. Reflecting the sharper increase in short-term rates, the yield curve became inverted in the middle of 1989 and remained so for the rest of the year.

In the first nine months of 1990 there were no changes in the discount or Lombard rates. The Bundesbank's repurchase rates and short-term money-market rates rose at a more moderate pace than in 1989; in September 1990 they were about ½ of 1 percentage point above their levels in December 1989. Long-term rates, however, rose quite sharply with yields on nine–ten year bonds jumping by 1¾ percentage points over the same time period. Much of this increase occurred in February, after the announcement of Chancellor Kohl's proposals for economic and monetary union with the GDR.

Chart 8. Federal Republic of Germany: Interest Rate Developments, January 1985–September 1990

(In percent a year)



Sources: Deutsche Bundesbank, *Monthly Report* and *Monthly Report, Supplement 2*.

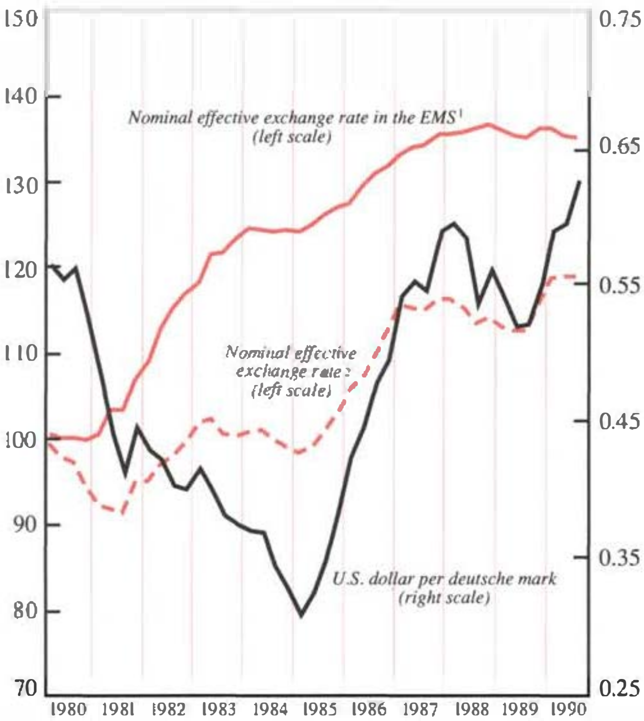
[30] In producing these data, it has been necessary to estimate currency holdings, since the geographical distribution of currency holdings cannot be identified from the raw data.

[31] In August, the extended M3 was 5¼ percent above the target base at an annual rate, compared with 4¾ percent for conventional M3.

Exchange Market Developments

Over the 12-month period ending in December 1989, the value of the deutsche mark appreciated by ¾ of 1 percent against the U.S. dollar and by 3¾ percent in nominal effective terms (Table A10 and Chart 9). Particularly strong gains were recorded against the Japanese yen (17¼ percent) and the pound sterling (15½ percent). There were, however, rather divergent developments in the first and second halves of the year. The deutsche mark was under strong downward pressure in the first six months: between December 1988 and June 1989, it declined by 11½ percent against the U.S. dollar and by 1½ percent in nominal effective terms. In the summer, it fluctuated with no pronounced trend and then appreciated sharply in the last few months of the year. During the first three quarters of 1990, the nominal effective value of the deutsche mark increased by a further ½ of 1 percent. There were gains vis-à-vis the U.S. dollar (11 percent) and the Japanese yen (7¼ percent), while losses were recorded against the pound sterling (6 percent) and the currencies participating in the ERM (1 percent).

Chart 9. Federal Republic of Germany: Exchange Rate Developments, First Quarter 1980–Third Quarter 1990

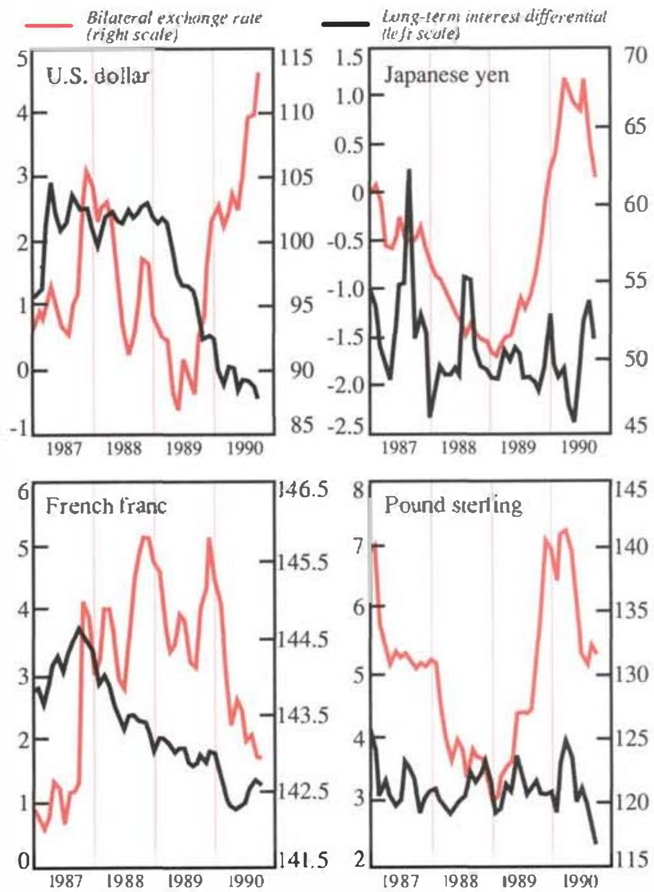


Sources: International Monetary Fund, Data Fund; and Deutsche Bundesbank, *Monthly Report*.

[1] Vis-à-vis countries participating in the exchange rate mechanism of the European Monetary System; January 1980 = 100; includes Spain from June 1989.

[2] Vis-à-vis industrial partner countries; January 1980 = 100.

Chart 10. Federal Republic of Germany: Bilateral Exchange Rates and Interest Rate Differentials vis-à-vis the Deutsche Mark, January 1987–October 1990[1]



Sources: International Monetary Fund, Data Fund; and Deutsche Bundesbank, *Monthly Report*.

[1] Exchange rate data are in terms of the units of the currency specified per deutsche mark and are expressed in index form with January 1980 = 100. Long-term interest differentials are calculated as the interest rate for the currency specified minus the deutsche mark interest rate.

The short-run time pattern of exchange rates is often difficult to explain with reference to contemporaneous developments in goods and financial markets. For example, changes in interest rate differentials can spark exchange rate changes or may themselves be a market reaction to changes in sentiment in the foreign exchange markets: Chart 10, for example, illustrates that the relationship between long-term interest differentials and exchange rates has varied considerably across countries. Broadly speaking, the weakness of the deutsche mark in the first half of 1989, which was relatively minor compared with the strength over the preceding three years, can probably be attributed to adverse sentiment related to the coming into effect of the interest withholding tax and concerns about higher inflation resulting from the booming economy and the forthcoming wage round. In the second half of the year, investors moved back into assets denominated in deutsche mark, as the tight stance of monetary policy moderated inflation fears, the withholding tax was abolished, interest rates continued to rise in the FRG, and developments in Eastern Europe, particularly in the GDR, strengthened profit expectations for German industry. Thus, while there had been a large outflow of long-term capital in the early part of 1989, the improved sentiment in favor of the deutsche mark was seen in sizable long-term capital inflows in the last quarter of the year (Table A11). In 1990, the debate over GEMSU and the fears of inflation that it rekindled created some uncertainties in the financial markets. Indeed, there was a sizable long-term capital outflow in the first quarter of the year, but any adverse influence on sentiment in the foreign exchange markets appears to have been more than offset by prospects for higher real yields.

Fiscal Policy and Structural Reform

Overview

After an expansionary stance in 1988, fiscal policy turned restrictive in 1989. This was the result of fiscal drag and of discretionary policy measures—an earlier planned increase in indirect taxes took effect. The withdrawal of fiscal stimulus from the latter had an unintended, but not unwelcome anticyclical effect. The interaction between fiscal policy and the real economy has been, perhaps, less fortunate in 1990. As a consequence of a large cut in direct taxes, enacted in 1987, and strong expenditure growth, fiscal policy has been expansionary, at the same time as economic growth, already strong, has been boosted by GEMSU. Meanwhile, there seems to be little spare capacity in the economy. Some important structural measures taken in recent years, in particular the three-stage reform of direct taxation, have put the supply side of the economy in a better position to respond to the increased demand, but much remains to be done in the areas of subsidies and government regulation of the economy.

Given the concerns that exist over the high degree of capacity utilization in the economy, questions arise as to how fiscal and structural policy measures might be used to alleviate any adverse consequences of the increased pressure on demand resulting from GEMSU. The remainder of this section reviews recent developments in the areas of fiscal and structural policy as background to an analysis of the role for these policies in the coming years. This latter question is taken up in Chapters I and XII.

Budgetary Developments in 1989

The budget deficit of the territorial authorities declined by more than DM 25 billion to DM 26½ billion (1¼ percent of GNP) in 1989 and reached its lowest level during the present upswing (Table A12 and Chart 11).[32] The favorable budgetary developments were primarily the result of strong growth of tax revenue (Table A13). This growth had three main sources: first, several excise taxes were raised at the beginning of the year;[33] second, a withholding tax on interest income was in effect for the first six months of the year;[34] and, third, the buoyant economy reinforced the effects of fiscal drag and contributed to a strong rise of income and corporation taxes. As a result, tax revenue of the territorial authorities rose by 9½ percent. Other current revenue, after declining in 1988, increased by 9 percent as profit transfers from the Bundesbank recovered from their low level of 1988.[35] The increase in total revenue, at close to 9 percent, was a little slower than that of current revenue as the rise in current receipts was in part offset by a drop in capital revenue, which reflected the winding down of the Federal Government's privatization program (see below).

Expenditure growth in 1989 (1¼ percentage points above the medium-term target rate of 3 percent) was buoyed by capital spending and current transfers. Investment at the municipality level was encouraged by favorable revenue developments and by an investment incentive program launched by the Federal Government in 1988.[36] The Länder also raised their investment spending, in response to the DM 2½ billion transfer to "structurally weak" states from the Federal Government.[37] The rise in current transfers of

[32] The term territorial authorities refers to the Federal and Länder Governments, the municipalities, the Burden Equalization Fund, the European Recovery Program Fund, and the EC's accounts.

