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The European economy in the medium term

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We would like to thank all AIECE institutes that provided us with their medium-term forecasts and comments. This report was not possible without their appreciated contribution.

Preface and abstract

On behalf of the Working Group on Longer-Term Prospects and Structural Change of the Association of European Conjuncture Institutes (AIECE), CPB discusses the medium-term outlook for the European economy taking account of the latest views of its member institutes. The report contains the latest medium-term forecasts of 18 member institutes from 16 European countries, of which 3 Central-European countries, and by aggregation also the consensus view for Europe as a whole. The views expressed in the report do not necessarily represent those of the CPB. The first section of the report deals with the theoretical concept of potential output as a basis for medium-term forecasting and policy analysis. The second section deals with structural developments in the global economy over the period 1970-2010. The third section discusses the responses of the AIECE institutes to a questionnaire on their most recent medium-term forecasts. The Annex presents their answers in full detail.

On the cyclically neutral assumption of a zero output gap in 2010, the expected potential growth rate for Western Europe over the medium term is projected at $2\frac{1}{4}$ to $2\frac{1}{2}$ % per annum, which is not very different from the past 20 years. The potential growth rate for the United States is estimated at 3 to $3\frac{1}{4}$ %, which again does not differ much from the past two decades. The higher rate for the US is primarily due to demographic factors. Contrary to popular belief, hourly productivity trends do not differ much. Actual GDP growth over the medium term will slightly exceed potential rates, given the current negative output gaps in all countries. GDP growth in the major Central European countries is projected at $4\frac{1}{2}$ % per annum.

Unemployment in most European countries is still above equilibrium levels, which should help to contain inflation over the medium term. Moreover, it is generally expected that the euro will regain some strength, which will keep import costs in check. The average price of Brent crude is estimated at some \$24 per barrel.

Public sector financial balances are expected to move towards equilibrium pretty soon. Public debt for the European Union as a whole could decline from 63% of GDP in 2001 to some 56% in 2007. However, in Central European countries, public debt as a percentage of GDP is likely to rise over the medium term, albeit from relatively low levels.

Henk Don
Director CPB

1 Introduction to the analysis of potential output

Potential output is a theoretical concept that cannot be measured directly. This non-technical introduction does not provide the mathematical formulae as used by CPB or other international institutions in the analysis of potential output. Instead it describes the generally recognized concepts, which still can be elaborated in various, slightly diverging ways. Moreover, in this introduction we emphasize the links of the various aspects of potential output with policy instruments.

1.1 Potential output ¹

Potential output is defined as the level of GDP that can be sustained with currently available factors of production, technology, and economic structure. It is below the technical maximum level of output that could be attained, because a maximal call on the factors of production is neither sustainable nor efficient. The sustainable level of employment, or potential employment, equals structural labour supply minus equilibrium unemployment. Potential output equals potential employment times the structural level of labour productivity, given the current state of technology, the availability of capital and the economic structure. The output gap is defined as the difference between actual output and potential output. It can be positive (cyclically high) or negative (cyclically low).

Potential growth is defined as the growth of potential output. For a number of reasons, actual growth can diverge from potential growth. Starting from a cyclical low, actual growth is likely to be above potential growth; starting from a cyclical high, it is likely to be the other way around. Also, the level of potential output can change quite abruptly; e.g. because of a technology shock or because a revision of the tax code substantially affects equilibrium unemployment. Such a sudden change will only gradually affect actual output capacity.

The analysis of potential growth of countries usually focusses on the market sector. Potential growth and employment of the public sector is assumed to equal actual rates.

1.2 Labour supply

The starting point for the analysis of potential growth is the development of labour supply. To get a better grip on labour supply, we might dissect it into a demographic and a participation component. The first component equals the increase in labour supply as a result of the increase in working age population, keeping participation rates by age and by sex constant. The second component is the effects of changes in these participation rates.

¹ See also ECB (2000) and Giorni et al. (1995)

Broadly speaking, two factors determine the increase in working age population: birth- and mortality rates and migration. Birth rates partly depend on socio-economic factors, as the general level of economic development and education. In this sense they are policy sensitive. The level of child benefits and child care may also influence the decision to have children. Health care, of course, influences both birth- and mortality rates. Migration also depends on socio-economic and political factors and is partly policy controlled.

Which factors influence structural participation rates? Theory suggests that an increase in the wage rate raises participation if the substitution effect outweighs the income effect in the choice between work and leisure. In addition, socio-cultural factors may play a role, like the reduction in the average number of children per family, higher levels of education and a change in the attitude towards the role of men and women in society. In the past decade, most European countries have introduced incentives to discourage inactivity. The structure and the levels of taxes and benefits were amended to minimize the negative effects of the so called poverty trap, including a tightening of eligibility criteria for social security benefits. More recently, too generous early retirement schemes have come under attack. Measures to improve the flexibility of the labour market are particularly important to increase the participation of women. They include temporary contracts, part-time working, flexible working hours and tele-working, but also expanding amenities for daytime childcare.

The business cycle affects actual participation rates but this may spill over into structural rates. A period of employment enhances a person's employability and strengthens his or her labour market orientation. But a prolonged period of unemployment may discourage people to the extent that they drop out of the labour force, possibly through disability or early retirement schemes. Keeping or getting people at work, e.g. via subsidised jobs, may be a sound policy if hysteresis comes into play.

It should be noted that effects of labour supply policies generally appear gradually.

1.3 Equilibrium unemployment and the absorption of labour supply

Potential employment is defined as structural labour supply minus equilibrium unemployment. Potential employment is the level of employment when the economy is in a state of equilibrium, given the size and composition of labour supply and the current set of labour market institutions. The latter are reflected in the concept of equilibrium unemployment (NAIRU), which is the level of unemployment consistent with long-run equilibrium under current institutions. This level is determined by structural parameters in the production function and the wage curve, and by three crucial exogenous variables:

- (i) the wedge between the gross real wage costs (in producer prices) and the net real wage income (in consumer prices)
- (ii) the replacement rate, i.e. the net benefit income when unemployed, relative to the net wage income when employed
- (iii) the real after-tax long-term interest rate, which governs the equilibrium real rate of return on investment

The parameters of the production function and the long-term interest rate determine the equilibrium labour income share in the economy. This information is used to determine the equilibrium rate of unemployment, after rewriting the wage curve as the labour income share equation. Note that the first two exogenous variables are policy instruments, while for most countries the latter is largely determined on the open international capital market.

In general, labour supply is absorbed more quickly into employment if product demand is strong and if profitability is high. Both elements occurred in the second half of the nineties in most European countries. However, it is difficult to quantify the importance of these elements and their underlying causes, as it is difficult to quantify the degree to which the economy was in an economic boom or experienced above-normal rates of profitability.

Other factors may also contribute to a rapid absorption of labour supply. Expenditures on active labour market policies in the EU have risen to 1.2% of GDP. These expenditures generally take the form of job subsidies with the aim of raising the participation (see section 1.2) and job prospects of the low skilled. Several studies have raised questions about the effectiveness of these policies. The subsidisation of private sector jobs suffers from the problem that subsidies may be given to persons who would have found a job anyway, or to persons who simply replace current workers or other unemployed workers.² Policies to subsidise jobs in the public sector aim to raise the productivity of the participants through training and work experience, so that they may find it easier to get a regular job afterwards. However, only a small percentage of the participants actually move on to such regular jobs, possibly because of the relatively high pay in subsidised jobs and their almost unlimited duration.³

More flexible working conditions certainly raises the attractiveness of the labour market for the unemployed and drop-outs, but it is still unclear whether this has a beneficial effect on the equilibrium rate of unemployment.

² Polanen Petel *et.al.* (1999) estimate that between 13 and 43 percent of subsidised jobs represent net additional jobs. Studies for a number of OECD countries indicate a net employment gain of between 5 and 33 percent. A study with the CPB general equilibrium model MIMIC indicates a gain of between 3 and 11 percent. For a survey of these results, see Jongen (1999).

³ See CPB (2001), pp. 153-175 and the references therein.

Policies of deficit reduction, deregulation of product markets and a general improvement in corporate conditions (such as reducing administrative costs) are also mentioned as contributing to the acceleration of employment growth. However, the primary focus of these policies is not employment creation, and in general the relationship with employment growth is not clear. The primary aim of the reduction of the deficit is to improve the health of government finances. In general, the side effect of such a policy, at least in the short run, is to reduce economic growth. The deregulation of product markets and the improvement in the general corporate conditions aim at increasing the efficiency of the economy. This results in higher labour productivity and real wages, and hence in more prosperity. The relationship with employment is not so clear. Flexibility in the product market, however, may have allowed for a more rapid development of new services and markets.

1.4 Labour productivity

To study labour productivity, we use a production function with labour augmenting technical progress for the market sector. The structural growth in labour productivity is the sum of the rate of labour augmenting technical progress and the effect of the change in capital intensity. Macro studies into labour productivity are often supplemented by sectoral studies. In recent years the accelerated growth of ICT-related activities and its effect on productivity growth elsewhere in the economy has become a major point of attention.

The structural growth in labour productivity is mainly related to processes of innovation and technology diffusion. Such processes are more likely to occur in a competitive and entrepreneurial environment. A policy aimed at raising productivity growth has three pillars: enhancing market dynamics, improving the tax environment, and strengthening knowledge and innovation potential. Admittedly, it is often difficult to establish the impact of policy measures in those areas, and sometimes they will only affect potential GDP with a considerable lag.

What productivity growth should we expect over the medium term? The central forecasts for the US and Western Europe are based on extrapolations of labour-augmenting technical progress based on a HP-filter and a further increase in capital intensity. The latter is supported by current rates of investment and by an analysis of equilibrium capital intensities given relative factor prices.⁴

⁴ This equilibrium capital intensity follows as a corollary to the analysis of the equilibrium labour income share in Draper and Huizinga (2000)

1.5 Potential growth and the output gap

The difference between actual and potential output is referred to as the output gap. Economic growth is determined not only by structural, but also by cyclical factors. Cyclical fluctuations, mostly originating on the demand side of the economy, may cause actual output to fall below or rise above potential output. This past year has demonstrated once again how difficult it is to predict the cyclical component of growth. However, equilibrating mechanisms in the economy, such as adjustment of wages and prices and the substitution between labour and capital, keep output in the medium- to long run in line with potential output. It is not clear, however, how quickly these mechanisms work, nor how sharp or prolonged any given upturn or downturn may be. The length of business cycles varies greatly. So it is virtually impossible to predict the state of the business cycle in any given future year. The only thing we can say is that the range of possibilities for the level of actual output will be centred around the level of potential output at that time. Based on this argument, it has become standard practice to assume that actual output in the final year of a medium-term forecast equals its potential level.⁵

1.6 Potential growth and uncertainty

Medium-term forecasts of potential growth contain, of course, many uncertainties. Using various techniques (such as simulation studies) and considering benchmark cases, we attempt to quantify these uncertainties. This leads to error margins which may be interpreted loosely as standard deviations. These error margins may be used to construct cautious and optimistic scenarios. Main uncertainties regarding the growth of labour supply are participation rates of women and the effectiveness of policies that aim to reduce the number of workers on social security benefits. Regarding the growth of structural labour productivity, major uncertainties lie in the area of ICT. Recent figures show strong productivity growth in ICT-intensive sectors, but it is yet unclear how important ICT will be for the overall economy.

1.7 Concluding remarks

It would seem warranted that economic policies in all countries concentrate on stimulating the supply side. This would mean focussing on labour supply, equilibrium unemployment and structural productivity growth. There are already policies in place that aim to reduce inactivity, and more proposals are currently being formulated. Further reduction of taxes and replacement rates are among the most promising policy options, particularly in Europe, that stimulate labour supply, reduce equilibrium unemployment and moderate wage growth.

⁵ See e.g. OECD (2000), p. 41

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2 The global medium-term perspective in recent CPB studies

2.1 World production

Due to the cyclical weakness in 2001/2002 production has sunk to below potential in all parts of the world. The assumption that over the medium term production will move back to the cyclically neutral level implies that over the projection period actual growth rates will be slightly above potential. The analysis focusses on potential growth rates in the United States and the EU. The medium-term forecast centres around an annual output growth for the industrial world of 2¾% and of 5¼% for the rest of the world. In most countries unemployment is expected to decline slowly to equilibrium levels from 2002 onward. Major uncertainties and downward risks in the outlook concern the detrimental effects of international terrorism (increased costs and risk premiums), the growing costs of ageing (pensions and health care), the savings/investment imbalance in the US economy (US dollar and protectionist tendencies) and the bad financial situation of banks and the public sector in Japan.

The forecasts for production growth in the industrial countries are built on supply studies of the OECD, which assess potential production in the past. Similar studies for the US by the Congressional Budget Office and for Western Europe by the European Commission and the European Central Bank yield comparable results. Projections of potential growth are important, as it is generally assumed that actual production will return to its potential level over the medium term. For the period 2004-2010 we have outlined potential growth paths, linked to the most recent short-term projections. The uncertainties with respect to future labour supply are in general much smaller than the uncertainties surrounding the labour productivity trend.

2.1.1 United States

Past developments

A striking characteristic of the potential output growth of the US over the past three decades is its relative stability: the trend fluctuated between 2½ and 3½% per year. For the years up to 2010 annual potential growth is estimated at almost 3¼%. The contributions of the different components have shifted substantially in the course of time. The growth trend of labour supply has slowed markedly, while trend growth of labour productivity has accelerated, in particular during the nineties.

Figure 2.1 Population and labour supply growth, United States, 1970-2001

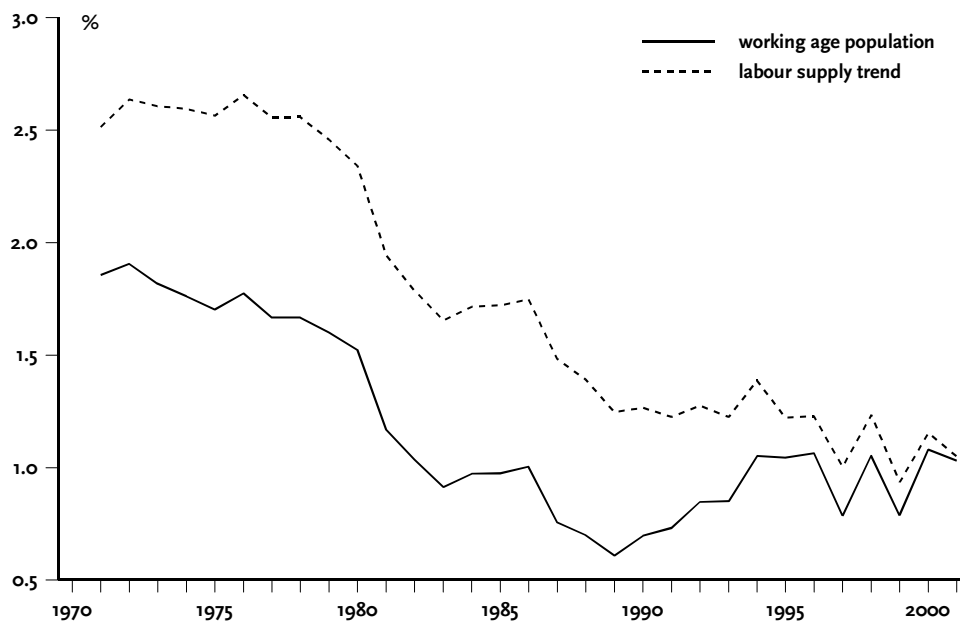


Figure 2.2 Participation rate, United States, 1970-2001

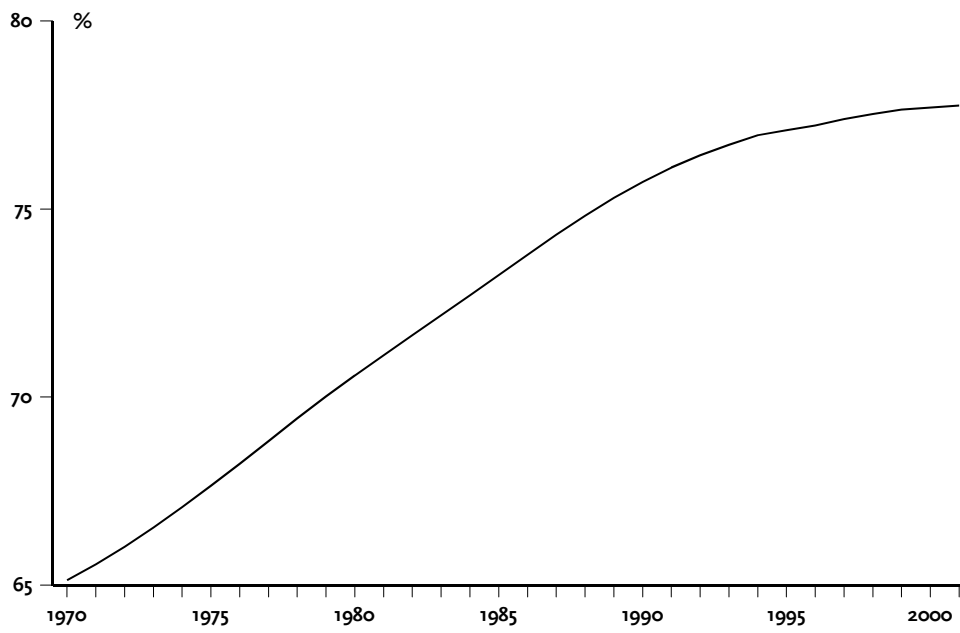


Figure 2.3 Unemployment and NAIRU, United States, 1970-2001

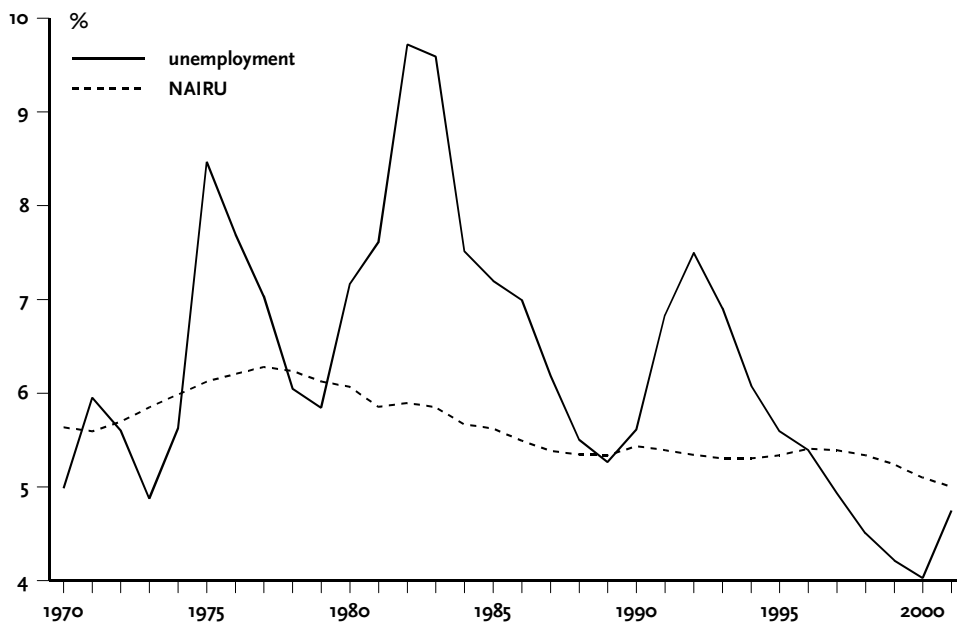
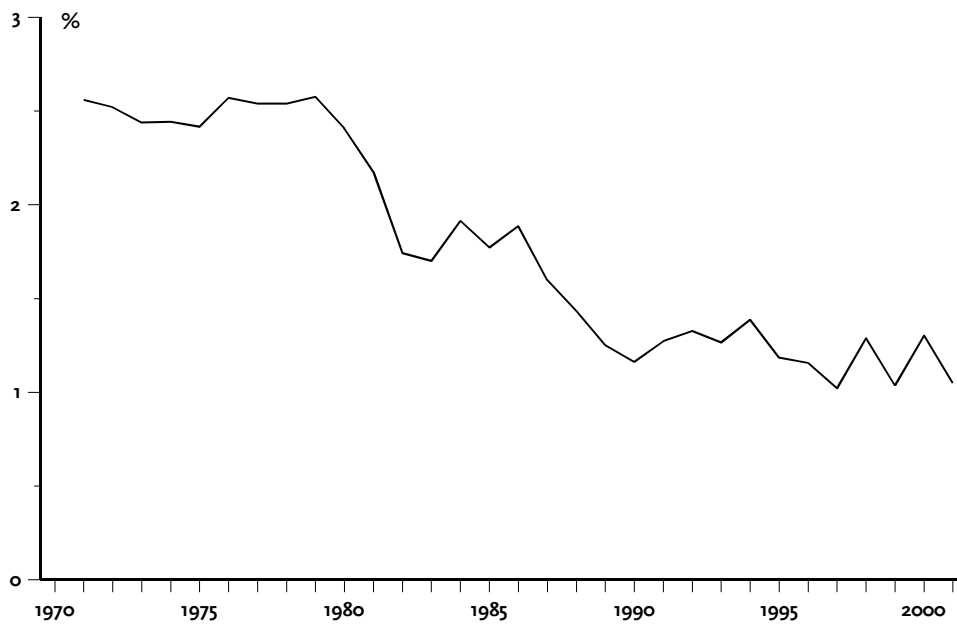


Figure 2.4 Potential employment growth in persons, United States, 1970-2001



The growth of the working-age population slowed considerably in the seventies and the eighties, but, thanks to rising participation rates, trend growth of labour supply slowed much less, and stabilized in the nineties at around $1\frac{1}{4}\%$ a year. Potential employment is calculated by subtracting structural unemployment from structural labour supply. Over the past decades, structural unemployment in the United States has been rather stable. It rose slightly to some 6% of the working population in the seventies and declined gradually towards 5% thereafter.

