KIELER DISKUSSIONSBEITRÄGE

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Euroland: Recovery Will Slow Down

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- The economic recovery in the euro area has accelerated in the course of 2004. During the first two quarters, real GDP rose at an annual rate of slightly over 2 percent, after about 1½ percent in the second half of 2003. For the first time since 2001, overall capacity utilization increased. Exports were driven by the boom in the world economy so that the dampening effects of the previous appreciation of the euro were more than compensated. Internal demand picked up somewhat; especially private consumption recovered whereas investment of firms was rather sluggish. As a consequence of the upswing, the situation on the labor market stopped deteriorating. Inflation also picked up because of the surge in oil prices. During the summer, the HICP rose by more than 2 percent.
- The sharp increase in oil prices will dampen domestic demand in the near future. In addition, the boom in the world economy has probably already passed its peak. Consequently, the economic expansion in the euro area is likely to slow down somewhat in the rest of this year. This forecast is supported by various leading indicators. For 2004 as a whole, we expect real GDP to increase by 1.9 percent. The unemployment rate will average 9 percent and will thus be slightly higher than last year. Also because of higher oil prices, inflation will be higher than the target rate of the ECB.
- In 2005, the expansion of domestic demand will slow down further. Especially consumers will be cautious given the weak prospects for income in the medium term. External demand will also lose momentum so that real GDP growth will be moderate in the course of next year. The rate will average 1.9 percent. Inflation is expected to be slightly below 2 percent.
- All in all, the recovery will be very modest when compared to previous cycles. One reason is that the growth of potential output is lower than before. Our estimate for the current year amounts to 1¾ percent. The slowdown in recent years is mainly due to the slower growth of productivity. In contrast, the number of total hours worked has increased. Apparently gains of employment can only be achieved at the expense of productivity growth. This is a pessimistic diagnosis given the goal of the EU to become the most dynamic economic region of the world.
- In spite of the economic recovery, the situation of public finances has deteriorated further. The aggregated budget deficit will probably increase to 2.8 percent of GDP, compared to 2.7 percent last year. The deficits will also be higher than reported in most national Stability Programmes. In addition to Germany, France, the Netherlands, and Greece, the deficit ratio will also exceed the 3 percent margin in Italy and Portugal.
- The current proposals for a reform of the Pact are mainly concerned with a more generous interpretation of the 3 percent ceiling. However, the main target of the Stability and Growth Pact (SGP) is that government budgets should be balanced or in surplus over the medium term. This target has not been achieved in many countries in recent years; it is not even planned in the Stability Programmes for France and Germany until 2007. This failure cannot be attributed at all to the weakness of the economy in recent years. In fact, the cyclically adjusted deficits of these two countries are higher today than at the end of the 1990s. In other words, there has not been a consolidation of the budget at all.
- If the SGP loses its strength or if there were no binding rules for fiscal policy, the consequences would be severe for various reasons. First of all, it would be a disadvantage for the countries themselves. Given the likely demographic changes, it would be wise to start saving now; the fact is, however, that the debt burden continues to increase making fiscal policy less sustainable. Second, those countries which intend to join the monetary union in the near future hardly have any incentive to stick to the targets of the Pact if other members ignore or stretch the rules. The criteria for entry would therefore be softened which would be in stark contrast to the fundamentals of the European Monetary Union.
- The ECB has left key interest rates at a very low level for more than a year. Meanwhile, the euro area economy has recovered as expected by the central bank. The high oil prices are a risk factor for the future path of economic activity. However, this will probably not lead to a cut of interest rates especially because inflation has remained stubbornly high. The next step is likely to be a tightening of monetary policy. Given our forecast of a moderate upturn, we expect that monetary policy will be tightened only moderately; a raise of 25 basis points is likely around the turn of the year. Such a move is also in line with the reactions of the ECB in the past, which can be described by an empirical Taylor rule.

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This report was completed on September 22, 2004, and prepared for the 70th Kieler Konjunkturgespräch (September 27/28, 2004).

Euroland: Recovery Will Slow Down

The economic recovery in the euro area has accelerated in the course of this year. During the first two quarters, real GDP rose at an annual rate of slightly over 2 percent, after about 1½ percent in the second half of last year. As a consequence, overall capacity utilization increased for the first time since 2001. Exports were driven by the boom in the world economy; the demand was so strong that the dampening effects of the previous appreciation of the euro were more than compensated. Internal demand picked up somewhat after a prolonged period of weakness; especially private consumption recovered whereas investment of firms was rather sluggish. In the wake of improving overall conditions, the situation on the labor market stopped deteriorating. Inflation also picked up because of the surge in oil prices. During the summer, the HICP rose by more than 2 percent.

The high level of oil prices will dampen economic activity in the months ahead. Both consumers and investors have been taken by surprise and will cut their spending plans. In addition, the boom in the world economy has probably already passed its peak so that external demand will not rise as rapidly as in the first half of this year. For all these reasons, the economic expansion in the euro area is likely to slow down somewhat in the rest of this year. This forecast is supported by various leading indicators, which do not look as favorable as before. Another reason for caution is the fact that stock prices have been declining over the past months; and finally, long-term interest rates are not higher than at the beginning of this year which indicates that expected profitability has remained modest.

All in all, we have not revised our forecast of spring this year which implied that real GDP would rise only moderately in 2004 and 2005 if compared to earlier periods of recovery. A major reason for this view is that potential output is not increasing as fast as in the past. Our estimate of the current potential output growth in the euro area amounts to 1¾ percent. Since the recovery will remain moderate and the rate of inflation is likely to decline again, the European Central Bank will raise interest rates only slightly. As our empirical model of a reaction function shows, this forecast is compatible with the ECB's behavior in the past.