[33] The mineral oil tax, the tobacco tax, and the insurance tax were increased and a tax on natural gas was introduced. Additional revenue from these tax changes was estimated at DM 8 billion.

[34] The 10 percent withholding tax took effect on January 1, 1989 and was abolished, after a heated debate about its effects on capital markets, with effect from July 1, 1989.

[35] Bundesbank profits were sharply reduced in 1987 as assets denominated in U.S. dollars were written down in value. At the end of December 1987, the U.S. dollar reached its lowest point, to that date, against the deutsche mark (US$1 = DM 1.5815). As a result, profit transfers to the Federal Government in 1988 were small (DM 250 million). With profits returning to a more normal level in 1988, the Bundesbank transferred DM 10 billion to the Federal Government in 1989. Of this, DM 5 billion was counted as current revenue and the rest was used to retire federal debt. This meant that half of the Bundesbank profit transfer was included below the line as a financing item in the federal budget.

[36] Against the background of the drop in stock prices and the turbulence in the foreign exchanges, the Federal Government decided in December 1987 to take fiscal measures to support economic growth. The package included DM 15 billion in additional loans to municipalities over 1988-90, with interest subsidies from the federal budget of DM 200 million annually over a ten-year period (at a total estimated budgetary cost of about DM 2½ billion).

[37] This represented in 1989 the first installment of a DM 24½ billion investment support program for "needy" Länder. Disbursements were to be in equal installments over a ten-year period.

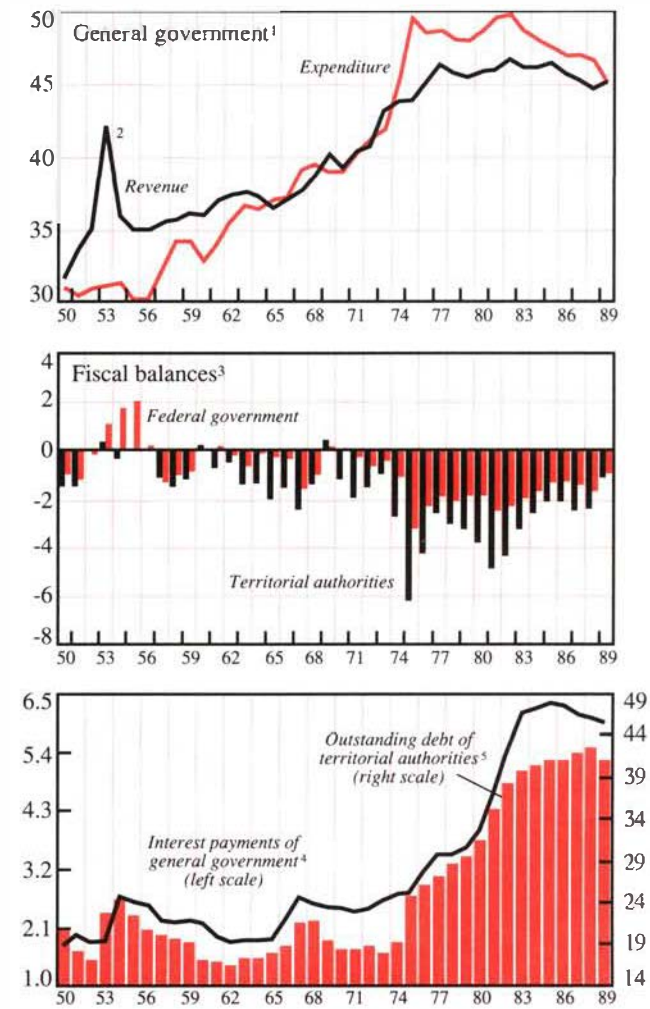
the territorial authorities reflected increased federal transfers to the Labor Office[38] and higher social spending, including support of immigrants.[39]

The budgetary outcome for the social security system was even more favorable than for the territorial authorities. On a national accounts basis, the budgetary surplus increased by about DM 15 billion to DM 16 billion (¾ of 1 percent of GNP). This was largely the result of an improvement in the finances of the health insurance system.[40] but the accounts of the unemployment insurance system also strengthened as a result of more favorable labor market conditions.[41]

Reflecting the smaller deficit of the territorial authorities and the larger surplus of the social security system, the financial balance of the general government (on a national accounts basis) improved by some DM 50 billion and, for the first time since 1973, the general government accounts were in surplus (Chart 11 and Tables A14 and A15).[42] The share of general government expenditure in GNP dropped by almost 2 percentage points, with one half of this decline on account of a lower ratio for public consumption, while the share of revenue rose by about ½ of 1 percentage point. Among revenue items, the increase in direct taxes was particularly notable; the rise in indirect taxes as a proportion of GNP was considerably smaller, despite the increase in excise taxes, reflecting the relatively slow growth of consumption in 1989.

Chart 11. Federal Republic of Germany: Selected Indicators of Fiscal Policy, 1950–89

(In percent of GNP)



Source: Statistisches Bundesamt.
[1] National accounts basis.
[2] The sharp jump in revenue in 1953 reflects the recording of a large capital transfer from abroad as foreign loans were converted into grants.
[3] Administrative basis.
[4] In percent of expenditure.
[5] In 1953 debt increased despite the recording of a surplus in the accounts of the territorial authorities. This was due to the inclusion in the debt statistics of liabilities related to war reparation and pre-1945 external debts, as agreed in the London Debt Agreement of 1953.

Budgetary Developments in 1990

The federal budget for 1990, which was passed by parliament in December 1989 foresaw an increase in expenditure of 3 percent in line with the Government's medium-term target. Additional demands on federal outlays, however, required three supplementary budgets. The first supplementary budget (DM 6.8 billion) was passed by parliament in March 1990, the second (DM 4.8 billion) in May, and the third (DM 25.8 billion) in October. The additional borrowing needs resulted primarily from developments in east Germany. But, even

[38] After budgetary surpluses in 1984–85, the Federal Labor Office experienced deficits in 1986–89. In 1988, the financial reserves of the Labor Office were exhausted and since then the current deficits have had to be covered by the Federal Government.

[39] In midyear, a supplementary budget was passed authorizing, inter alia, an additional DM ½ billion in social expenditures. Of this, about one half was for the support of ethnic German immigrants.

[40] The medical insurance reform that took effect in 1989 led to a drop in expenditures of the health insurance system by 3½ percent. In substantial part, this reflected genuine expenditure savings (estimated at DM 5½ billion in 1989), but there was also a shift in expenditures from 1989 to 1988 (estimated at DM 2½ billion) in anticipation of the cutback in insurance coverage of medical services.

[41] The decline in unemployment compensation, however, was in part offset by an increase in payments to ethnic German immigrants receiving language training.

[42] In addition to differences in coverage (principally, the treatment of the social security funds, and, from 1990, the German Unity Fund), the general government finances on a national accounts basis differ from those of the territorial authorities (on an administrative basis) owing to accounting conventions. For example, the national accounts are on an accrual basis while the administrative accounts are close to a cash basis; lending is treated as an expenditure in the administrative accounts but as a financing transaction in the national accounts; and, while only part of the Bundesbank's profit transfer has been counted as revenue in the administrative accounts for 1980–90, it has all been recorded as revenue in the national accounts.

Table 2. German Unity Fund: Transfers to Eastern Germany and Their Financing[1]

(In billions of deutsche mark)

	1990	1991	1992	1993	1994	1990–94
Total transfers to GDR	22	35	28	20	10	115
Financed from the federal budget	2	4	4	5	5	20
Borrowing requirement	20	31	24	15	5	95
Debt service[2]	—	2	5.1	7.5	9	23.6
Paid by:						
Federal Government	—	1	2.6	3.8	4.5	11.9
Länder	—	0.6	1.5	2.3	2.7	7.1
Municipalities	—	0.4	1.0	1.5	1.8	4.7

Source: Bundesministerium der Finanzen.

[1] As laid out in the State Treaty on GEMSU.

[2] Based on a 30-year repayment schedule. The annuity after 1994 will be DM 9.5 billion.

excluding transfers to the GDR, expenditure of the Federal Government is expected to rise by about 5½ percent. Expenditure of the Länder and municipalities is expected to rise at an even faster rate. On the other hand, revenue collections of the territorial authorities in 1990 have been influenced by the third stage of the 1986–90 tax reform, which provided net tax relief of some DM 25 billion (about 1 percent of GNP) with effect from the beginning of the year (Table A16). Thus, despite strong economic growth, tax revenue is projected to increase by only 2 percent.

Reflecting these developments, the deficit of the territorial authorities, including all GDR-related expenditure in the three supplementary budgets of the Federal Government, is expected to widen by about DM 58 billion to DM 84 billion (3½ percent of GNP). In addition, the German Unity Fund (see below) is expected to raise about DM 20 billion on the financial markets. As part of the increase in the territorial authorities' deficit reflects lending activities and as the surplus of the social security funds is likely to widen, the deterioration in the financial position of general government is expected to be of the order of DM 75 billion (including the Unity Fund). Incorporating all GDR-related borrowing of the Federal Government, the general government is expected to record a deficit of some DM 70 billion (3 percent of GNP) in 1990, compared with a surplus of DM 5½ billion in 1989.

Fiscal Implications of GEMSU

From a fiscal policy point of view, unification of the two German economies came at a favorable time. Owing to stronger-than-expected economic growth, the tax estimates prepared by a group of experts[43] in May 1990 produced a substantial upward revision in revenue projections—accumulating, between 1990 and 1993 to DM 115 billion (compared with the May and November 1989 estimates).[44] It was recognized, however, that this would not be sufficient to cover all the additional expenditure related to GEMSU, and that, despite a reduction in other expenditure (in particular for regional subsidies),[45] borrowing would be larger than anticipated in earlier budgetary plans.

To undertake the additional borrowing associated with GEMSU, the Federal Government and the Länder agreed, in April 1990, to establish an off-budget fund (the so-called German Unity Fund). The total endowment of the Unity Fund was set at DM 115 billion. Of this, DM 95 billion would be raised in the capital market, with the remaining DM 20 billion to come from the federal budget.[46] The Federal Government would bear half of the debt service costs of the Fund, with the remainder paid by the Länder and municipalities (see Table 2). Transfers from the Unity Fund were intended to finance a significant part of the deficits of the territorial authorities in east Germany, with government units in the east financing the remainder on the capital markets. Thus,

[43] Official tax estimates in the FRG are prepared by a group of experts (*Arbeitskreis Steuerschätzungen*), which includes officials of the federal, state, and municipal governments and the Bundesbank, and representatives of the five major economic research institutes and the Council of Economic Advisors.