Figure 2.5 Hourly labour productivity growth in the business sector, United States, 1970-2001



The second major component of potential production growth is the growth trend of labour productivity. From the begin-seventies to the mid-nineties hourly labour productivity in the business sector grew at an average rate of $1\frac{3}{4}\%$ per annum, but then suddenly accelerated by a full percentage point in the second half of the nineties. The general view is that this acceleration has been caused by a technology shock supported by ICT-related activities. Productivity growth in the total economy lags productivity gains in the business sector by approximately $\frac{1}{4}\%$ per annum.

The above mentioned trends in labour supply and productivity growth resulted in a gradual reduction of American potential output growth from around $3\frac{1}{2}\%$ per year in the begin-seventies to $2\frac{3}{4}\%$ in the first half of the nineties. This was followed by an acceleration to some $3\frac{1}{2}\%$ in the second half of the nineties.

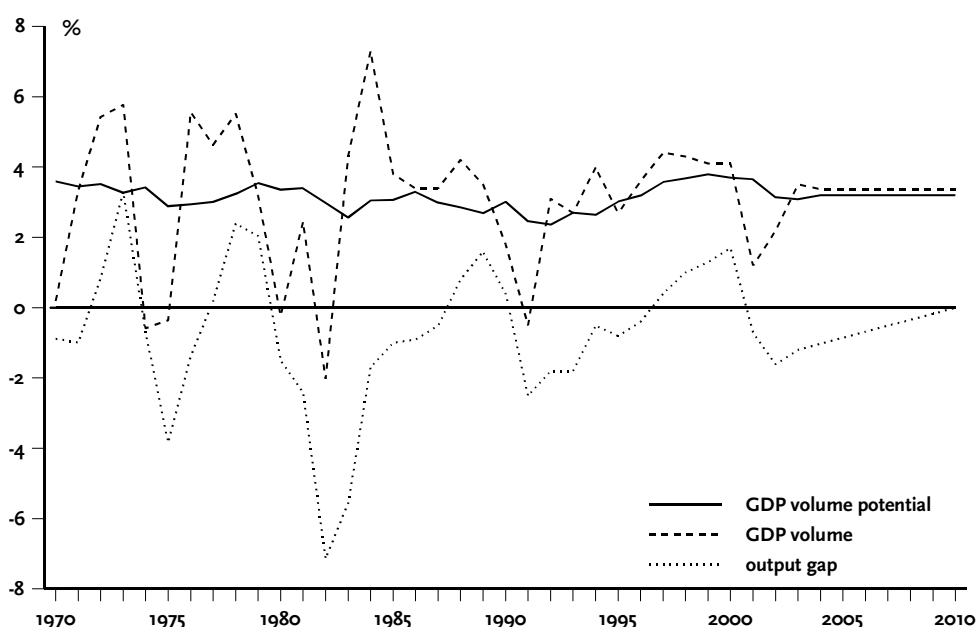
The confrontation of actual with potential output gives the output gap (see figure 2.6). The recession in the early eighties brought the US production about $7\frac{1}{2}\%$ below its potential level.

The cyclical downturn at the beginning of the nineties was much less disastrous and persistent strong growth thereafter brought actual production 2%-points above its potential level at the end of the decade. However, in 2001-2002 production again fell below its potential level.

Prospects

The projection of potential output growth is based on the same variables as the analysis of the past (see table 2.1). The annual growth of the working-age population is expected to remain at approximately 1%, and because the age specific participation rates can hardly increase any further, the trend growth of labour supply will slacken slightly. The equilibrium unemployment rate is assumed to be constant at 5%, although some decline cannot be ruled out as a result of the envisaged tax reductions. Hours worked are not expected to change much, as was the case in the past two decades.

Figure 2.6 GDP growth and output gap, United States, 1970-2010



The projection of the labour productivity trend is beset with large uncertainties. It is unlikely that the strong productivity gains in the second half of the nineties will be continued. In retrospect, the investment boom was partly based on over-optimistic expectations: some of the ICT sectors are fighting overcapacity and due to the fall in stock prices access to the capital market has become a lot more difficult. Still, productivity growth in the cyclically weak years 2001-2002 hold up well so far, lending support to the idea that the underlying trend is still relatively strong. Therefore, we assume that structural productivity growth up to 2010 will be equal to the average annual gains in the period 1994-2003, which is only some ¼ percentage

point below the average of the second half of the nineties, but approximately $\frac{1}{2}$ percentage point above the 1970-1995 average.

Table 2.1 Determinants of potential output growth United States, 1974-2010

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes / contributions			
a. Potential GDP-growth	3.1	2.8	3.3	3.2
b. Output per hour. trend	1.4	1.4	2.1	2.1
c. Potential employment in hours	1.8	1.4	1.2	1.1
d. Working age population	1.5	0.8	1.1	1.0
e. Change in participation rate	0.8	0.6	0.2	0.1
f. Change in NAIRU	-0.0	0.1	0.0	0.0
g. Average annual hours worked. trend	-0.5	-0.1	-0.0	0.0
h. GDP-growth	2.2	3.3	3.4	3.4
i. Output gap (level. end-year)	-5.6	-1.8	-1.2	0.0

On balance, potential GDP growth for the period 2004-2010 is estimated at $3\frac{1}{4}\%$ per annum. As actual production in 2003 is some $1\frac{1}{4}\%$ below potential, actual growth over the forecast period is even somewhat higher.

2.1.2 European Union

Past developments

The components of potential production growth in the EU have shown a different development in the past decades than those in the US. In Western Europe the growth in labour supply was rather stable, but the productivity trend slowed, and caused a slowdown in the potential (and actual) output growth rates.

The growth of the European working-age population reached a top in the first half of the eighties, and decelerated sharply thereafter. From 1985 onward this was partly compensated for by rising participation rates. According to OECD estimates, the equilibrium unemployment rate in the EU rose from about $3\frac{1}{2}\%$ at the beginning of the seventies to $8\frac{3}{4}\%$ in 1992, before declining gradually to some $7\frac{3}{4}\%$ at present. All in all, potential employment growth measured in persons fluctuated around $\frac{1}{2}\%$ per year in the past decennia. This is much less than in the US, but measured in labour hours the differences are even more striking, due to a persistent reduction in the average number of hours worked in Europe. In particular up to the mid-

Figure 2.7 Population and labour supply growth, European Union, 1970-2001

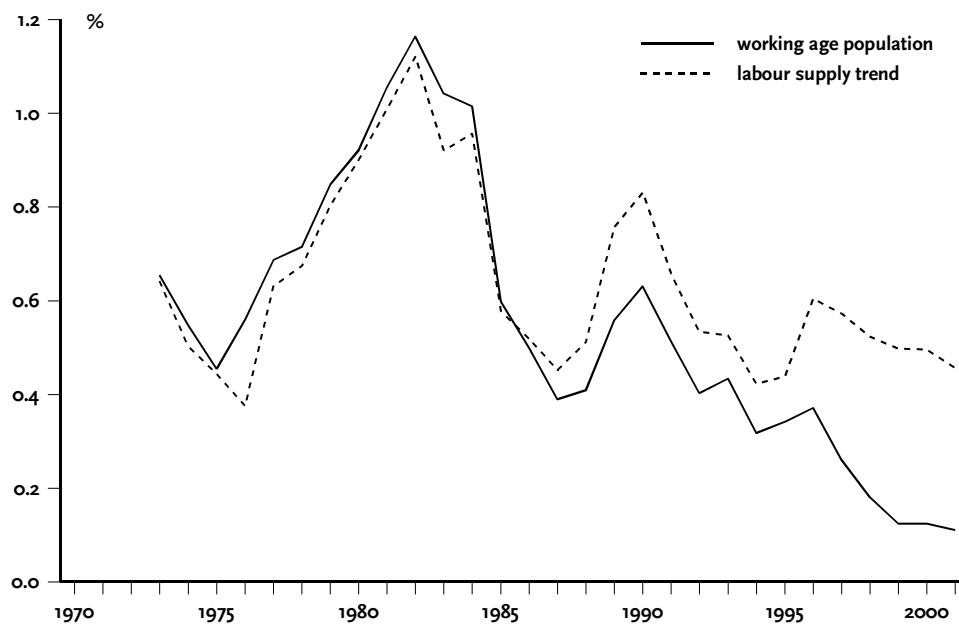


Figure 2.8 Participation rate, European Union, 1970-2001

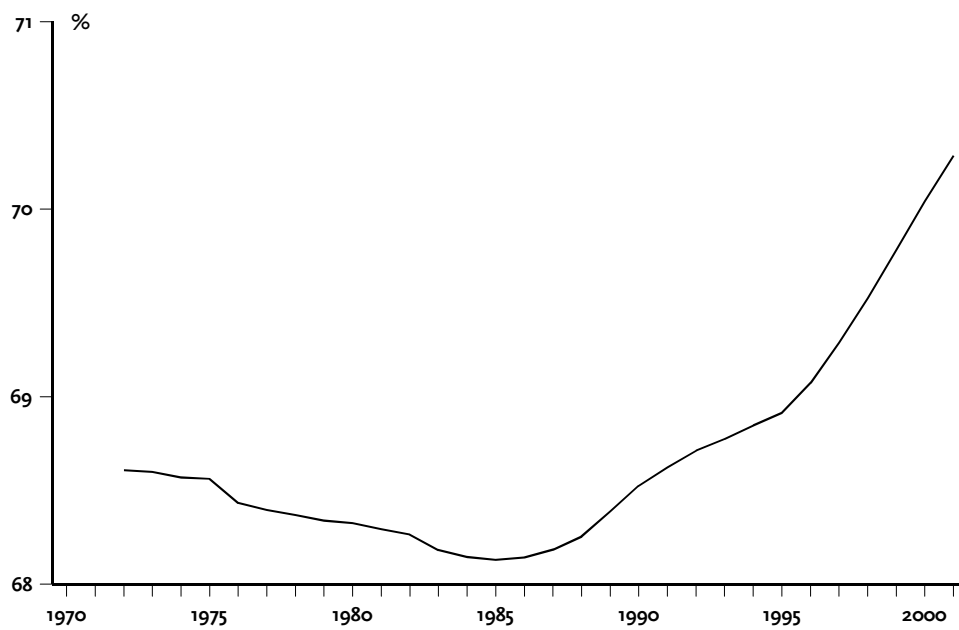


Figure 2.9 Unemployment and NAIRU, European Union, 1970-2001

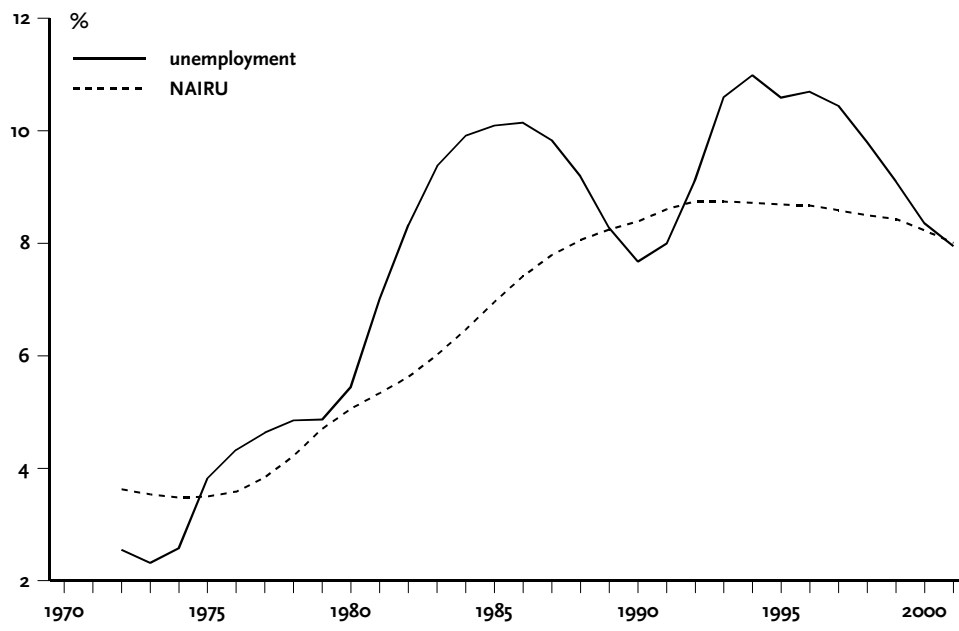


Figure 2.10 Potential employment growth in persons, European Union, 1970-2001



Figure 2.11 Hourly labour productivity growth in the business sector, European Union, 1970-2001



eighties, the shortening of labour hours has been substantial. In the following years the average working time fell at an annual rate of slightly more than $\frac{1}{4}\%$.

The structural growth of labour productivity has decelerated over most of the last three decades. Only in recent years a prudent recovery of productivity growth is taking shape. In contrast with the US, Europe has not yet experienced a sudden substantial acceleration of productivity growth due to a technology shock. This should in part be attributed to lagging ICT-related activities.

Falling labour supply and productivity growth both contributed to a gradual reduction of potential output growth in Europe from an annual rate of around 4% in the begin seventies to just 2% in the mid-eighties. This was followed by a slight pick up to an annual rate of $2\frac{1}{4}\%$ over the past 15 years. After 1991 actual output growth was substantially above potential, closing the negative output gap in 2000. But the cyclical weakness in recent years opened up a new negative output gap (see figure 2.12).

Prospects

Starting point for the demographic component of European labour supply over the medium term is the most recent base scenario of EUROSTAT. The working-age population of the EU will hardly grow, but participation rates of women could rise substantially, permitting a structural labour supply growth of $\frac{1}{2}\%$ per year up to 2010. The growth of potential employment could be even larger, as equilibrium unemployment is forecast to decline further. European governments aim to increase the flexibility of the labour markets and to reduce tax burdens wherever possible.

Taking account of the expected continuation of the shortening in working hours, partly due to increased part-time working, the potential growth in hours worked is estimated at ½% per year, which is slightly higher than in the nineties.

Figure 2.12 GDP growth and output gap, European Union, 1970-2010

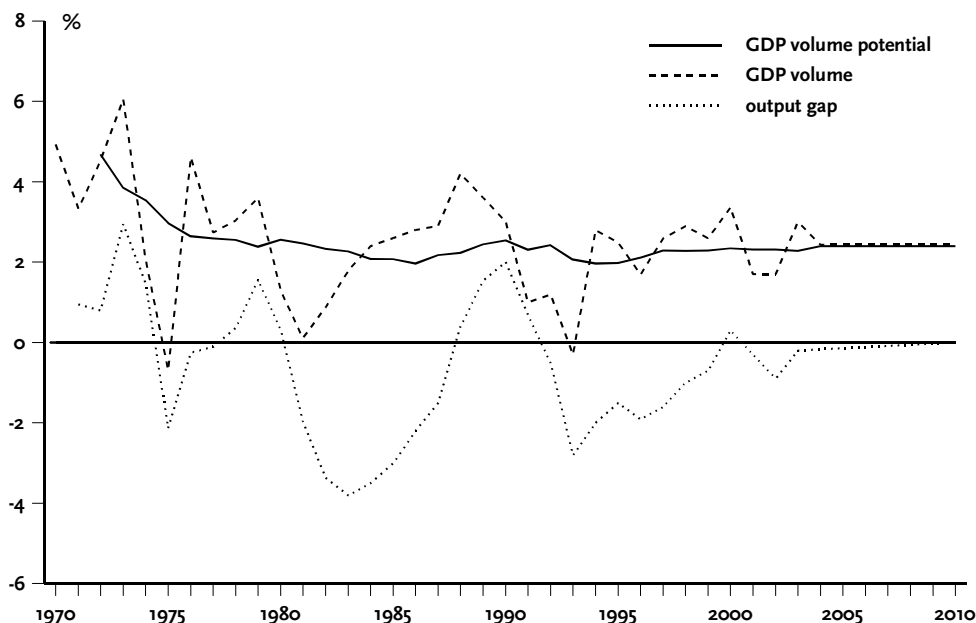


Table 2.2 Determinants of potential output growth European Union, 1974-2010

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes / contributions			
a. Potential GDP-growth	2.6	2.2	2.2	2.5
b. Output per hour. trend	2.8	2.2	1.9	2.0
c. Potential employment in hours	-0.2	0.0	0.3	0.5
d. Working age population	0.8	0.5	0.2	0.1
e. Change in participation rate	-0.1	0.1	0.3	0.5
f. Change in NAIRU	-0.2	-0.3	0.1	0.1
g. Average annual hours worked. trend	-0.7	-0.3	-0.3	-0.2
h. GDP-growth	1.9	2.3	2.5	2.5
i. Output gap (level. end-year)	-3.8	-2.8	-0.2	0.0

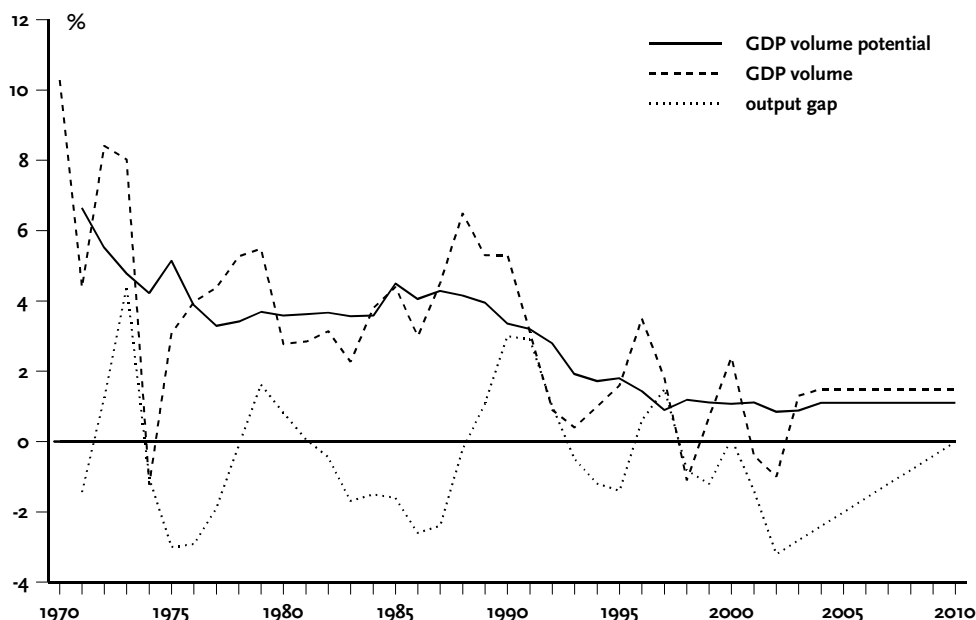
The future trend of labour productivity is a major source of uncertainty in Western Europe as well. It is assumed that the EU partly catches up with the US, implying a slight acceleration of the hourly trend growth of labour productivity to approximately 2% per year. On balance, annual potential GDP growth in the European Union excluding the EU-candidate countries over the

period 2004-2010 is estimated at almost 2½%. Actual growth will have to be fractionally higher to close the present negative output gap.