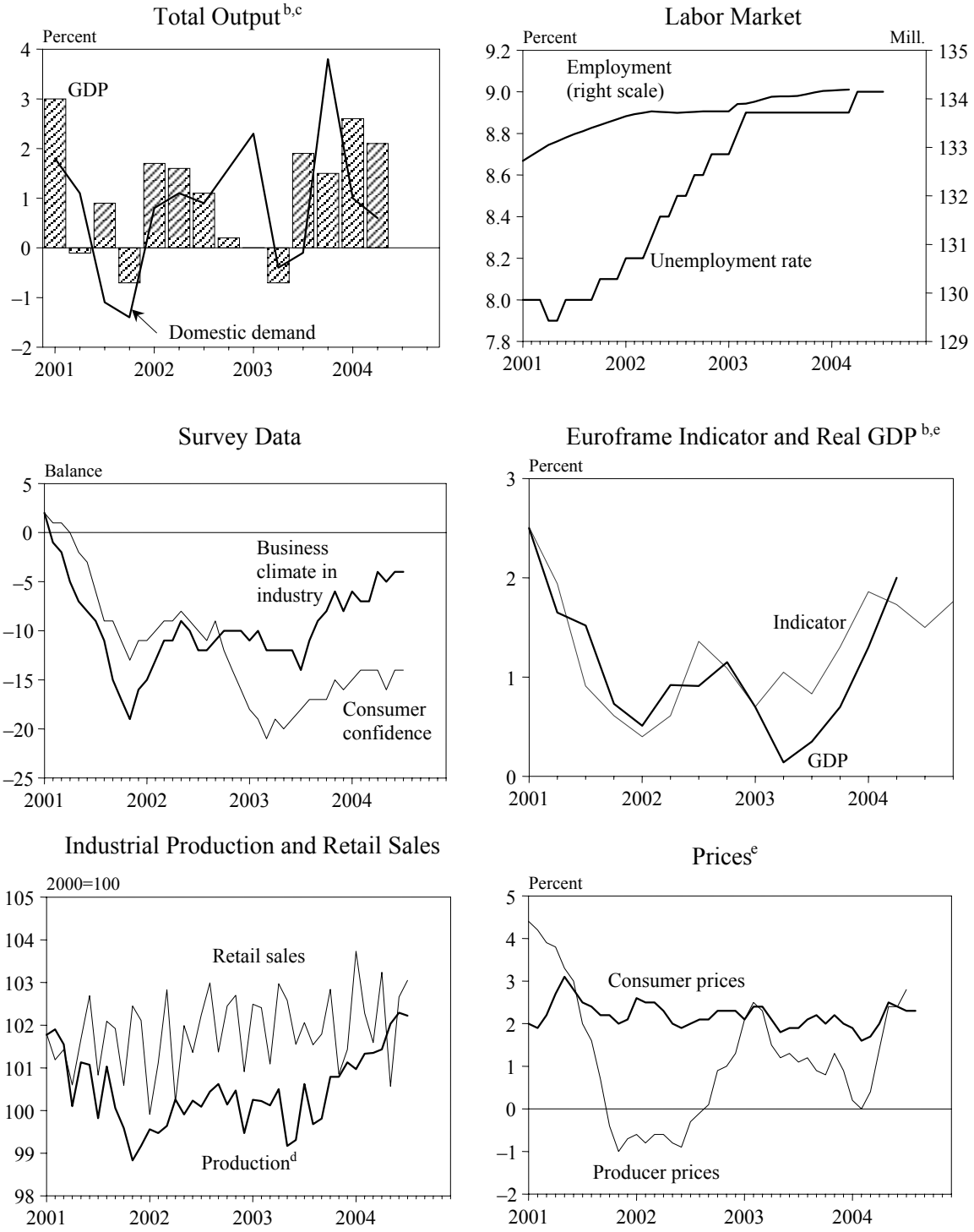
1 Moderate Economic Recovery

Economic activity in the euro area picked up in the first half of 2004 compared to the second half of 2003. In the second quarter 2004, real GDP growth continued to be higher than the growth rate of potential output[1] although the increase in production was slightly slower than before (Figure 1). The pace of expansion differed considerably across the individual member states. While the industrial production in France, Belgium, and Finland expanded strongly, expansion in Italy was weak; in Italy and Greece industrial production even declined. The situation on the labor market slightly improved in the course of economic recovery. The number of employees in the total economy increased moderately; while employment in the industrial sector contracted, employment in the service sector expanded. Since spring, the unemployment rate has remained unchanged at 9.0 percent.

The recovery of economic activity was mainly due to the expansion of foreign demand. Exports increased in the course of the first half of 2004 at an annualized rate of 7 percent. In spite of the appreciation of the euro, producers in the euro area benefited from the boom in the rest of the world. In particular exports to the United States and to Asia grew strongly. Private consumption was another pillar of the economic recovery. The contribution of private consumption to the change in GDP accounted for 0.6 percentage points (Table 1). However, the consumer confidence indicator published by the

[1] For an analysis of potential output growth see Section 2.

Figure 1:
Business Cycle Indicators[a] for Euroland, 2001–2004



[a]Seasonally adjusted. — [b]At constant prices. — [c]Annualized percentage change over previous quarter. — [d]Industry excluding construction. — [e]Percentage change over previous year.

Source: EUROFRAME (2004); Eurostat (2004); ECB (2004c).

Table 1:
Contributions of Demand Components to Change in GDP (Lundberg Components) in Euroland, 2003 und 2004[a]

	2003				2004	
	I	II	III	IV	I	II
Gross domestic product	0.0	–0.7	1.9	1.5	2.6	2.1
Domestic demand	2.3	–0.3	–0.1	3.7	1.0	0.6
Private consumption	0.6	0.1	0.5	0.0	1.4	0.6
Public consumption	0.0	0.4	0.5	0.4	0.1	0.5
Fixed investment	–0.7	–0.1	0.0	0.7	–0.1	0.1
Change in stock	2.3	–0.7	–1.2	2.6	–0.4	–0.6
Net exports	–1.8	–0.7	2.1	–1.6	1.1	1.6
Exports	–2.6	–1.2	3.9	0.6	2.1	5.9
Imports	0.4	0.8	–1.9	–2.7	–0.5	–4.4

[a]Annualized quarterly rate of change in percent.

Source: Eurostat (2004); own calculations.

European Commission suggests that private households are still pessimistic about their financial situation. Meanwhile investment remained weak. Especially residential investment continued to decline, nonresidential investment by contrast increased on the back of improved sales and profits expectations.

The increase in consumer prices has accelerated in the course of this year, mainly due to a strong rise in energy prices. Since the beginning of the year, the Harmonized Index of Consumer Prices (HICP) has risen at an annualized rate of 2.5 percent in seasonally adjusted terms. Year over year inflation was 2.3 percent in August. The core rate went up moderately and reached 2 percent.

2 Slower Growth of Potential Output

The concept of potential output plays an important role in business cycle analysis. The relative deviation of actual output to potential output, known as the output gap, defines the business cycle. In addition, the concept is important in assessing the macroeconomic policy stance. The output gap—in combination with measures of the sensitivity of government revenue and expenditure to cyclical movements in output—is used, for example, to estimate a cyclically adjusted government budget balance. It is also relevant in gauging the stance of monetary policy, e.g., in the framework of a Taylor rule.

The determination of potential growth is of special interest also in light of the disappointing economic development in the euro area (and especially in Germany) over the last three years. The central question is whether the protracted weakness in actual output growth also signals a reduction of the current growth rate potential output.

A number of different methods have been developed in order to estimate potential output.[2] Using a Cobb–Douglas production function, the OECD (2004b) calculates a growth rate of 2.0 percent for the years 2002 and 2003, and 1.9 percent in the following two years. In a longer-term perspective, the OECD figures suggest a declining growth rate at the beginning of the nineties and a stagnation of rates in recent years.

[2]See Schumacher (2002) for a survey.

Our estimation of potential output is based on a decomposition of real GDP, *Y*, into output per hour, *Y/H*, and total hours worked, *H*.[3] The latter can be decomposed further into hours per employee, *Y/L*, the employment rate, *L/E*, the labor force participation rate, *E/N*, and the working-age population, *N*. The growth rate of real GDP can be expressed as follows (with $\hat{X}_t = X_t / X_{t-1} - 1$):

$$(1) \qquad \hat{Y} = (\hat{Y} - \hat{H}) + \hat{H} = (\hat{Y} - \hat{H}) + (\hat{H} - \hat{L}) + (\hat{L} - \hat{E}) + (\hat{E} - \hat{N}) + \hat{N}$$

The original values are cyclically adjusted using a Hodrick–Prescott filter for every component but the variable 'working-age population', which can be assumed to be independent of the business cycle.[4] The growth rates of the components add up to the growth rate of potential output (Table 2).

According to our calculations, potential output in the euro area grew with a constant rate of approximately 2.0 percent in the second half of the nineties. Since 2000 the pace has decelerated, in 2003 potential growth was 1.8 percent. The results are similar to those obtained in OECD (2004b) as far as the second half of the nineties is concerned, but with regard to the two most recent years more significant differences emerge. While our estimate suggests a noticeable slow down, the OECD estimates that potential growth has been relatively stable at 2.0 percent. However, in evaluating this difference it should be considered that estimates of current potential output come with a high degree of uncertainty.

Taking a look at the components of the potential growth rate, there is a slowdown in productivity growth starting at the end of the nineties both on a per worker basis and on an hourly basis.[5] While accelerated growth of total hours worked helped to keep the potential growth rate steady for a number of years, recently the growth rate of total hours worked has declined and—at a constant productivity growth—so has the growth rate of potential output.

Considering the developments over a longer period, specifically comparing the time periods 1980–1993 and 1994–2003, it appears that the weaker growth rate of potential output on average in the latter period solely results from a decreasing growth rate of productivity. The outcome would have been even worse were it not for the accelerated growth of total hours worked. Apparently, higher employment in the euro area has only been possible at the expense of productivity growth.