[44] The projection period was 1990–94 but the calculation of the upward revision relates to 1990–93, as the previous round extended only to 1993. The additional revenue estimated was DM 8 billion for 1990, DM 28 billion for 1991, DM 35 billion for 1992, and DM 44 billion for 1993. Projections were based on nominal GNP growth of 7 percent in 1990, 6.5 percent in 1991, and 5.5 percent a year in 1992–94. Despite the stronger revenue growth, the ratio of taxes to GNP was projected to decline from 23.7 percent in 1989 to 23.2 percent in 1994, owing to the income tax cut that took effect at the beginning of 1990.

[45] The German authorities have estimated the budgetary "costs of division" at DM 40 billion a year, reflecting the Federal Government's support to the State Government in Berlin (DM 13 billion); subsidies to the border areas and Berlin (DM 14 billion); social transfers (DM 5½ billion); and spending for various other purposes (DM 7½ billion). With the rationale for this support disappearing, the authorities envisage phasing out a significant part of these subsidies and transfers during the coming years.

[46] The contribution from the federal budget was expected to be financed by reductions in expenditures from planned levels of DM 2 billion in 1990, DM 4 billion a year in 1991–92, and DM 5 billion a year in 1993–94.

Table 3. German Unity Fund and Supplementary Federal Budgets: Additional Borrowing Related to East Germany

(In billions of deutsche mark)

	1990
From the first supplementary budget	6.0
Of which:	
Transfer to the German Unity Fund	*2.0*
From the second supplementary budget	2.8
Transfer to pension system	0.8
Transfer to unemployment insurance	2.0
From the third supplementary budget	24.2
Of which:	
Expenditure increases in east Germany[1]	*17.7*
Revenue shortfalls in east Germany[1]	*6.5*
German Unity Fund	20.0
Total	53.0
(In percent of GNP in west Germany)	2.2

Source: Bundesministerium der Finanzen.
[1] Relative to the budget passed by the GDR's parliament in July 1990. See Chapter XI for details.

Table 4. Germany: Public Sector Borrowing Requirement, 1990

(In billions of deutsche mark)

	1990
Territorial authorities, FRG[1]	84.0
Territorial authorities, GDR[2]	10.0
German Unity Fund	20.0
Trust Fund[3]	12.0
Total (gross)	126.0
Social security system, FRG	−18.0
Off-budget Bundesbank transfers[4]	−3.0
Total (net)	105.0
(In percent of combined GNP)	4

Source: Authors' estimates.
[1] See Table A12.
[2] Includes only borrowing after July 1, 1990. The State Treaty on GEMSU granted a borrowing authority of DM 10 billion.
[3] Does not include guarantees on commercial bank credits to enterprises.
[4] The federal budget for 1990 includes DM 7 billion in profit transfers from the Bundesbank. The actual transfer was DM 10 billion and the difference is being used to retire federal debt.

the establishment of this off-budget fund would allow continuation of the existing system of financial relations between the Federal Government and the Länder until the end of 1994 in that the agreement excluded the Länder of the east from the revenue sharing arrangements existing between the Länder of the western part of Germany and the Federal Government.

In the months after GEMSU took effect, it became apparent that the budgetary costs would be much higher than previously expected. However, it was decided not to make any changes in the budget of the German Unity Fund, particularly since the accelerated path to political unification fundamentally changed the prospective nature of financial relations between the Federal Government and government units in eastern Germany. The Unification Treaty stipulated that 85 percent of the resources of the German Unity Fund would be directed to the Länder governments in the former area of the GDR, with the remainder going to the Federal Government; the additional budgetary costs at the federal level would be borne directly by the budget of the FRG. As already noted, a third supplementary budget became necessary to cover the additional budgetary costs in 1990. Borrowing related to the eastern part of Germany in 1990 that was incorporated in the three supplementary federal budgets for 1990 or that was to be undertaken by the Unity Fund is shown in Table 3. Table 4 presents the public sector borrowing requirement for 1990 for all of Germany, that is, including also the borrowing authority granted to the Government of the GDR.[47]

[47] Under the State Treaty on GEMSU, the amount that could be borrowed by the GDR Government was limited to DM 10 billion.

Structural Reforms[48]

In the area of "qualitative fiscal consolidation,"[49] the completion of the 1986–90 tax reform represented a considerable achievement. Attention has now begun to focus on the reform of business taxation. With a view to undertaking such a reform during the next legislative period, the Government appointed, at the end of 1989, an expert commission (consisting of members of the academic, business, and political communities) with the mandate to publish recommendations for reform in early 1991. Debate has centered on how marginal tax rates relate to those in other countries and on the existence of taxation unrelated to company profitability.[50] The authorities believe, in addition, that some net reduction in the tax burden of businesses is warranted. But the size of the cut and the timing of the reform have become more uncertain owing to the fiscal costs of GEMSU. Agreement, however, has been reached on the abolition of the stock exchange turnover tax (*Börsenumsatzsteuer*) in 1991 and of the company tax (*Gesellschaftsteuer*) and the bills of exchange tax (*Wechselsteuer*) in 1992.[51] The

[48] A detailed review of structural policies in the FRG is given in Leslie Lipschitz and others, *The Federal Republic of Germany: Adjustment in a Surplus Country*, IMF Occasional Paper, No. 64 (Washington: International Monetary Fund, January 1989), Section IV.

[49] In the Federal Government's medium-term fiscal strategy, the term "qualitative consolidation" denotes the restructuring of government revenue and expenditure with a view to improving the supply side of the economy, while "quantitative consolidation" refers to the reduction of expenditure and borrowing in relation to GNP.

[50] The trade tax (*Gewerbesteuer*) is in part levied independently of company profits. However, since it is the main independent source of revenue for municipalities, resistance to its abolition is strong.

[51] The stock exchange turnover tax is levied on secondary market transactions in equities, bonds, and other financial instruments, the

Federal Government has also largely completed its privatization program.[52]

In contrast to the improvements on the revenue side, however, only limited progress has been made in the area of expenditure. Subsidies, in particular, fell only moderately in relation to output in the period 1980–89 (Tables A17–A18).[53] While some further progress was made in 1990 with the phasing out of a number of tax exemptions, plans to subsidize investment and support the restructuring of enterprises in the eastern part of Germany are likely to put upward pressure on subsidy expenditure.

Some steps have been taken in the area of deregulation. A reform of the postal system, decided in 1989, went into full effect in 1990; although the reform involved some opening up of the telecommunications sector to private suppliers, a considerable part of the telecommunications market remains under the monopoly of the Deutsche Bundespost.[54] There has been a limited liberalization of shop opening hours: Shops may now remain open on Thursday evenings provided they cut opening hours on Saturday afternoon (Saturday afternoon opening is allowed once a month) so that the total weekly opening time does not change. There have also been some reforms in the area of financial markets (see above), but altogether deregulation seems not to have gained any noticeable momentum. The long-awaited report of the Deregulation Commission is now scheduled to be released in 1991, although the Commission has recently published recommendations on the deregulation of the insurance and transportation industries.[55]

In the area of competition policy, the Cartel Law has been revised. The major changes, which went into effect in early 1990, were (1) stricter competition rules in the retail sector with a view to providing small and medium-sized companies better protection against large companies; (2) extension of the Cartel Law to cover previously excluded areas, for example, the banking, insurance, transportation, and utilities sectors; and (3) stricter control of mergers and acquisitions.

company tax on new equity issues, and the bills of exchange tax on the issue of these bills. These taxes have hindered the development and distorted the structure of financial markets in Germany. The abolition of these taxes was part of a law (*Finanzmarktförderungsgesetz*), passed by parliament in March 1990; the law also abolished some existing restrictions on the issuing of financial paper, and gave mutual funds more autonomy (in particular, access to the German Futures Exchange and the option of investing in money market paper).

[52] However, significant scope for privatization still exists at the level of the Länder and municipalities.

[53] The FRG has tended to fall toward the middle in international comparisons of subsidy levels (Tables A19 and A20).

[54] About 85 percent of the revenue accruing to Telekom, the Deutsche Bundespost company providing telecommunications services, is estimated to come from that market segment where the public monopoly remains.

[55] A final report with recommendations for deregulation was originally scheduled for 1990, but, in January 1990, the Federal Government extended the mandate of the Commission for another year so that recent developments in the eastern part of Germany could be taken into account. At the same time, it was agreed that the Commission would submit an advance report on insurance and transportation, areas of particular relevance for the single European market. For the insurance industry, the Commission recommended a liberalization of prices (with the exception of the health insurance) and less regulation of contract terms with a view to opening up the market to competition from abroad. For the transportation industry, the Commission recommended a reform and restructuring of the railways; a liberalization of prices and an abolition of quotas for road transport; fewer restrictions on bus services, in particular for long-distance services; an abolition of quotas and a liberalization of prices for taxi services; and price liberalization and an opening-up to foreign competition in sea and air transport.