2.1.3 Japan

CPB has not made a detailed supply study for Japan. The current potential growth rate of the Japanese economy is estimated by the OECD (and a number of national sources) at less than 1% per year (see figure 2.13). The corresponding output gap for 2003 is estimated at -3½%. We do not foresee a clear improvement of potential growth in the medium term. The weak financial position of banks and the public sector, and the limits to monetary expansion will restrain output growth also in the coming years. On the technical assumption that the output gap will be closed in the medium term, which is far from certain, Japanese GDP over the period 2004-2010 could grow at 1½% per year. This is also the latest official baseline forecast of the Japanese government's medium-term financial strategy.

Figure 2.13 GDP growth and output gap Japan, 1970-2010



2.1.4 Non-industrial countries

The growth projections for the non-industrial countries over the period 2004-2010 start from the most recent IMF analysis which run up to 2007. The IMF projects an average GDP growth for this part of the world of over 5¾%, with a particularly strong rebound of growth in the transition countries, which registered a sharp decline in output during most of the nineties. As the projected growth rates for the industrial countries in our forecast is somewhat below the

IMF projections, we have adjusted the IMF forecast for the non-industrial countries downwards. In our projection annual growth in the non-industrial countries is forecast at $5\frac{1}{4}\%$.

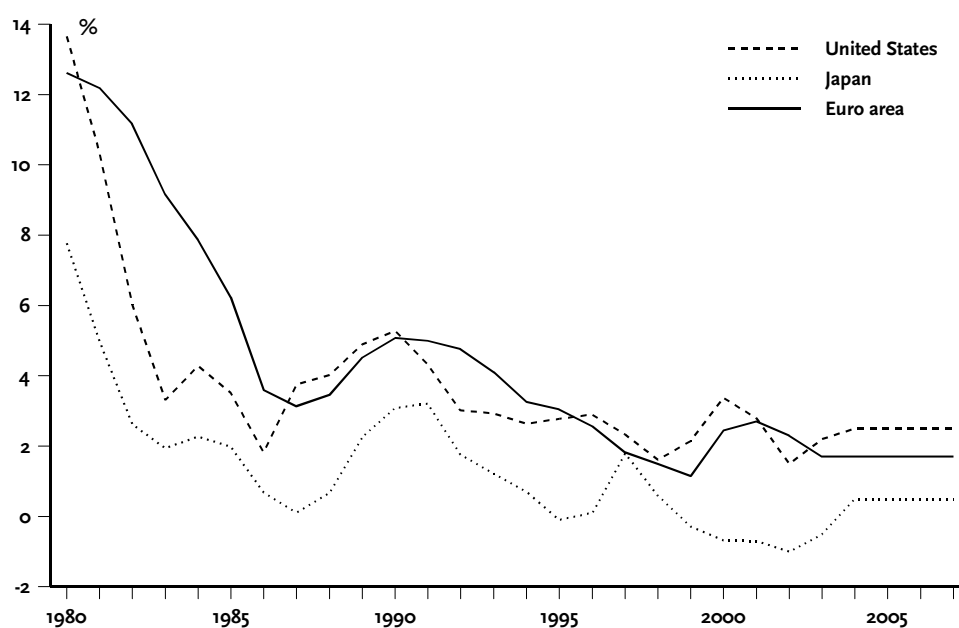
2.2 Inflation, interest rates and exchange rates in the industrial world

The recent easing of labour markets will reduce the pressure of labour costs in the industrial countries in the short term. It is assumed that the monetary authorities will also be successful in keeping inflation down in the medium term. Nominal interest rates are expected to remain rather low as compared to the seventies and eighties. The euro should gradually appreciate against the dollar.

In the longer run, inflation is determined by monetary policy. The Federal Reserve Board, the central banking system of the United States, applies a multiple target (promotion of employment, price stability and moderate long-term interest rates). The ECB on the other hand has price stability as its primary objective, defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%, to be maintained over the medium term. From the targeted money growth, the trend development of money velocity and the estimated potential growth rate, one can deduct that the implicit ECB inflation target in terms of consumer prices is between $1\frac{1}{2}$ and $1\frac{3}{4}\%$ per year. The short-term inflation forecasts for the US and the euro area remain within reasonable bounds of these targets. The monetary authorities are expected to be successful over the projection period, partly because actual unemployment will be above equilibrium in almost all countries. For Japan it is assumed that domestic deflation will come to an end, but given the weak growth prospects inflation will remain very subdued.

Short-term interest rates in the US and the euro area could hover some $2\frac{1}{2}\%$ -points above CPI inflation. Japan is expected to continue its zero-rate policy for the time being. Also the long-term interest rates are expected to remain at relatively low levels given the efforts of most governments to consolidate their budget accounts and to improve their debt positions. The difference between long and short-term rates could remain at $\frac{3}{4}$ to 1 percentage points in most industrial countries, but could be larger in Japan.

Figure 2.14 Consumer price inflation of industrial countries, 1980-2007



Given the time horizon of the projection it seems appropriate not to assume constant nominal or real exchange rates for the dollar-euro-yen triangle, but to work with exchange rates moving towards their longer-term equilibrium levels. Although such levels cannot be specified with certainty, there are several approaches that give some clue. Basically there are two ways to assess the equilibrium rates, i.e. the calculation of purchasing power parities and estimates based on economic and statistical models. Research on purchasing power parities by various international institutions, among which the OECD and the Worldbank, indicates an equilibrium rate of about 1.08 dollar per euro, against a present rate of about 0.90 dollar. Research based on differentials in inflation, growth, interest rates and cumulative trade balances since 1972 suggests an equilibrium rate of 1.05 for the coming five years. Recent financial model calculations yield even higher equilibrium rates (see the overview in ECB's Monthly Bulletin of Januari 2002). In this projection we have assumed a gradual rise of the euro towards dollar parity in 2006, and no change thereafter.

Research on the equilibrium rate of the yen against the dollar is rather scarce, and the uncertainties are much bigger. According to OECD estimates, the purchasing power of the yen in 2002 is approximately 147 yen per dollar, compared with a present rate of about 130 yen. Due to the anticipated inflation differential the purchasing power parity rate could fall to 120 yen per dollar in 2010. This also is our working assumption.

The arrival of the euro

The introduction of the euro on 1 January 1999 in terms of payment by giro, and on 1 January 2002 in terms of payment by banknotes and coins has important implications inside and outside the euro area. This box discusses the potential consequences for two important variables in the scenarios, i.e. world trade and the value of the euro.

It is expected that the euro will promote intra-EMU and to a lesser extent extra-EMU trade of goods and services. The euro influences flows of goods and services in several ways. Currency risks between EMU members belong to the past. The euro lowers transaction and administrative costs, particularly in intra-EMU trade. The euro also makes it easier to compare prices and tariffs for the same good or service. Price and tariff differences need to be motivated or otherwise harmonized. Overall, this could lead to more efficient production, which in the longer run leads to more production and trade. The introduction of the euro could lower firms' cost of capital by enhancing equity and bond market integration. In addition, long-term interest rates could fall because EMU governments are obliged to adhere to the Stability and Growth Pact.

The external value of the euro has depreciated considerably since its official introduction on 1 January 1999. This increased import prices and headline inflation, reducing the internal value of the euro. The prospective use of the euro as an international currency and its external value can be reviewed by looking at the different functions of money: unit of account, means of payment and store of value. If a currency fulfills all three functions outside its national borders it is said to be an *international* currency. At the moment, three international currencies play a dominant role: the US dollar, the euro and the yen. The relative importance of each currency depends on its share as a vehicle for international investment and other financial transactions and on its share as an invoicing currency for international trade. Given the size of international capital flows relative to international trade flows, the choices in international financial markets are decisive for the international role and external value of a currency. The size of cross-border financial transactions denominated in euro's will determine the attractiveness of the euro as international financing currency (that leads to supply of euro's in the foreign exchange market) because of the advantages attached to higher market liquidity and lower transactions costs that it brings to the issuer of financial assets denominated in euros. The attractiveness of the euro as international investment currency (that leads to demand for euro's in the foreign exchange market) depends mainly on relative inflation rates and exchange rate risks of euro investments vis-à-vis investments in other currencies in view of risk diversification.

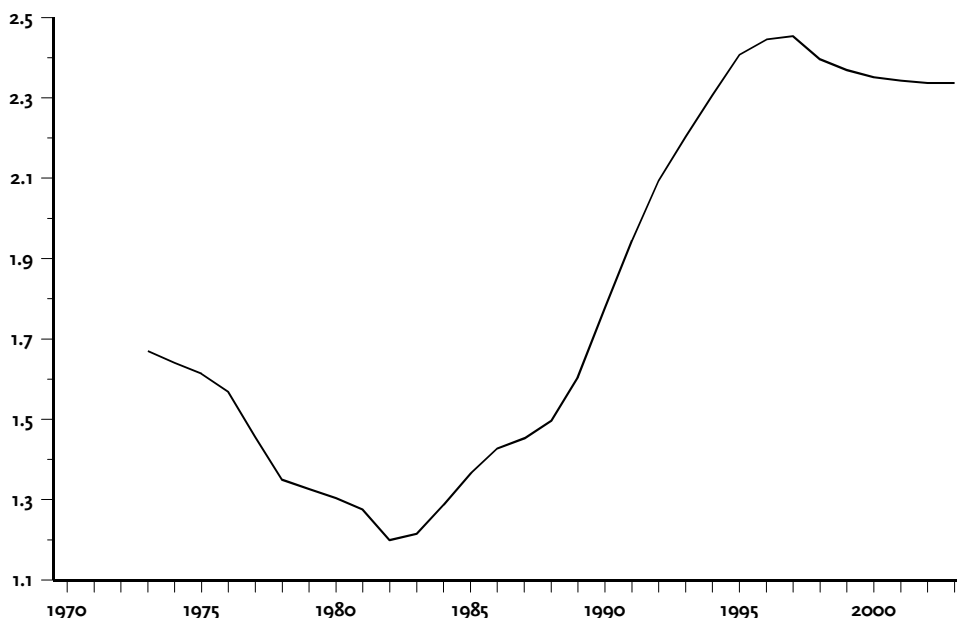
The initial success of the euro as an international financing currency was not matched by an equal success of the euro as an international investment currency.^a This created a supply effect that may have been instrumental in the early depreciation of the euro vis-à-vis the dollar and the yen. It is highly unlikely that the euro will replace the US dollar as the most important international currency in the medium term. It will probably remain the second most widely used currency at the international level, behind the US dollar and ahead of the yen. At the moment, too many imperfections maintain the segmentation of financial markets in the euro area. The Financial Services Action Plan by the European Commission intends to eliminate this segmentation by 2005. Without integrated and well-developed financial markets the EMU will not be complete and the dollar will keep its dominant position in the world.

^a Carsten Detken and Philipp Hartmann, The euro and international capital markets, *ECB Working Paper* No. 19, April 2000.

2.3 World trade volume of goods

Production growth, particularly in the industrial sectors, determines to a large extent the course of world trade volumes. In our scenario the volume of world trade in goods rises by 8% per year in the period 2004-2010. The elasticity of world imports relative to (import weighted) world production has risen steeply in the nineties after a severe fall in the seventies (see figure 2.15). The fall in the seventies was mainly caused by a reduction in the demand for energy in reaction to the oil price hikes. First, the value share of energy in world trade increased sharply due to these price rises. As a consequence, the fall in the demand for oil had a particularly large effect on total world trade growth in volume. Because the implementation of energy savings is a time consuming process, the decline in the demand for energy persisted rather long. In the course of the eighties the energy markets reached a new equilibrium and the world import elasticity began to move back towards its historical value of approximately 1¾.

Figure 2.15 World trade import elasticity trend, 1973-2004

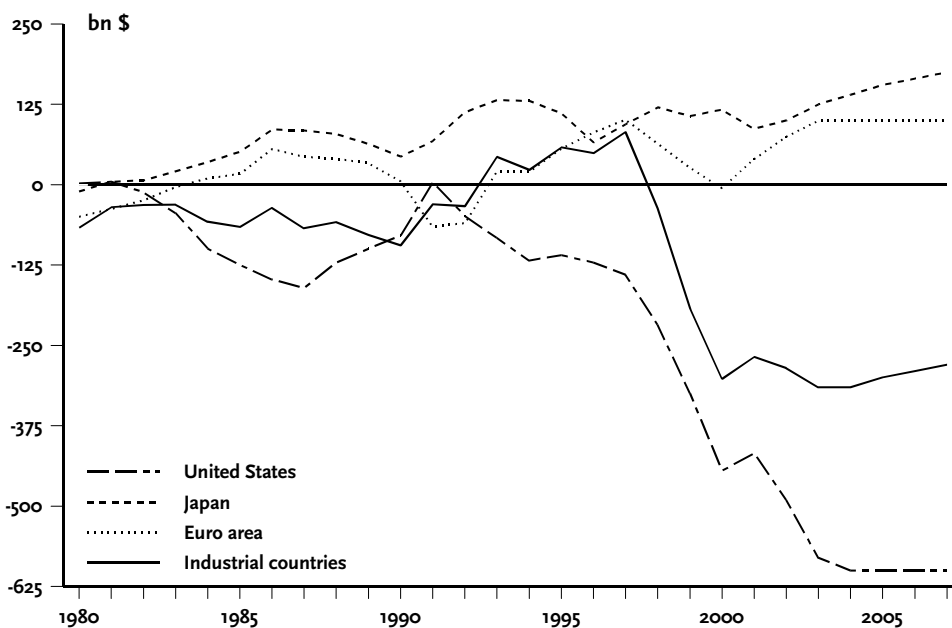


But that was not all. The elasticity rose sharply in the nineties due to a number of structural changes. Part of the rise can be attributed to the shift in the product mix of world trade from raw materials to manufactured goods. This implied an acceleration of trade as the income elasticity of demand for manufactures is larger than for raw materials. Moreover, the prices of internationally traded manufactures rose less than domestic inflation, contributing to a relatively strong demand for these goods through price substitution. A second factor contributing to the strong rise of world trade is the ongoing international division of labour: production processes

are segmented and distributed over the world. This also implies that for most countries value added per unit of trade is falling.

Over the projection period, import volumes of industrial countries are expected to rise by almost 7¼% per annum. Imports of the non-industrial countries could on average increase some 2% points faster each year. On the export side, the US could be one of the best performers, thanks to the relatively favourable export market growth and improved competitiveness as a result of the assumed depreciation of the US dollar. Nevertheless, the external deficit of the United States will remain very large. Figure 2.16 shows the expected development of the external balances of the major industrial regions. Remarkable is that the worsening of the US position in the past few years is hardly reflected in improvements for other industrial countries. The improvement is mainly in the external positions of the non-industrial world. This is not by definition a favourable development, because it is partly a consequence of the reduced availability of international capital, needed to cover the US current account deficits. This could be indicative for the reduced attractiveness of the NIE's; recent financial crises in Asia, Russia and Latin-America lend support to that view. But it could also mean that the opportunities for growth in the developing world are hampered by the tremendous capital needs of the US.

Figure 2.16 Current account positions of industrial countries, 1980-2007



In our projections, international prices of manufactures decline slightly in national currency terms. This is due to relatively strong productivity gains in exporting industries, and to severe competition on the world market. Prices of non-energy raw materials in dollar terms are linked

to the dollar price of manufactures, with an elasticity of 1, and to world trade growth in deviation from the trend, with an average elasticity of $2\frac{3}{4}$.

Oil prices are thought to depend on the goals set by OPEC, the implementation coherence of their production targets and their effective market power in terms of world supply shares. At present the installed overcapacity in the world is estimated at $4\frac{3}{4}$ mln barrels per day. So, for the time being, supply will be sufficient in theory, but spare capacity will be reduced gradually over the medium term and in the second half of the decade the OPEC cartel will regain enough power to force prices upward. In our scenario we assume a gradual price increase of Brent from $\$23\frac{1}{2}$ per barrel in 2002-2003 to $\$27\frac{1}{2}$ per barrel in 2010.

Pros and cons of globalization

Barriers for international transport and communication drop continuously. Flows of goods, services and capital are crossing borders at ever increasing rates and national economies get more interwoven. This process of globalization is not without opposition. Some believe that developing countries cannot fully profit from free trade, that governments loose grip and that the environment is to suffer the consequences.

In general, free trade will offer economic advantages. The traditional idea is that countries can better exploit their comparative advantages. Recent studies point to additional advantages, like a greater variety of products, faster technological developments through knowledge dissemination and more intense competition. These ideas seem to be confirmed in reality. Particularly those countries that have protected the home industry from foreign competition, like India, have relatively fallen behind. Poverty problems are often the most severe in these countries. A wealth of empirical literature concludes that openness favours economic growth^a.

On the other hand, it is clear that free trade by itself is insufficient to foster growth and development. Other prerequisites seem to be: (more) political stability, sustainable government deficits, a good physical infrastructure and access to good education as well as clearly defined property rights. An open capital market can offer great opportunities but also brings risks, as was clearly demonstrated during the debt crisis in Latin-America in the early eighties and the Asian crisis at the end of the nineties. One should clearly distinguish between (long-term) direct foreign investments and (short-term) hot money.

