A Medium-Term Outlook for the World Economy

2005 - 2011

Focus

Monetary Policy, Asset Prices and Economic Growth

August 2005

Federal
Planning Bureau
Economic analyses and forecasts

.be

The NIME Economic Outlook for the World Economy

A Medium-Term Outlook for the World Economy: 2005-2011

This NIME Economic Outlook for the World Economy presents a 2005-2011 macroeconomic outlook for the major areas of the world. The outlook was produced using NIME, the Belgian Federal Planning Bureau's macroeconometric world model. This issue also features an assessment of the response of the US and euro area monetary policy to the asset price developments of the last ten years. The major technical assumptions of this outlook as well as a description of the NIME model are presented in the appendix.

The euro area economy is expected to grow by no more than 1.5 per cent in 2005, as growth in domestic demand weakens in the face of rising oil prices and net exports contribute 0.1 percentage-point to the area's overall growth following the depreciation of the euro. Consumer price inflation should come out at 2 per cent in 2005, despite the reduction in total domestic demand growth. In 2006, real GDP in the euro area registers a 2.3 per cent increase, while consumer price inflation drops to 1.5 per cent. The higher growth in 2006 is largely based on a rebound in employment, which boosts growth in private consumption and business sector investment. The area's net exports make a 0.3 percentage-point contribution to GDP growth in 2006. Over the remaining 2007-2011 period, the area's net exports fail to make any significant contribution to overall GDP growth, which rises on average by 1.9 per cent per annum. Consumer price inflation averages 1.8 per cent over 2007-2011, but edges up towards the end of the period. The short-term interest rates are raised gradually from 2.1 per cent in 2005 to 4.1 per cent in 2011. Assuming no further policy slippages, the area's public sector net borrowing requirement is expected to fall from 2.5 per cent of GDP in 2005 to 1.2 per cent of GDP in 2011.

Over the 2005-2011 period, GDP growth averages 2.9 per cent per annum for the group of countries comprising the United Kingdom, Sweden and Denmark and 3.6 per cent for the New EU Member States. The US economy expands at an annual average rate of 2.9 per cent over the period, while prices rise at an average rate of 2 per cent per annum and fiscal and external imbalances persist. GDP growth in Japan comes out on average at 1.3 per cent per annum and the Japanese economy is expected to move out of deflation in 2006.

This issue also assesses whether the economies of the United States and the euro area would have experienced a more balanced growth path over the 1995-2004 period, had the monetary authorities of these areas not only targeted contemporaneous consumer price inflation but also changes in asset prices. The simulation results present evidence that such a broader-based interest rate rule would have pushed the euro area's GDP above its historical level by about 0.3 per cent by the end of the 1995-2004 period and would have reduced US GDP by about 0.6 per cent by the end of the same period.

Editors:

Eric Meyermans

Patrick Van Brusselen

Advisor:

Igor Lebrun

DTP & Web Publishing:

Adinda De Saeger

Geert Bryon

Dominique van der Wal

The Federal Planning Bureau (FPB) is a public agency under the authority of the Prime Minister and the Minister of Economic Affairs. The FPB has a legal status that gives it an autonomy and intellectual independence within the Belgian Federal public sector.

Comments and questions regarding this publication should be addressed to the editors by sending an e-mail to nime@plan.be

Table of Contents

Foreword

For many years now, the Belgian Federal Planning Bureau has developed an expertise in preparing short-term forecasts and medium-term macroeconomic projections for the Belgian economy. All the while, the very open nature of the Belgian economy has put the constant monitoring and analysis of developments in the world economy at the heart of the Bureau's concerns.

The wish to improve our understanding of the sometimes intricate functioning of the international economy and of its impact on small open economies such as Belgium has led the Federal Planning Bureau to develop the NIME model, a global macroeconometric model. NIME is now used to carry out both policy-oriented economic analyses and medium-term projections for the world economy.

It is with great pleasure that I present to you the first issue of "The NIME Economic Outlook for the World Economy". This publication, which is scheduled to come out in January and August of each year, will provide its readers with a timely and concise insight into the medium-term prospects for the world economy.

This first issue of our new publication presents an outlook for the 2005-2011 period. It also contains a special Focus, providing an analysis of recent interactions between monetary policy, asset prices and economic growth in the United States and the euro area.

Henri J. Bogaert
Commissioner of the Belgian Federal Planning Bureau

Executive Summary of the 2005-2011 NIME World Economic Outlook

Introduction

This document is the first issue of a new publication by the Belgian Federal Planning Bureau (FPB) entitled "The NIME Economic Outlook for the World Economy" (NEO). The NEO presents a medium-term macroeconomic outlook for the major economic areas of the world. This issue also features an assessment of the responses of the US and euro area monetary authorities to the asset price developments over the last ten years. The NEO concludes with an appendix outlining the main assumptions of the outlook and a brief description of the NIME macroeconometric world model.

The economic outlook in this document was prepared using the Belgian Federal Planning Bureau's NIME model and builds on the Spring 2005 Economic Forecasts of the European Commission (EC). Indeed, the NIME model is basically medium-term-oriented and is thus calibrated to replicate the business cycle data for 2005. However, as explained in the technical appendix of this world economic outlook, the Commission's Spring data for 2005 have been revised to take into account more recent growth forecasts for 2005, as well as recent developments in financial markets. As of 2006 and up to 2011, the NIME model then goes on to provide a coherent model-based outlook for the major economic areas of the world.

The publication of this NEO falls well within the FPB's long tradition of using macroeconometric models to study both the Belgian economy and the Belgian international economic environment. Indeed, alongside the MODTRIM and HERMES models, which are used regularly to carry out detailed analyses, forecasts and projections of the Belgian economy, the FPB has also made use of macroeconometric multi-country models, such as NEMESIS and NIME. These models have contributed to broaden the FPB's understanding of international economic linkages and allowed it to assess the risks pertaining to the underlying international economic environments of the FPB's national forecasts and projections. With this new publication, the FPB now aims to share its work and findings with the international community of policy makers and academics[1].

1. Readers who wish to receive regular notification of new NIME-related documents are invited to contact the editors by sending an e-mail to nime@plan.be

Finally, the reader should be aware that this "NIME Economic Outlook" does not necessarily constitute the reference scenario for other work carried out within the FPB. A case in point are the Bureau's short-term forecasts and medium-term projections for the Belgian economy, for which the underlying international economic scenarios are traditionally based on a variety of sources.