3 Fiscal Situation Remains Critical

The situation of public finances in the euro area has deteriorated further in spite of the economic recovery. In 2004 the aggregated budget deficit will amount to 2.8 percent in relation to GDP, following 2.7 percent in the previous year (Table 3). Most of the member countries of the euro area will again fail to meet the targets set in the respective Stability Programmes. In an increasing number of countries even the 3 percent limit will be exceeded. This will be the case not only in Germany, France, the Netherlands, and Greece but also in Italy and Portugal. Given our estimate of potential output, capacity utilization will remain unchanged. As a consequence, there is no cyclical increase in the budget deficit. Thus fiscal policy is nearly neutral this year. Next year, the overall fiscal stance is expected to

[3] This approach is also used by Gordon (2003), who estimates the growth rate of potential output for the United States. See Kamps et al. (2004) for an analysis of potential output growth in Germany.

[4] In order to deal with the so-called end-of-sample problem associated with statistical procedures like the Hodrick–Prescott filter, we have added values for the following seven years after the end of the time series. These forecasts were generated by autoregressive models individually designed for each component.

[5] See also ECB (2004b).

Table 2:
Development of Potential Output in Euroland[a]

	Potential output	Labor productivity[b]	Total hours worked				
			Total	Hours per employee[b]	Employment rate[b]	Labor force participation rate[b]	Working-age population[c]
Euroland							
1994	2.0	1.9	0.1	–0.4	–0.1	0.3	0.3
1995	1.9	1.8	0.0	–0.4	–0.1	0.4	0.2
1996	2.0	1.7	0.2	–0.5	0.0	0.5	0.2
1997	2.0	1.7	0.3	–0.5	0.1	0.5	0.2
1998	2.0	1.6	0.4	–0.5	0.1	0.6	0.2
1999	2.0	1.6	0.4	–0.6	0.1	0.6	0.2
2000	1.9	1.5	0.4	–0.6	0.1	0.7	0.1
2001	1.9	1.5	0.4	–0.6	0.1	0.7	0.2
2002	1.8	1.5	0.3	–0.6	0.1	0.7	0.2
2003	1.8	1.5	0.2	–0.6	0.0	0.7	0.2
Euroland without Germany							
1994	2.0	1.7	0.3	–0.3	–0.1	0.3	0.3
1995	2.0	1.6	0.4	–0.3	0.0	0.5	0.3
1996	2.0	1.6	0.5	–0.4	0.0	0.5	0.2
1997	2.1	1.5	0.6	–0.4	0.1	0.6	0.2
1998	2.3	1.5	0.8	–0.4	0.2	0.7	0.3
1999	2.2	1.5	0.7	–0.5	0.2	0.8	0.3
2000	2.3	1.5	0.8	–0.6	0.2	0.8	0.3
2001	2.2	1.4	0.8	–0.6	0.2	0.8	0.4
2002	2.1	1.5	0.6	–0.6	0.1	0.8	0.3
2003	2.0	1.5	0.5	–0.6	0.1	0.8	0.3
Germany							
1994	2.0	2.4	–0.4	–0.7	–0.1	0.3	0.2
1995	1.5	2.3	–0.7	–0.7	–0.1	0.3	–0.2
1996	1.8	2.2	–0.3	–0.7	–0.1	0.3	0.2
1997	1.8	2.1	–0.3	–0.7	–0.1	0.3	0.2
1998	1.5	1.9	–0.4	–0.7	0.0	0.3	0.0
1999	1.5	1.8	–0.4	–0.7	0.0	0.3	0.0
2000	1.1	1.8	–0.7	–0.7	0.0	0.3	–0.3
2001	1.3	1.7	–0.5	–0.7	0.0	0.3	–0.1
2002	1.2	1.7	–0.5	–0.7	0.0	0.3	–0.1
2003	1.2	1.7	–0.5	–0.7	0.0	0.3	–0.1
Euroland							
1980–1993	2.3	2.3	–0.1	–0.6	–0.3	0.1	0.8
1994–2003	1.9	1.6	0.3	–0.5	0.1	0.6	0.2
Euroland without Germany							
1980–1993	2.2	2.4	–0.2	–0.6	–0.3	0.0	0.8
1994–2003	2.1	1.5	0.6	–0.5	0.1	0.7	0.3
Germany							
1980–1993	2.5	2.2	0.3	–0.7	–0.2	0.4	0.8
1994–2003	1.5	2.0	–0.5	–0.7	0.0	0.3	0.0

[a]Percentage change over previous year. — [b]Calculation based on cyclically adjusted values. — [c]Calculation based on original values.

Source: OECD (2004c); Groningen Growth and Development Centre (2004); national statistics; own calculations.

Table 3:
Indicators of Fiscal Positions in Euroland, 2002–2005 (percent of nominal GDP)

	Gross public sector debt				General government budget balance			
	2002	2003	2004[a]	2005[a]	2002	2003	2004[a]	2005[a]
Germany	60.9	64.2	65.3	67.0	–3.7	–3.8	–3.8	–3.6
France	58.6	63.0	65.0	66.0	–3.2	–4.1	–3.8	–3.5
Italy	108.0	106.2	104.0	102.0	–2.3	–2.4	–3.1	–3.8
Spain	54.6	50.8	51.0	47.0	0.0	0.3	0.3	0.5
Netherlands	52.6	54.8	56.0	58.0	–1.9	–3.2	–3.1	–2.6
Belgium	105.8	100.5	98.0	96.0	0.1	0.3	–0.2	–0.5
Austria	66.6	65.0	66.0	64.0	–0.2	–1.3	–1.3	–1.5
Finland	42.6	45.3	46.0	48.0	4.3	2.3	2.0	2.3
Greece	104.7	102.4	103.0	101.0	–1.4	–3.2	–5.5	–2.9
Portugal	58.1	59.4	63.0	64.0	–2.7	–2.8	–3.5	–3.1
Ireland	32.3	32.0	31.0	30.5	–0.2	0.2	–0.5	–0.5
Luxembourg	5.7	4.9	6.0	5.5	2.7	–0.1	–0.5	–1.0
Euroland	69.2	70.4	70.9	70.8	–2.3	–2.7	–2.9	–2.8

[a]Forecast.

Source: Eurostat (2004); own calculations and forecasts.

be neutral again. The aggregated budget deficit will remain more or less unchanged both in actual and in cyclically adjusted terms, partly due to a significant increase in the Italian budget deficit.[6]

4 Stability and Growth Pact: Balance the Budget

In November 2003, the ECOFIN Council decided not to follow the recommendations of the European Commission concerning the excessive deficits in France and Germany; instead, the Council stopped the procedure. The judgment of the European Court of Justice on July 13 this year was that this decision was not in line with the rules. In this new situation, it has to be decided what the next steps should be according to the rules of the Stability and Growth Pact (SGP).

Since the excessive deficits still exist, it would be appropriate that the respective countries were urged to take measures in order to reduce their deficits in order to meet the 3 percent limit in 2005. This would be in line with the recommendations of the European Commission in the fall of last year. In addition, it would be compatible with the commitments by the French and the German government. If the decisions fell behind this minimum requirement, the credibility of fiscal policy in the monetary union would be reduced even further.

Independently of the interplay between the European Commission and the ECOFIN Council in the future, the governments have to make clear now that they will comply with the intentions of the Stability and Growth Pact. A sound fiscal policy which is implied by the rules of the SGP is an important contribution to the macroeconomic stability in the euro area. This has also been stressed by the governments and by the European Commission over and over again.