Appendix

Statistical Tables

Table A1. Federal Republic of Germany: Aggregate Demand

	1989		1985	1986	1987	1988	1989	1989[1]				1990[1]	
	At current prices		At 1980 prices					I	II	III	IV	I	II
	(In billions of deutsche mark)	*(In percent of GNP)*	*(Percent change from previous period)*[2]										
Private consumption	1,211.3	53.6	1.4	3.4	3.3	2.7	1.7	0.4	0.5	—	1.0	2.7	0.6
Public consumption	419.0	18.5	2.1	2.6	1.6	2.3	−0.9	−1.8	−0.1	—	−1.0	2.9	−0.5
Gross fixed investment	458.4	20.3	0.1	3.3	2.2	5.1	7.1	9.3	−3.8	−1.4	3.0	13.8	−7.2
Construction	250.8	11.1	−5.6	2.7	−0.3	3.3	5.1	15.3	−10.2	−2.6	2.2	20.2	−12.8
Residential	119.1	5.3	−10.0	−1.1	−1.5	3.5	5.1	. . .	. . .	. . .	. . .	. . .	. . .
Business	88.8	3.9	−0.9	5.1	1.3	3.8	5.7	. . .	. . .	. . .	. . .	. . .	. . .
Public	42.9	1.9	−1.6	8.2	−0.2	1.7	3.8	. . .	. . .	. . .	. . .	. . .	. . .
Machinery and equipment	207.6	9.2	9.4	4.1	5.6	7.5	9.7	2.0	5.0	—	3.8	6.6	—
Final domestic demand	2,088.7	92.4	1.2	3.2	2.7	3.1	2.3	1.9	−0.6	−0.3	1.0	5.2	−1.5
Stockbuilding	29.2	1.3	−0.4	0.3	0.1	0.6	0.4	−1.4	1.2	−0.4	2.4	−3.5	1.6
Total domestic demand	2,117.8	93.7	0.8	3.5	2.8	3.7	2.7	0.4	0.6	−0.7	3.6	1.5	0.2
Exports of goods and services	787.1	34.8	6.8	—	0.9	5.7	11.5	7.0	4.2	−2.5	−0.4	8.6	−3.1
Imports of goods and services	643.7	28.5	3.7	3.5	4.8	6.0	8.8	1.5	6.0	−3.8	7.0	2.6	−0.3
Foreign balance	143.5	6.3	1.2	−1.0	−1.1	0.1	1.2	2.0	−0.4	0.3	−2.4	2.2	−1.1
Gross national product	2,261.3	100.0	1.9	2.3	1.6	3.7	3.9	2.3	0.2	−0.4	1.0	3.6	−0.9
Memorandum item:													
Gross domestic product	2,235.6	98.9	2.0	2.3	1.7	3.7	3.3	. . .	. . .	. . .	. . .	. . .	. . .

Sources: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen*; and Deutsche Bundesbank, *Monthly Report, Supplement 4*.
[1] Seasonally adjusted, but not annualized.
[2] Data for stockbuilding and the foreign balance are contributions to real GNP growth in percentage points.

Table A2. Federal Republic of Germany: Distribution of Income

	1970	1980	1988	1989	1985	1986	1987	1988	1989
	(Share of net national product)[1]				*(Percent change from previous year)*				
Net national product	**100.0**	**100.0**	**100.0**	**100.0**	**4.6**	**6.3**	**3.7**	**5.6**	**6.0**
Gross income from employment	68.0	73.5	68.1	67.2	3.9	5.1	4.0	3.9	4.5
Direct taxes	6.8	9.8	10.0	10.2	7.4	3.1	8.3	2.0	8.3
Social security contributions	16.2	21.3	21.5	21.2	4.8	5.6	4.3	4.3	4.2
Employer	9.9	13.4	13.3	13.0	4.4	5.4	4.3	3.8	3.9
Employee	6.2	7.9	8.2	8.1	5.6	5.9	4.1	4.9	4.8
Net income from employment	45.0	42.4	36.6	35.8	2.4	5.3	2.8	4.3	3.6
Gross income from entrepreneurial activity and property	32.0	26.5	31.9	32.8	6.2	9.1	2.9	9.4	9.1
Direct taxes	6.1	5.4	4.6	5.1	12.4	2.0	−5.6	9.6	18.0
Net income from entrepreneurial activity and property	25.9	21.1	27.3	27.7	5.0	10.5	4.5	9.4	7.6
Distributed to private households and nonprofit organizations	21.0	22.2	25.0	25.1	5.5	1.6	5.3	3.9	6.7
Government[2]	0.4	−1.0	−2.4	−1.7	. . .	. . .	. . .	. . .	. . .
Retained profits[2]	4.4	−0.1	4.8	4.3	. . .	. . .	. . .	. . .	. . .
Household disposable income	**80.7**	**83.9**	**80.1**	**79.0**	**3.4**	**3.9**	**4.3**	**4.3**	**4.5**
Sources:									
Net wages and salaries	45.0	42.4	36.6	35.8	2.4	5.3	2.8	4.3	3.6
Distributed profits and property income	21.0	22.2	25.0	25.1	5.5	1.6	5.3	3.9	6.7
Net transfers	17.1	21.8	20.8	20.5	2.7	4.3	5.3	4.6	4.6
Of which:									
Transfers from governments	*16.6*	*22.0*	*21.1*	*20.7*	*2.3*	*3.8*	*5.1*	*4.7*	*3.8*
Less:									
Unrecorded payments[3]	2.4	2.5	2.3	2.5	2.2	3.7	0.8	4.1	14.8

Source: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen.*
[1] In percent.
[2] Figures fluctuate around small bases, giving rise to extreme growth rates.
[3] Includes unrecorded tax payments, social contributions of the self-employed, net casualty insurance payments, and international private transfers.

Table A3. Federal Republic of Germany: Household Income and Consumption

(Percent change from previous year)

	1982	1983	1984	1985	1986	1987	1988	1989
Real private consumption	−1.3	1.7	1.5	1.4	3.4	3.3	2.7	1.7
Real household disposable income	−2.5	−0.5	2.3	1.3	4.1	4.0	2.9	1.7
Nominal disposable income	2.6	2.8	4.7	3.4	3.9	4.3	4.3	4.5
Consumer price inflation	5.2	3.3	2.4	2.0	−0.1	0.2	1.3	2.8
Nominal interest rate[1]	9.0	7.9	7.8	6.9	5.9	5.8	6.1	7.0
Unemployment rate[2]	6.7	8.1	8.1	8.2	7.9	7.9	7.7	7.1
Personal saving ratio[3]	12.8	10.9	11.4	11.4	12.2	12.6	12.8	12.5

Sources: Deutsche Bundesbank, *Monthly Report*; and Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen.*
[1] Nominal yield on outstanding public bonds with a remaining maturity of more than three years, in percent per annum.
[2] In percent of total labor force, based on microcensus data.
[3] Household saving as a percent of household disposable income, national accounts definition.

Table A4. Federal Republic of Germany: Balance of Payments Summary

(In billions of deutsche mark)

	1985	1986	1987	1988	1989
Current account	**48.3**	**85.8**	**82.1**	**88.3**	**104.1**
Foreign trade[1]	73.4	112.6	117.7	128.0	134.6
Exports (f.o.b.)	537.2	526.4	527.4	567.7	641.0
Imports (c.i.f.)	463.8	413.7	409.6	439.6	506.5
Supplementary trade items and transit trade	−1.3	−1.5	−1.8	0.6	−3.0
Services	5.4	1.7	−5.0	−8.4	7.1
Receipts	144.3	143.6	146.6	154.5	188.7
Expenditure	138.9	141.9	151.6	162.9	181.5
Transfer payments	−29.1	−27.1	−28.9	−31.9	−34.6
Of which:					
Remittances of foreign workers	*−8.0*	*−7.5*	*−7.3*	*−7.4*	*−7.5*
Payments to the EC (net)	*−8.3*	*−8.2*	*−10.4*	*−13.0*	*−13.4*
Capital account (net capital exports: −)	**−54.6**	**−82.6**	**−38.9**	**−127.1**	**−128.2**
Long-term capital	−12.9	33.4	−23.1	−86.9	−22.7
German investment abroad	−61.7	−55.4	−62.5	−97.9	−92.2
Foreign investment in Germany	48.8	88.9	39.5	11.0	69.4
Short-term capital	−41.7	−116.0	−15.8	−40.3	−105.5
Financial institutions	−27.7	−59.0	−6.1	−20.0	−56.7
Enterprises	−14.1	−56.7	−11.0	−22.0	−44.5
Official	0.1	−0.3	1.4	1.7	−4.3
Balance of unclassifiable transactions (balancing item)	8.1	2.7	−2.0	4.1	5.2
Change in the net external assets of the Bundesbank (increase: +)[2]	1.8	6.0	41.2	−34.7	−19.0

Source: Deutsche Bundesbank, *Monthly Report, Supplement 3*.
[1] Excluding supplementary trade items.
[2] At transactions values.

Table A5. Federal Republic of Germany: Regional Breakdown of Foreign Trade[1]

	Exports (f.o.b.)				Imports (c.i.f.)				Trade Balance		
	1987	1988	1989	1989	1987	1988	1989	1989	1987	1988	1989
	(Percent change from preceding period)			*(Percent of share in total)*	*(Percent change from preceding period)*			*(Percent of share in total)*	*(In billions of deutsche mark)*		
Western industrial countries	1.8	8.1	12.5	85.6	0.1	7.2	15.0	82.7	111.7	124.0	130.2
EC countries	3.9	10.9	14.4	55.0	−0.2	5.5	13.8	51.1	62.3	80.8	94.0
Of which:											
Belgium-Luxembourg	*4.5*	*8.2*	*9.4*	*7.2*	*−0.4*	*7.0*	*12.2*	*6.9*	*9.7*	*10.9*	*11.0*
Denmark	*−8.6*	*1.0*	*7.3*	*1.9*	*0.1*	*8.0*	*11.6*	*1.8*	*3.5*	*3.0*	*2.9*
France	*2.1*	*12.0*	*18.3*	*13.1*	*0.8*	*11.7*	*13.9*	*11.9*	*16.1*	*18.2*	*23.9*
Italy	*7.4*	*12.2*	*15.8*	*9.3*	*2.9*	*2.6*	*12.4*	*8.9*	*6.8*	*11.4*	*14.6*
Netherlands	*1.4*	*6.7*	*10.6*	*8.5*	*−6.0*	*1.1*	*14.3*	*10.2*	*1.2*	*3.8*	*2.5*
United Kingdom	*4.6*	*13.4*	*12.3*	*9.3*	*−1.2*	*3.6*	*13.9*	*6.8*	*17.2*	*22.4*	*24.7*
Other European countries	1.8	6.5	10.9	18.4	1.9	7.1	13.3	15.7	34.4	36.3	38.5
Of which:											
Austria	*1.0*	*12.2*	*10.7*	*5.5*	*5.6*	*9.4*	*11.0*	*4.1*	*11.1*	*12.9*	*14.3*
Sweden	*7.4*	*5.1*	*10.2*	*2.9*	—	*7.7*	*19.0*	*2.5*	*5.9*	*5.9*	*5.6*
Switzerland	*3.5*	*7.2*	*10.8*	*5.9*	*2.6*	*3.6*	*8.1*	*4.2*	*13.2*	*14.8*	*16.9*
Non-European countries	−5.4	−0.1	6.5	12.2	−1.0	13.6	21.0	15.9	15.0	6.9	−2.4
Of which:											
Japan	*21.1*	*24.3*	*16.5*	*2.4*	*5.1*	*12.4*	*13.3*	*6.3*	*−14.7*	*−15.3*	*−16.9*
United States	*−9.6*	*−8.4*	*2.1*	*7.3*	*−4.7*	*13.6*	*31.5*	*7.6*	*24.3*	*16.6*	*8.4*
Developing countries (excluding OPEC)	−0.5	1.8	17.9	7.1	−1.3	12.4	13.6	9.8	−1.2	−5.4	−4.5
OPEC countries	−20.2	8.2	6.1	2.6	−16.1	−2.5	14.2	2.4	3.2	4.6	4.0
State-trading countries	−11.2	7.5	18.5	4.6	−8.0	5.1	22.9	5.0	3.5	4.3	4.2
Total[2]	0.2	7.7	13.0	100.0	−1.0	7.4	15.2	100.0	117.7	128.0	134.6

Source: Deutsche Bundesbank, *Monthly Report, Supplement 3*.