Summary of the 2005-2011 Economic Outlook

In 2004, global economic growth turned out to be particularly strong, while inflation remained low across the major economic areas of the world. For the 2005-2011 period, overall gross domestic product (GDP) growth is projected to remain robust though increasingly unbalanced, mainly due to persistent external deficits in the United States and emerging Europe. The outlook also indicates that, by the end of the projection period, demographic pressures should begin to weigh on the overall growth performance of Japan and, to a lesser extent, of the euro area.

In *the euro area*, real GDP grew by 2 per cent in 2004, rebounding after three years of tepid growth. In 2005, GDP growth is expected to come out at no more than 1.5 per cent, as growth in domestic demand weakens and net exports contribute 0.1 percentage-point to the area's overall growth in the wake of a weakening euro. Without the positive effect of the weakening euro on the area's net exports, GDP growth would have come out about 0.2 percentage-point below the forecast. Inflation should remain stuck at the European Central Bank's 2 per cent ceiling, despite a persistent negative output gap. In 2006, euro area GDP registers a 2.3 per cent rebound, while consumer price inflation drops to 1.5 per cent. The higher growth is largely based on a rebound in employment, which boosts growth in private consumption and business sector investment. The area's net exports make a 0.3 percentage-point contribution to GDP growth in 2006. Over the 2007-2011 period, the area's net exports fail to make any significant contribution to overall GDP growth, which rises on average by 1.9 per cent per annum, notwithstanding the declining growth rate of working-age population. Consumer price inflation averages 1.8 per cent over 2007-2011, but edges up at the end of the period. Short-term interest rates are raised from 2.1 per cent in 2005 to 4.1 per cent in 2011, in order to contain inflation. The euro's nominal effective exchange rate appreciates on average by 3.1 per cent, chiefly because inflation in the rest of the world remains stronger than in the euro area. The current account surplus barely moves over the projection period, coming out at 0.7 per cent of GDP in 2005 and 0.8 per cent of GDP in 2011, as the area's real effective exchange rate remains almost unchanged and growth in the other major areas of the world proves to be somewhat more resilient than in the euro area. Assuming no further policy slippages, the area's public sector net borrowing requirement is expected to fall from 2.5 per cent of GDP in 2005 to 1.2 per cent of GDP in 2011.

Real GDP growth of *the Western non-euro EU Member States*[1] rose by 2.8 per cent in 2004 and should not exceed 3 per cent in 2005. Despite its recent weakening, domestic demand is expected to remain the main engine of growth in 2005, while net exports should reduce growth prospects by a more limited 0.4 percentage-point, compared with a 0.8 percentage-point negative contribution in 2004. Over the 2006-2011 period, the area's real GDP growth averages 2.9 per cent per annum, with domestic demand contributing almost all of the economic stimulus. Inflation remains subdued over the entire projection period, with consumer price inflation levelling off at about 1.9 per cent as of 2007, allowing interest rates to be kept around 4.5 per cent throughout most of the projection period.

Real GDP of the *New EU Member States*[2] is expected to grow by 4.2 per cent in 2005, just a notch below the area's growth performance of the year before. This vigorous growth is solely supported by sturdy growth in domestic demand, especially in investment, while the area's net exports weaken significantly in 2005. Over the 2006-2011 period, real GDP growth in the area averages 3.6 per cent per annum. The area's real effective exchange rate is expected to depreciate on average by 0.8 per cent per annum. However, this real depreciation proves insufficient to curb the area's widening consolidated current account deficit, which reaches 4.1 per cent of GDP in 2011.

In *the United States*, real GDP is expected to rise by 3.8 per cent in 2005, after recording a strong 4.5 per cent increase in 2004. This lower growth primarily reflects a 0.9 percentage-point slowdown in domestic demand growth, while the negative contribution of net exports to overall GDP growth declines from 0.8 percentage-point in 2004 to 0.6 percentage-point in 2005. Short-term interest rates are raised from 1.6 per cent in 2004 to 3.4 per cent in 2005, as inflationary pressures intensify. In 2006, US real GDP growth is projected to decline further to 3.2 per cent, as the short-term interest rates are raised by an additional 0.9 percentage-point. Under current US laws and policies, a number of significant tax cut provisions are set to expire as of 2007. This leads GDP growth to slip to just 2.3 per cent in 2007, as private consumption stumbles. GDP growth then rebounds, coming out just above 3 per cent up to 2010, but then declining to 2 per cent in 2011 as taxes are raised sharply once again. Inflation remains slightly below 2 per cent per annum throughout most of the projection period. Furthermore, in the absence of any major exchange rate realignment, the contribution of net exports to GDP growth remains generally negative over the projection period and the current account deficit widens to 6.6 per cent of GDP in 2011. Notwithstanding the gradual expiration of tax cut provisions, the US fiscal deficit shrinks only slowly, from 3.9 per cent of GDP in 2005 to 3.2 per cent in 2011, as fiscal adjustment is hindered by a rise in public outlays on unemployment benefits and debt interest payments.

Japanese real GDP is expected to rise by 1.2 per cent in 2005, after having posted a strong 2.7 per cent increase in 2004. This lower output growth is caused by a strong deceleration in domestic demand, as well as a noteworthy deterioration of net exports. In 2006, real GDP growth is expected to remain weak, but consumer price deflation comes to an end with the deflator of private consumption increasing by 0.2 per cent on the year. Over the 2007-2011 period, Japan's GDP grows on average by 1.4 per cent per year. During this period, economic growth is driven by private consumption and investment in residential buildings, while the positive contribution of net exports declines due to a gradual loss of competitiveness. The declining competitiveness is linked to the re-emergence of inflation in 2006 and a strengthening of the country's nominal exchange rate in the wake of rising interest rates. Long-term interest rates rise from 1.3 per cent in 2005 to 3.1 per cent in 2011. The deflator of private consumption increases on average by 1.4 per cent per annum. Japanese government fiscal imbalances persist over the horizon of this outlook, as no further corrective measures are assumed to be taken.

1. "Western non-euro EU Member States" comprises Denmark, Sweden and the United Kingdom.
2. "New EU Member States" comprises Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Bulgaria and Romania.