A well functioning government is another prerequisite for a strong and stable economic development. This implies sustainable government finances and little corruption, but not necessarily a rundown government sector. Amongst industrial countries the size of the government sector does differ quite substantially. There are no strong indications that international tax competition is a race to the bottom and that, as a consequence, governments lose the opportunity to offer public goods in a globalizing environment^b. Location decisions of firms are influenced by a number of considerations. Proximity of costumers and suppliers, good infra-structural facilities and availability of expertise are often more important than taxes (on profits). This also explains why stringent environmental regulations do not drive out companies to less developed countries. However, this could change if and when the Kyoto Protocol is implemented. Particularly price increases for CO₂ emissions may lead to location changes of some sectors. This is an additional reason to involve developing countries in policies on climate change.

^a An important reference is Sachs en Warner, 1995, *Economic Reform and the Process of Global Integration*, Brooking Papers on Economic Activity.

^b See for instance Gorter en de Mooij, *Capital income taxation in Europe: trends and trade-offs*, Special CPB publication, The Hague, May 2001.

3 The European medium-term outlook based on institutes forecasts

All country forecasts and additional comments by AIECE institutes are reproduced in the annex of this report. Most institutes have made an estimate of potential output of their country up to 2010, generally based on Hodrick-Prescott or Kalman filters. Italy, the Netherlands and the United Kingdom use a production function approach. Ireland calculates the implied output gap at a constant unemployment rate, and Switzerland the deviation from normal output, defined as a percentage of capacity output at a non-accelerating rate of inflation. Poland experiments with several methods. More detailed country forecasts for the medium term by the various institutes generally run to 2006 or 2007.

3.1 Potential growth analysis

Most institutes expect a slight acceleration of potential growth in their country for the period 2004- 2010. However, Denmark, Finland, Ireland, the Netherlands and the United Kingdom envisage a slowdown, while German institutes disagree over the prospects for their country.

The factors behind the projected changes in potential growth are trend productivity and potential employment. Trend productivity growth is forecast to decelerate in Denmark, Ireland and Italy. The other countries foresee an acceleration, mainly based on the introduction of ICT-related labour saving technologies. Most institutes expect some catching up with the US.

Potential employment growth is forecast to decelerate in most countries, for various reasons. In Ireland and the Netherlands, less exuberant increases of the working age population and participation rates play a negative role. In Germany and Switzerland the change in the working age population is the major theme, and for the UK the reduction in hours worked. Participation rates in Finland are expected to decline over the medium term, which is partly compensated by a lower NAIRU. In all European countries the NAIRU is forecast to decline or remain at current levels (but this concept is not considered relevant for Ireland). Only the Czech Republic and Italy expect a pick up in potential employment growth, supported by participation and NAIRU, while Belgium projects no change.

Recent policies affecting labour force participation focus on the participation of the elderly in several countries, to keep them at work or to get them back to work. Elements are re-schooling and incentives for later retirement. Tax credits are introduced for part-time working (France, Ireland) and for the lower paid. Women participation is stimulated by more child care and more flexibility in working hours. In the Netherlands measures have been taken to reduce the inflow of disability schemes and to reduce the negative effects of the so called poverty trap. Denmark also focuses on a better integration of immigrants on the labour market.

Many institutes point out the constraints in raising potential growth in the medium term. Belgium, Denmark and Italy mention a mismatch between supply and demand on the labour market (regional as well as skills). France mentions the low investment ratio and the need for more labour flexibility, and Germany the burden of unification. Ireland sees the inadequate infrastructure (housing and transportation) as a serious constraint. The transition countries foresee problems in case of postponement of EU entry.

Potential output growth and its determinants as estimated and forecasted by the institutes are aggregated to the level of the European Union (see table 3.1). For five countries, with a total GDP-share in the European Union of some 10%, we did not receive a timely response to our enquiry. For these countries CPB-data have been substituted. Comparing the institutes forecasts for the period 2004-2010 with the CPB- and OECD -forecasts (see box), reveals that the AIECE institutes are on average slightly more pessimistic with respect to potential and actual growth prospects for the European Union. The deviation is mainly caused by a less optimistic view on participation rates, but the differences are very small.

Trend growth in productivity and potential employment is now reported in persons in stead of hours worked, as not all institutes provided information on the average annual hours worked. The listed data in table 3.1 for this item may therefore not be considered the ultimate truth.

Table 3.1 Determinants of potential output growth, European Union^a

	1974-1983	1984-1993	1994-2003	2004-2010 Institutes	2004-2010 CPB	2004-2007 OECD
	annual percentage changes/contributions					
a. Potential GDP-growth	2.5	2.4	2.2	2.2	2.5	2.4
b. Trend output per person employed	1.9	1.9	1.5	1.7	1.8	1.8
c. Potential employment in persons	0.6	0.5	0.7	0.5	0.7	0.6
d. Working age population	0.9	0.5	0.2	0.2	0.1	0.1
e. Change in participation rate	0.1	-0.1	0.4	0.2	0.5	0.5
f. Change in NAIRU	-0.3	0.1	0.1	0.1	0.1	0.0
g. Average annual hours worked	-0.4	-0.3	-0.2	-0.2	-0.2	
h. GDP-growth	1.8	2.4	2.4	2.4	2.5	2.6
i. Output gap (level, end-year)	-3.1	-2.9	-0.9	0.0	0.0	0.0

^a Missing data estimates by CPB (Sweden, Luxembourg, Spain, Portugal and Greece).

The OECD medium-term reference scenario

This scenario extends the short-term projections to 2007. The medium-term reference scenario is essentially supply-driven. Growth in output after 2003 is assumed to be a combination of growth in potential and any contribution from the closing of the output gap, resulting in an elimination of the gap in the end-year. Unemployment returns to its structural rate (the NAIRU), there are no major changes in real commodity prices and exchange rates, monetary policies keep in line with medium-term objectives and fiscal policies remain broadly unchanged.

Growth in potential output for the OECD as a whole is expected to remain around 2½ per cent per year. This reflects an anticipated slowing in population growth and in participation trends being offset by a small increase in trend labour productivity. Since most industrial countries are in moderate excess supply in 2003, growth in subsequent years slightly exceeds potential. Real GDP of the industrial world is projected to expand at a little over 3 per cent per year during 2004-2007.

For the United States the scenario embodies fairly robust growth at around 3.5 per cent. Even so, the level of output remains slightly below potential over most of the projection period, which permits inflation to fall to below 1.5 per cent. The fiscal balance moves from deficit to a slight surplus. Growth in the euro area beyond 2003 is slower than in the United States, owing to a smaller output gap in 2003 and lower potential growth. Inflation falls to around 1.5 per cent over the medium term. Assuming unchanged policies, the area-wide fiscal balance moves from a deficit of 1 per cent of GDP in 2003 to a slight surplus, helped by lower unemployment and higher output. In Japan the large negative output gap is assumed to close gradually between 2004 and 2007. The deflation is not projected to improve significantly. Also the fiscal balance is hardly improving, as the rise in revenues from expanding activity is largely offset by the costs associated with population ageing and debt-servicing. Gross public debt reaches unsustainable levels.

Medium-term risks and uncertainties

Key issues are how to enhance potential growth of economies (can output catch up with potential?) and their resilience to shocks. One of the major risks is a deterioration of the savings/investment imbalances given the fact that the expansion is starting with a huge American external deficit. This could give rise to disorderly exchange rate changes and/or protectionist actions. On the fiscal side pressures could build up on pension and health care spending as populations are ageing. For Japan in particular the worsening of public finance and the accumulation of public debt to unsustainable levels is seen as a major threat.

Source: OECD Economic Outlook 71, Paris, (forthcoming, see WWW.OECD.ORG).

3.2 Detailed medium-term forecasts

The detailed medium-term forecasts as submitted by the institutes (see section 4) have also been aggregated to the EU15 level. Again, the missing data and forecasts for five EU- countries are supplied by CPB to calculate aggregates for the whole region. Results for the years 2001 to 2003 and for the period 2004-2007 are presented in table 3.2. The final forecast year actually varies

between the institutes from 2005 to 2010, but the average is 2007. We added the most recent forecasts for the 2004-2007 period of CPB, the OECD and the Consensus Forecasts.

Table 3.2 Key data medium-term, European Union^a

	2001	2002	2003	2004-2007			
				INST	CPB	OECD	CF
annual percentage changes							
GDP volume	1.7	1.5	2.8	2.5	2.6	2.6	2.5
Private consumption	2.2	1.8	2.7	2.6	2.7		2.5
Public consumption	2.2	1.7	1.6	1.4	1.2		
Gross fixed investment	-0.5	1.2	3.7	3.7	3.9		3.8
Total domestic demand	1.6	1.5	2.6	2.6	2.6		
Export goods & services	2.3	1.2	6.8	5.7	7.0		
Import goods & services	1.0	1.8	7.0	5.6	7.0		
GDP deflator	2.3	2.1	1.9	1.9	1.6	1.7	
Consumer prices index	2.4	2.2	2.0	2.0	1.6	1.7	2.0
Savings rate of households % ^b	10.5	10.6	10.7	10.5			
Employment	1.3	0.3	0.7	0.6	0.7	0.7	
Unemployment rate % ^b	7.5	7.7	7.5	6.8	6.0	7.0	
Population	0.4	0.4	0.3	0.3	0.2		
Short-term interest rate (3-month, %)	4.3	3.7	4.2	4.5	4.0		
Long-term interest rate (10 years, %)	5.0	5.2	5.4	5.3	5.0	5.5	5.3
Public sector surplus (% of GDP)	-0.6	-1.2	-1.0	-0.6	0.0		
Gross public debt (% of GDP) ^b	62.7	62.2	60.6	55.6	56.0		
GDP volume European Union	1.6	1.4	2.7	2.6	2.6	2.6	
United States	1.1	1.9	3.1	3.1	3.4	3.5	
OECD	1.2	1.4	2.7	2.6	2.9	3.1	
World trade volume goods	0.2	2.8	7.9	6.4	8.0	8.0	
Oil price Brent (\$ per barrel)	21.3	23.3	23.5	23.9	24.0	25.5	
Exchange rate 1\$ = euro	1.11	1.12	1.10	1.05	1.02	1.10	

^a Missing data estimates by CPB (Sweden, Luxembourg, Spain, Portugal and Greece). CF aggregated by CPB.

^b Level end-year.

Again, it appears that the growth forecasts of the institutes are a bit less optimistic than those of CPB and OECD, not only for Europe but also for the United States and the industrial world as a whole. This leads, among others, to a weaker international trade trend in the institutes forecasts. On the other hand, AIECE-institutes forecast higher inflation rates than CPB and OECD. The Consensus Forecasts seem broadly in line with the outlook of the AIECE-institutes. All in all, the differences are rather small.

On monetary policy the institutes assumptions are in most cases rather neutral for the years after 2003. The euro countries assume that the ECB will stick to its inflation target, and the UK assumes that the 2.5 inflation target will be slightly undershot. Norway and Denmark start from fixed rates against the euro. The Swiss franc should weaken slightly against the euro. Hungary and Poland expect some monetary easing to avoid appreciation of their currencies. Inflationary pressures are expected to remain low by historical standards, partly due to unemployment rates generally above the equilibrium level and more or less constant oil prices on the world market.

The budget assumptions made for the European Union countries are a consolidation of the public sector balance according to the Stability and Growth Pact, leading to a balanced account or a slight surplus after 2004, and a reduction in the public debt. For most countries this is a continuation of present policies. The policy stance could be described as neutral to slightly restrictive. The UK fiscal policy envisaged by NIESR is essentially expansionary, with a medium-term deficit target of 1.4%. Poland limits state spending to projected CPI inflation plus 1 percent in order to reduce the public deficit.

The American current account deficit is not sustainable in the longer run, and there certainly is a risk of a sharp dollar fall and increased trade frictions, is the opinion of most institutes. However, the German IfW institute thinks that the deficit situation can persist for a long time, given the flexibility of exchange rates, while NIESR thinks that the position could be slowly corrected by inflation differentials. Italian Prometeia thinks a sharp reaction of the dollar unlikely as long as the expectations of investors do not change. On the equilibrium rate of the euro against the dollar the views of the institutes differ, but not wildly. On average a move towards parity seems most likely.

The detailed medium-term forecasts for four Central European countries have been aggregated in table 3.3. The forecasts for 2004-2007 are compared to the EU-outlook. The economic growth outlook for Central Europe is substantially better, but at somewhat higher inflation and interest rates. The Central European countries also seem more optimistic on world trade. A striking difference with the EU development is the rapid rise of government debt, albeit from low levels, whereas government debt in the Union is set to decline over the medium term.

Table 3.3 Key data medium-term, Central Europe^a

	2001	2002	2003	2004-2007 CE	idem, EU:
	annual percentage changes				
GDP volume	2.2	1.8	3.3	4.5	2.5
Private consumption	2.7	2.4	2.4	3.7	2.6
Public consumption	0.3	0.5	0.9	1.4	1.4
Gross fixed investment	-3.9	1.2	5.4	8.7	3.7
Total domestic demand	0.4	2.1	3.0	4.7	2.6
Export goods & services	10.6	4.5	8.0	8.2	5.7
Import goods & services	6.1	4.7	7.0	8.1	5.6
GDP deflator	5.7	4.0	3.9	3.3	1.9
Consumer prices	6.2	4.3	4.4	3.5	2.0
Savings rate of households % ^b	11.8	11.7	11.8	12.3	10.5
Employment	-1.1	-1.2	-0.2	0.8	0.6
Unemployment rate % ^b	12.9	14.0	14.3	11.8	6.8
Population	0.0	0.0	-0.0	0.0	0.3
Short-term interest rate (3-month, %)	13.9	9.7	8.2	5.6	4.5
Long-term interest rate (10 years, %)	10.0	7.6	6.8	6.3	5.3
Public sector surplus (% of GDP)	-4.5	-5.5	-5.0	-3.3	-0.6
Gross public debt (% of GDP) ^b	38.4	40.8	42.3	47.7	55.6
GDP volumeEuropean Union	1.7	1.6	2.7	2.7	2.6
United States	1.2	2.4	3.6	3.3	3.1
OECD	1.1	1.7	3.0	2.9	2.6
World trade volume goods	0.0	3.7	9.9	8.8	6.4
Oil price Brent (\$ per barrel)	24.2	23.9	24.5	21.7	23.9
Exchange rate 1\$ = euro	1.11	1.12	1.09	1.05	1.05

^a Poland, Hungary, Czech Republic and Slovenia.

^b Level end-year.

4 Annex

4.1 Participating institutes

Austria	WIFO	Austrian Institute of Economic research	Vienna
Belgium	FPB	Federal Planning Bureau	Brussels
Czech Republic	CCSF	Centre of Conjunctural Studies and Forecasting	Prague
Denmark	DEC	Danish Economic Council	Copenhagen
Finland	ETLA	Research Institute of the Finnish Economy	Helsinki
France	OFCE	Observatoire Français des Conjonctures Économiques	Paris
Germany	DIW	German Institute for Economic Research	Berlin
	IFO	Institute for Economic Research	Munich
	IfW	Institut für Weltwirtschaft	Kiel
Hungary	Kopint	Kopint-Datorg Institute for Economic and Market Research and Informatics	Budapest
Ireland	ESRI	The Economic and Social Research Institute	Dublin
Italy	Prometeia	Associazione Prometeia	Bologna
Netherlands	CPB	CPB Netherlands Bureau for Economic Policy Analysis	The Hague
Norway	SN	Statistics Norway	Oslo
Poland	IKC	Foreign Trade Research Institute	Warsaw
Slovenia	SKEP	Economic Outlook and Policy Services	Ljubljana
Switzerland	KOF	Swiss Institute for Business Cycle Research	Zurich
United Kingdom	NIESR	National Institute for Economic and Social Research	London

4.2 Institute forecasts: tables

Table 4.1 Determinants of potential output growth, Austria (WIFO)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	n.a.			
b. Trend output per person employed				
c. Potential employment in persons				
d. Working age population				
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth				
i. Output gap (level, end-year)				

Table 4.2 Key data medium-term, Austria (WIFO)

	2000	2001	2002	2003	2004-2005
	levels €		annual percentage changes		
GDP volume	204.8	1.0	1.2	2.8	2.4
Private consumption	116.8	1.3	1.6	2.3	2.3
Public consumption	39.7	-0.2	-0.3	0.5	1.4
Gross fixed investment, total	49.5	-2.6	0.1	4.9	3.0
Total domestic demand	206.8	0.1	0.7	2.6	
Export goods & services	102.7	5.5	4.0	7.2	6.7
Import goods & services	104.6	3.6	3.1	7.0	6.7
GDP deflator		1.8	1.2	1.2	1.4
Consumer prices	105.2	2.7	1.7	1.4	1.8
Savings rate of households		6.0	6.2	6.7	
Employment (*1000)	3064.5	0.4	-0.2	0.8	0.8
Unemployment rate % (ILO)		3.6	3.9	3.8	3.4
Population (*1000)	8110.2	0.2	0.2	0.1	
Short-term interest rate (3-month)		4.3	3.5	4.2	
Long-term interest rate (10 years)		5.1	5.5	5.7	
Public sector surplus (% of GDP) ^a		-0.1	-0.4	0.0	
Gross public debt (% of GDP) ^a		61.7	60.3		
GDP volumeEuropean Union		1.7	1.5	2.9	2.5
United States		1.2	1.8	3.3	2.7
OECD		1.1	1.5	3.1	2.3
World trade volume goods		0.3	3.0	8.8	
Oil price Brent (\$/barrel)		24.5	24.5	26.0	
Exchange rate 1\$ = €		1.12	1.11	1.11	
Exchange rate 1€ = nat. cur.		13.760	13.760	13.760	13.760

^a EMU definition

Table 4.3 Determinants of potential output growth, Belgium (FPB)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	2.7	2.4	2.3	2.4
b. Trend output per person employed		1.9	1.5	1.7
c. Potential employment in persons		0.5	0.8	0.8
d. Working age population	0.7	0.2	0.2	0.3
e. Change in participation rate		0.4	0.6	0.2
f. Change in NAIRU		-0.0	0.0	0.2
g. Average annual hours worked		-0.3	-0.1	-0.2
h. GDP-growth	2.1	2.5	2.5	2.5
i. Output gap (level, end-year)	-3.5	-2.1	-0.3	0.0

Table 4.4 Key data medium-term, Belgium (FPB)

	2000	2001	2002	2003	2004-2010
	levels €		annual percentage changes		
GDP volume	202.9	1.0	1.0	3.0	2.5
Private consumption	110.3	1.7	0.9	2.8	2.1
Public consumption	39.4	2.0	1.2	1.7	1.6
Gross fixed investment, total	44.2	0.4	0.3	3.2	3.3
Total domestic demand	193.3	0.4	1.3	2.7	2.3
Export goods & services	186.8	-0.3	1.5	5.5	5.2
Import goods & services	177.2	-1.1	1.8	5.2	5.2
GDP deflator	122.2	2.5	2.1	2.0	1.9
Consumer prices	122.4	2.2	2.0	1.9	1.9
Savings rate of households		14.7	15.4	15.6	15.5
Employment (*1000)	3913	1.4	-0.0	1.2	0.8
Unemployment rate % (ILO)		6.6	6.8	6.6	5.7
Population (*1000)	10251	0.4	0.5	0.2	0.2
Short-term interest rate (3-month)	4.24	4.1	3.6	4.4	4.4
Long-term interest rate (10 years)	5.59	5.1	5.4	5.6	5.8
Public sector surplus (% of GDP) ^a		0.2	-0.4	-0.4	0.7
Gross public debt (% of GDP) ^a		108.6	105.9	101.3	84.7
GDP volumeEuropean Union		1.6	1.4	2.8	2.7
United States		1.2	2.0	2.9	3.2
OECD					
World trade volume goods		1.0	1.8	6.0	6.5
Oil price Brent (\$/barrel)	28.3	24.4	22.6	22.4	23.2
Exchange rate 1\$ = €	1.086	1.12	1.14	1.15	1.15
Exchange rate 1€ = nat. cur.	40.339				