[1] Excluding supplementary trade items.

[2] Including trade with unspecified countries.

Table A6. Federal Republic of Germany: Services Account

(In billions of deutsche mark)

	1982	1983	1984	1985	1986	1987	1988	1989
Tourism	−24.4	−23.2	−23.1	−23.7	−25.4	−27.9	−28.9	−29.1
Receipts	9.7	10.8	12.2	14.0	13.7	13.8	14.9	16.3
Payments	34.1	33.9	35.4	37.7	39.0	41.7	43.8	45.4
Transportation	10.5	9.3	9.7	10.9	9.1	8.1	8.9	10.8
Investment income	−2.8	4.2	10.3	9.3	9.0	7.3	9.1	22.1
Receipts	32.2	34.5	41.6	43.8	47.2	51.7	57.8	79.3
Payments	35.1	30.3	31.3	34.5	38.2	44.3	48.7	57.2
Government payments[1]	13.5	14.8	17.7	20.3	19.6	19.2	18.0	19.6
Other	−10.4	−11.7	−9.9	−11.4	−10.6	−11.7	−15.4	−16.3
Balance on services	−13.7	−6.6	4.7	5.4	1.7	−5.0	−8.4	7.1

Source: Deutsche Bundesbank, *Monthly Report, Supplement 3.*

[1] Balance on payments among official institutions which are not included elsewhere in the balance of payments accounts; reflects mainly receipts of the German Government for deliveries of goods and services to foreign military posts in Germany.

Table A7. Federal Republic of Germany: Earnings, Employment, and Productivity

(Percent change from previous year)

	1984	1985	1986	1987	1988	1989
Labor force	0.2	0.8	1.0	0.7	0.8	0.6
Dependent employment	0.2	0.9	1.5	1.0	0.9	1.6
Unemployment (in percent of labor force)[1]	8.1	8.2	7.9	7.9	7.7	7.1
Hourly earnings[2]	2.8	3.4	4.1	3.8	3.3	3.7
Labor productivity[3]	3.0	2.0	1.8	1.9	3.1	2.7
Unit labor costs[4]	0.7	1.7	2.6	2.1	0.1	0.9

Sources: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen*; and Deutsche Bundesbank, *Monthly Report.*

[1] Unemployment in percent of the total labor force excluding the armed forces, based on microcensus data.

[2] Tariff wages and salaries on an hourly basis. Actual earnings differed owing to wage drift.

[3] Real GDP per hour worked.

[4] Based on actual earnings and thus there are discrepancies with calculations based on hourly earnings reported above.

Table A8. Federal Republic of Germany: Growth of the Main Monetary Aggregates[1]

(Period averages)[2]

	Dec. 1989 Level[5]	1985	1986	1987	1988	1989	1989[3] I	1989[3] II	1989[3] III	1989[3] IV	1990[3] I	1990[3] II	Memorandum Items: Growth from 1987:IV–1988:IV	Memorandum Items: Growth from 1988:IV–1989:IV
	(In billions of deutsche mark)	*(Percent change from preceding period at annual rate)*												
Central bank money stock[4]	271.7	4.6	6.4	8.1	8.2	7.3	11.3	3.7	2.6	4.7	7.3	1.8	8.4	5.5
Narrow money, M1	423.8	4.4	8.4	9.0	9.7	6.3	11.8	−2.0	4.5	4.8	4.9	0.9	9.8	4.7
Of which:														
Currency outside banks	*143.3*	*3.6*	*6.9*	*9.2*	*11.7*	*9.0*	*17.3*	*0.2*	*0.9*	*2.7*	*2.2*	*−3.0*	*13.0*	*5.0*
Demand deposits	*280.5*	*4.8*	*9.2*	*9.0*	*8.8*	*4.9*	*9.1*	*−3.1*	*6.4*	*6.0*	*6.3*	*3.0*	*8.1*	*4.5*
Broad money, M2	741.9	4.5	5.3	6.7	6.3	9.0	11.4	7.1	10.0	11.9	18.4	9.6	7.3	10.1
Of which:														
Time deposits with maturities less than four years	*318.1*	*4.7*	*1.3*	*3.6*	*1.4*	*13.3*	*10.8*	*22.1*	*18.4*	*22.5*	*38.9*	*21.2*	*3.7*	*18.4*
M3 (M2 plus savings deposits at statutory notice)	1215.0	5.1	5.7	7.1	6.4	5.6	6.1	4.4	4.0	4.0	5.1	2.8	6.7	4.7
Of which:														
Savings deposits at statutory notice	*473.1*	*5.9*	*6.3*	*7.6*	*6.4*	*0.9*	*1.5*	*−2.9*	*−2.7*	*−5.4*	*−12.8*	*−8.9*	*6.1*	*−2.4*
Monetary capital formation	1481.2	7.5	7.2	6.3	3.5	4.4	1.5	6.7	9.0	11.9	15.6	11.7	2.7	7.2
Of which:														
Savings deposits and savings bonds	*422.4*	*6.9*	*10.6*	*6.4*	*1.0*	*−1.9*	*−9.5*	*0.3*	*4.8*	*7.0*	*6.7*	*7.5*	*−0.7*	*0.5*
Time deposits with maturities as of four years or more	*492.1*	*11.3*	*11.4*	*11.2*	*12.0*	*9.5*	*10.5*	*8.1*	*7.5*	*8.5*	*9.3*	*6.7*	*11.5*	*8.6*
Bank bonds outstanding[5]	*409.7*	*4.7*	*2.7*	*0.8*	*−3.5*	*4.0*	*0.9*	*10.9*	*15.9*	*19.8*	*35.6*	*23.7*	*−4.2*	*11.7*
Bank loans outstanding to domestic nonbanks	2448.6	6.2	4.1	3.5	5.4	6.0	7.4	5.8	4.4	5.6	9.6	6.2	5.6	5.8
Public authorities	542.9	6.0	1.7	3.1	8.8	4.3	6.0	2.1	−2.0	−1.5	3.6	4.1	8.6	1.1
Private nonbanks	1905.6	6.3	4.8	3.6	4.4	6.5	7.8	6.9	6.4	7.8	11.4	6.8	4.7	7.2
Short-term[6]	368.4	4.8	−0.2	−4.8	−0.2	7.7	10.4	10.6	10.9	8.4	17.2	8.7	2.2	10.1
Long-term	1537.2	6.8	6.3	6.0	5.5	6.2	7.2	6.1	5.3	7.6	10.0	6.4	5.3	6.5

Source: Deutsche Bundesbank, *Monthly Report*, and *Monthly Report, Supplement 4.*

[1] From December 1985, the published data are not comparable with earlier data because of extended coverage; to construct this table, the pre-December and post-December 1985 series have been spliced together based on the December 1985 values under the old and new coverage.

[2] For series other than central bank money and the quarterly data for M3, data are averages of end-of-month levels.

[3] Seasonally adjusted.

[4] Currency held by nonbanks plus minimum reserve requirements on domestic bank liabilities (at constant reserve ratios of January 1974).

[5] Other than bank holdings.

[6] Up to one year.

Table A9. Federal Republic of Germany: Interest Rates

(In percent a year)

	Bundesbank Rates[1]			Money Market Rate[2]	Government Bond Yields[2]		Memorandum Items[2]	
	Discount rate	Securities repurchase rate[3]	Lombard rate[4]	Three-month rate	Average yield[5]	Long-term bonds[6]	Eurodollar Three-month LIBOR	U.S. Government 10-year bonds
1979 December	6.0	. . .[7]	7.0	9.6	7.9	7.9	14.7	10.4
1980 December	7.5	9.5	9.0	10.2	8.9	8.8	19.6	12.8
1981 December	7.5	10.3	10.5	10.8	9.7	9.7	13.4	13.7
1982 December	5.0	5.9	6.0	6.6	7.9	8.0	9.6	10.5
1983 December	4.0	6.0	5.5	6.5	8.2	8.4	10.2	11.8
1984 December	4.5	5.5	5.5	5.8	7.0	7.2	9.1	11.5
1985 December	4.0	4.6	5.5	4.8	6.5	6.6	8.1	9.3
1986 December	3.5	4.6	5.5	4.8	5.9	6.1	6.4	7.1
1987 December	2.5	3.3	4.5	3.7	6.0	6.5	8.0	9.0
1988 December	3.5	4.8	5.5	5.3	6.3	6.5	9.4	9.1
1989 January	4.0	5.1	6.0	5.7	6.7	6.5	9.3	9.1
February	4.0	5.8	6.0	6.4	6.9	6.9	9.7	9.2
March	4.0	6.0	6.0	6.6	6.9	7.0	8.7	9.4
April	4.5	5.9	6.5	6.4	6.9	6.9	10.1	9.2
May	4.5	6.3	6.5	7.0	7.1	7.0	9.7	8.7
June	5.0	6.6	7.0	7.0	6.9	6.8	9.3	8.3
July	5.0	6.6	7.0	7.0	6.8	6.7	9.0	8.0
August	5.0	6.7	7.0	7.0	6.8	6.8	8.9	8.1
September	5.0	6.9	7.0	7.4	7.1	7.0	8.9	8.2
October	6.0	7.4	8.0	8.1	7.3	7.1	8.7	8.0
November	6.0	7.5	8.0	8.2	7.6	7.4	8.5	7.9
December	6.0	7.4	8.0	8.1	7.6	7.3	8.4	7.8
1990 January	6.0	7.8	8.0	8.3	7.9	7.7	8.3	8.2
February	6.0	7.8	8.0	8.3	8.7	8.5	8.4	8.5
March	6.0	7.9	8.0	8.4	8.9	8.8	8.5	8.6
April	6.0	7.8	8.0	8.2	8.9	8.7	8.6	8.8
May	6.0	7.8	8.0	8.3	8.9	8.7	8.5	8.8
June	6.0	7.8	8.0	8.3	9.0	8.8	8.4	8.5
July	6.0	7.9	8.0	8.3	8.7	8.6	8.2	8.5
August	6.0	8.0	8.0	8.5	9.0	8.9	8.1	8.8
September	6.0	8.0	8.0	8.5	9.1	9.1	8.2	8.9
Memorandum items[8]								
1986 average	3.6	4.4	5.5	4.6	5.9	6.1	6.9	7.7
1987 average	3.0	3.7	4.9	4.0	5.8	6.2	7.2	8.4
1988 average	3.0	3.9	4.8	4.3	6.1	6.5	8.0	8.9
1989 average	4.9	6.6	6.9	7.1	7.0	7.0	9.3	8.5

Sources: Deutsche Bundesbank, *Monthly Report*, and *Monthly Report, Supplement 2*; and International Monetary Fund, Data Fund.