Summary World Area Table - Main results

	2005	2006	2007	2008	2009	2010	2011	Average 2005-2011
I. Euro area								
1. Gross domestic product	1.5	2.3	2.0	1.9	1.9	1.8	1.7	1.9
2. GDP deflator	1.9	1.2	1.5	1.4	1.4	1.4	1.5	1.5
3. Unemployment rate (level, % of civilian labour force)	8.8	8.4	8.0	7.7	7.7	7.7	7.8	8.0
4. Long-term interest rate (level)	3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.0
5. Nominal effective exchange rate (+: depreciation)	2.5	-2.9	-2.7	-2.9	-3.1	-3.2	-3.3	-2.2
6. Government net lending (level, % of GDP)	-2.5	-2.4	-2.1	-1.8	-1.5	-1.4	-1.2	-1.8
7. Current account (level, % of GDP)	0.7	0.9	1.0	1.0	0.9	0.9	0.8	0.9
II. Western non-euro EU Member States								
1. Gross domestic product	3.0	3.0	2.7	3.0	3.1	2.9	2.8	2.9
2. GDP deflator	2.0	2.1	1.5	1.3	1.4	1.6	1.7	1.7
3. Unemployment rate (level, % of civilian labour force)	4.9	5.0	5.2	5.3	5.3	5.3	5.4	5.2
4. Long-term interest rate (level)	4.3	4.5	4.5	4.5	4.5	4.5	4.6	4.5
5. Nominal effective exchange rate (+: depreciation)	1.3	-3.5	-2.8	-2.2	-1.7	-1.5	-1.4	-1.7
6. Government net lending (level, % of GDP)	-2.0	-1.6	-1.6	-1.7	-1.7	-1.8	-1.8	-1.7
7. Current account (level, % of GDP)	-0.7	-0.7	-1.2	-1.4	-1.5	-1.5	-1.5	-1.2
III. New EU Member States								
1. Gross domestic product	4.2	4.5	3.4	3.4	3.4	3.3	3.2	3.6
2. GDP deflator	3.9	2.9	2.9	3.1	3.2	3.2	3.2	3.2
3. Long-term interest rate (level)	7.5	6.8	6.3	6.2	5.9	5.7	5.5	6.3
4. Nominal effective exchange rate (+: depreciation)	-6.3	0.4	-0.3	-0.5	-0.6	-0.7	-0.8	-1.3
5. Current account (level, % of GDP)	-3.5	-3.5	-3.6	-3.7	-3.8	-3.9	-4.1	-3.8
IV. Unites States								
1. Gross domestic product	3.8	3.2	2.3	3.1	3.1	3.0	2.0	2.9
2. GDP deflator	2.4	2.3	2.1	1.9	1.8	1.9	1.8	2.0
3. Unemployment rate (level, % of civilian labour force)	5.2	4.9	5.5	5.6	5.7	5.9	7.1	5.7
4. Long-term interest rate (level)	4.2	4.6	4.7	4.8	4.8	4.7	4.7	4.6
5. Nominal effective exchange rate (+: depreciation)	2.4	-2.5	-2.8	-2.7	-2.6	-2.4	-2.3	-1.8
6. Government net lending (level, % of GDP)	-3.9	-3.8	-3.7	-3.7	-3.7	-3.7	-3.2	-3.7
7. Current account (level, % of GDP)	-6.0	-5.9	-6.0	-6.2	-6.4	-6.6	-6.6	-6.3
V. Japan								
1. Gross domestic product	1.2	1.1	1.5	1.7	1.6	1.3	0.8	1.3
2. GDP deflator	-0.8	-0.0	0.4	0.7	1.3	1.6	1.9	0.7
3. Unemployment rate (level, % of civilian labour force)	4.3	4.4	4.3	4.4	4.5	4.7	5.0	4.5
4. Long-term interest rate (level)	1.3	1.5	1.7	2.0	2.5	2.8	3.1	2.1
5. Nominal effective exchange rate (+: depreciation)	-0.0	2.8	2.3	0.5	-0.7	-2.2	-3.5	-0.1
6. Government net lending (level, % of GDP)	-6.6	-5.9	-5.7	-5.7	-6.0	-6.5	-7.2	-6.2
7. Current account (level, % of GDP)	3.8	4.0	4.2	4.4	4.6	4.7	4.6	4.3
VI. Rest of the World								
1. Gross output	5.6	4.7	4.8	4.9	4.9	4.8	4.8	4.9
2. Output deflator	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
3. Nominal effective exchange rate (+: depreciation)	-1.6	3.8	3.9	4.3	4.4	4.6	5.0	3.5

All figures are year-on-year growth rates, unless specified otherwise.

Consolidated import and export flows for the euro area, the Western non-euro EU Member States and the New EU Member States.

The Western non-euro EU Member States comprises Denmark, Sweden and the United Kingdom.

The New EU Member States comprises Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Bulgaria and Romania.

The Euro Area

Diminished expectations for growth in 2005

In 2004, real GDP of the euro area grew by 2 per cent, rebounding after three years of tepid growth during which GDP rose on average by just 1 per cent per annum. In the wake of high and rising oil prices, the softening of business and consumer confidence, and despite the recent strong depreciation of the euro[1], the area's GDP growth is currently expected to come out at no more than 1.5 per cent in 2005. Moreover, without the positive effect of the weakening euro on the area's net exports, GDP growth would have come out about 0.2 percentage-point below the forecast.

Domestically, business sector investment, which grew by 2.3 per cent in 2004, is expected to grow by 2.9 per cent in 2005, thanks to low real interest rates and a further effort to catch up from previous years' low investment levels. While private consumption grew by only 1.2 per cent in 2004, it is expected to rise by 1.4 per cent in 2005, mainly due to low interest rates. Residential investment should rise by 0.6 per cent over 2005, after having risen by 1.5 per cent in 2004. Inventory demand, which added 0.5 percentage-point to domestic demand growth in 2004, is forecast to grind to a halt in 2005 due to flagging business sentiment.

Net exports made no contribution to real GDP growth in 2004 but are expected to add 0.1 percentage-point to overall growth in 2005. Indeed, the euro area's consolidated exports are forecast to rise by 5.9 per cent in 2005, compared with 5.5 per cent in 2004. Demand for euro exports should increase as the recent significant nominal depreciation of the area's exchange rate reverses part of the loss in price-competitiveness incurred over recent years. At the same time, import growth remains almost unchanged, slightly down from 6 per cent in 2004 to 5.9 per cent in 2005.

Total employment increased by only 0.6 per cent in 2004, despite the relatively strong 2.8 per cent increase in gross private sector output. A similar outcome is forecast for 2005, as employment is expected to rise by 0.7 per cent, while gross private sector output should increase by 2.3 per cent. However, steadily declining real unit labour costs in 2004 and 2005 set the conditions for stronger future growth in labour demand. The labour force increased by 0.8 per cent in 2004 and is expected to rise by another 0.7 per cent in 2005, leaving the unemployment rate at 8.8 per cent of the civilian labour force in both 2004 and 2005.

In 2004, consumer price inflation reached 2 per cent. Rising oil prices and a depreciating euro should leave inflation unchanged at 2 per cent in 2005, notwithstanding a further fall in real unit labour costs and a persistent negative output gap.