In recent years, the discussion about the Stability and Growth Pact has focused on the limit for the budget deficit. Also, the current proposals for a reform of the Pact focus on giving more time to correct the excessive deficits in periods of low economic growth. However, this discussion does not touch

[6]The Italian government plans to cut outlays by an amount of 24 billion euro in 2005 in order to avoid a jump of the budget deficit to above 4 percent of GDP which would occur without action. It is, however, doubtful that the target will be reached given that no specific measures have been published yet.

upon the main target of the SGP, which says that government budgets should be balanced or in surplus over the medium term. This target has not been achieved in many countries in recent years, it is not even planned in the Stability Programmes for France and Germany until 2007. This failure cannot be attributed—not even in part—to the weakness of the economy in recent years. In fact, according to the estimates of international organizations, the cyclically adjusted deficits of these two countries are higher today than they were at the end of the nineties.[7] This is true even though the respective estimates of potential output growth are at the upper end of the spectrum of estimates. In other words, there has not been a consolidation of the budget at all.

Several countries hesitate to pursue a strict course of fiscal consolidation. One reason may be that economic activity had been very sluggish in recent years and has started to recover only in the course of this year, albeit at a moderate pace. Apparently, some governments want to make the course of fiscal policy dependent on the state of the business cycle, which may, however, be misleading. For example, the goal to reduce the budget deficit more in a period of an upswing is not precise: If this means that the budget deficit declines faster during an upturn than in normal times, this would even be misleading because such a change would only reflect the cyclical effects; only if this means that the structural deficit should be reduced faster in an upturn than in normal times, it would make sense because this would imply a stronger course of consolidation.

However, for several reasons, it can be doubted whether such an orientation is useful and whether it can be successful. First, the structural deficits were not even reduced in the years of a boom, namely in 1999/2000. Obviously, governments again looked mainly at the actual deficits and did not see the need for additional measures. Second, if a government had such an intention, there would always be warnings that a supposedly restrictive fiscal policy would jeopardize the recovery. Such arguments have been made by the German government again and again, also in recent days when the discussion on cutting the deficit in 2005 came up. Third, there is a good amount of uncertainty what a "good year" actually is in terms of the business cycle. In this regard, the estimate of potential output is essential. If its growth rate is overestimated, there is a risk that budget deficits are not reduced sufficiently because the size of the structural deficit is underestimated. In the case of Germany, the government would probably not intend to consolidate the budget in 2004 and 2005, because real GDP is, on average, not expected to increase faster than the rate of potential output growth, which is assumed by the government, namely 1½ to 2 percent; in other words, the output gap is not expected to change. However, if one shares the estimate that potential output grows at a much lower rate (Kamps et al. 2004), one would conclude that real GDP growth is somewhat higher; accordingly, if the course of budget consolidation is to depend on the change of the output gap, measures to reduce the structural deficit would be appropriate. A too optimistic estimate of potential output growth would imply, however, that the target of a balanced budget will not be achieved. Whatever the strategy of fiscal policy concerning consolidation is, it cannot be assumed that a budget deficit will disappear "by itself" once the upswing sets in. Since the structural deficits are high in a number of countries, governments will have to take considerable action and start to save.

A severe shortcoming of the rules of the Stability and Growth Pact has been that the governments themselves decide upon their own shortcomings such as excessive deficits. Furthermore, the hope that governments would be subject to enough peer pressure by the public or by other governments has not materialized in recent years. Quite the opposite seems to be true: When France and Germany repeatedly violated the idea of the SGP, the pressure on other countries started to decline as well and budget deficits tended to increase. If the SGP loses its strength or if there were no binding rules for fiscal

[7] According to the OECD (2004b: 242), the ratio of the cyclically adjusted deficit in 2003 amounted to 3.3 percent in France and to 2.3 percent in Germany. This year, the respective figures are 2.9 percent and 2.0 percent. If the growth rate of potential output was lower, the structural deficits would even be higher.

policy, the consequences would be severe for various reasons. First of all, it would be a disadvantage for the countries themselves. Given the expected demographic changes, it would be wise to start saving now; the fact is, however, that the debt burden continues to increase making fiscal policy less sustainable. As a consequence, it becomes more likely that drastic measures such as cuts in benefits or increases of taxes need to be taken. Second, those countries which intend to join the monetary union in the near future hardly have any incentive to stick to the targets of the Pact if other members ignore or stretch the rules. The criteria for entry would therefore be softened which would be in stark contrast to the fundamentals of the European Monetary Union.

5 Gradual Tightening of Monetary Policy Ahead

Monetary conditions in the euro area have hardly changed in recent months. The ECB has left key interest rates at a very low level for more than a year. Since June 2003, the minimum bid rate on the main refinancing operations of the Eurosystem has been 2.0 percent. Money market rates (3-month EURIBOR) were only slightly higher at the beginning of September 2004 (Figure 2); obviously, markets do not expect that interest rates will be raised very soon. If nominal rates are adjusted for core inflation, the real rate is close to zero, i.e., well below the long-term average of 2.5 percent (Gern et al. 2003: 14). This implies that monetary policy is clearly on an expansionary course. Interest rates are also lower than the Taylor rate if this is calculated according to the standard formula (Figure 3). All in all, the central bank policy is conducive to a higher rate of capacity utilization in the euro area. This would not be true only if the negative output gap was much larger than implied by our calculation of the rule; our estimates for potential output, however, show that this is not likely. Another reason why monetary policy may not be as expansionary as it seems could be that the equilibrium real rate of interest is currently much lower than the long-term average of 2.5 percent. This may be one implication of the relatively modest growth of potential output; accordingly, the difference between the Taylor rate and the actual money market rate would be smaller.

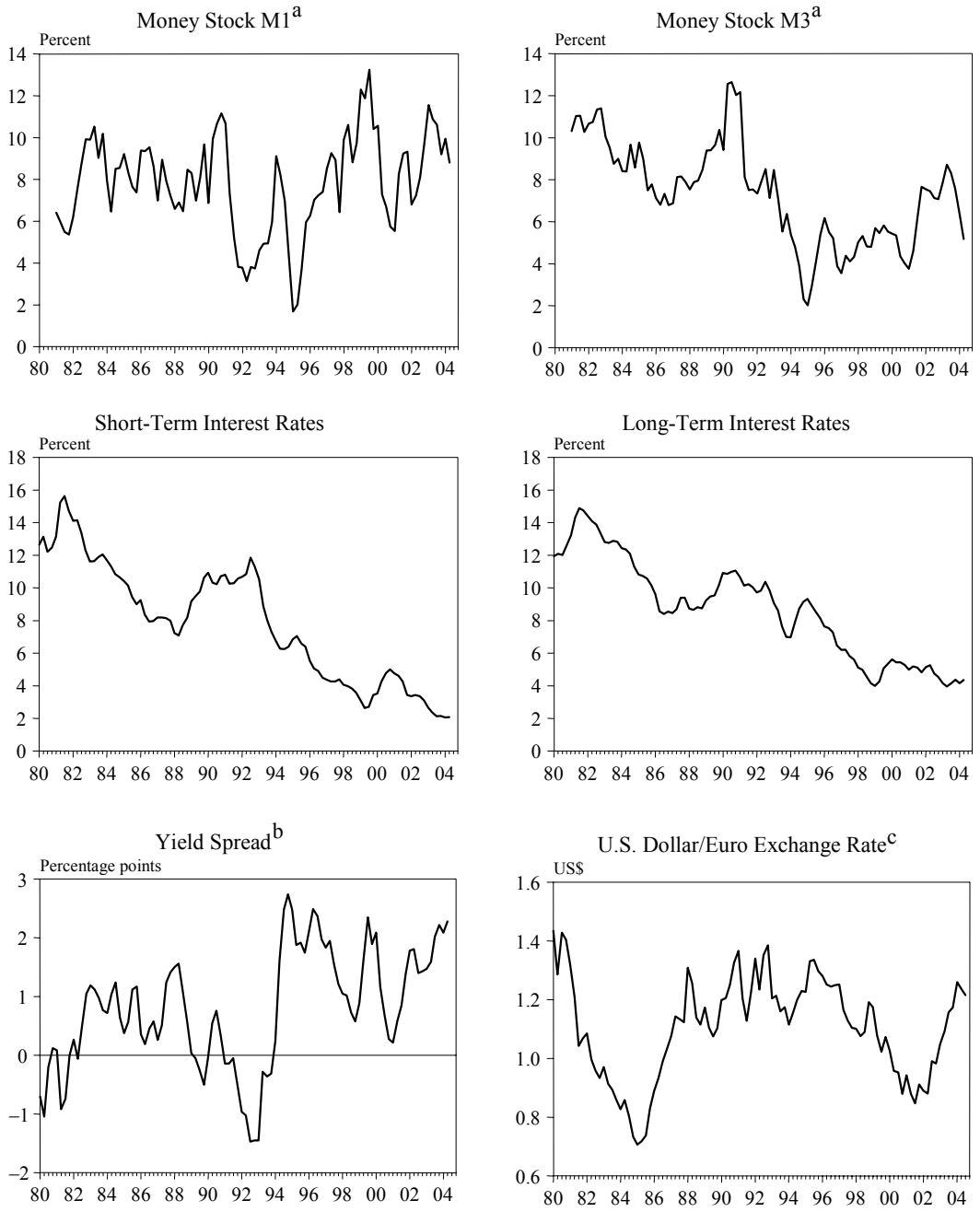
Long-term interest rates have declined somewhat during recent months (Figure 3). The 10-year bond rate was 4.1 percent at the beginning of September after having risen to 4.5 percent until the middle of this year. The decline is also due to the fact that the outlook for the economy has deteriorated somewhat in recent months. In real terms, the yield continues to be well below its long-term average. The expansion of M3 has decelerated in the course of this year. During the past months, the annual rate of change has been close to 5 percent. The euro exchange rate has remained rather stable since the spring of this year, and the real effective rate has remained roughly constant.