^a EMU definition

Table 4.5 Determinants of potential output growth, Czech Republic (CCSF)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth			1.8	2.8
b. Trend output per person employed			2.4	2.6
c. Potential employment in persons			-0.6	0.2
d. Working age population			0.2	0.2
e. Change in participation rate			-0.4	-0.1
f. Change in NAIRU			-0.3	0.1
g. Average annual hours worked				
h. GDP-growth			2.3	3.5
i. Output gap (level, end-year)			0.7	0.0

Table 4.6 Key data medium-term, Czech Republic (CCSF)

	2001	2001	2002	2003	2004-2010
	level CZK95	annual percentage changes			
GDP volume	1499.2	3.6	3.0	3.7	3.5
Private consumption	818.6	3.7	3.4	3.1	3.0
Public consumption	259.5	-1.0	0.5	0.0	0.5
Gross fixed investment, total	514.5	7.0	5.5	4.5	4.0
Total domestic demand	1642.7	5.6	4.2	3.5	3.2
Export goods & services	1331.7	12.0	2.7	7.8	8.0
Import goods & services	1475.2	13.7	4.0	7.4	7.0
GDP deflator		5.7	3.4	2.6	3.0
Consumer prices	145	4.7	3.6	4.0	3.0
Savings rate of households					
Employment (*1000)	4750.2	0.4	0.0	0.3	0.2
Unemployment rate % (ILO)		8.1	8.0	7.7	7.2
Population (*1000)	10300	-0.1	-0.1	-0.1	-0.1
Short-term interest rate (3-month)		5.2	4.5	5.1	5.0
Long-term interest rate (10 years)					
Public sector surplus (% of GDP) ^a		-5.7	-9.0		
Gross public debt (% of GDP) ^a		19.4	27.0		
GDP volumeEuropean Union			2.0	2.8	3.0
United States			2.5	3.5	3.5
OECD			2.2	3.1	3.2
World trade volume goods					
Oil price Brent (\$/barrel)		24.4	25.0	27.0	27.0
Exchange rate 1\$ = €		1.11	1.15	1.12	1.12
Exchange rate 1€ = nat. cur.		34.1	31.5	30.6	29.7

^a EMU definition

Table 4.7 Determinants of potential output growth, Denmark (DEC)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	1.7	1.4	2.0	1.6
b. Trend output per person employed	1.7	1.2	1.5	1.3
c. Potential employment in persons	0.0	0.3	0.5	0.3
d. Working age population	0.4	-0.1	-0.4	-0.2
e. Change in participation rate	0.5	0.4	0.2	0.4
f. Change in NAIRU	-0.7	-0.1	0.7	0.1
g. Average annual hours worked	-0.1	-0.6	-0.3	-0.2
h. GDP-growth	1.2	1.4	2.6	1.6
i. Output gap (level, end-year)	< 0	<< 0	0	0

Table 4.8 Key data medium-term, Denmark (governments forecast)

	2000	2001-2003	2004-2005	2006-2010	2004-2010
	levels €		annual percentage changes		
GDP volume		1.6	1.9	1.8	1.8
Private consumption		1.6	2.5	2.6	2.6
Public consumption		1.2	1	0.5	0.6
Gross fixed investment, total		1.3	2.7	2.9	2.8
Total domestic demand (incl. stocks)		1.3	2.1	2.1	2.1
Export goods & services		3.6	3.3	3.1	3.2
Import goods & services		3.1	3.9	3.9	3.9
GDP deflator					
Consumer prices		1.6	1.9	1.8	1.8
Savings rate of households					
Employment		0.4	0.3	0.3	0.3
Unemployment rate % (ILO)		5	5.2	4.5	4.7
Population					
Short-term interest rate (3-month)					
Long-term interest rate (10 years)					
Public sector surplus (% of GDP) ^a		2.1	2.1	2.1	2.1
Gross public debt (% of GDP) ^a		40.1	35.1	24.4	24.4
GDP volumeEuropean Union					
United States					
OECD					
World trade volume goods					
Oil price Brent (\$/barrel)					
Exchange rate 1\$ = €					
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.9 Determinants of potential output growth, Finland (ETLA)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	3.2	1.8	3.2	2.9
b. Trend output per person employed	2.9	3.7	1.5	3.3
c. Potential employment in persons	0.3	-1.9	1.7	-0.4
d. Working age population	0.6	0.3	0.3	0.3
e. Change in participation rate	0.9	-4.6	2.7	-2.8
f. Change in NAIRU	-1.1	2.3	-1.2	2.1
g. Average annual hours worked	-0.0	-2.4	1.5	-0.6
h. GDP-growth	2.6	0.9	4.0	2.9
i. Output gap (level, end-year)	-0.8	-7.7	0.4	0.0

Table 4.10 Key data medium-term, Finland (ETLA)

	2000	2001	2002	2003	2004-2005
	levels €		annual percentage changes		
GDP volume	131.2	0.7	2.0	3.9	2.8
Private consumption	64.9	1.4	2.4	3.4	3.0
Public consumption	27.1	1.7	1.0	1.0	1.0
Gross fixed investment, total	25.3	2.1	0.2	3.8	3.6
Total domestic demand		0.8	1.2	3.1	3.6
Export goods & services	56.3	-0.7	3.5	7.5	3.0
Import goods & services	44	-1.0	2.1	6.6	2.9
GDP deflator		2.2	1.4	2.1	1.9
Consumer prices		2.6	1.7	1.6	1.7
Savings rate of households		1.5	1.7	1.9	1.3
Employment (*1000)	2335	1.4	0.3	0.8	0.9
Unemployment rate % (ILO)	253	9.1	9.3	8.9	8.5
Population (*1000)	5176	0.2	0.2	0.2	0.3
Short-term interest rate (3-month)		4.3	3.3	3.6	4.2
Long-term interest rate (10 years)		5.0	5.3	5.4	5.4
Public sector surplus (% of GDP) ^a		4.9	3.0	3.4	3.4
Gross public debt (% of GDP) ^a		43.6	42.2	39.9	36.0
GDP volumeEuropean Union		1.5	1.3	2.9	2.6
United States		1.2	1.6	3.1	3.1
OECD		1.1	1.1	2.7	2.7
World trade volume goods		0.3	4.0	7.0	7.0
Oil price Brent (\$/barrel)		24.9	20.5	21.8	23.0
Exchange rate 1\$ = €		1.11	1.11	1.05	1.02
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.11 Determinants of potential output growth, France (OFCE)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	2.2	2.4	2.1	2.0
b. Trend output per person employed	1.6	1.9	1.4	1.6
c. Potential employment in persons	0.6	0.5	0.7	0.4
d. Working age population	1.0	0.5	0.4	0.3
e. Change in participation rate	-0.1	0.0	0.2	-0.1
f. Change in NAIRU	-0.3	0.0	0.1	-0.1
g. Average annual hours worked	-1.3	-0.2	-0.4	0.0
h. GDP-growth	1.8	2.1	2.4	2.4
i. Output gap (level, end-year)	-1.8	-4.5	-2.4	0.1

Table 4.12 Key data medium-term, France (OFCE)

	2000	2001	2002	2003	2004-2006
	levels €		annual percentage changes		
GDP volume	1344	2.0	1.6	2.9	2.6
Private consumption	732	2.9	1.8	2.9	2.9
Public consumption	307	2.1	2.0	2.1	1.4
Gross fixed investment, total	268	2.8	-0.2	2.8	3.6
Total domestic demand	1318	1.7	1.6	2.8	2.7
Export goods & services	392	1.1	-1.8	7.7	5.6
Import goods & services	365	-0.2	-2.0	8.0	6.0
GDP deflator		1.6	1.2	1.0	1.6
Consumer prices		1.6	1.6	1.7	1.8
Savings rate of households		16.5	16.7	16.3	16.1
Employment		2.2	0.6	0.9	0.7
Unemployment rate % (ILO)		8.8	9.1	8.8	7.9
Population (15-65 years old, *1000)	48200	0.6	0.6	0.6	0.6
Short-term interest rate (3-month)		4.3	3.8	3.9	4.2
Long-term interest rate (10 years)		4.9	5.1	5.2	5.2
Public sector surplus (% of GDP) ^a		-1.4	-2.0	-2.0	-0.9
Gross public debt (% of GDP) ^a		57.2	58.6	58.0	54.2
GDP volumeEuropean Union		1.6	1.3	2.5	2.5
United States		1.2	2.0	2.7	3.5
OECD		-0.4	-1.7	1.2	1.2
World trade volume goods		0.4	0.7	6.6	5.5
Oil price Brent (\$/barrel)		24.4	21.7	23.0	23.0
Exchange rate 1\$ = €		1.11	1.15	1.10	1.00
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.13 Determinants of potential output growth, Germany (DIW)

	1974-1983	1984-1993	1994-2003	2004-2006
	annual percentage changes/contributions			
a. Potential GDP-growth		2.5	1.8	2.0
b. Trend output per person employed		2.0	1.5	1.7
c. Potential employment in persons		0.5	0.3	0.3
d. Working age population		0.5	0.1	0.1
e. Change in participation rate		0.0	0.2	0.2
f. Change in NAIRU		0.0	0.0	0.0
g. Average annual hours worked		0.0	0.0	0.0
h. GDP-growth		2.8	1.7	2.2
i. Output gap (level, end-year)		0.1	-0.5	-0.2

Table 4.14 Key data medium-term, Germany (DIW)

	2000	2001	2002	2003	2004-2006
	levels €		annual percentage changes		
GDP volume	2063	0.6	0.8	2.2	2.2
Private consumption	1218.1	1.1	0.5	1.8	2.0
Public consumption	393.2	1.7	0.5	0.4	0.6
Gross fixed investment, total	412.6	-8.7	2.1	3.6	4.1
Total domestic demand	2023.9	-1.0	0.9	1.9	2.0
Export goods & services	721.4	4.7	1.1	9.1	5.2
Import goods & services	682.3	0.1	1.2	8.7	4.5
GDP deflator		1.3	1.6	1.0	1.4
Consumer prices		2.4	1.5	1.6	1.5
Savings rate of households		10.2	10.3	10.2	10.3
Employment (*1000)	38765	0.2	-0.2	0.4	0.1
Unemployment rate % (ILO)		7.9	8.1	7.8	7.5
Population					
Short-term interest rate (3-month)		4.2	3.3	3.6	3.8
Long-term interest rate (10 years)		5.3	5.1	5.3	5.4
Public sector surplus (% of GDP) ^a		-2.7	-2.3	-1.7	-1.0
Gross public debt (% of GDP) ^a		59.8	60.7	60.0	59.0
GDP volumeEuropean Union		1.5	1.3	2.7	2.4
United States		1.2	2.2	3.4	3.0
OECD		1.1	1.1	2.6	2.3
World trade volume goods		0.0	3.0	9.0	4.5
Oil price Brent (\$/barrel)		28.0	24.0	25.0	25.0
Exchange rate 1\$ = €		1.11	1.06	1.02	1.00
Exchange rate 1€ = nat. cur.		1.956			

^a EMU definition

Table 4.15 Determinants of potential output growth, Germany (IFO)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	n.a.			
b. Trend output per person employed				
c. Potential employment in persons				
d. Working age population				
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth				
i. Output gap (level, end-year)				

Table 4.16 Key data medium-term, Germany (IFO)

	2000	2001	2002	2003	2004-2006
	levels €		annual percentage changes		
GDP volume					2.5
Private consumption					2.3
Public consumption					0.5
Gross fixed investment, total					3.7
Total domestic demand					2.1
Export goods & services					6.5
Import goods & services					6.1
GDP deflator					1.5
Consumer prices					1.7
Savings rate of households					10.3
Employment					0.5
Unemployment rate % (ILO)					7.7
Population					
Short-term interest rate (3-month)					4.0
Long-term interest rate (10 years)					5.6
Public sector surplus (% of GDP) ^a					0.0
Gross public debt (% of GDP) ^a					
GDP volumeEuropean Union					2.7
United States					2.6
OECD					2.4
World trade volume goods					6.5
Oil price Brent (\$/barrel)					24.0
Exchange rate 1\$ = €					0.95
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.17 Determinants of potential output growth, Germany (IfW)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth			1.8	1.6
b. Trend output per person employed			1.3	1.7
c. Potential employment in persons			0.5	-0.1
d. Working age population			-0.1	-0.5
e. Change in participation rate			0.6	0.4
f. Change in NAIRU			0.0	0.0
g. Average annual hours worked			-0.6	-0.1
h. GDP-growth			1.7	1.6
i. Output gap (level, end-year)			-0.1	0.0

Table 4.18 Key data medium-term, Germany (IfW)

	2000	2001	2002	2003	2004-2010
	levels €		annual percentage changes		
GDP volume	2025.5	0.6	1.3	2.7	
Private consumption	1182.8	1.1	0.7	2.4	
Public consumption	384.5	1.7	1.0	1.2	
Gross fixed investment, total	438.1	-4.8	-0.7	3.8	
Total domestic demand	2017.5	2.0	-1.0	0.9	
Export goods & services	683.3	4.7	2.8	6.4	
Import goods & services	675.3	0.1	2.1	7.1	
GDP deflator		1.3	1.2	0.9	
Consumer prices		1.9	2.5	1.7	
Savings rate of households		9.8	10.2	10.5	
Employment			-0.2	0.5	
Unemployment rate % (ILO)		9.4	9.7	9.4	
Population					
Short-term interest rate (3-month)		4.2	3.7	4.3	
Long-term interest rate (10 years)		4.9	5.3	5.4	
Public sector surplus (% of GDP) ^a		-2.7	-2.5	-2.0	
Gross public debt (% of GDP) ^a		59.9	60.7	60.3	
GDP volumeEuropean Union		1.6	1.7	3.0	
United States		1.2	2.3	4.0	
OECD		1.1	1.5	3.2	
World trade volume goods		0.0	4.0	8.5	
Oil price Brent (\$/barrel)			23.5	24.0	
Exchange rate 1\$ = €		1.11	1.08	1.08	
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.19 Determinants of potential output growth, Hungary (Kopint-Datorg)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	n.a.			
b. Trend output per person employed				
c. Potential employment in persons				
d. Working age population				
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth				
i. Output gap (level, end-year)				

Table 4.20 Key data medium-term, Hungary (Kopint-Datorg)

	2000	2001	2002	2003	2004-2007
	levels HUF	annual percentage changes			
GDP volume	13150.8	3.8	3.2	4.6	4.7
Private consumption	8297	4.0	4.5	3.8	4.2
Public consumption	1293.7	0.4	1.5	1.0	1.3
Gross fixed investment, total	3179.8	3.1	4.0	7.0	6.7
Total domestic demand	13679.9	2.1	4.1	4.4	4.6
Export goods & services	8053.5	9.1	7.2	10.0	7.5
Import goods & services	8582.7	6.3	8.4	9.4	7.3
GDP deflator		9.0	5.3	4.5	2.9
Consumer prices		9.2	5.6	4.6	3.1
Savings rate of households	861.8	9.9	10.0	10.7	10.5
Employment (*1000)	3849.1	0.3	0.0	0.3	0.5
Unemployment rate % (ILO)		5.7	5.8	5.7	5.5
Population (age of 15-74, *1000)	7685.9	0.3	0.2	0.1	0.1
Short-term interest rate (3-month)	11.6	9.7	7.5	7.1	6.4
Long-term interest rate (10 years)	8	7.1	6.2	5.9	5.7
Public sector surplus (% of GDP) ^a		-3.3	-3.5	-3.0	-2.2
Gross public debt (% of GDP) ^a		52.3	52.0	49.0	42.0
GDP volumeEuropean Union		1.7	1.3	1.6	2.7
United States		1.2	1.7	3.6	3.3
OECD		1.1	1.3	2.9	3.0
World trade volume goods		0.0	3.9	8.7	8.0
Oil price Brent (\$/barrel)		24.0	24.0	22.0	
Exchange rate 1\$ = €		1.11	1.12	1.09	
Exchange rate 1€ = nat. cur.		257	249	244	

^a GFS definition

Table 4.21 Determinants of potential output growth, Ireland (ESRI)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	4.0	3.7	6.8	4.7
b. Trend output per person employed	2.2	3.0	3.9	3.1
c. Potential employment in persons	1.8	0.6	2.9	1.6
d. Working age population	1.6	0.8	1.6	1.0
e. Change in participation rate	0.2	-0.1	1.2	0.7
f. Change in NAIRU	0.0	0.0	0.0	0.0
g. Average annual hours worked				
h. GDP-growth	2.8	3.3	8.1	4.7
i. Output gap (level, end-year)	-9.1	-11.9	-0.3	0.0

Table 4.22 Key data medium-term, Ireland (ESRI)

	2000	2001	2002	2003	2004-2010
	levels €		annual percentage changes		
GDP volume	91.6680758	6.8	3.6	5.0	4.7
Private consumption	44.5999177	5.5	4.3	4.4	3.2
Public consumption	12.3051248	6.2	4.9	5.0	2.3
Gross fixed investment, total	21.5137296	1.9	1.8	3.5	4.1
Total domestic demand	78.6713158				
Export goods & services	86.3796176	7.8	4.9	6.4	5.9
Import goods & services	73.4611725	4.9	5.0	5.8	5.1
GDP deflator		5.9	3.8	3.5	2.3
Consumer prices		4.3	4.2	3.8	3.3
Savings rate of households		13.1	13.4	15.1	
Employment (*1000)	1692	2.9	1.0	2.0	1.6
Unemployment rate % (ILO)		3.9	4.6	4.4	4.0
Population		1.1	0.9	0.9	1.0
Short-term interest rate (3-month)		3.5	4.0	4.5	4.8
Long-term interest rate (10 years)					
Public sector surplus (% of GDP) ^a		1.7	1.0	-0.3	0.7
Gross public debt (% of GDP) ^a		33.4	31.4	30.1	6.6
GDP volumeEuropean Union		1.7	1.7	2.7	2.8
United States		1.2	2.0	3.0	3.1
OECD					
World trade volume goods					
Oil price Brent (\$/barrel)		21.0	24.0	23.0	
Exchange rate 1\$ = €		1.12	1.09	1.00	1.00
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.23 Determinants of potential output growth, Italy (Prometeia)

	1974-1983	1984-1993	1994-2003	2004-2006
	annual percentage changes/contributions			
a. Potential GDP-growth	2.9	2.1	1.9	2.2
b. Trend output per person employed	2.0	1.8	1.4	1.2
c. Potential employment in persons	0.9	0.3	0.5	1.0
d. Working age population	0.7	0.5	-0.1	-0.3
e. Change in participation rate	0.3	-0.2	0.6	1.0
f. Change in NAIRU	-0.1	0.0	0.0	0.3
g. Average annual hours worked				
h. GDP-growth	2.7	2.1	2.0	2.7
i. Output gap (level, end-year)	-2.1	-1.8	-0.4	1.0

Table 4.24 Key data medium-term, Italy (Prometeia)

	2000	2001	2002	2003	2004-2006
	levels €		annual percentage changes		
GDP volume		1.8	1.3	2.4	2.7
Private consumption		1.1	1.3	2.4	2.9
Public consumption		2.3	0.6	0.4	0.7
Gross fixed investment, total		2.4	2.2	3.9	4.2
Total domestic demand		1.6	1.5	2.7	2.9
Export goods & services		0.8	1.2	6.0	7.3
Import goods & services		0.2	1.9	7.0	8.1
GDP deflator		2.6	2.6	2.4	2.1
Consumer prices		2.8	2.3	1.9	1.9
Savings rate of households		12.0	12.1	12.0	11.6
Employment		1.6	0.4	1.0	1.0
Unemployment rate % (ILO)		9.5	9.3	8.8	7.7
Population		0.3	0.2	0.2	0.2
Short-term interest rate (3-month)		4.1	3.3	3.8	4.6
Long-term interest rate (10 years)		5.2	5.2	5.6	5.2
Public sector surplus (% of GDP) ^a		-1.4	-1.2	-0.9	-0.7
Gross public debt (% of GDP) ^a		109.4	107.9	104.8	98.7
GDP volumeEuropean Union		1.6	1.5	2.5	2.8
United States		1.2	1.7	2.9	3.3
OECD		1.3	1.5	2.5	2.8
World trade volume goods		0.7	2.8	6.9	8.0
Oil price Brent (\$/barrel)		24.9	23.6	23.0	24.7
Exchange rate 1\$ = €		1.11	1.15	1.11	1.10
Exchange rate 1€ = nat. cur.					