As inflation remains stuck in 2005 at the European Central Bank's 2 per cent ceiling, nominal short-term interest rates are expected to be kept on hold at an average rate of 2.1 per cent this year, despite the flagging growth prospects for the year. Long-term interest rates reflect these limited expectations and fall from 4 per cent in 2004 to 3.4 per cent in 2005.

Higher interest rates in the euro area than in the United States, together with a more balanced current account outlook for the euro area, have led to a significant strengthening of the euro's external value in recent years. However, the area's nominal effective exchange rate is expected to depreciate by 2.5 per cent in 2005, largely due to the recent reversal of the interest rate differential and increased uncertainty in the foreign exchange markets linked to the current political turmoil surrounding the future of the European Union.

After having reached a fiscal deficit of 2.8 per cent of GDP in 2003, the euro area's fiscal stance improves only gradually. Indeed, the area's public sector net borrowing requirement fell to 2.7 per cent of GDP in 2004 and, assuming no further policy slippages, it is expected to decline to 2.5 per cent of GDP in 2005. As direct and indirect tax rates stay almost unchanged in the euro area, the slight improvement in the area's fiscal position is almost entirely due to the relative upswing in economic activity in 2004 and 2005.

Employment picks up and raises domestic demand growth in 2006

In 2006, euro area real GDP growth improves markedly as it jumps from 1.5 per cent in 2005 to 2.3 per cent. This higher growth is largely borne by a further rebound in private consumption, robust growth in business sector investment and a

1. See the technical appendix and the section on risks for details regarding the baseline assumptions and risks to the scenario.

slightly higher contribution to overall GDP growth from net exports.

Private consumption growth increases by 2 per cent in 2006, as it continues to pick up from the particularly low levels of the previous years, and benefits from favourable financing conditions and continued income growth. Household real disposable income increases by 1.3 per cent, largely due to a 1.1 per cent increase in total employment, combined with a mild 0.2 per cent rise in real take-home wages.

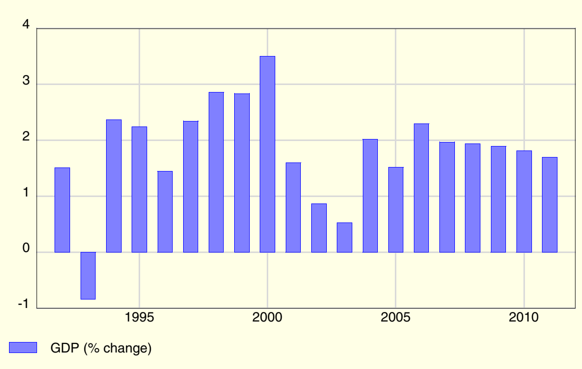
Despite rising real interest rates, business sector investment grows by 3.2 per cent in 2006, up from the 2.9 per cent increase expected in 2005 due to rising private sector output. The more vigorous growth in business sector investment is accompanied by higher public investment, which rises towards its trend growth rate, while growth in residential investment remains subdued.

The euro area's export growth edges downwards from 5.9 per cent in 2005 to 5.5 per cent in 2006, primarily reflecting a fall in foreign demand and an appreciation of the area's real effective exchange rate. Indeed, after depreciating by 2.5 per cent in 2005, the area's nominal effective exchange rate rebounds and appreciates by 2.9 per cent in 2006, though the real effective exchange rate indicates a continued depreciation of 0.6 per cent. In 2006, import growth falls back to 4.4 per cent as it adjusts with a lag to the sharp increase in import prices of the previous year. On balance, the area's net exports contribute 0.3 percentage-point to overall GDP growth in 2006, despite high oil prices.

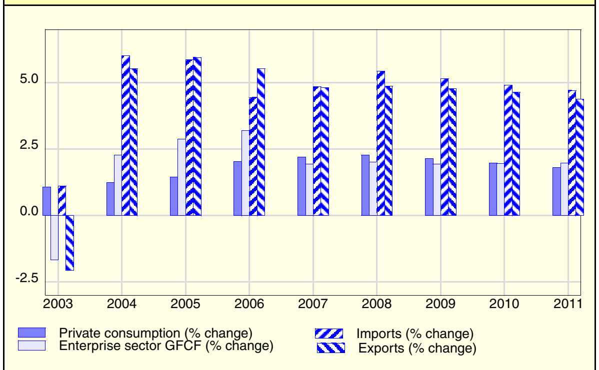
After an expected rise of 0.7 per cent in 2005, total employment increases by 1.1 per cent in 2006, as labour demand begins to respond to the area's improving economic performance, the favourable evolution of real unit labour costs since 2004 and the relatively low employment growth of the previous years. As employment expands more rapidly than the labour force, the unemployment rate falls from 8.8 per cent of the civilian labour force in 2005 to 8.4 per cent in 2006.

Nominal wages grow by 1.9 per cent in 2006, down slightly from the 2.3 per cent of the previous year. Real take-home wages increase by only 0.2 per cent, while the real private sector wage costs increase by 0.9 per cent, reflecting a higher increase in consumer prices than in producer prices and a slight increase in taxes. Real wage growth remains modest as the unemployment rate remains high. In 2006, labour productivity growth once again outpaces the rise in wage costs, leading to a further decline in real unit labour costs.

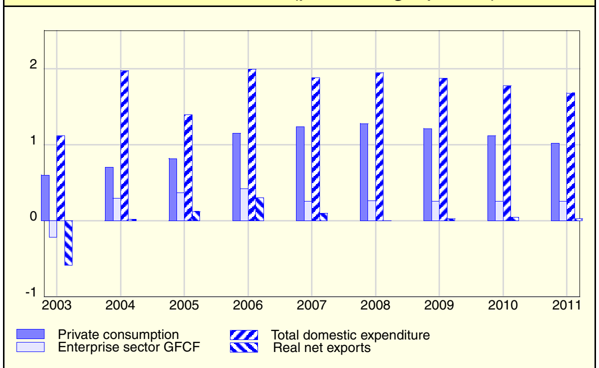
Graph 1 - Gross domestic product in the euro area



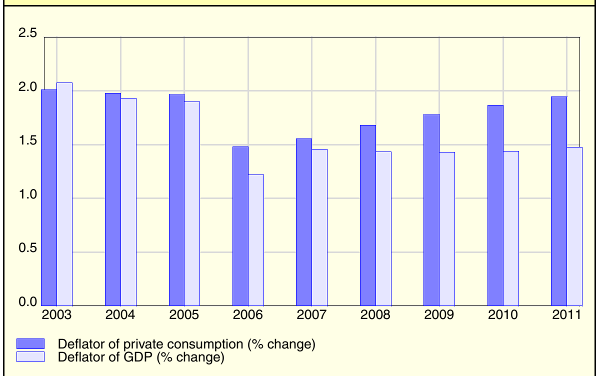
Graph 2 - Selected components of demand in the euro area