The assessment of the perspectives for inflation will be important for the future course of monetary policy. As far as the economic recovery in the euro area is concerned, it has materialized as it was expected by the ECB. Also the forecast for a continued upturn in 2005 has not been changed according to the public statements by the ECB. To be sure, there is a risk because of the higher oil price, but this will not imply that the central bank lowers key interest rates. One reason is that inflation has not behaved as favorably as expected, even apart from the impact of the high oil price in measured inflation. According to the forecasts published by the ECB (2004a), the HICP increase will be only slightly below 2 percent in the next two years; these rates are somewhat higher than in the previous forecast. Inflationary expectations, measured as the breakeven inflation rate, have even been higher than 2 percent for more than a year (ECB 2004a).

The next step is likely to be a tightening of monetary policy. It has to be kept in mind that currently interest rates are extremely low. They had been cut drastically in light of extraordinary risks that had been seen for the euro area economy; even the risk of deflation had played a role for a while in Europe and also in the United States. However, all these risks have become less relevant now that the recovery in Euroland has started. Therefore, there is less of a reason to pursue a very expansionary course and

stimulate the economy. Given our forecast of a moderate upturn, we expect that monetary policy will be tightened only slightly; a raise of 25 basis points is likely around the turn of the year. Such a move is also in line with the reactions of the ECB in the past, which can be described by an empirical Taylor rule (see Section 6).

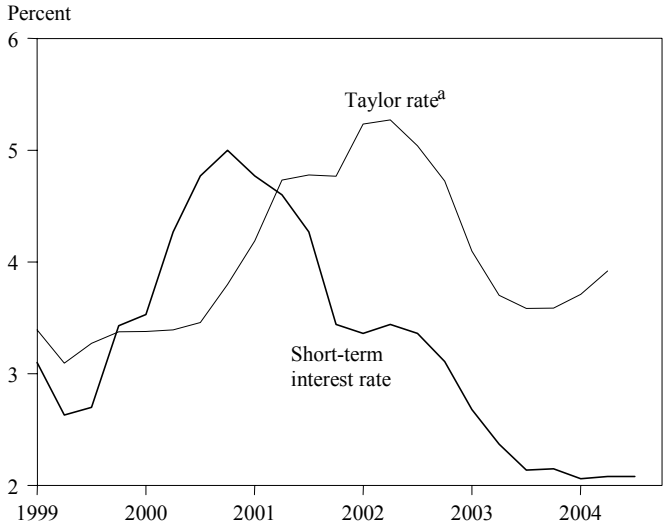
Figure 2:
Indicators of Monetary Policy in Euroland, 1980–2004



[a]Percentage change over previous year. — [b]Long-term interest rate minus short-term interest rate. — [c]Before 1999: exchange rate U.S.-dollar/ecu.

Source: ECB (2004c).

Figure 3:
Short-term Interest Rate and Taylor Rate in Euroland, 1999–2004



[a]The Taylor rate is calculated for the HICP excluding energy, food, alcohol, and tobacco. The calculations are based on the assumption of an inflation target of 1.75 percent and on the assumption of an equilibrium real interest rate of 2.5 percent. Potential output is estimated with a Hodrick–Prescott filter.

Source: Eurostat (2004); ECB (2004c); own calculations and estimates.

6 An Empirical Taylor Rule for the ECB

The monetary policy strategy of the ECB is of particular interest for business cycle analysis.[8] In order to explain the interest rate decisions of the ECB, one typically estimates reaction functions of the Taylor rule type, where an interest rate under the control of the ECB depends on variables like the inflation rate and the output gap.[9] So far most authors have concatenated pre-EMU and post-EMU data to obtain long series. However, the implicit assumption of structural stability at the time of the EMU start is hardly tenable. Moreover, it is questionable whether one can assume that the national central banks in the pre-EMU period followed on average a consistent strategy which can be compared to the strategy of the ECB.

Therefore, the following analysis is restricted to the post-EMU sample. In the first step, to assess the impact of some important variables on the interest rate decisions, several specifications of the ECB reaction function are estimated for the period between January 1999 and February 2004. In the second step, the stability of these specifications is examined to take account of the ECB strategy change which was announced in May 2003.

We start from the baseline specification (S1)

$$\text{(S1)} \qquad i_t = \rho i_{t-1} + (1-\rho)(\beta_0 + \beta_1 y_t + \beta_2 \pi_t) + \varepsilon_t,$$

with the variables short-term interest rate, i_t, output gap, y_t, and inflation rate, π_t. The parameters β_1 and β_2 reflect the long-run weight of the respective variables while ρ describes the extent of the inter-

[8]This section is based on Carstensen and Colavecchio (2004).

[9]Examples are Carstensen (2004), Gerdesmeier and Roffia (2003), Sauer and Sturm (2003), and Surico (2003).

est rate smoothing conducted by the ECB. As short-term interest rate the overnight rate (EONIA) is used.[10] As output gap and inflation rate either the variables measured ex post for, or those expected ex ante in, period *t* are used.[11]

All estimations are done by means of the generalized method of moments (GMM).[12] The results are displayed in the upper part of Table 4. Using ex post measured variables in the baseline specification (S1) leads to a very strong interest rate smoothing and large weights of the output gap and inflation. Compared to the original Taylor rule with weights of 0.5 and 1.5 for the output gap and inflation, respectively, the influence of the business cycle situation of the decisions of the ECB is particularly strong. However, the inflation weight is also larger than in the original Taylor rule and considerably larger than 1. Hence, the so-called Taylor principle $\beta_2 > 1$ is fulfilled, which guarantees that an increase in the nominal interest rate causes an increase in the real interest rate with the desired dampening impact on inflation.

Alternatively using the ex ante expected values for the output gap and inflation leads to a different picture. Interest rate smoothing becomes slightly less important, the weight of the output gap decreases to roughly 0.7, and the weight of inflation increases to almost 3. These differences can be explained as follows. Due to prediction uncertainty and publication lags, the ECB has only limited knowledge of the actual and future economic situation at the time of an interest rate decision. Since inflation expectations almost always fell short of actual inflation in our sample, it makes a difference which variables are used. In fact, what the ECB—at the time of an interest rate decision—believed to be an exceptionally strong reaction to expected inflation, turned out ex post to be quite usual.