^a EMU definition

Table 4.25 Determinants of potential output growth, Netherlands (CPB)

	1974-1983	1984-1993	1994-2003	2004-2006
	annual percentage changes/contributions			
a. Potential GDP-growth	1.9	2.8	2.9	2.5
b. Trend output per person employed	2.1	1.1	1.1	1.4
c. Potential employment in persons	-0.2	1.6	1.7	1.1
d. Working age population	1.4	0.8	0.4	0.4
e. Change in participation rate	-0.8	0.5	1.1	0.7
f. Change in NAIRU	-0.7	0.4	0.2	0.0
g. Average annual hours worked	-0.6	-0.5	-0.1	0.0
h. GDP-growth	1.7	2.7	2.9	2.9
i. Output gap (level, end-year)	-0.9	-1.5	-1.4	-0.0

Table 4.26 Key data medium-term, Netherlands (CPB)

	2000	2001	2002	2003	2004-2006
	levels €		annual percentage changes		
GDP volume	425.38	1.1	1.5	2.4	2.9
Private consumption	199.88	1.2	2.8	2.7	3.4
Public consumption	91.19	3.3	2.1	1.7	1.8
Gross fixed investment, total	90.93	-1.1	-0.5	3.0	1.9
Total domestic demand	381.56	1.2	1.9	2.8	2.7
Export goods & services	270.04	1.1	2.2	5.9	6.8
Import goods & services	250.5	1.3	2.9	6.9	6.6
GDP deflator		4.9	3.5	3.1	2.6
Consumer prices	111.4	4.5	3.2	2.5	2.0
Savings rate of households		11.7	11.7	12.0	11.8
Employment	7172	1.9	0.6	0.4	0.8
Unemployment rate % (ILO)		2.4	3.0	3.5	3.9
Population	15926	0.7	0.7	0.7	0.6
Short-term interest rate (3-month)	4.4	4.3	3.3	3.8	4.0
Long-term interest rate (10 years)	5.4	4.9	4.9	4.9	5.0
Public sector surplus (% of GDP) ^a		0.3	0.1	-0.5	0.4
Gross public debt (% of GDP) ^a		52.9	49.6	46.8	36.4
GDP volumeEuropean Union		1.2	1.5	3.5	2.8
United States		-0.5	-1.0	1.3	3.5
OECD		1.7	1.8	3.0	3.0
World trade volume goods		-0.2	3.5	10.3	7.7
Oil price Brent (\$/barrel)	28.4	24.6	21.0	22.0	24.0
Exchange rate 1\$ = €	1.085	1.12	1.11	1.09	1.00
Exchange rate 1€ = nat. cur.	2.20371				

^a EMU definition

Table 4.27 Determinants of potential output growth, Norway (SN)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	4.5	2.3	3.3	
b. Trend output per person employed	1.8	2.0	1.3	
c. Potential employment in persons	2.7	0.3	2.0	
d. Working age population	1.6	0.3	1.3	
e. Change in participation rate	1.1	0.0	0.7	
f. Change in NAIRU				
g. Average annual hours worked	0.2	0.0	0.7	
h. GDP-growth	3.7	2.4	2.8	
i. Output gap (level, end-year)		- 0.63	0.7	

Table 4.28 Key data medium-term, Norway (SN)

	2000	2001	2002	2003	2004-2010
	levels NK		annual percentage changes		
GDP volume	1160	1.4	2.3	1.8	
Private consumption	564	2.2	3.0	2.7	
Public consumption	237	1.5	1.7	2.0	
Gross fixed investment, total	284	- 5.9	0.8	2.9	
Total domestic demand	986	1.1	2.1	2.2	
Export goods & services	474	5.3	3.7	2.0	
Import goods & services	399	0.3	3.7	4.0	
GDP deflator		1.9	- 2.4	1.6	
Consumer prices		3.0	1.1	1.9	
Savings rate of households		7.4	9.3	9.9	
Employment	2292	0.4	0.4	0.5	
Unemployment rate % (ILO)		3.6	3.8	3.8	
Population	4474	0.8	0.6	0.5	
Short-term interest rate (3-month)	6.8	7.2	6.1	6.0	
Long-term interest rate (10 years)	6.2	6.2			
Public sector surplus (% of GDP) ^a					
Gross public debt (% of GDP) ^a					
GDP volumeEuropean Union		1.6	1.4	2.6	
United States		1.1	1.2	3.7	
OECD					
World trade volume goods		0.4	4.0	7.0	
Oil price Brent (\$/barrel)	28.6	24.4	19.8	21.0	
Exchange rate 1\$ = €	1.09	1.11	1.10	1.04	
Exchange rate 1€ = nat. cur.	8.11	8.05	8.04	8.13	

^a EMU definition

Table 4.29 Determinants of potential output growth, Poland (IKCHZ)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth	n.a.			
b. Trend output per person employed				
c. Potential employment in persons				
d. Working age population				
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth				
i. Output gap (level, end-year)				

Table 4.30 Key data medium-term, Poland (IKCHZ)

	2000	2001	2002	2003	2004-2006
	levels PLZ	annual percentage changes			
GDP volume	684.9	1.1	0.9	2.7	4.8
Private consumption	440.5	2.1	1.6	1.9	3.7
Public consumption	113.2	0.4	-0.1	0.8	1.5
Gross fixed investment, total	170.4	-10.2	-1.5	5.5	11.3
Total domestic demand	732.3	-1.7	0.8	2.5	5.2
Export goods	201	11.7	4.0	7.5	9.0
Import goods	248.3	2.7	3.2	6.0	9.5
GDP deflator		4.3	3.5	4.0	3.4
Consumer prices		5.5	3.8	4.3	3.7
Savings rate of households		11.6	11.2	11.0	12.0
Employment (*1000)	15500	-2.3	-2.1	-0.7	1.0
Unemployment rate % (ILO)		17.4	19.2	19.8	16.0
Population (*1000)	38646	0.0	0.0	0.0	0.1
Short-term interest rate (3-month)		17.9	12.0	9.5	5.5
Long-term interest rate (10 years)		10.8	8.0	7.0	6.5
Public sector surplus (% of GDP) ^a		-4.5	-5.0	-4.7	-3.6
Gross public debt (% of GDP) ^a		40.5	42.0	43.2	47.0
GDP volumeEuropean Union		1.7	1.5	3.0	2.6
United States		1.2	2.5	3.7	3.2
OECD					
World trade volume goods		0.0	3.7	10.2	9.0
Oil price Brent (\$/barrel)		24.2	23.5	24.5	20.0
Exchange rate 1\$ = €	1.08	1.12	1.11	1.08	1.03
Exchange rate 1€ = nat. cur.	4.01	3.67	3.78	4.03	4.25

^a Central government

Table 4.31 Determinants of potential output growth, Slovenia (SKEP)

	1974-1983	1984-1993	1994-2003	2004-2007
	annual percentage changes/contributions			
a. Potential GDP-growth				5 - 6
b. Trend output per person employed				
c. Potential employment in persons				
d. Working age population				
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth				4.8
i. Output gap (level, end-year)				

Table 4.32 Key data medium-term, Slovenia (SKEP)

	2000	2001	2002	2003	2004-2007
	levels SIT		annual percentage changes		
GDP volume	4036	3.0	3.1	3.5	4.8
Private consumption	2216	1.7	2.0	2.2	3.7
Public consumption	841	3.2	4.0	4.0	3.3
Gross fixed investment, total	1077	- 1.9	3.0	4.0	6.4
Total domestic demand	4179	0.5	2.7	3.0	
Export goods & services	2386	6.2	4.5	5.2	6.8
Import goods & services	2529	2.1	3.8	4.4	6.7
GDP deflator		9.9	6.7	5.4	4.1
Consumer prices		8.4	6.7	5.7	4.0
Savings rate of households					
Employment		1.4	0.9	0.8	1.4
Unemployment rate % (ILO)		6.4	6.6	6.8	5.3
Population					
Short-term interest rate (3-month)					
Long-term interest rate (10 years)					
Public sector surplus (% of GDP) ^a					
Gross public debt (% of GDP) ^a					
GDP volumeEuropean Union					
United States					
OECD					
World trade volume goods					
Oil price Brent (\$/barrel)					
Exchange rate 1\$ = €	1.09	1.11	1.11	1.09	
Exchange rate 1€ = nat. cur.	205.0	217.2	226.0	230.0	

^a EMU definition

Table 4.33 Determinants of potential output growth, Switzerland (KOF)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth		1.8	1.2	1.7
b. Trend output per person employed		0.9	0.8	1.4
c. Potential employment in persons		0.9	0.4	0.3
d. Working age population		0.8	0.4	0.2
e. Change in participation rate		0.1	-0.1	0.1
f. Change in NAIRU				
g. Average annual hours worked				
h. GDP-growth		1.5	1.5	1.7
i. Output gap (level, end-year)	-5.8	-2.3	0.4	

Table 4.34 Key data medium-term, Switzerland (KOF)

	2000	2001	2002	2003	2004-2010
	levels CHF		annual percentage changes		
GDP volume	404.392	1.6	1.2	2.1	1.7
Private consumption	241.759	2.1	1.6	1.5	1.4
Public consumption	57.681	0.9	0.8	1.1	1.7
Gross fixed investment, total	85.229	-1.7	-1.2	3.6	1.9
Total domestic demand	385.073	2.2	0.8	1.9	1.6
Export goods & services	187.441	-0.5	1.4	5.6	3.5
Import goods & services	168.122	0.6	0.7	5.2	3.3
GDP deflator		1.6	1.5	1.7	1.1
Consumer prices		1.0	0.8	1.2	1.0
Savings rate of households		9.5	8.9	9.8	
Employment (*1000)	1434.5	1.1	0.6	1.3	0.1
Unemployment rate % (ILO)					
Population (*1000)	7258	0.7	0.8	0.8	0.2
Short-term interest rate (3-month)	3	2.9	1.8	2.5	2.9
Long-term interest rate (10 years)	3.9	3.4	3.5	3.9	3.4
Public sector surplus (% of GDP) ^a		0.6	0.4	0.7	
Gross public debt (% of GDP) ^a		46.4	44.8	43.2	
GDP volumeEuropean Union		1.6	1.1	2.6	2.5
United States		1.1	1.4	2.4	2.5
OECD		1.2	0.9	2.3	2.6
World trade volume goods					
Oil price Brent (\$/barrel)	28.3	24.4	20.5	21.3	22.0
Exchange rate 1\$ = €	1.08	1.12	1.11	1.03	
Exchange rate 1€ = nat. cur.	1.56	1.51	1.48	1.50	

^a Not in accordance to EMU definition

Table 4.35 Determinants of potential output growth, United Kingdom (NIESR)

	1974-1983	1984-1993	1994-2003	2004-2010
	annual percentage changes/contributions			
a. Potential GDP-growth		3.0	3.3	2.9
b. Trend output per person employed		2.3	2.3	2.4
c. Potential employment in persons				
d. Working age population	0.5	0.4	0.5	0.5
e. Change in participation rate				
f. Change in NAIRU				
g. Average annual hours worked	0.4	-0.4	0.0	-0.5
h. GDP-growth	1.1	2.4	2.9	2.7
i. Output gap (level, end-year)		1.0	1.1	1.1

Table 4.36 Key data medium-term, United Kingdom (NIESR)

	2000	2001	2002	2003	2004-2010
	levels	annual percentage changes			
GDP volume		2.2	1.8	2.9	2.7
Private consumption		3.9	3.2	3.1	2.8
Public consumption		2.7	3.3	3.3	2.9
Gross fixed investment, total		0.1	2.8	3.4	3.6
Total domestic demand		2.8	3.1	3.3	2.9
Export goods & services		1.0	-1.9	5.3	5.4
Import goods & services		2.8	2.2	5.9	5.5
GDP deflator		2.4	2.4	2.9	2.4
Consumer prices		2.1	2.0	2.3	2.4
Savings rate of households		5.4	5.0	5.4	5.9
Employment (*1000)		0.6	0.1	0.3	0.5
Unemployment rate % (ILO)		5.1	5.3	5.6	5.7
Population (*1000)		0.7	0.6	0.5	0.5
Short-term interest rate (3-month)	6.1	5.0	4.4	5.1	5.4
Long-term interest rate (10 years)	5.3	4.9	5.2	5.4	5.4
Public sector surplus (% of GDP) ^a		1.0	-1.3	-1.3	-1.6
Gross public debt (% of GDP) ^a		39.6	38.8	37.9	36.3
GDP volumeEuropean Union		1.6	1.4	2.5	2.6
United States		1.2	2.4	3.5	2.8
OECD		1.2	1.6	2.9	2.9
World trade volume goods		0.0	3.6	8.5	7.9
Oil price, average of Brent and Dubai (\$/barrel)	27.1	23.5	24.5	23.3	24.6
Exchange rate 1\$ = €	1.09	1.12	1.13	1.14	1.15
Exchange rate 1€ = nat. cur.	0.6086	0.6215	0.6145	0.6211	0.6267

^a Not in accordance to EMU definition

4.3 Questionnaire

- Question 1 What are the determinants of potential output growth in your country (see also tables above)?
- Question 2 Which key factors underlie your forecast for structural productivity growth? Will Europe catch up with the recent acceleration in the USA?
- Question 3 Describe any recent policies that are expected to affect labour force participation rates.
- Question 4 How do you measure the output gap?
- Question 5 Are there any special constraints that you feel may prevent your economy approaching its potential output level in the medium term?
- Question 6 Detailed country forecasts (see tables above).
- Question 7 Please comment on your monetary policy assumptions.
- Question 8 Please comment on your fiscal and budgetary policy assumptions.
- Question 9 Do you believe that a continuing current account deficit of the US of some 5% of GDP is sustainable? Will it increase the risk of a sharp dollar depreciation? Will it increase the likelihood of international trade frictions?
- Question 10 What do you consider a fair estimate of the equilibrium exchange rate of the euro and the yen versus the dollar? What are the major factors explaining these (real) rates?
- Question 11 How will the enlargement of the EU affect your economy, particularly with respect to export and production growth, foreign direct investments and labour migration?

Table 4.37 Received comments

Country	Institute	Question number										
		1	2	3	4	5	6	7	8	9	10	11
Austria	WIFO						X					
Belgium	FPB	X	X	X	X	X	X		X	X		
Czech Republic	CCSF	X	X	X	X	X	X					
Denmark	DEC	X	X	X	X	X	X	X	X		X	
Finland	ETLA	X	X	X	X	X	X	X	X	X	X	
France	OFCE	X	X	X	X	X	X	X	X		X	
Germany	DIW	X	X	X	X	X	X	X	X	X	X	
	IfO						X	X	X	X	X	
	IFW	X	X	X	X			X	X	X	X	
Hungary	Kopint	X					X	X	X			X
Ireland	ESRI	X	X	X	X	X	X	X	X	X	X	
Italy	Prometeia	X	X	X	X	X	X	X	X	X		
Netherlands	CPB	X	X	X	X	X	X	X	X	X	X	
Norway	SN	X			X	X		X	X			
Poland	IKC	X		X	X	X	X	X	X		X	X
Slovenia	SKEP	X				X	X					
Switzerland	KOF	X	X	X	X	X	X	X	X	X	X	
United Kingdom	NIESR	X	X		X		X	X	X	X	X	

Question 1 What are the determinants of potential output growth in your country?

Belgium FPB

Potential output growth is supposed to attain, on average, 2.4 % over the projection period. This estimation is, of course, subject to many uncertainties, among which the pace of development of structural labour productivity. Recent figures seem to show stronger productivity growth in ICT intensive sectors, but it is not yet clear to what extent ICT will permit to increase labour productivity in the total economy.

Denmark DEC

Please note, that the figures should only be taken as indicative. Predicted changes in working age population and participation rates are tentatively based on the Danish Governments medium-term forecast. It should be noted, that the assumed contribution of the change in the participation rate is probably too optimistic – at least without additional policy measures. As we do not make explicit calculations of the Nairu, we do not have exact figures on the output gap.

Finland ETLA

The numbers are quite technical and depend very much on the assumptions, e.g. the working age population (we have used the number of 15-74 year old people). We will present more specific calculations by June 2002.

France OFCE

Full employment should be reached by 2010.

Hungary KOPINT

As yet, we do not calculate determinants of potential output growth, because the historical time series are very short. Political transition in 1989 –1990 resulted in a discontinuation of former economic structures. "Normal" economic conditions that could serve as a basis for potential output calculations did not materialize before 1996 – 1997.

Ireland ESRI

The numbers set out below assume a labour force and population aged 15 to 64. There was a significant fall in participation rates of the over 65s over the period. However, they were generally self-employed farmers working on farms with very low productivity so that their exclusion does not greatly alter the picture, while simplifying its presentation.

The NAIRU is not meaningful in the Irish context for the last twenty-five years. The elasticity of supply of labour has been exceptionally high in the long run due to migration. People did not stay in Ireland if they had skills but emigrated rather than face unemployment. Similarly there is

a very large potential supply of labour from abroad willing to move to Ireland for a small change in potential earnings. This meant that the unemployment rate was a very poor indicator of labour market tension. The high unemployment of the 1980s/1990s was significantly affected by the replacement rate for welfare benefits.

Netherlands CPB

Potential output growth is equal to the sum of potential employment growth and the structural growth of labour productivity. Potential employment growth is determined by the structural growth of labour supply and the change in the equilibrium rate of unemployment. The structural growth of labour supply depends on demographic changes, participation and the degree of part-time work. The equilibrium rate of unemployment depends on the wedge, the replacement rate and the real rate of interest. The wedge, the replacement rate and the real rate of interest are assumed not to change in the period 2003-2006. Therefore the equilibrium rate of unemployment remains equal to its level in 2002 (4 $\frac{3}{4}$ % of labour supply). Over the period 2003-2006 the potential employment growth as well as the structural growth of labour supply is 1,0 % per annum. The growth of structural labour productivity is about 1,5 % per annum for the period 2003-2006 (see further question 2).

Poland IKC

We do not calculate potential output growth in a reliable way, yet.

Switzerland KOF

Investment in equipments, which are determined by labour supply, wage/price ratio and the capacity utilization rate.