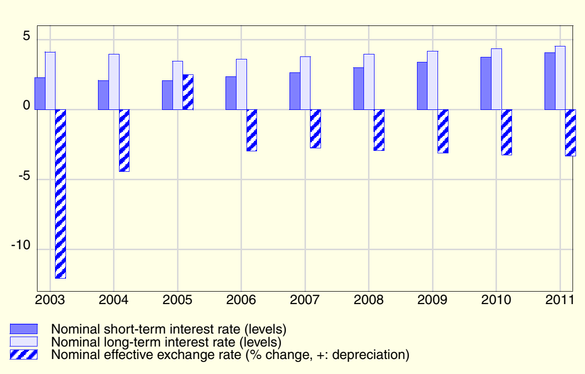
Graph 3 - Contributions to real GDP growth in the euro area *(percentage-points)*



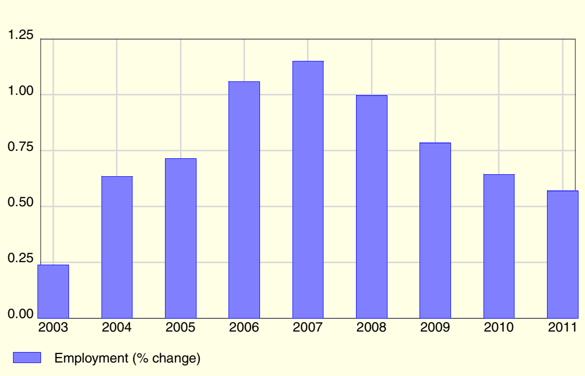
Graph 4 - Price deflators in the euro area



Graph 5 - Interest and exchange rates in the euro area

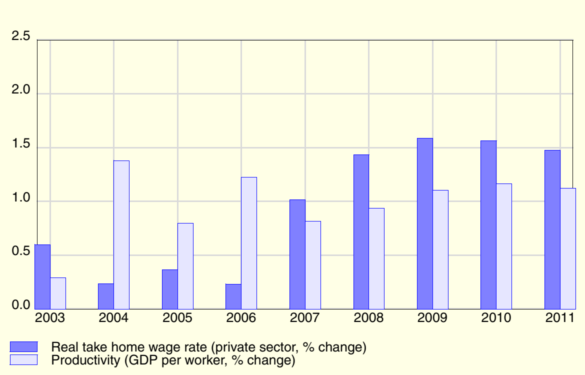


Graph 6 - Employment in the euro area



Graph 7 - The unemployment rate in the euro area

Graph 8 - Real wages and productivity in the euro area



After hitting a high of 2.3 per cent in 2001 and then remaining stuck around 2 per cent over the following years, consumer price inflation finally decelerates to 1.5 per cent in 2006. This decline in the consumer price deflator trails the sustained declines in real unit labour costs and a potential output growth that has consistently outpaced effective demand for several years in a row.

Despite the fall in inflation, nominal short-term interest rates are raised from 2.1 per cent in 2005 to 2.3 per cent in 2006, as the monetary authorities gradually move to a more neutral monetary stance. This relative monetary tightening leads to a rise in the real interest rate, which jumps from 0.1 per cent in 2005 to 0.9 per cent in 2006 (deflated by the consumer price deflator). Simultaneously, yields on long-term bonds edge up, from 3.4 per cent in 2005 to 3.6 per cent in 2006.

With government outlays growing somewhat less quickly than government revenue in 2006, the public sector net borrowing requirement is contained at 2.4 per cent of the area's GDP. As nominal GDP rises by 3.5 per cent in 2006, the overall government gross debt-to-GDP ratio declines to 71.5 per cent of GDP, compared with 71.6 per cent of GDP the year before.

Balanced domestic-led growth up to 2011

Over the 2007-2011 period, GDP growth in the euro area averages 1.9 per cent per annum. This rise in output is achieved in the context of a decline in working-age population growth. Indeed, the growth rate of the working-age population falls to zero towards the end of the projection period, but this decline is partly offset by an increase in the labour participation rate. During this period, domestic demand is driven mainly by private consumption and business sector investment. External trade fails to make any significant net contribution to the area's overall GDP growth rate over the 2007-2011 period.

Private consumption growth remains strong over the 2007-2011 period, coming out at an average rate of 2.1 per cent per annum. This robust rise in consumption is mainly due to the steady 0.8 per cent average growth rate of total employment and an average 1.2 per cent growth in real take-home wages. This relatively high wage growth is itself underpinned by a steady 1 per cent average rise in labour productivity.

Total gross fixed capital investment increases by 1.7 per cent over the 2007-2011 period. Business investment growth comes out at a robust average rate of 2 per cent per annum, chiefly due to sustained private sector output growth and moderate interest rates.

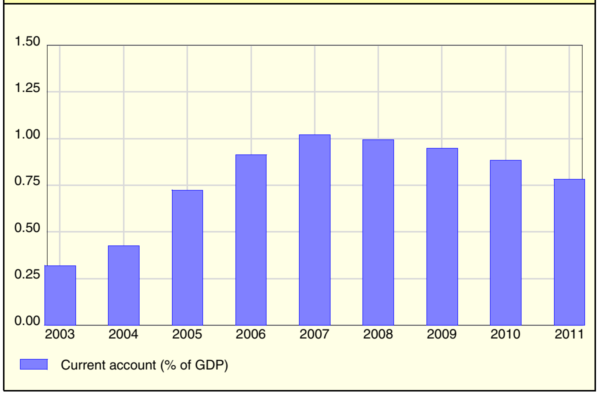
Euro area imports grow on average by 5 per cent over the 2007-2011 period, as they respond to the steady rise in domestic output, as well as to the limited rise in import prices. The rise in euro-denominated import prices is kept in check by the 3.1 per cent average appreciation of the area's nominal effective exchange rate and by contained oil prices. At the same time, in an attempt to remain competitive in world markets, euro area exporters keep export price growth limited to an average of just 0.1 per cent per annum over the 2007-2011 period. Moreover, as foreign effective demand increases on average by 3.9 per cent over the period, the area's exports post a robust 4.7 per cent annual growth rate between 2007 and 2011.