[1] End of period for the discount rate and the Lombard rate; period average for the rate on securities repurchase transactions.

[2] Period average. After June 1990, reflects a change in the definition of the series.

[3] Unweighted average of rates during the period; for American style tenders, calculated on the basis of the low rate accepted.

[4] Interest rate on special Lombard loans during the suspension of the general Lombard facility, from February 20, 1981 to May 6, 1982.

[5] Average yield on public authority bonds with remaining maturities of three years or more.

[6] Average yield on public authority bonds with remaining maturities of nine–ten years.

[7] No transactions.

[8] Averages of end-of-month rates for the discount rate and the Lombard rate.

Table A10. Federal Republic of Germany: Exchange Rates

(Percent change from end of previous period)[1]

	1985	1986	1987	1988	1989	1989 I	1989 II	1989 III	1989 IV	1990 I	1990 II	1990 III	Memorandum Items: 1989[2]	Memorandum Items: Dec. 1989–Sept. 1990
													(Percent change)	
Effective exchange rates														
Nominal														
All countries[3]	5.5	9.2	3.5	−2.8	3.8	−1.1	−0.3	0.2	5.0	0.5	−0.7	0.6	−0.9	0.4
EMS[4]	2.9	3.7	2.9	0.3	0.3	−0.5	−0.2	−0.5	1.5	−0.9	−0.6	0.4	−0.6	−1.1
Real														
All countries (ULC based)[5]	7.7	9.6	5.8	−1.0	3.6	−1.2	0.4	−0.7	5.6	2.3	0.4	−0.8	−0.2	1.8
All countries (CPI based)[6]	2.9	5.7	1.6	−4.5	2.1	−1.2	−0.9	−0.1	4.4	−0.2	−1.3	0.3	−2.4	−1.2
Bilateral exchange rates[7]														
U.S. dollar	23.3	26.3	21.9	−7.0	0.8	−5.9	−5.8	1.5	12.1	2.1	1.2	7.3	−6.7	10.9
French franc	−0.2	7.3	3.3	0.7	—	−0.8	0.1	−0.5	1.2	−1.2	−0.3	−0.4	—	−2.0
Pound sterling	1.2	27.3	−4.3	−6.8	15.4	0.2	4.1	0.3	10.4	0.3	−3.8	−2.4	1.6	−5.9
Japanese yen	1.0	1.1	−3.6	−10.5	17.3	−0.7	4.1	2.2	10.9	8.9	1.7	−3.2	0.5	7.2

Sources: Deutsche Bundesbank, *Monthly Report*; and International Monetary Fund, Data Fund.

[1] Unless otherwise noted; based on monthly average data. Positive figures indicate appreciation of the deutsche mark.

[2] Annual average percent change.

[3] Based on exchange rates vis-à-vis 16 other industrial countries.

[4] As calculated by Bundesbank for countries participating in the ERM. Calculations for 1989 and 1990 include Spain, which joined the ERM on June 19, 1989. Calculations for 1985–88 exclude Spain.

[5] Based on normalized unit labor costs (ULC) in manufacturing and exchange rates vis-à-vis 16 other industrial countries.

[6] The consumer price based index uses a wider range of countries in its weighting scheme—35 other countries, compared with 16 other countries used for the unit labor cost based calculation.

[7] Units of foreign currency per deutsche mark.

Table A11. Federal Republic of Germany: Long-Term Capital in the Balance of Payments Accounts[1]

(In billions of deutsche mark)

	1983	1984	1985	1986	1987	1988	1989	1989 I	1989 II	1989 III	1989 IV	1990 I	1990 II
German investment abroad	**−36.5**	**−45.0**	**−61.7**	**−55.4**	**−62.5**	**−97.9**	**−92.2**	**−31.8**	**−15.7**	**−25.5**	**−19.2**	**−37.7**	**−21.6**
Direct investment	−8.1	−12.5	−14.1	−20.9	−16.4	−19.8	−25.3	−4.9	−5.2	−5.8	−9.4	−9.5	−6.7
Advances and loans of enterprises	−0.8	−1.7	0.3	0.2	−0.8	−0.0	−4.3	−3.3	−0.3	−0.4	−0.3	−1.9	−0.7
Portfolio investment	−10.4	−15.7	−31.5	−21.3	−24.9	−72.9	−49.8	−23.0	−6.9	−16.5	−3.4	−8.9	−8.1
Of which:													
Foreign currency bonds	*−5.3*	*−14.0*	*−20.2*	*−9.5*	*−21.5*	*−42.4*	*−26.2*	*−10.9*	*−1.9*	*−12.0*	*−1.4*	*−1.6*	*−3.2*
Deutsche mark bonds	*−0.5*	*−1.7*	*−7.2*	*−6.9*	*−3.3*	*−12.2*	*−14.3*	*−6.6*	*−2.6*	*−2.6*	*−2.5*	*−7.9*	*−4.0*
Equities	*−4.6*	—	*−4.1*	*−4.9*	*−0.1*	*−18.2*	*−9.3*	*−5.4*	*−2.4*	*−2.0*	*0.5*	*0.6*	*−1.0*
Advances and loan of banks	−8.4	−6.8	−8.4	−6.3	−13.8	2.2	−5.2	0.8	−1.5	−0.9	−3.6	−15.1	−4.4
Official[2]	−6.8	−6.9	−6.3	−5.3	−5.0	−5.6	−5.6	−0.9	−1.4	−1.4	−2.0	−1.8	−1.1
Real estate investment	−1.3	−1.0	−1.0	−1.0	−1.0	−1.2	−1.2	−0.3	−0.3	−0.3	−0.3	−0.3	−0.3
Other	−0.8	−0.4	−0.7	−0.7	−0.6	−0.7	−0.8	−0.2	−0.2	−0.3	−0.1	−0.3	−0.3
Foreign investment in Germany	**29.5**	**25.2**	**48.8**	**88.9**	**39.5**	**11.0**	**69.4**	**−0.8**	**16.2**	**20.0**	**34.1**	**2.9**	**7.4**
Direct investment	4.5	1.6	1.7	2.6	3.4	2.4	11.2	2.9	1.5	1.8	5.0	0.3	3.3
Advances and loans of enterprise	1.3	0.5	−0.0	0.7	2.8	1.9	−0.4	−0.0	0.8	−0.4	−0.8	0.6	3.8
Portfolio investment	25.5	21.7	36.3	69.1	21.2	−3.2	40.6	−7.4	8.3	14.2	25.5	−4.5	−2.4
Of which:													
Bonds	*10.8*	*13.8*	*31.5*	*59.1*	*35.0*	*2.1*	*22.5*	*−7.6*	*8.4*	*9.7*	*12.0*	*−11.4*	*2.9*
Official borrowers' note	*11.9*	*4.3*	*−2.0*	*−5.0*	*−12.0*	*−10.9*	*−5.2*	*−2.3*	*−1.7*	*−1.5*	*0.2*	*−0.5*	*−0.4*
Advances and loans to banks	−1.6	1.5	10.9	16.6	12.1	10.1	18.2	3.8	5.6	4.4	4.4	6.7	2.6
Other	−0.2	−0.0	−0.1	−0.1	−0.1	−0.2	−0.1	−0.0	−0.0	−0.0	−0.1	−0.1	−0.1
Balance on long term capital account	**−7.0**	**−19.8**	**−12.9**	**33.4**	**−23.1**	**−86.9**	**−22.7**	**−32.6**	**0.5**	**−5.6**	**14.9**	**−34.7**	**−14.2**

Source: Deutsche Bundesbank, *Monthly Report, Supplement 3.*

[1] Outflows of funds have a negative sign.

[2] Includes share contributions to international organizations.

Table A12. Federal Republic of Germany: Territorial Authorities' Finances[1]

(Administrative basis)

	1989	1990	1987	1988	1989	1990
	Actual	Estimate[2]	Actual			Estimate[2]
	(In billions of deutsche mark)		*(Percent change from preceding period)*			
Total expenditure	**699.6**	**749.5**	**3.6**	**3.0**	**4.3**	**7.1**
Current expenditure	593.7	636.8	4.0	3.6	3.9	7.3
Wages and salaries	219.6	231.0	4.3	2.5	2.4	5.2
Goods	111.2	116.6	2.7	1.2	4.7	4.8
Interest	61.0	65.9	1.4	3.2	1.1	7.5
Current transfers	201.9	223.6	5.3	6.4	6.0	10.7
Capital expenditure	105.9	112.7	1.6	−0.8	6.9	6.4
Investment	59.5	64.3	2.8	0.1	7.7	8.0
Capital transfers	25.2	25.7	−0.9	−6.1	13.7	1.8
Loans	21.1	22.7	1.4	2.9	−2.3	7.6
Total revenue	**673.0**	**689.4**	**2.4**	**3.0**	**8.8**	**2.4**
Current revenue	652.5	669.9	2.1	3.0	9.5	2.7
Taxes	535.1	545.2	3.5	4.3	9.6	1.9
Other	117.4	124.7	−3.4	−2.4	8.9	6.2
Capital revenue	20.5	19.5	10.7	3.7	−8.5	−4.9
Financial balance	**−26.6**	**−60.1**	...	...	...	...
(In percent of GNP)	−1.2	−2.4	−2.5	−2.5	−1.2	−2.4
Memorandum items:						
Financial balance, including in 1990 GDR-related items in the third supplementary budget of the Federal Government	−26.6	−84.3	...	...	...	...
(In percent of GNP)	−1.2	−3.5	−2.5	−2.5	−1.2	−3.5
Expenditure, excluding in 1990 GDR-related items in the first and second supplementary budgets of the Federal Government[3]	699.6	740.7	3.6	3.0	4.3	5.9

Sources: Bundesministerium der Finanzen; and authors' estimates of September 1990.