The influence of the monetary pillar of the ECB monetary policy strategy is examined in specification (S2),

$$\text{(S2)} \qquad i_t = \rho i_{t-1} + (1-\rho)(\beta_0 + \beta_1 y_t + \beta_2 \pi_t + \beta_3 \Delta m_t) + \varepsilon_t ,$$

which additionally includes the annual growth rate of money balances M3, Δm_t. The results are again given in Table 4. Independent from the way the output gap and inflation rate are measured, there is no significant impact of money on the interest rate decisions.[13] Presumably, this result is caused by the fact that the ECB considered the high money growth rates in the aftermath of the stock market downswing as portfolio adjustments that did not necessitate interest rate responses.[14]

Against the background of the initial weakness of the euro, it is finally analyzed in specification (S3),

$$\text{(S3)} \qquad i_t = \rho i_{t-1} + (1-\rho)(\beta_0 + \beta_1 y_t + \beta_2 \pi_t + \beta_4 \Delta neer_t) + \varepsilon_t ,$$

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[10] An alternative specification with the rate for 3-month deposits (EURIBOR) as the policy instrument leads to only slightly different results.

[11] The use of monthly data requires to replace real GDP as a measure of overall activity by the index of industrial production. The ex post measured output gap is calculated as the deviation of log industrial production from a trend generated by means of a recursive HP filter, the ex post measured inflation rate is calculated as the annual rate of change of the HICP. The expected output gap is calculated as the normalized deviation of the sentiment indicator (ESIN) published by the European Commission from its mean, the 12-months ahead expected inflation rate is calculated from the Consensus Economics forecasts.

[12] Alternatively using least squares leads to only small changes in the estimated parameters.

[13] From the estimation results in Table 4, t-statistics of 0.56 (ex post measured values) and 1.27 (expected values) are calculated.

[14] For a detailed analysis of the effects of the stock market downswing and the accompanying financial uncertainty on EMU money demand and on measures of excess liquidity derived from money demand, see Carstensen (2003).

Table 4:
Estimation Results for the Empirical Taylor Rules of the ECB[a]

	Parameter	Ex post measured values for the output gap and inflation			Ex ante expected values for the output gap and inflation		
		(S1)	(S2)	(S3)	(S1)	(S2)	(S3)
Explanatory variable							
Lagged interest rate	ρ	0.957 (0.015)	0.970 (0.019)	0.938 (0.012)	0.884 (0.015)	0.925 (0.022)	0.880 (0.014)
Constant	β_0	0.008 (0.011)	–0.025 (0.062)	0.013 (0.008)	–0.012 (0.006)	–0.054 (0.031)	–0.009 (0.007)
Output gap	β_1	1.696 (0.552)	2.770 (2.106)	0.695 (0.171)	0.709 (0.061)	1.395 (0.548)	0.481 (0.112)
Inflation rate	β_2	1.889 (0.608)	2.350 (1.223)	1.368 (0.407)	2.949 (0.343)	3.575 (0.508)	2.691 (0.391)
Money	β_3		0.525 (0.933)			0.594 (0.467)	
Exchange rate	β_4			–0.128 (0.026)			–0.053 (0.025)
Statistics							
J-statistic		10.954 (0.859)	10.521 (0.838)	9.201 (0.905)	11.284 (0.841)	11.093 (0.804)	11.174 (0.799)
U-statistic		28.206 (0.013)	29.515 (0.009)	30.009 (0.008)	19.409 (0.150)	16.559 (0.280)	17.042 (0.254)
Andrews statistic		13.663 (0.689)	19.441 (0.756)	12.076 (0.778)	14.773 (0.156)	18.688 (0.333)	17.246 (0.378)

[a]Standard errors are given in parentheses below the estimated values, p-values are given in parentheses below the test statistics. For the GMM estimation the first four lags of the short-term interest rate, the inflation rate, the output gap, the money growth rate, and the rate of change of the effective exchange rate are used as instruments.

Source: Carstensen and Colavecchio (2004).

whether the rate of change of the nominal effective exchange rate of the euro against a broad group of partner countries, $\Delta neer_t$, affected the interest rate decisions of the ECB. The results displayed in Table 4 are clear-cut: The influence of the exchange rate is in any case highly significant.[15] Depending on the way the output gap and inflation rate are measured, an effective 1 percent devaluation of the euro leads to a long-run interest rate increase of 12.8 or 5.3 basis points.

The significance of the exchange rate also suggests that specification (S3) describes the monetary policy rule of the ECB better than the other specifications. It turns out that the ex post weights are similar to those of the original Taylor rule while the ex ante weight for inflation of almost 2.7 indicates that the ECB intended a very strong anti-inflationary course.

In May 2003 the ECB announced a revision of its monetary policy strategy. Compared to the original two-pillar strategy, two important changes stand out. First, the ECB now tries to keep the inflation rate below but near 2 percent, which was understood as an increase in the target rate by 0.5 percent in order to maintain a safety margin towards deflation. Second, the monetary pillar is not assigned a prominent role anymore for the analysis of inflationary threats; instead, it acts only as a cross-check for the results of an economic analysis. A number of commentators have interpreted this as a down-weighting of the monetary pillar of the ECB strategy.

It is still open, however, whether the strategy revision really led to an observable change in the decision rule for monetary policy of the ECB. For example, in the first years of monetary union the infla-

[15]From the estimation results in Table 4, t-statistics of –4.92 (ex post measured values) and –2.12 (expected values) are calculated.

tion rates were at the upper end of the original corridor between 0 and 2 percent or even above so that an increase in the target rate would be difficult to verify empirically. In addition, many commentators disbelieved anyway that the role of the monetary pillar was really as prominent as openly stressed by the ECB.[16] Therefore, it is problematic to assume a change in the decision rule of the ECB without appropriate evidence. On the one hand, the strategy revision could have been nothing more than an attempt to reconcile the openly announced with the internally pursued rule. On the other hand, the strategy revision might have been the first step of an ongoing change in monetary policy by loosening both the openly announced and the internally pursued strategy.

With the help of two tests developed for GMM estimation it shall thus be analyzed whether the ECB reaction function changed structurally in the course of the strategy revision. Since the ECB announced a review of its strategy in December 2002, a potential break should be identifiable in the time since January 2003 because the ECB may have changed its strategy before publicly announcing that. We use the U-test of Dufour et al. (1994) and the end-of-sample instability test of Andrews (2003), both of which are based on the sum of squared prediction errors in the sample after the potential break point. While the U-test requires a number of very strict distributional conditions to hold, the Andrews test makes only some quite general assumptions but possibly at the cost of a power loss.

The test results are displayed in the lower part of Table 4. With p-values below 0.05, the U-test rejects structural stability of the reaction function based on ex post measured data. However, this may simply be the consequence of the strong—and actually violated—distributional assumptions. In fact, the Andrews test cannot reject the stability hypothesis. The results are clear-cut when the reaction function is based on the ex ante expected value for the output gap and the inflation rate. Structural stability cannot be rejected in any case. However, for all specifications and data sets, we find a rather large prediction error in May 2003. While this does not lead to the rejection of the stability hypothesis in most of the cases, it nevertheless indicates that this analysis should be repeated in future after more data have become available.

All in all, the empirical Taylor rule of the ECB is characterized by plausible parameter estimates, which suggest that the ECB put a large weight on inflation expectations which were available at the time of an interest rate decision. Due to the general underestimation of inflation over the sample, one obtains a considerably smaller ex post weight of inflation, which nevertheless suffices to satisfy the Taylor principle. In addition, the output gap and the effective exchange rate play important roles. A structural instability due to the strategy revision cannot be verified with the limited data set available at the moment.