Private sector employment grows by more than 1 per cent in both 2007 and 2008, partly as a result of robust private sector output growth and limited increases in real unit labour costs. However, as consumer prices rise more rapidly than producer prices, real producer wage costs come under pressure as households seek compensation for their rising cost-of-living; this leads overall real unit labour costs to rise on average by 0.5 per cent over the 2007-2011 period. This rise in labour costs cuts into labour demand growth, which subsequently rises on average by a more modest 0.7 per cent a year between 2009 and 2011. The unemployment rate declines from 8.4 per cent in 2006 and settles around 7.7 per cent between 2008 and the end of the projection period.

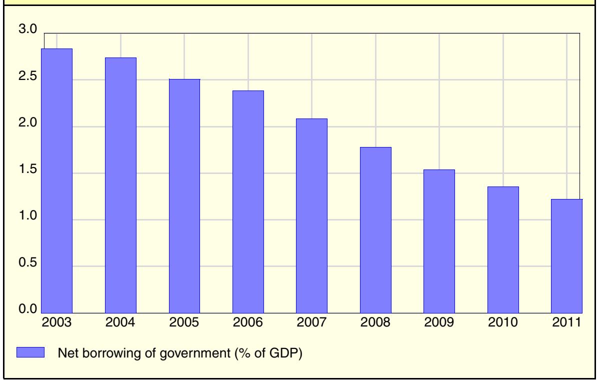
As potential private sector output growth starts to trail behind growth in effective demand - partly reflecting a rising number of pensioners and constant labour force growth - inflationnary pressures begin to build up and consumer price inflation increases from 1.6 per cent in 2007 to 1.9 per cent in 2011. Consequently, nominal short-term interest rates are raised from 2.7 per cent in 2007 to 4.1 per cent in 2011, while nominal long-term interest rates rise from 3.8 per cent in 2007 to 4.5 per cent at the end of the period.

In a context of rising employment, stable output growth, and assuming no further policy slippages, government revenue rises slightly more quickly than public outlays over the 2007-2011 period. As a consequence, the euro area's consolidated fiscal deficit falls from 2.1 per cent of GDP in 2007 to 1.2 per cent of GDP in 2011. Furthermore, robust nominal GDP growth allows for a fall in the euro area's public debt-to-GDP ratio, which declines from 71.2 per cent in 2007 to 68.1 per cent in 2011.

Graph 9 - Current account of the euro area



Graph 10 - Net borrowing of government in the euro area



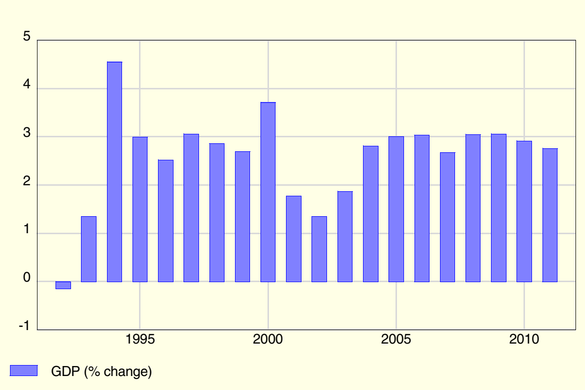
The Western Non-Euro EU Member States

Domestic demand prospects weaken but continue to drive GDP growth in 2005

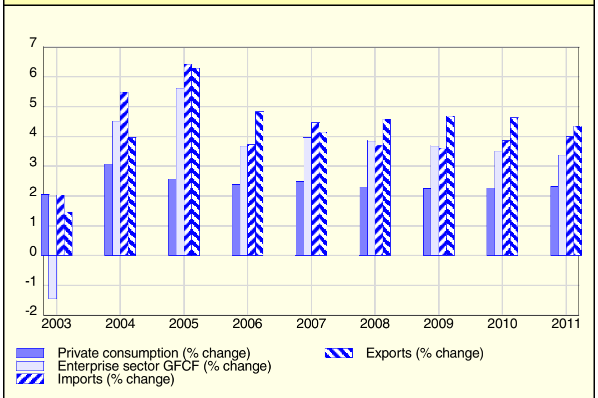
Real GDP growth of the Western non-euro European Union Member States[1] rose by 2.8 per cent in 2004 and is expected to grow by a maximum of 3 per cent in 2005. In 2004, GDP was underpinned by a robust domestic demand, while net exports reduced overall GDP growth by 0.8 percentage-point. Domestic demand is expected to remain the main engine of growth in 2005, while net exports should reduce this year's growth prospects by a more limited 0.4 percentage-point.

1. "Western Non-Euro EU Member States" comprises Denmark, Sweden and the United Kingdom.

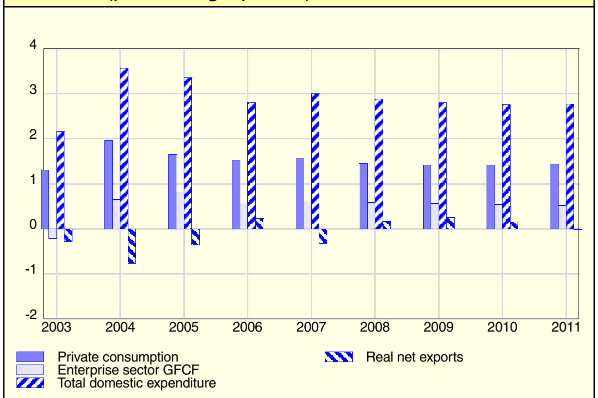
Graph 11 - Gross domestic product in the Western non-euro EU Member States



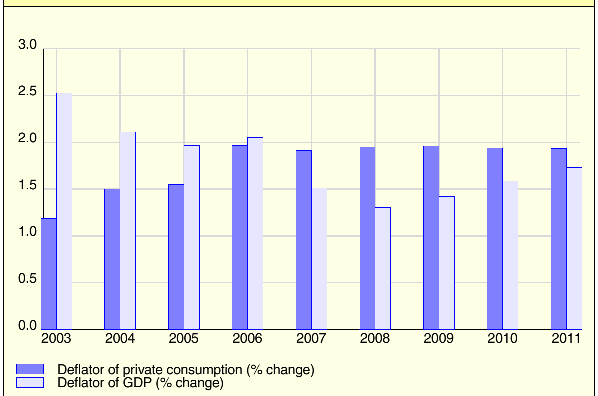
Graph 12 - Selected components of demand in the Western non-euro EU Member States



Graph 13 - Contributions to real GDP growth in the Western non-euro EU Member States *(percentage-points)*



Graph 14 - Price deflators in the Western non-euro EU Member States



In 2005, private consumption in the Western non-euro EU Member States is expected to grow by 2.6 per cent, down from 3.1 per cent the year before. Consumption growth is reduced somewhat by the weaker rise in household real disposable income, which is limited by the moderate 0.5 per cent rise in total employment and by fairly tight monetary conditions. Consumer spending is also expected to wane on the back of the recent stabilisation of house prices in the area.