[1] Including the Federal Government, the Länder, the municipalities, the Burden Equalization Fund, the European Recovery Program Fund, and the European Community's accounts.

[2] Excludes the German Unity Fund but includes the contribution of the Federal Government to the Fund (DM 2 billion in 1990). Following the official presentation, the accounts for west Germany include GDR-related expenditure in the first and second supplementary budgets of the Federal Government (DM 8.8 billion including the contribution to the German Unity Fund) but exclude GDR-related items in the third federal supplementary budget. The latter gave rise to additional borrowing of DM 24.2 billion, which is incorporated in an adjusted balance reported as a memorandum item.

[3] See Table 3 in the text for details.

Table A13. Federal Republic of Germany: Territorial Authorities—Tax Revenue[1]

(Cash basis)

	1970	1975	1980	1985	1989	1989	1986	1987	1988	1989
	(In percent of total)					*(In billions of DM)*	*(Percent change over preceding period)*			
Total tax revenue	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**535.5**	**3.5**	**3.6**	**4.1**	**9.7**
By type of tax										
Personal income tax	34.5	41.9	41.8	41.7	43.2	231.3	4.3	6.6	3.3	10.4
Corporation tax	5.7	4.2	5.8	7.3	6.4	34.2	1.5	−15.5	9.9	13.9
Wealth tax	1.9	1.4	1.3	1.0	1.1	5.8	2.5	23.3	2.4	4.0
Trade tax[2]	7.0	7.4	7.4	7.0	6.9	36.7	4.0	−1.7	9.6	6.5
Value-added tax[3]	24.7	22.3	25.6	25.1	24.6	131.5	1.2	6.9	3.8	6.6
Petroleum tax	7.5	7.1	5.8	5.6	6.2	33.0	4.6	1.9	3.4	21.9
Tobacco tax	4.2	3.7	3.1	3.3	2.9	15.5	0.2	0.2	0.3	6.6
Motor vehicle tax	2.5	2.2	1.8	1.7	1.7	9.2	27.3	−10.6	−2.3	12.2
Other taxes	12.1	9.9	7.3	7.3	7.2	38.5	3.6	3.2	4.9	8.0
By level of government										
Federal Government[4]	55.2	50.1	48.7	47.6	46.6	249.8	1.3	3.9	1.8	12.2
Länder[5]	32.7	33.7	34.4	34.9	35.3	189.2	5.0	4.0	3.9	9.4
Municipalities[6]	11.8	13.7	14.0	14.1	13.7	73.6	3.8	1.6	6.2	6.9
European Community[7]	—	2.5	2.9	3.5	4.3	22.8	18.2	2.1	29.2	−3.7
Memorandum item:										
Tax revenue *(In percent of GNP)*	22.8	23.5	24.6	23.7	23.7	23.7	23.3	23.2	23.0	23.7

Sources: Deutsche Bundesbank, *Monthly Report*; and Bundesministerium der Finanzen.
[1] Data in this table are calculated on a cash basis and may differ from data reported in Table A12, which are on an administrative basis.
[2] Tax based on capital stock of businesses and on return to capital.
[3] Including turnover tax on imports.
[4] Including Burden Equalization Fund.
[5] Excluding municipal taxes in Berlin, Bremen, and Hamburg.
[6] Including municipal taxes in Berlin, Bremen, and Hamburg.
[7] The EC's share of tax collections.

Table A14. Federal Republic of Germany: General Government—Revenue and Expenditure

(National accounts basis)

	1989	1990	1987	1988	1989	1990
	Actual	Estimate[1]	Actual			Estimate[1]
	(In billions of deutsche mark)		*(Percent change from preceding period)*			
Total expenditure	**1,015.6**	**1,099.0**	**4.1**	**4.3**	**2.5**	**8.2**
Expenditures on goods and services	471.5	497.3	3.7	3.6	2.2	5.5
Public consumption	419.0	439.9	3.9	3.8	1.5	5.0
Public investment	52.5	57.4	2.4	1.8	7.5	9.2
Transfer payments	544.1	601.7	4.5	5.0	2.7	10.6
Social benefits	358.3	377.6	4.9	4.5	4.5	5.4
Subsidies	45.4	45.6	8.3	6.5	−4.7	0.5
Interest	60.4	63.2	1.0	3.6	0.9	4.6
Other	80.0	115.3	2.9	6.8	0.9	44.1
Total revenue	**1,021.0**	**1,053.3**	**2.8**	**3.7**	**7.9**	**3.2**
Tax revenue	560.0	566.5	3.9	4.3	9.2	1.2
Indirect taxes	278.2	296.5	3.9	4.7	8.1	6.6
Direct taxes	281.8	270.0	3.8	3.9	10.3	−4.2
Social security contributions	383.4	406.4	3.9	4.6	4.6	6.0
Other revenue	77.6	80.4	−8.3	−4.7	16.5	3.6
			(In percent of GNP)			
Financial balance	**5.5**	**−45.7**	**−1.9**	**−2.1**	**0.2**	**−1.9**
Of which:						
Territorial authorities	*−10.9*	*−43.7*	*−2.2*	*−2.2*	*−0.5*	*−1.8*
Social security system	*16.3*	*18.0*	*0.3*	*0.1*	*0.7*	*0.7*
German Unity Fund	. . .	*−20.0*	. . .	. . .	. . .	*−0.8*
Memorandum items:						
Financial balance, including in 1990 GDR-related items in the third supplementary budget of the Federal Government	5.5	−69.9	−1.9	−2.1	0.2	−2.9
			(Percent change from preceding period)			
Expenditure, excluding in 1990 GDR-related items in the first and second supplementary budgets[2]	1,015.6	1,090.2	4.1	4.3	2.5	7.3

Sources: Bundesministerium der Finanzen; and authors' estimates of September 1990.

[1] Including the German Unity Fund. See footnote 2 of Table A12 for the coverage of data for the territorial authorities.

[2] See Table 3 in the text.

Table A15. Federal Republic of Germany: Selected Indicators of the Size of the General Government[1]

(In percent of GNP)

	1950	1955	1960	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Revenue	31.8	35.0	35.9	36.5	39.3	43.9	45.7	45.9	46.6	46.1	46.1	46.3	45.6	45.2	44.6	45.2
Of which:																
Indirect taxes	*12.9*	*14.3*	*13.8*	*13.6*	*13.2*	*12.7*	*13.0*	*12.8*	*12.6*	*12.8*	*12.8*	*12.5*	*12.1*	*12.2*	*12.1*	*12.3*
Direct taxes	*8.1*	*8.7*	*9.2*	*10.0*	*10.8*	*12.0*	*12.6*	*12.2*	*12.1*	*11.9*	*12.0*	*12.5*	*12.2*	*12.2*	*12.0*	*12.5*
Social security contributions	*8.5*	*8.6*	*10.3*	*10.6*	*12.6*	*16.3*	*16.7*	*17.4*	*17.8*	*17.3*	*17.2*	*17.4*	*17.3*	*17.4*	*17.3*	*17.0*
Other	*2.2*	*3.3*	*2.6*	*2.4*	*2.8*	*2.9*	*3.3*	*3.5*	*4.0*	*4.1*	*4.0*	*4.0*	*3.9*	*3.5*	*3.1*	*3.4*
Expenditure	31.1	30.3	32.9	37.2	39.1	49.5	48.6	49.6	49.8	48.6	48.0	47.5	46.9	47.1	46.7	44.9
Of which:																
Public consumption	*10.3*	*10.5*	*13.3*	*15.2*	*15.8*	*20.4*	*20.1*	*20.6*	*20.4*	*20.0*	*19.8*	*19.8*	*19.7*	*19.7*	*19.4*	*18.5*
Public gross investment	*2.1*	*2.7*	*3.2*	*4.6*	*4.6*	*3.9*	*3.6*	*3.2*	*2.8*	*2.5*	*2.4*	*2.3*	*2.4*	*2.4*	*2.3*	*2.3*
Interest payments	*0.6*	*0.8*	*0.7*	*0.7*	*1.0*	*1.4*	*1.9*	*2.3*	*2.8*	*3.0*	*3.0*	*3.0*	*2.9*	*2.9*	*2.8*	*2.7*
Transfer payments	*10.2*	*16.3*	*15.6*	*16.7*	*17.7*	*23.8*	*23.1*	*23.5*	*23.8*	*23.1*	*22.8*	*22.3*	*21.9*	*22.1*	*22.1*	*21.4*
Of which:																
Social transfers	*11.8*	*11.1*	*12.5*	*12.8*	*13.0*	*17.9*	*16.8*	*17.5*	*18.0*	*17.3*	*16.7*	*16.3*	*16.1*	*16.3*	*16.1*	*15.8*
Subsidies	*0.5*	*0.2*	*0.8*	*1.3*	*1.7*	*2.0*	*2.1*	*1.9*	*1.8*	*1.9*	*2.0*	*2.1*	*2.1*	*2.2*	*2.2*	*2.0*
Other current transfers	*4.5*	*4.1*	*0.7*	*0.9*	*1.1*	*1.6*	*2.0*	*2.0*	*2.0*	*2.1*	*2.2*	*2.1*	*2.1*	*2.1*	*2.2*	*2.1*
Capital transfers	*1.3*	*0.9*	*1.6*	*1.7*	*1.9*	*2.2*	*2.2*	*2.0*	*2.0*	*1.9*	*1.9*	*1.8*	*1.6*	*1.6*	*1.5*	*1.4*
Financial balance	0.6	4.7	3.0	−0.6	0.2	−5.6	−2.9	−3.7	−3.3	−2.5	−1.9	−1.1	−1.3	−1.9	−2.1	0.2
Current receipts	. . .	. . .	35.1	35.8	38.4	42.7	44.6	44.8	45.5	45.0	45.0	45.3	44.6	44.2	43.5	44.2
Current expenditures	. . .	. . .	28.1	30.9	32.6	43.3	42.8	44.3	45.0	44.2	43.7	43.4	42.9	43.2	42.9	41.2
Saving	3.1	7.4	7.0	4.9	5.8	−0.6	1.8	0.5	0.4	0.7	1.3	2.0	1.7	1.1	0.7	3.0

Sources: Bundesministerium der Finanzen; and Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen.*

[1] National accounts basis. The general government comprises the Federal Government, the Länder governments, municipalities, the social security system, the Burden Equalization Fund, the European Recovery Program Fund, and the European Community's accounts.