Question 2 Which key factors underlie your forecast for structural productivity growth? Will Europe catch up with the recent acceleration in the USA?

Belgium FPB

Our forecast of structural productivity growth (about 1.7 % on average during the projection period) is based on an estimation of the potential growth attaining 2.4 % and an evolution of potential employment equal to 0.7 %. The contribution of labour saving technological progress could be faster than expected in the future, depending, for instance, on the contribution of ICT technologies.

Czech Republic CCSF

We assume, that the value of output per worker will increase mainly thanks to the increase of the share of activities with higher value-added in overall output (i.e. thanks to the re-allocation of workers to such activities). Catching up depends on:

its catch-up not only in the IT sector, but also in the implementation of its products

- the ability of EU-based companies to become leaders also in other highly R&D intensive industrial branches and activities

- the willingness of the business community in EU-member states to utilise the benefits of the international division of labour with lower-wage countries in the same measure as US companies are doing at present resp. as they will be able to do when the ALCA will be established. (This requires a similar measure of outsourcing of labour-intensive activities to these countries and a totally unrestricted import of consumer goods and food products from these countries).

If all three preconditions will not be fulfilled, an acceleration of economic growth in advance of the US economy will hardly materialise in the EU.

Denmark DEC

The trend output per person is calculated as the average productivity per hour (1974-2003=1.8) corrected for the actual change of working hours in each 10-year period. Historical trends are assumed to continue.

There is no reason to believe that productivity increases in Europe should be lower (or higher) than in the US for any prolonged period. Whether that means, that Europe will catch up to the US is not obvious, but it doesn't seem justified to expect differences in productivity increases in favour of the US to persist.

Finland ETLA

In Finland the effect of wider use of new technologies is the most important factor in raising the productivity. European catching up will take place very slowly with respect to the USA.

France OFCE

Productivity growth has been slowing down in the last decade. We assumed a slight acceleration. Such an assumption seems a low one, especially as productivity gains could catch up with the American ones.

Germany DIW

Europe as a whole as well as Germany will not catch up completely. Both, monetary and fiscal policy in the medium term will remain less expansive/ more restrictive than in the US, thus dampening (relatively) economic and productivity growth. The demographic development, at least in Germany, will be another restriction, if not compensated by immigration. Finally at present, in a number of countries, there is not enough support for R&D as well as for education.

Germany IfW

We indeed expect some of the technological advances that have boosted productivity growth in the US to increase productivity growth in Germany over the next years. The effect will be smaller in Germany, however. Moreover, the tax reform, of which the first step came into force in 2001 and the next two will come in 2003 and 2005 will also boost productivity growth.

Ireland ESRI

Ireland invested in human capital twenty-five years after the rest of the EU and the benefits from the investment peak in the 1990s and the current decade. Studies show that for Germany they peaked in the 1970s. The returns on investment in human capital, a favourable demographic structure, together, with an above average exposure to the high-technology sectors helps explain the above average growth in productivity. In addition, our own analysis would use GNP, not GDP to measure productivity. For other countries it does not make a difference but for Ireland some of the output is related to transfer pricing, a factor that is excluded by using GNP. In the table below we compare trend output per person using GDP and GNP. However, even with this adjustment, the productivity growth is higher than the US or the EU average.

Trend output per person employed	1974-1983	1984-1993	1994-2003	2004-2010
a. GNP based	1.7	2.5	3.1	2.5
b. GDP based	2.2	3	3.9	3.1

Our assessment would be that there should be some closing of the gap with the US but that the gap will still be there at the end of the decade.

Italy Prometeia

In our opinion in Europe, including Italy, a sustained growth in investments, especially in ICT, is likely. It should contribute to improve productivity growth, at least compared to the last five years, narrowing the differential with the United States.

Netherlands CPB

The estimates for the structural growth of labour productivity growth are based on three key factors: the degree of labour saving technological progress, changes in labour time and the degree of capital intensity. Of these three the degree of labour saving technological progress is far out the most important factor quantitatively, see table below. To estimate these rates a CES-type production-function is estimated for the market-sector (annual percentage changes):

Market-sector (annual percentage changes):	
	2003-2006
Degree of labour saving technological progress	1.8
Effect of changes in labour time	0
Effect capital intensity	0
Structural labour productivity market-sector	1.9

As the market-sector is only a part of the whole economy and the productivity growth in the rest of the economy is substantially lower, the structural labour productivity growth for the whole economy is about 1,5 % per annum.

Switzerland KOF

Switzerland's growth will be somewhat higher in the future than recognized in the period 1991-1997. An ongoing revision of the national account system (SNA93) will cause an additional (statistical) increase of the growth rates.

United Kingdom NIESR

We expect European productivity growth to converge on US growth over the next few years. In an article on productivity differentials in our April Review Mary O'Mahony discusses the reason why EU countries are more productive than the UK, and argues that this is mainly the result of higher skills, more capital per head and a better infrastructure. The level of output per person hour in many of them is comparable to that in the USA, although hours worked and participation rates are generally lower (see table below). The structure of wage bargaining and monetary institutions have ensured macro economic stability. Over the last 40 years this will have helped increase investment and output per person hour in many of the countries who are

now in EMU. She argues that in the last few years the US has moved ahead because of new technologies as well as other factors, and it is not clear how fast the catch up will be for those countries that currently lag the US.

Comparative levels of GDP per capita and labour productivity (UK = 100)

	GDP per capita	GDP per hour worked	GDP per hour worked
	1999	1999	1989
United States	149	125	130
United Kingdom	100	100	100
Austria	108	110	89
Belgium	109	141	137
Denmark	117	114	108
Finland	99	106	97
France	99	123	129
Germany ^a	104	111	103
Greece	66	71	83
Ireland ^b	96	103	88
Italy	102	123	128
Luxembourg	182	216	191
Netherlands	113	130	138
Portugal	72	66	67
Spain	80	88	93
Sweden	101	101	104
EU total	99	108	109
Euro area	98	110	111

^a Unified Germany. To enable the comparison across time growth rates for the former West Germany between 1989 and 1992 were combined with growth rates for total Germany thereafter.

^b Gross National Product (due to transfer pricing the gap between GNP and GDP is large and increasing over time in Ireland so output per hour is inflated by the difference between these two measures of aggregate activity; the gaps between GDP and GNP are small for remaining countries). Note that the PPP used is that reported by OECD updating to 1999 price comparisons carried out in 1996.

Question 3 Describe any recent policies that are expected to affect labour force participation rates.

Belgium FPB

Apart from socio-demographic trends, labour force participation rates have been and will be influenced by a number of recent policy measures. These measures mainly target increased participation of persons aged 50 (45) and more, in view of future demographic evolutions and considering that Belgian labour force participation rates are (both absolutely and in comparison with other European countries) particularly low in these age classes. The package that has been put in place includes:

- an obligation for the employer to assist in outplacement for laid-off employees aged 45 or more
- employers' social security contributions on extra-legal advantages paid to laid-off workers aged 45 or more
- reduction in employers' social security contributions and 'activation subsidies' for newly hired employees aged 45 or more; enhanced reduction for newly hired employees aged 58 or more
- subsidized flexible formulas of individual working-time reduction (one-half or one-fifth) for workers aged 50 or more
- possibility for those that have prematurely retired from the labour market via government-subsidized early withdrawal schemes to preserve part of their allowance when re-entering the labour market
- gradual increase of the age at which unemployed are no longer required to actively search for a job; this will eventually put the effective minimum age for early withdrawal from the labour market at 58 years.

Czech Republic CCSF

Numerous qualification programmes have been launched, which are expected to eliminate structural unemployment.

Also programmes of stimulating the inflow of foreign direct investment - which had been introduced since 1999 - might be instrumental in this respect. As recently concluded investigations show, new employment opportunities have been created mainly in green-field investments undertaken by foreign firms.

Denmark DEC

The Danish Government has initiated several initiatives in order to increase labour force participation rates. Especially, measures aimed at reducing early retirement has been implemented. Also, the labour market policy has been changed in order to reduce structural unemployment mainly by emphasizing the active labour market policies, and lately proposals to increase integration of immigrants on the labour market have been put forward.

Finland ETLA

Participation rate is very much affected by demographic changes . The trend is diminishing trend in working age population without correcting policies. This trend is tried to reverse by pension policies by increasing the retirement age. Also the long education times are tried to diminish by education policies.

France OFCE

Four important measures have been taken in order to increase the incentives to work :

In 2001 was created the 'prime pour l'emploi', which is a tax credit given to employees working part time and earning less than a certain sum (14 872 for single and when both people in the couple work, 22 654 for single people with children and when only one member of the couple work)

In 2000 the rates of income tax on lowest brackets were decreased.

In 2000 the 'taxe d'habitation', a tax on housing, disappeared for the lowest income.

In 2000 the criteria set for housing allowances were settled in such a way that they wouldn't discourage working.

Germany DIW

In Germany, in contrast e.g. with France, there are no special policies for working time reduction. But there is a tendency towards more liberal immigration policies, especially for qualified work. Another factor which can influence the participation rate especially of women with children is a stronger support for children and women in the labour market (better child care, more flexibility in working hours for employed women etc).

Germany IfW

Early retirement schemes may likely be reduced in the coming years, but there has not been any formal change in laws.

Ireland ESRI

There have been changes in the tax system moving towards individualisation rather than treating the family as a single tax unit. However, the benefits of this accrue to those on higher incomes who already have a high participation rate. In the welfare system there has been a move towards non-means tested child support payments which will increase the benefits from working.

Italy Prometeia

The most important measures tend to increase the participation rates of people aged 55 and more: the retirement age is gradually increasing, on one side, and, on the other, there are fiscal

incentives for those who fulfil the retirement requirements but postpone retirement and continue to work.

Netherlands CPB

The government has taken action to increase labour force participation rates. The new tax-system (starting January 2001) and the increase in subsidies for child care encourage women to enter the labour market. Furthermore measures are taken to decrease the inflow in disability-benefits and other measures on the area of the poverty trap, social security, active labour market policy and on combining labour and childcare.

Poland IKC

The economic programme of new Polish government envisages a number of measures aimed at entrepreneurship support and job promotion, such as easing the regulations governing fixed-term contracts, easing overtime regulations, reducing the burden of social contributions, simplifying registration procedures for new economic entities. Government proposals for amendments to the Labor Code and to other law regulations have been recently submitted to the parliament.

Switzerland KOF

A year ago, we mentioned the following political measures which might influence the participation rate, which, in fact, is already quite high. The liberalisation in the tourism-related service sector (abolishment of the need to proof there is a necessity to open a restaurant) and in the retail sector (extension of the opening hours), changes of the labour law (women night work now allowed), gradual rise of the retirement age of women to the one of men. A quantitative evaluation of the effects on the participation is difficult, but is thought to be marginal. These political measures are still relevant.

Currently, the financing of child care with public funds is being discussed in parliament; a measure that is likely to increase the participation rate of women.

Question 4 How do you measure the output gap?

Belgium FPB

By means of filtered GDP (Hodrick-Prescott filter).

Czech Republic CCSF

The potential output and its components were estimated with the aid of the Hodrick-Prescott filter.

Denmark DEC

Actually, we don't.

Finland ETLA

It is the difference of actual GDP from the trend GDP, which is calculated using HP filter.

France OFCE

The level of output gap was set to zero in 1978, when the unemployment rate was around 5 %.

The NAIRU is calculated with the Kalman algorithm (see Heyer, Timbeau (2002), "Le chômage structurel à 5 % en France ?", Revue de l'OFCE n°80). It depends on interest rates and productivity, with an elasticity of 0.5 and -0.5 respectively.

The difference between effective growth and potential growth is equal to the difference between the change in the NAIRU and the change in the unemployment rate.

Germany DIW

In principle, we follow the concept of the OECD. But there are certain problems linked to the use of the Kalman or HP filter. Especially, the possibility to adjust the potential output path upwards by economic policy, might be underestimated. - In our view, the NAIRU concept is a rather theoretical idea and does not reflect reality.

Germany IfW

We use deviations from a Hodrick-Prescott-Filter trend.

Ireland ESRI

The output gap implied in the analysis above is calculated using the production structures for the economy and assuming a constant unemployment rate of 4% of the labour force.

Italy Prometeia

It is based on production function.

Netherlands CPB

The output gap is measured as the difference between actual GDP growth and potential GDP growth. The potential growth of GDP over the period 2003-2006 is equal to the sum of potential employment growth and the structural growth of labour productivity and therefore equal to 1,0 % + 1,5% = 2,5% per annum (see answers on question 1 and 2). It is assumed that in the long-run there is no output gap. In the current medium term scenario it is assumed that the output gap of -1 % in 2002 is phased out in 2006. Therefore actual economic growth in the projection period will be a ¼ % higher in the projection period than potential GDP growth.

Norway SN

HP-filter.

Poland IKC

In Poland we have only started experiments with the output gap measuring by use of three independent methods:

Model of the trend – the trend-cycle component has been separated from the real GDP time series (Census12 deployed). Next, applying Hodrick-Prescott filter, the trend from the trend-cycle component of the GDP is been calculated – and difference between trend and real GDP describes the output gap. If correlation between the output gap and CPI is significant, the output gap, calculated as above, can be taken into account. If not – the smoothing parameter of the H-P filter is being changed and steps are repeated, until the correlation between the output gap and CPI becomes significant.

Potential output has been drawn from the Cobb-Douglas production function, where the natural rate of unemployment, the NAIRU is 14%. And if correlation between potential minus real output and CPI is significant, the output gap can be deployed.

The output gap has been calculated directly from the IS curve, and is explained by its lagged values, real interest and exchange rates.

The first two methods give the best results but still not robust enough. Usually, for further calculations the results of the first method (because of its simplicity) are to be deployed. The output gap resulted from other methods can be used for controlling purposes.

Switzerland KOF

Deviation from normal output, normal output is defined as percentage of capacity output at a non-accelerating inflation rate.

United Kingdom NIESR

The output gap is measured as potential output over actual output. Potential output is calculated by a CES production function that was econometrically estimated.

Question 5 Are there any special constraints that you feel may prevent your economy approaching its potential output level in the medium term?

Belgium FPB

In our latest medium-term forecast (covering the period 2002-2007), the increase in employment is almost entirely absorbed by an extension of the labour force. The official unemployment rate hardly diminishes at all during this period. On a macro-economic level, then, the risk of a major supply-side bottleneck in the labour market seems reduced in the medium term. Hence our assumption of a labour market scenario that includes moderate increases in gross wages. However, the overall evolution of the unemployment rate may hide increasing problems of matching of supply and demand on a qualitative or geographical level. The official unemployment rate diminishes faster than the overall unemployment rate in the age-class 15-49 and - in an arbitrary scenario of equal regional growth rates for employment - faster in regions with relatively lower unemployment rates (mainly due to differences in demographic trends).

Czech Republic CCSF

Various "barriers of entry" to markets of highly skill-intensive products represent the most important constraint for approaching even in the medium-term the potential out-put level of the Czech economy. Not the skills - the ability to produce sophisticated products - are missing . Their existence has been proved by numerous Czech industrial companies reaching ISO standards and other demanding norms. What is missing is the acceptance, the acknowledgement of such skills by potential users of these products and this is conditional - among others - on the establishment of an appropriate image and of trade-marks of world-wide good repute. And this requires a longer time-span and huge investments into promotion, which domestically owned companies cannot finance. So this process has not even been started. Consequently it is impossible to state whether and when it might succeed.

Denmark DEC

There are no obvious obstacles to reaching potential output. However, labour market shortages in general and shortages for specific skills are the most prominent challenge. Also reforms to increase competition could boost (potential and actual) output, and reforms to the heavily regulated housing market would certainly make use of capital more efficiently.

Finland ETLA

Not really, we are approaching the potential in our forecast after a bit faster rise in 2003.

France OFCE

There are constraints both on the demand and supply side. In France in 2001, saving rate is historically high. Investment ratio can be considered low in a period of growth and it is much lower than in the 60s and 70s, when real interest rates were close to those currently observed. There are margins for growth in the behaviour of households and firms, if the Budget policy isn't too hurried to reduce the public deficit. On the supply side, the NAIRU calculated with the price and wage setting curves should decrease. As unemployment decreased, it has already diminished because wage negotiation adjusts to lower levels of unemployment. Moreover, labour flexibility has increased, encouraged by the way time reduction ("35 heures") was negotiated and the upsurge of temporary work. Such evolution should go on.

Germany DIW

For the next decade, Germany will still have to bear the burden from unification. Interest rates might be too high with regards to the necessities of the German economy. And there was too much wage restraint since the mid-80s. With regard to the slow development of private consumption compared to most other European countries, wage increases should follow the medium term productivity trend plus the inflation target of the ECB, which would mean wage increases of around 3 per cent for Germany in the average.

Ireland ESRI

The inadequacy of the infrastructure, private and public, is the most serious constraint on output. The inadequacy of the endowment of housing is constraining labour supply and the inadequacy of the transport infrastructure (especially public transport) has been identified as a related major constraint.

Italy Prometeia

Perhaps mismatch in labour market concerning especially skills and regional distribution of resources (the unemployment rate is high and the participation rate is relatively low in the Southern regions while industries tend to be concentrated in the Northern ones). This might lead to a reallocation of demand (stimulating imports) and wage pressures. Moreover the specialisation of production in traditional goods might be a constraint if world demand and domestic demand growth for these goods is less dynamic than the one for other goods like ITC: this restrains exports growth and stimulates imports (on this subject it should be noted that with the new exchange rate regime exports cannot be stimulated by exchange rate change; balance of payments might not be a constraint but the effects of foreign trade developments continue to be relevant since they are visible on economic growth).

Netherlands CPB

Given the demographic changes which can be expected given the long-term population estimates, labour supply growth is slow and declining. Furthermore, the effects of government policy on labour supply and participation must not be overestimated. It is very hard to increase labour supply with specific government policies.

Norway SN

Pressure in the labour market has eased somewhat compared with the situation a few years ago, but the labour market is expected to remain fairly tight through 2002 and 2003.

Poland IKC

If we assume the NAIRU remains in a medium term at the 14% level, no constraints can prevent the Polish economy to approach or even exceed the potential output.

Slovenia SKEP

Special constraint would be eventually postponed enter the EU; we can not imagine the consequences on economic growth and on social economic situation.

Possible financial market constraints.

Expanding world protectionism, taking into account high Slovenia's index of openness and sensitivity to the international environment.

Switzerland KOF

No.

Question 7 **Please comment on your monetary policy assumptions.**

Belgium FPB

A slight and limited recovery of interest rates is considered in our scenario. The short-term interest rate of the euro area is expected to increase from 3.6% on average in 2002 to 4.6% in the medium term (or 2.6% in real terms). Long-term interest rates should also recover progressively, but should not exceed 6% in the medium term. This moderate increase of interest rates would be in line with a reduction of public deficits in the euro area and with inflation under control.

Denmark DEC

The Danish fixed exchange rate regime is assumed to continue.

Finland ETLA

The US short-term rates will bottom this summer and increase until 2003 after which they (3 month) stabilise on the level a bit over 5.4 %. In the Euro area, the profile is similar, but rate rises start somewhat later and they stabilise on the level slightly below 5 %. The Finish monetary policy follows the ECB policy.

France OFCE

Monetary policy would be neutral, as no inflation risk should occur.

Germany DIW

Cf. question 2. Tendentially, interest rates will be a little bit above rates which would be necessary for Germany.

Germany IFO

The ECB will stick to it's inflation target.