7 Only Slightly Higher Wage Increases

Wage growth in Euroland decelerated markedly again towards the end of last year and continued to be subdued in the first months of 2004. Labor costs per hour slowed down stronger than monthly gross earnings suggesting that in the course of the cyclical improvement of the economy longer hours were worked on average without being fully reflected in compensation. The rate of increase in compensation per employee also declined substantially during the winter semester 2003/2004 to a 2 percent growth clip, down from around 2.5 percent registered in the first 3 quarters of 2003.

Currently compensation per employee stagnates in real terms, real disposable incomes per worker are rising only slightly at best. Future wage developments critically hinge on how wage bargaining will take account of the unexpected loss in purchasing power due to the higher oil prices. An attempt

[16] See, e.g., Begg et al. (2002), Gali (2002), Favero et al. (2000), and Svensson (2000).

to compensate for the terms-of-trade-induced losses by raising wages would certainly lead the ECB to increase interest rates in order to prevent a sustained rise of inflationary expectations. Evidently, however, wage bargaining parties have learned their lessons from the experience following the oil price shocks in 1974 and 1979 when monetary restriction designed to bring inflation under control led to serious recessions. Wage developments following the increase in oil prices in 1999 and 2000, when quotations almost doubled from around 15 dollar to nearly 30 dollar, generally remained moderate. In addition, the bargaining position of trade unions is considerably weaker compared to the 1970s given the moderate pace of economic growth, a still negative output gap, and increased global competition of production locations.

Against this background, we expect the increase in labor costs to continue to be modest (Table 5). The regional dispersion of wage developments will remain significant (Table 6), partly due to the considerable differences in the cyclical positions of the individual Euroland countries. On aggregate, compensation per employee is projected to accelerate only slightly. All in all wage developments remain supportive as concerns employment growth; real unit labor costs are forecast to fall notably this year and also next year, helped by a cyclical improvement of productivity growth.[17] Wage developments will also be consistent with achieving the inflation target of the ECB as nominal unit labor costs rise at rates significantly below 2 percent.

Table 5:
Compensation of Employees, Productivity, and Unit Labor Costs in Euroland, 2001–2005 (percentage change over previous year)

	2001	2002	2003	2004[a]	2005[a]
Compensation of employees per worker	2.8	2.5	2.3	2.3	2.6
Productivity[b]	0.2	0.4	0.4	1.6	1.3
Unit labor costs	2.5	2.1	1.9	0.7	1.3

[a]Forecast. — [b]Real GDP per worker.

Source: ECB (2004c); own calculations and forecasts.

Table 6:
Wage Increases[a] in Euroland, 2001–2005 (percentage change over previous year)

	2001	2002	2003	2004[b]	2005[b]
Germany	1.7	1.5	1.4	0.6	1.2
France	2.6	2.8	2.6	2.5	2.7
Italy	3.0	2.4	3.8	3.0	3.0
Spain	3.8	3.9	4.2	3.7	3.7
Netherlands	5.5	4.9	5.1	2.5	0.5
Portugal	5.7	4.0	3.3	2.5	2.7
Austria	1.4	2.2	2.7	2.5	2.5
Belgium	3.6	4.3	2.3	2.8	3.0
Greece	5.3	8.7	7.6	7.5	6.0
Finland	4.7	1.9	3.3	2.5	3.0
Ireland	9.0	5.2	5.1	5.0	4.5
Luxembourg	3.7	3.1	2.7	3.0	3.5

[a]Compensation of employees per worker. — [b]Forecast.

Source: European Commission (2004); own forecasts.

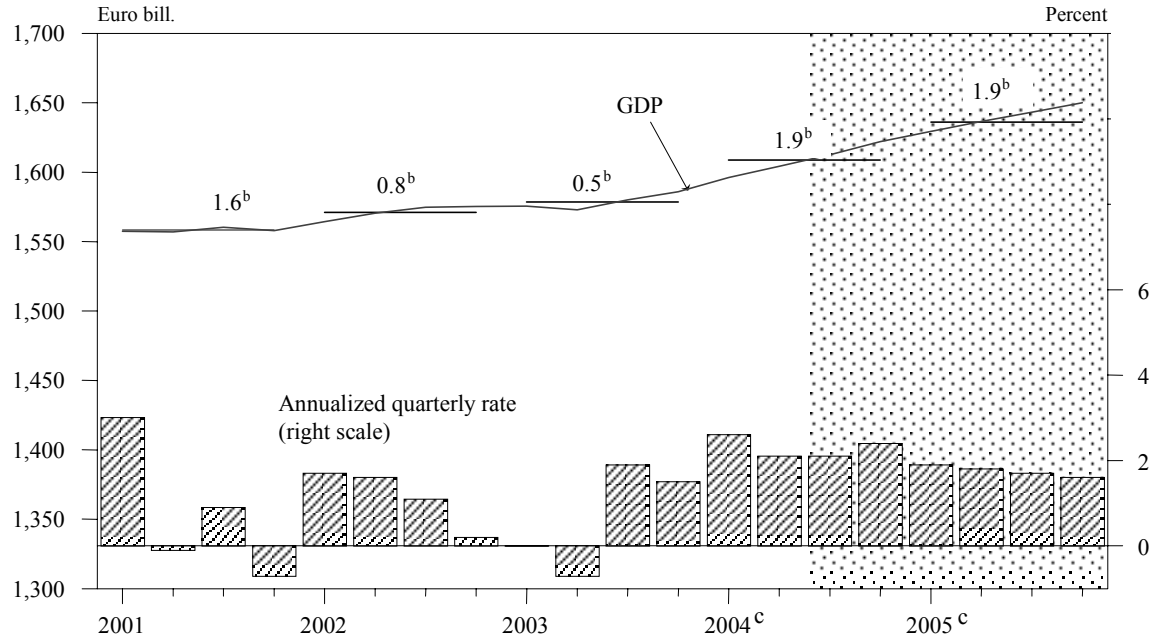
[17]For an analysis of euro area wage developments with respect to its effects on employment according to different concepts of wage moderation see Carstensen et al. (2003: 288–289).

8 Outlook: Recovery Loses Momentum

In the third quarter of this year, real GDP will most likely expand more slowly than previously expected, mainly due to the rise in oil prices Table 7. The increase in private consumption will not accelerate further; this view is also supported by the consumer confidence indicator published by the European Commission. In addition, foreign demand will start losing momentum. Under the assumption of stabilized oil prices the increase in production will slightly accelerate towards the end of the year (Figure 4), underpinned by stronger fixed investment, which will pick up in view of favorable financing conditions. The assessment of the order situation and the EUROFRAME indicator also hint at an acceleration.

Real GDP is expected to increase by 1.9 percent in 2004 on average (Table 8), which is around the pace of potential output. With employment gains becoming more substantial, the unemployment rate will fall slightly towards the end of the year. On average, the rate of unemployment will rise slightly from 8.9 percent last year to 9 percent (Table 8). Pushed up by the rise in oil prices, HICP inflation will remain at 2.1 percent this year, exceeding the ECB target again.

Figure 4:
Real GDP[a] in Euroland, 2001–2005



[a]Seasonally adjusted. — [b]Percentage change over previous year. — [c]Forecast starting in 2004 III.
Source: Eurostat (2004); own forecast.

Next year, the economic expansion will slow down in the course of the year (Figure 5) with capacity utilization declining slightly in the second half of the year. Exports are expected to lose momentum due to the slower pace of worldwide economic activity. Domestic demand growth will remain steady but modest given mediocre income perspectives of private households. On average, real GDP is expected to increase modestly by another 1.9 percent. Against this background, the situation on the labor market will improve only slightly. Consumer price inflation will decline to 1.9 percent next year meeting the target of the European Central Bank for the first time since 1999. Firms' scope for raising prices will remain small; in addition, we assume a gradual decline of energy prices.