After posting a 4.5 per cent rate of growth in 2004, business investment is expected to rise by 5.6 per cent in 2005, reflecting relatively level private sector output growth combined with declining real interest rates (deflated by the price of private sector output). At the same time, investment in residential buildings and government investment are expected to pursue their rise, coming out at 5.4 and 9.5 per cent respectively in 2005. Investment in residential buildings should continue to benefit from a still buoyant housing market, while high public sector investments are aimed at a further improvement of public sector services.

Notwithstanding the strong appreciation of the area's real effective exchange rate in recent years, exports jumped by 4 per cent in 2004, thanks to a more robust global demand. Imports rebounded by an even more vigorous 5.5 per cent, in response to rising private sector output and falling import prices. On balance, net exports reduced overall GDP growth by 0.8 percentage-point in 2004. This drag on GDP growth from net exports is expected to persist in 2005, as exports and imports are forecast to rise by 6.3 and 6.4 per cent respectively. Import growth should be sustained by a 4.1 per cent rise in private sector gross output, while exports should benefit from firm growth in global demand and a tempered depreciation of the area's real effective exchange rate.

After a 0.7 per cent rise in 2004, total employment is expected to grow by a more limited 0.5 per cent in 2005. This more measured rise in employment stems from lower private sector hiring, as private sector employment is faced with a tight labour market, characterised by an unemployment rate of just 4.9 per cent of the civilian labour force and a labour supply that is expected to increase by a modest 0.3 per cent in 2005.

The area's consumer price deflator came out at 1.5 per cent in 2004 and should edge up to 1.6 per cent in 2005. The GDP deflator, which is a broader measure of prices, rose by 2.1 per cent in 2004 and is expected to come out at 2 per cent in 2005.

As demand growth started to outpace potential output growth, the anticipation of heightened inflationary pressures led the monetary authorities to raise nominal short-term interest rates from an average of 3.5 per cent in 2003 to 4.1 per cent in 2004. Weaker labour market conditions and a recent slowdown in the reduction of the area's output gap should leave nominal short-term interest rates at an annual average rate of 4.2 per cent in 2005. Long-term interest rates, which came out at 4.8 per cent in 2004, should settle at an average rate of 4.3 per cent in 2005.

In 2004, nominal government revenue grew at a faster pace than total government outlays, reducing the government net borrowing requirement to 2.1 per cent of GDP. As a result of the continued strength in GDP growth, this evolution is expected to continue over the course of 2005, during which the government net borrowing requirement should come out at no more than 2 per cent of GDP.

Positive net exports boost GDP growth in 2006

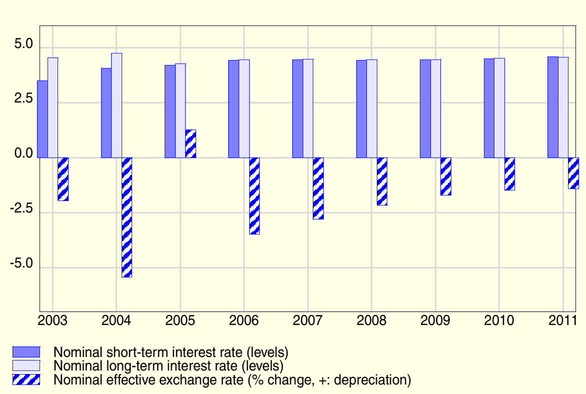
In 2006, GDP in the Western non-euro EU Member States rises by 3 per cent, driven by a somewhat less buoyant domestic demand and a positive contribution to growth from the area's net exports.

Private consumption growth progresses by 2.4 per cent in 2006, compared with 2.6 per cent in 2005. Strong growth in private consumption is supported by a 2.1 per cent rise in real take-home wages and a 0.6 per cent rise in total employment. Consumer spending is resilient, despite smaller capital gains from financial assets and real estate.

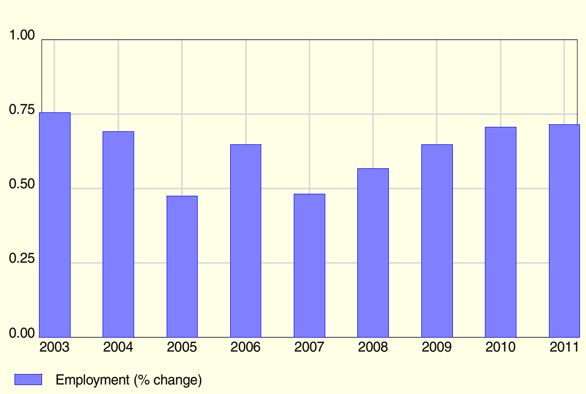
Total gross fixed capital formation continues to provide a vigorous contribution to the area's overall GDP growth. Business sector capital investment grows by 3.7 per cent in 2006. Government investment grows by 6 per cent in 2006, reflecting continued strong government spending on public services. Conversely, growth in residential investment falls back from 5.4 per cent in 2005 to a more modest 1.8 per cent rise in 2006.

The contribution of the area's net exports to the overall GDP growth rate jumps from a 0.4 percentage-point negative contribution in 2005, to a 0.2 percentage-point positive contribution in 2006.

Graph 15 - Interest and exchange rates in the Western non-euro EU Member States

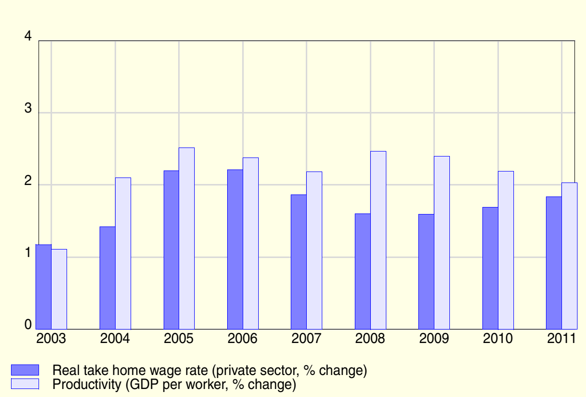


Graph 16 - Employment in the Western non-euro EU Member States



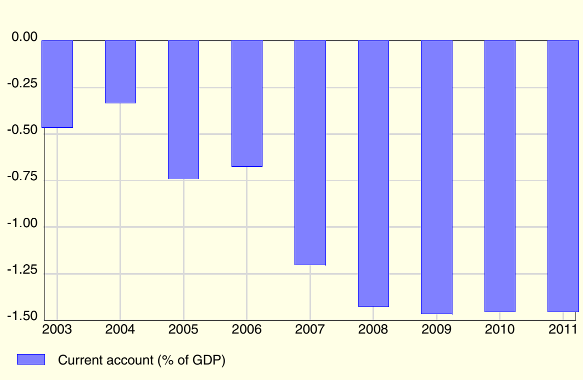
Graph 17 - The unemployment rate in the Western non-euro EU Member States