Germany IfW

Monetary policy in the euro area is currently seen as expansionary. With increasing capacity utilisation in the course of this year and in most of next year, the ECB will start raising interest rates beginning in the third quarter. By March 2003 it will have raised interest rates by a full percentage point; in the rest of 2003 rates remain at that level.

Hungary Kopint

Hungarian monetary policy will somewhat ease in order to avoid further appreciation of the forint against the euro (that has taken place since last May, when the currency' trading band was widened to +/- 15%, and following the abolishment of the former devaluating crawling-peg exchange rate system).

Ireland ESRI

Monetary policy will tighten over next two years as the Euro area economy recovers.

Italy Prometeia

It will become gradually more restrictive, starting from the second half of 2002, both in the United States and in the euro area while it should remain expansionary in Japan. In the United States the short-term interest rate will be above 5% in 2006, in the euro area it will be slightly below 5% in the same year.

Netherlands CPB

The monetary authorities, that is the European Central Bank, is assumed to have few difficulties to keep inflation within the target zones. The easing labour market in the short term diminishes the upward pressure of labour costs. Furthermore it is taken into account that the OPEC loses some market power and therefore oil prices will be lower than in recent years. The lower inflationary pressure will result in interest rates that remain low in historical perspective.

Norway SN

The guidelines for both monetary and fiscal policy were revised last year (31 March 2001). The objective of maintaining a stable exchange rate against European currencies was changed to an objective of keeping (core) inflation stable at around 2.5 per cent. However, since 1999 Norges Bank has made it clear that the best way to achieve a stable exchange rate against European currencies is to keep inflation stable at the European level. Hence, the changeover to an inflation target has taken place gradually over several years.

Poland IKC

After the last 2-year period of highly restrictive monetary policy we now for sure have enough room for easing it. Especially further nominal appreciation of zloty against euro has to be halted. However, as in general Polish monetary policy is shaped by a direct inflation targetting mechanism, we do not expect any longer-term departure from a desinflation path, we already follow.

Switzerland KOF

We expect economic growth to catch up during the first semester 2002, reaching the level of potential growth at the end of this year. The Swiss Franc should weaken slightly against the Euro during the forecast period. Nevertheless the nominal effective exchange rate remains nearly unchanged this year. In 2003 a slight revaluation trend should start. Based on these assumptions there aren't hardly any risks to medium term price stability. With clear signs of a gradual strengthening of economic recovery the Swiss National Bank will begin to tighten the actual degree of monetary policy. By expecting similar interest rate steps from the ECB the nominal interest rate bonus compared to the Euro-Area will remain constant over the short- and long-term.

United Kingdom NIESR

We assume that the inflation target of 2.5 percent is slightly undershot (0.1 a year) over the next 5 years, but that the machinery works.

Question 8 Please comment on your fiscal and budgetary policy assumptions

Belgium FPB

The medium-term projection assumes an unchanged policy but takes into account the recently decided measures, notably the fiscal reform and a further reduction of social security contributions. Due to these two factors, the global tax pressure should decrease up to 2006 and stabilize afterwards.

Denmark DEC

The long term objective of the fiscal policy in Denmark is to reduce public debt rather quickly. In that way reduced interest payments will just outbalance the increased expenditures caused by an increased number of old people in the period 2010 to 2035. It is the goal to have a surplus that is "sustainable" – meaning, that the government does not have to increase current tax rates in order to finance the future expenditures. Thus, the aim is an extreme form of tax-smoothing. The result of the policy is a decrease of the public debt until around 2010-2015, and then public debt starts to increase again.

Finland ETLA

The Finnish aim for structural balance of central government is 1,5 % of GDP. The aim for the general government is 4,5 %. At the same time the tax reductions are continued in such a way that tax reductions are tied to moderate salary rises. I.e. income policies and tax policies are partly combined.

France OFCE

Until 2003, the fiscal assumptions follow the last announcements made by the government on the subject, in February 2002, which means a reduction in the ratio of taxes to GDP. This ratio would stabilise afterwards. Expenditures would grow as they have during the 5 last years on average in 2002 and 2003 and then follow the Stability Pact (in volume, 2 % in 2002, 1,8 % in 2003 and then 1,5 %). Budget policy would then be expansionary in 2002, neutral in 2003 and slightly restrictive from 2004 to 2006.

Germany DIW

If the GDP forecast is realized, Germany will fulfill the Stability Pact targets in 2004.

Germany IFO

Fiscal policy will remain consolidation oriented.

Germany IfW

Fiscal policy will be slightly restrictive both in 2002 and in 2003.

Hungary Kopint

Fiscal policy became expansive (counter-cyclical – given the general down-turn) last year. (Last year, general government deficit, GFS definition, was 3.2%, ESA95 definition – about 5%), This was partly due to the political cycle (parliamentary elections took place in April). Prior to the elections, there was a general expectation of some moderate consolidation of the budget after the elections, however radical changes were not seen as necessary. Some days following the second round of the elections, it seems that, because of the very serious political and social need to fulfil short-term pre-election commitments by the new governing parties (and in view of the forthcoming in autumn local elections), those changes may come somewhat later. However, we expect relatively short-term steps to increase transparency of the budget and adjust it to the Union fiscal accounting system.

Ireland ESRI

Over the decade a broadly neutral fiscal policy stance is assumed. In the case of Ireland this is assumed to be centred around a small surplus.

Italy Prometeia

The Italian government plans to carry out a fiscal reform starting from 2003 (aiming to reduce fiscal pressure), to increase the public investments/Gdp ratio and to fulfil the balanced budget requirement of the stability program in 2003. However, there are not many details on these projects. In our opinion, they should imply a significant restraint of primary expenditure growth, which seems difficult to achieve. Moreover, in our opinion, the fiscal reform will be carried out gradually, the fiscal pressure for households will reduce moderately – and less than expected by government - since there will be an increase in taxation at local level, while the fiscal pressure for firms seems unlikely to reduce, and the public investment/Gdp ratio should remain stable. The budget policy stance should be only moderately expansionary or neutral. The public sector deficit is expected to decrease also due to privatisation and the decrease in interest burden on public debt.

Netherlands CPB

In the budgetary prognoses it is assumed that there is no additional government policy. Expenditure growth is with 1 ½ % per annum below economic growth. Therefore the expenditure share of GDP decreases in total with 2%-point in the period 2003-2006. This decrease is mainly caused by decreasing interest burden. Without additional policy the

government surplus increases from 0,6 % of GDP in 2002 to 1,2 % in 2006, whereas the government debt ratio decreases from 48¼ % of GDP in 2002 to 36 % in 2006.

Norway SN

The new guidelines for economic policy state that fiscal policy, starting with the budget for 2002, shall be implemented in such a way that the structural, non-oil government budget deficit shall be approximately equal to the expected real return on the Petroleum Fund at the beginning of the fiscal year. The inflation target of 2,5 per cent must be seen in connection with the guidelines for fiscal policy. By permitting a slightly higher inflation than in the euro area, and probably also higher than the average among our trading partners, room is created for phasing in an increased use of petroleum revenues. Higher domestic inflation, combined with a stable exchange rate against our trading partners' currencies, implies a loss of competitiveness and a freeing up of resources for sheltered industries and the public sector.

Poland IKC

New government formed after autumn 2001 elections has introduced a new spending rule, which seems to become a cornerstone of the fiscal policy till 2006. It limits State spending growth to projected CPI inflation plus 1 per cent. The rule, if successfully implemented, could produce gradual drop in the deficit relative to GDP and not allow the debt ratio to exceed 50% of GDP. However, if application of the "CPI + 1" rule is not to impair our ambitious programme of public investments in infrastructure, many painful cuts will be needed in public consumption, specially, in social transfers.

Switzerland KOF

Fiscal policy as a whole will be oriented towards balanced budgets and stabilising or reducing the ratio of revenue to GDP. This implies a more or less neutral stance, with a bias towards procyclical variations. On the federal level however, which accounts for about one third of total government finance, a constitutional amendment has been introduced in 2001 ("debt brake"), which stipulates that total debt be kept constant in nominal terms, but balances should vary to account for cyclical variations of revenue.

United Kingdom NIESR

Fiscal policy is essentially expansionary. Expenditure is planned to rise rapidly, and taxes will rise to cover the deficit, which is targeted to be 1.4 percent of GDP in the medium term. The recent Budget contained a significant upward revision to the planned level of public expenditure and taxation over the medium-term until 2006/7. The planned level of net public sector investment was also raised to 2.1 per cent of GDP by 2006/7, compared to 1.8 per cent of GDP in previous plans. The Chancellor also announced a number of tax changes, the most significant

of these being the rise in the rates of both employers' and employees' National Insurance Contributions coming into effect at the beginning of the next financial year. In comparison to the Pre-Budget Report the Budget announced plans to raise current expenditure by £9bn in 2003/4, £14bn in 2004/5, £21bn in 2005/6 and £24 billion by 2006/7. In our forecast we have assumed that current expenditure and net investment grow in line with the plans set out in the Budget. Tax receipts are however left to be endogenously determined within our model of the economy after taking into account the changes in receipts that directly relate to policy changes. Largely as a result of the Budget changes, the state of the public finances appears less healthy than it has been for some time. In running our model we ensure that the public sector is solvent in the medium term, i.e. taxes adjust so that the deficit or surplus is stabilised. If we did not do this, interest would compound on outstanding deficits or surpluses as the national debt would eventually rise or fall without limit. This means that, in the medium term, our forecast allows tax rates to adjust if it looks as if the Government's published fiscal targets will not otherwise be met to deliver financial balances close to the Government's targets. The weakness of the public finances is expressed not by a rising fiscal deficit but by increases in tax rates, raising additional revenue amounting to 0.5 per cent of GDP by 2006/7. Without these tax increases we anticipate that revenues will be below the levels projected in the Budget. This revenue shortfall in turn arises largely because, over the period from 2002 to 2006, our model implies that tax revenues are less buoyant than the Government suggests. That said, it has to be recognised that, to this horizon, there are large margins of error associated with both our projection and the Government's.

Question 9 Do you believe that a continuing current account deficit of the US of some 5% of GDP is sustainable? Will it increase the risk of a sharp dollar depreciation? Will it increase the likelihood of international trade frictions?

Belgium FPB

A continuing current account deficit of the US is, according to us, not sustainable in the long term. It could increase both the risk of dollar depreciations and international trade frictions. Moreover, the problem of an internal imbalance in the US will become more threatening in that way given that the household savings rate is historically low and that households keep on contracting debts in order to keep on consuming.

Finland ETLA

The CA deficit of 5 % of GDP in the USA is unsustainable. It increases strongly a risk of sharp dollar depreciation. Also, it will increase trade frictions, which have already intensified.

Germany DIW

It will not be sustainable in the long run, especially when growth rates will be lower than in Europe. Then we might observe a sharp depreciation.

Germany IFO

The deficit will be not sustainable. The US-Dollar will depreciate. We have to face trade frictions – see US-steel tariffs.

Germany IfW

A current account imbalance can not last forever, but it can last for a very long time. With a flexible exchange rate, the risk of a sudden correction is reduced. Still, there is a devaluation risk for the dollar and it increases with the U.S. foreign debt to GDP-ratio. Also, the risks of trade frictions increase.

Ireland ESRI

It is not sustainable. Adjustment can still be postponed for some time but when it comes it must involve a substantial change over a short period in the Euro-\$ exchange rate. The trade frictions reflect the unsustainable nature of the current dollar exchange rate. However, there should not be a major deterioration in relations.

Italy Prometeia

It is unsustainable. However, in our opinion a sharp dollar depreciation is unlikely. What can change investors expectations? As far as international trade frictions are concerned, the effects of

a dollar depreciation probably depend also on the international business cycle: if world trade growth is moderate frictions are likely to increase.

Netherlands CPB

The worsening of the US position in the past few years is hardly reflected in improvements for other industrial countries. The improvement is mainly in the external positions of the non-industrial world. This is not by definition a favourable development, because it is partly a consequence of the reduced availability of international capital, needed to cover the US current account deficits. This could be indicative for the reduced attractiveness of the NIE's; recent financial crises in Asia, Russia and Latin-America lend support to that view. But it could also mean that the opportunities for growth in the developing world are hampered by the tremendous capital needs of the US.

It is very likely that the dollar is overvalued and will start to decline before long. This could proceed in a gradual and controlled manner, but an exchange rate shock cannot be excluded. As a consequence international competitive positions will change (rapidly) in favour of the United States, but inflation and interest rates in Europe could decline. The latter will support domestic demand in Europe, whereas the deterioration of the monetary situation in the United States will probably lead a reduction of internal demand and increased domestic savings. However, a decline of the effective dollar rate will probably not suffice to solve the imbalances in the US economy.

Switzerland KOF

No, we do not believe that the current level of the US-CA-deficit is sustainable but we think it increases strongly the risk of a sharp dollar depreciation as well as the risk of international trade frictions.

United Kingdom NIESR

US inflation will be below the rest of the world, and this will slowly correct the position – a realignment remains a strong possibility, but it is not our core forecast.

Question 10 What do you consider a fair estimate of the equilibrium exchange rate of the euro and the yen versus the dollar? What are the major factors explaining these (real) rates?

Denmark DEC

Good question! The assumption in our own forecast is that the euro will appreciate vis-a-vis the dollar and reach 0.95 in 2004. We do not use the yen/dollar exchange rate in our forecast.

Finland ETLA

We have not done our own estimates.

France OFCE

In our medium term scenario, we have considered exchange rates would return to purchasing power parity. As a result, we assume all countries grow like their potential (as calculated by the OECD) and foreign trade doesn't contribute to French growth.

Germany DIW

Competitiveness and price differentials. In the medium term, the dollar should devalue by at least 10 per cent against the euro.

Germany IFO

About 1:1. Explanations: The persisting high US-current balance deficit and the very high and further climbing US indebtedness abroad. Investors will find out that the overall situation in the US is not as favourable as it seemed to be during the last decade. Financial investors are filled up to the brim with US shares and bonds; they will diversify their portfolio in favour of Europe which is even more likely since Europe is catching up in many respects.

Germany IfW

Based on purchasing power parity for tradable (industrial) goods, the equilibrium USD/EUR exchange rate is currently about parity.

Ireland ESRI

Somewhere between one Euro and 0.9 Euro per dollar.

Italy Prometeia

Around 0.95 dollar per euro and 160 yen per dollar. This assessment is based on different considerations, including interest rates differentials and economic growth differentials, also in potential terms.

Netherlands CPB

Given the time horizon of the projection it seems appropriate not to assume constant nominal or real exchange rates for the dollar-euro-yen triangle, but to work with exchange rates moving towards their longer-term equilibrium levels. Although such levels cannot be specified with certainty, there are several approaches that give some clue. Basically there are two ways to assess the equilibrium rates, i.e. the calculation of purchasing power parities and estimates based on economic and statistical models. Research on purchasing power parities by various international institutions, among which the OECD and the Worldbank, indicates an equilibrium rate of about 1.08 dollar per euro, against a present rate of about 0.90 dollar. Research based on differentials in inflation, growth, interest rates and cumulative trade balances since 1972 suggests an equilibrium rate of 1.05 for the coming five years. Recent financial model calculations yield even higher equilibrium rates (see f.i. the overview in ECB's Monthly Bulletin of Januari 2002). In the projection we have assumed a gradual rise of the euro towards dollar parity in 2006, and no change thereafter.

Poland IKC

At present, for the short and medium-term, no equilibrium exchange rate of the euro can be estimated. The long-run equilibrium based on PPP theory can only be deployed.

Switzerland KOF

We expect the EUR/USD-equilibrium exchange rate to be somewhere between 1.05 and 1.15 EUR/USD, based on the relevant literature on this topic and the results of various empirical studies.

United Kingdom NIESR

About 145 yen to the dollar and about 1.0 euro to the dollar. Relative productivity levels and prices of goods explain them, and for Europe they are not far from PPPs in the O'Mahony article.

Question 11 How will the enlargement of the EU affect your economy, particularly with respect to export and production growth, foreign direct investments and labour migration?

Hungary Kopint

In general terms, our projections and forecasts of economic growth and social development for the next years already take account of the probability of Hungary's joining the European Union in 2004 or 1-2 years later. We calculate (in case of a Western European recovery) with continuing dynamic export growth, more foreign investment as a result of growing confidence, and with no significant increase in labour migration (cf. our paper last October in Brussels). Our forecasts should not be modified in case of membership, they should be changed in the improbable case (which, however, cannot be excluded) of a longer delay in the accession process. Following 15 years of political and economic transition, privatisation, liberalisation and de facto integration to the EU, we simply expect continuation of growth, structural reforms and changes in the present direction.

Poland IKC

General impact of the EU enlargement on Poland's economy is supposed to be favourable, especially in the long term. According to the governmental report (2000), Poland's membership in the EU, depending on assumptions, may contribute to acceleration of the economic growth by 0.2-1.7 percentage points annually (in terms of GDP). Thus in the long term synergetic effects of the accession on the rate of economic growth and on the economic structure, on volume and efficiency of investment, employment, research and development, environment and transport infrastructure, and living standards, will be highly positive. However, an immediate impact of the accession on the trade balance and employment – and the effects in specific areas and sectors – would not necessarily be beneficial. In the short term economic and social costs of the enlargement will be heavy, and for some groups of population (e.g. farmers, fishermen, etc.) they could overshadow potential immediate benefits. A lot will depend on final outcome of negotiations, esp. on agriculture, structural funds, budgetary and other financial issues.

Exports and imports flows should accelerate, but Poland's trade deficit with the EU15 will rather grow in the first stage, since abolition of the remaining non-tariff barriers and fuller application of the Internal Market rules to trade in manufactures would rather favour larger and stronger competitors from the EU incumbent countries. Elimination of national technical and administrative barriers will facilitate the access of goods and services originating in other EU countries into the Polish market, while coping with the EU technical and environmental norms and standards might initially occur difficult to many Polish exporters. According to common views small and medium-sized Polish firms would originally lack necessary distribution and service networks, marketing skills and financial possibilities to successfully compete with other

EU companies. However these fears could be unfounded as results of our surveys show that SMEs in general are optimistic about potential benefits of participation in the EU internal market.

It is assumed that custom controls on present Polish-EU borders will disappear on entry of the accession treaty that is, however, not quite clear at the moment. Furthermore, introduction of the common external tariff will tend to deteriorate Poland's trade balance with the third countries.

Competition in the agricultural trade may remain biased for some time in favour of present EU exporters if partial and gradual conceding of direct payments to Polish farmers is to be accompanied by immediate liberalisation of trade in this sector, as proposed by the Commission. Such solution appears now unacceptable to Polish farmers and politicians. Agreed transition periods with regard to full access of Polish truckers to intra-EU transport services, and other derogations on the part of the EU in the service sector, may also temporarily hamper full application of the Internal Market rules in the domains characterised by Poland's potential comparative advantages.

International migration within the enlarged EU that could increase the flexibility of the EU labour market will remain administratively constrained for several years, contrarily to basic rules of the Internal Market. Nevertheless, even under these circumstances, Poland will probably be a substantial net labour exporter in 2005-2015. The potential labour flows could be easily absorbed by the EU incumbent countries, to the benefit of their economies and their pension systems. One of the most important beneficiary factors associated with the enlargement is the expected growth of inflow of foreign direct investment to Poland that could boost growth and employment, and - together with the EU structural funds - contribute to rapid and substantial expansion and modernisation of the economic infrastructure.