Table A16. Federal Republic of Germany: Financial Implications of Tax Reform

(In billions of deutsche mark)

	1986	1988	1990	1986–90	
					(In percent of total gross tax reduction)
Reduction in taxes due to:					
Changes in tax rate schedule	5.7	12.9	31.9	50.5	79.8
Basic deduction	2.1	1.4	5.9	9.4	14.9
Entry rate	. . .	. . .	6.2	6.2	9.8
Reduction of progressivity	3.6	11.5	18.7	33.8	53.4
Top rate	. . .	. . .	1.1	1.1	1.7
Changes in family allowances	5.2	0.3	2.4	7.9	12.5
Child allowance	4.8	. . .	1.8	6.6	10.5
Other family deductions	0.4	0.3	0.4	1.1	1.7
Job promotion in private households	. . .	. . .	0.2	0.2	0.3
Other measures	. . .	0.5	4.4	4.9	7.7
Special depreciation allowances for small and medium-sized companies	. . .	0.5	. . .	0.5	0.8
Higher special deductions	. . .	. . .	0.6	0.6	0.9
Lower corporate tax rate	. . .	. . .	2.5	2.5	4.0
Doubling of savings deduction	. . .	. . .	0.6	0.6	0.9
Higher depreciation allowances for rental properties	. . .	. . .	0.5	0.5	0.8
Other	. . .	. . .	0.2	0.2	0.3
Total gross tax reduction	10.9	13.7	38.7	63.3	100.0
Reduction in tax exemptions	. . .	. . .	14.0	14.0	. . .
Total net tax reduction	10.9	13.7	24.7	49.3	. . .

Source: Bundesministerium für Wirtschaft, *Aktuelle Beiträge zur Wirtschafts- und Finanzpolitik*, No. 4/1990 (January 10, 1990).

Table A17. Federal Republic of Germany: Subsidies[1]

(In billions of deutsche mark)

	1970	1975	1980	1985	1986	1987	1988	1989[2]
Federal Government								
Payments	7.8	10.1	12.5	11.9	12.4	12.4	12.3	14.5
Preferential tax treatment	6.2	9.7	12.1	15.7	15.7	15.9	16.9	16.9
Total	14.0	19.8	24.6	27.6	28.1	28.3	29.2	31.4
(In percent of GNP)	2.1	1.9	1.7	1.5	1.4	1.4	1.4	1.4
Länder and municipalities								
Payments[3]	6.8	8.3	13.1	13.1[4]	11.8	12.4	12.1	12.9
Preferential tax treatment	6.6	11.7	14.2	18.4	18.5	19.2	20.5	21.1
Total	13.4	20.0	27.3	31.5	30.3	31.6	32.6	34.0
(In percent of GNP)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5
ERP payments[5]	1.1	1.3	2.7	2.9	3.2	3.1	3.5	3.7
EC payments	2.9	2.2	6.2	8.0	9.4	8.3	10.2	10.5
Total subsidies	31.4	43.3	60.8	70.0	71.0	71.3	75.5	79.6
(In percent of GNP)	4.6	4.2	4.1	3.8	3.7	3.5	3.6	3.5

Sources: Bundesministerium der Finanzen; and authors' estimates.

[1] In the definition of the Government's biannual subsidy report; excluding rent subsidies for low-income households.

[2] Subsidy payments according to budgets.

[3] Data for municipalities are estimates.

[4] In 1985, DM 0.8 billion in subsidies for housing were permanently shifted from the Länder to the Federal Government.

[5] Loan subsidies, mainly to small and medium-sized enterprises, related to lending by the European Recovery Program Fund.

Table A18. Federal Republic of Germany: Fiscal Assistance and Tax Relief of the Federal Government[1]

(In billions of deutsche mark)

	1970	1975	1980	1985	1986	1987	1988	1989
Agriculture and forestry[2]	4.8	4.2	3.7	4.7	4.9	4.9	5.2	5.3
(In percent of value added)	21.8	14.7	12.1	14.7	14.7	16.4	16.1	14.9
Enterprises (excluding transport)	3.7	5.6	9.2	11.1	11.0	12.0	13.5	15.1
(In percent of value added)	1.3	1.4	1.7	1.7	1.6	1.7	1.8	2.0
Of which:								
Mining	*0.5*	*1.0*	*2.6*	*1.6*	*2.0*	*3.0*	*3.2*	*3.9*
Energy and raw materials	—	*0.4*	*0.3*	*0.4*	*0.4*	*0.3*	*0.2*	*0.3*
Technology and innovation	*0.2*	*0.1*	*0.5*	*0.9*	*1.0*	*0.8*	*0.7*	*0.6*
Sectoral aid	*0.2*	*0.4*	*0.7*	*1.3*	*0.6*	*0.5*	*1.0*	*1.7*
Shipbuilding	—	*0.1*	*0.3*	*0.1*	*0.1*	*0.1*	*0.3*	. . .
Aircraft	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.8*	. . .
Steel	—	—	—	*0.7*	*0.1*	—	—	. . .
Regional measures	2.1	3.0	4.2	5.4	5.7	5.8	6.4	6.6
Other measures	0.8	0.7	0.8	1.5	1.4	1.6	1.9	2.0
Transport	0.9	1.4	2.5	1.7	1.7	1.7	1.7	1.6
(In percent of value added)	2.4	2.3	2.9	1.6	1.5	1.5	1.4	1.3
Construction[3]	1.3	2.7	3.9	5.3	5.3	5.3	5.0	5.1
(In percent of value added)	2.5	4.2	3.9	5.6	5.4	5.2	4.5	4.3
Saving and capital formation	2.7	5.1	4.0	3.3	3.1	2.8	2.3	2.7
(In percent of business sector value added)	0.5	0.6	0.3	0.2	0.2	0.2	0.1	0.1
Other	0.6	0.9	1.5	1.6	2.0	1.5	1.6	1.4
Total	14.0	19.8	24.6	27.6	28.1	28.3	29.2	31.4
(In percent of business sector value added)	2.4	2.3	2.0	1.8	1.7	1.7	1.6	1.7
Memorandum item:								
EC payments for agricultural price support	2.9	2.2	6.2	8.1	9.5	8.4	10.2	. . .
(In percent of value added)	13.1	7.6	20.5	25.1	28.3	28.0	31.7	. . .

Source: Bundesministerium der Finanzen; and authors' estimates.

[1] In the definition of the Government's biannual subsidy report.

[2] Including the effect of changes in the value-added tax for inputs in agriculture.

[3] In 1985, DM 0.8 billion in subsidies for housing were permanently shifted from the Länder to the Federal Government; excluding rent subsidies for low-income households.

Table A19. Comparison of Subsidies in the European Community, 1981–86, Average

(In percent of value added)

	Belgium	Denmark	France	Federal Republic of Germany	Greece[1]	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	EC-10
Agriculture	7.3	8.0	12.1	9.8	. . .	13.2	8.6	12.0	7.2	14.1	. . .
Manufacturing	6.4	2.8	4.9	3.0	12.9	12.9	16.7	7.3	4.1	3.8	6.2
Of which:											
Steel	*40.4*	*18.0*	*58.3*	*8.6*	. . .	*107.2*	*71.4*	*14.6*	*4.3*	*57.6*	. . .
Shipbuilding	*27.7*	*33.8*	*56.6*	*12.3*	. . .	. . .	*34.2*	—	*10.7*	*21.6*	. . .
Railways	70.0	15.0	38.0	37.0	. . .	. . .	49.0	181.0	22.0	18.0	. . .
Total											
(In percent of GDP)	4.1	1.3	2.7	2.5	2.5	5.3	5.7	6.0	1.5	1.8	3.0
ECU per employee	1,113	353	792	761	278	1,036	1,357	1,562	444	396	771

Source: European Community, quoted in Bundesministerium der Finanzen, *Zwölfter Subventionsbericht*, 1989, pp. 54–55.
[1] Estimated.

Table A20. International Comparison of Subsidies, 1979–87[1]

(In percent of GDP)

	1979	1980	1981	1982	1983	1984	1985	1986	1987[2]
Belgium	1.7	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.4
Germany	2.2	2.1	1.9	1.8	1.9	2.1	2.1	2.1	2.2
Denmark	3.2	3.2	3.0	3.2	3.3	3.3	3.0	2.9	3.0
France	2.0	1.9	2.2	2.2	2.1	2.4	2.3	2.3	2.4
United Kingdom	2.3	2.5	2.6	2.1	2.1	2.4	2.0	1.6	1.6
Italy	2.6	2.4	2.5	3.0	2.5	2.7	2.8	3.0	2.6
Japan	1.3	1.5	1.5	1.4	1.4	1.3	1.1	1.1	1.1
Canada	2.0	2.7	2.7	2.5	2.5	2.8	2.4	2.0	2.3
Netherlands	1.3	1.5	1.6	1.7	1.8	1.9	1.9	1.8	1.8
Norway	7.0	7.0	6.7	6.5	6.1	5.7	5.4	5.8	5.7
Austria	2.9	3.0	3.0	3.0	3.0	2.8	2.9	3.1	3.0
Sweden	4.3	4.3	4.7	5.0	5.2	5.0	4.9	4.8	4.8
Switzerland	1.4	1.4	1.2	1.3	1.4	1.4	1.4	1.4	1.4
United States	0.4	0.4	0.4	0.5	0.7	0.6	0.6	0.6	0.6

Source: Organization for Economic Cooperation and Development, quoted in Bundesministerium der Finanzen, *Zwölfter Subventionsbericht*, 1989, p. 18.
[1] National accounts basis; general government.
[2] Partly estimated.