Table 7:
Quarterly Data on the Economic Development in Euroland, 2003–2005

	2003				2004				2005			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product[c]	0.0	–0.7	1.9	1.5	2.6	2.1	2.1	2.4	1.9	1.8	1.7	1.6
Domestic demand[c]	2.3	–0.4	–0.1	3.8	1.0	0.6	1.8	2.4	1.9	1.6	1.9	1.8
Private consumption[c]	1.1	0.2	0.9	0.1	2.4	1.1	1.7	2.2	1.6	1.7	1.5	1.5
Public consumption[c]	0.0	1.9	2.5	1.8	0.4	2.3	1.5	1.0	1.1	1.3	1.3	1.5
Fixed investment[c]	–3.2	–0.5	0.0	3.3	–0.7	0.3	3.3	3.6	2.7	2.5	2.6	2.5
Change in stocks[d]	2.3	–0.7	–1.2	2.6	–0.4	–0.6	–0.2	0.2	0.1	–0.1	0.2	0.1
Net exports[d]	–1.8	–0.7	2.1	–1.6	1.1	1.6	0.3	0.0	0.1	0.2	–0.2	–0.1
Exports[c,e]	–6.6	–3.1	10.4	1.4	5.6	15.7	3.1	3.3	4.5	4.1	3.9	3.9
Imports[c,e]	–1.2	–2.3	5.2	7.6	1.4	12.3	2.5	3.5	4.6	4.0	4.7	4.5
Unemployment rate[f]	8.8	8.9	8.9	8.9	8.9	9.0	9.0	8.9	8.8	8.8	8.7	8.7
Consumer prices (HICP)[g]	2.3	1.9	2.0	2.0	1.7	2.3	2.3	2.2	2.2	1.9	1.9	1.9
Money stock M3[c]	9.0	9.2	6.1	5.9	4.5	4.8	5.0	5.0	5.0	5.0	5.0	5.0
3-month money market rate	2.9	2.4	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3
Long term interest rate	4.2	4.0	4.2	4.4	4.2	4.4	4.4	4.5	4.6	4.7	4.7	4.7
U.S. dollar/euro exchange rate[h]	1.07	1.14	1.12	1.20	1.25	1.20	1.22	1.20	1.20	1.20	1.20	1.20
Real effective exchange rate[i]	98.7	102.2	101.5	103.9	106.1	103.7	103.5	103.5	103.5	103.5	103.5	103.5

[a]Partly estimated. — [b]Forecast. — [c]Annualized percentage change over previous quarter. — [d]Contribution to change in GDP, in percentage points. — [e]Including intra-Euroland trade. — [f]Percent of the labor force, according to the ILO concept. — [g]Percentage change over previous year. — [h]U.S.-dollar/euro. — [i]Broad group. Based on the consumer price index. Index 1999 I = 100.

Source: Eurostat (2004); ECB (2004c); OECD (2004b); own calculations and forecasts.

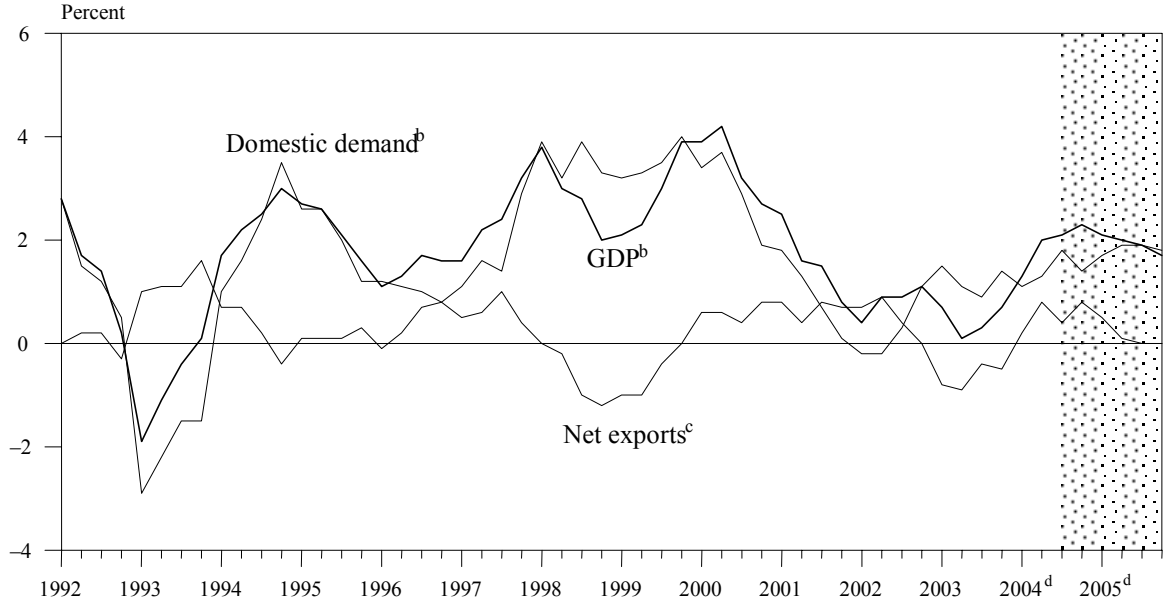
Table 8:
Real GDP, Consumer Prices, and Unemployment Rate in Euroland, 2002–2005

	Weights in percent[a]	GDP[b]				Consumer prices[b,c]				Unemployment rate[d]			
		2002	2003	2004[e]	2005[e]	2002	2003	2004[e]	2005[e]	2002	2003	2004[e]	2005[e]
Germany	29.8	0.1	–0.1	1.9	1.2	1.3	1.1	1.7	1.3	8.7	9.6	9.8	9.7
France	21.6	1.1	0.5	2.4	1.9	1.9	2.2	2.3	1.8	8.9	9.4	9.5	9.3
Italy	17.8	0.4	0.4	1.1	1.6	2.6	2.8	2.3	2.1	9.0	8.6	8.7	8.5
Spain	9.8	2.2	2.5	2.7	2.9	3.5	3.2	3.1	3.3	11.3	11.3	10.9	10.3
Netherlands	6.3	0.6	–0.9	1.1	2.0	3.9	2.2	1.4	1.4	2.7	3.8	4.7	4.4
Belgium	3.7	0.7	1.1	2.4	2.4	1.5	1.5	1.8	2.0	7.3	8.1	8.5	8.1
Austria	3.1	1.3	0.7	1.2	2.2	1.7	1.4	1.8	1.8	4.2	4.1	4.3	4.3
Finland	2.0	2.3	2.1	2.5	3.0	2.0	1.3	0.2	1.8	9.1	9.0	8.9	8.5
Greece	2.0	3.9	4.3	4.5	3.0	3.9	3.4	3.2	3.8	9.9	9.3	9.0	8.8
Portugal	1.8	0.4	–1.2	1.6	1.9	3.7	3.3	2.6	2.6	5.0	6.2	6.6	6.9
Ireland	1.8	6.1	3.7	3.8	3.9	4.7	4.0	2.3	3.0	4.4	4.6	4.5	4.4
Luxembourg	0.3	1.3	2.1	2.5	3.5	2.0	2.6	3.1	2.6	2.8	3.7	4.1	3.7
Euroland	100.0	0.8	0.5	1.9	1.9	2.2	2.1	2.1	1.9	8.5[f]	8.9[f]	9.0[f]	8.8[f]

[a]Based on nominal GDP of 2002. — [b]Percentage change over previous year. — [c]Harmonized Index of Consumer Prices (HICP). — [d]Standardized unemployment rates according to the ILO concept. — [e]Forecast. — [f]Based on the number of employees in 2002.

Source: ECB (2004c); OECD (2004a); own calculations and forecasts.

Figure 5:
GDP, Domestic Demand, and Net Exports in Euroland,[a] 1992–2005



[a]At constant prices. — [b]Percentage change over previous year. — [c]Change of net exports over previous year in percent of GDP in the corresponding quarter of previous year. — [d]Forecast starting in 2004 III.

Source: Eurostat (2004); own forecasts.

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