Graph 18 - Real wages and productivity in the Western non-euro EU Member States

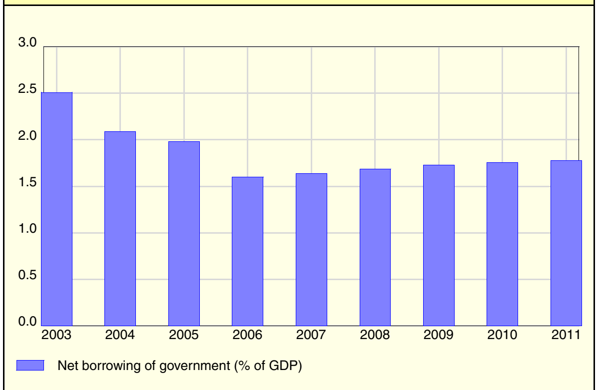


This turn-around in net exports is mainly linked to the sharp downward correction in import growth, which rises by no more than 3.7 per cent in 2006, compared with a rise of 6.4 per cent the year before. The weaker import growth is due to both a smaller rise in private sector gross output in 2006, and the previous year's strong 4.3 per cent rise in the area's import prices.

Graph 19 - Current account of the Western non-euro EU Member States



Graph 20 - Net borrowing of government in the Western non-euro EU Member States



Export growth also stumbles in 2006, coming out at 4.8 per cent, compared with a 6.3 per cent rise in 2005. The area's reduced export growth performance reflects a more subdued rise in foreign effective demand, as well as the strong real effective appreciation of the area's currencies in 2006.

Labour demand rises by 0.6 per cent in 2006, bolstered by continued strong output growth and the decline in real unit labour costs over the course of the previous years. At the same time, relatively favourable employment prospects lead to a surge in the labour supply, which jumps by 0.8 per cent in 2006, compared with just 0.3 per cent the year before. With the labour supply rising somewhat faster than labour demand, the unemployment rate edges slightly up, from 4.9 per cent of the civilian labour force in 2005 to 5 per cent in 2006. However, conditions in the area's labour market remain tight and labour productivity growth remains strong, pushing up real private sector producer wages by 3.1 per cent. As a result, overall real unit labour costs rise by 0.1 per cent in 2006.

Consumer price inflation accelerates in 2006, jumping from 1.6 per cent in 2005 to 2 per cent, as private sector potential output growth continues to lag behind growth in domestic demand. This leads the monetary authorities to adjust short-term interest rates, nudging them up from 4.2 per cent in 2005 to 4.4 per cent in 2006. Long-term interest rates increase from 4.3 per cent in 2005 to 4.5 per cent in 2006.

In 2006, as government income once again increases more briskly than government expenditures, the area's net borrowing of government declines from 2 per cent of GDP in 2005, to just 1.6 per cent of GDP.

Stable expansion of domestic demand as of 2007

The Western non-euro EU countries' GDP growth averages 2.9 per cent per annum over the 2007-2011 period, with domestic demand contributing the totality of the growth over the period.

Private consumption rises on average by 2.3 per cent over the 2007-2011 period, reflecting a 2.5 per cent average growth in real disposable income and continued strong increases in expected future income. The rise in real disposable income mainly stems from a 0.6 per cent average rise in employment and a 1.8 per cent average rise in real take-home wages. Households' heightened expectations regarding their future wage incomes are linked to their more optimistic views as to future labour demand and real wages.

Total investment in gross fixed capital increases by 3.3 per cent over the 2007-2010 period, notwithstanding a decline in public investment growth rates. Continued strong output growth and robust employment growth require a 2.9 per cent average expansion in the business sector's fixed capital stock.

The area's consolidated exports rise on average by 4.5 per cent over the 2007-2011 period, mainly due to the 3.5 per cent average rise in foreign effective demand. Over the same period, export price growth is contained as exporters attempt to remain competitive in the face of the steady 1.9 per cent annual average nominal effective appreciation of the area's currencies. Imports grow at an annual average rate of 3.9 per cent over the same period, as import demand is sustained by strong domestic output growth and the continued exchange rate appreciation. Net exports fail to make any significant contribution to overall GDP growth and the area chalks up a current account deficit that averages 1.4 per cent over the 2007-2011 period.

Employment rises by 0.6 per cent per annum over the 2007-2011 period, while the labour supply grows by 0.7 per cent on average over the same period. Hence, the unemployment rate settles at an average of 5.3 per cent of the civilian labour force.

After an initial measured acceleration in 2006, consumer price inflation stabilises at 1.9 per cent per annum between 2007 and 2011. Moreover, as inflationary pressures tend to subside, short-term interest rates are kept close to their equilibrium level which stands at 4.5 per cent between 2007 and 2011. Nominal long-term interest rates also settle at an average rate of 4.5 per cent.

With public expenditures growing at a slightly faster pace than government income over the 2007-2011 period, the area's fiscal deficit rises from 1.6 per cent of GDP in 2007 to 1.8 per cent of GDP in 2011.

The New EU Member States

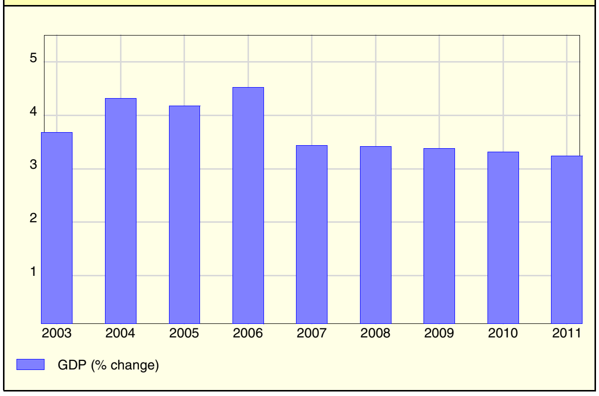
Strong domestic demand growth forecast for 2005

In 2005, real GDP of the New EU Member States[1] is expected to grow by 4.2 per cent, slightly down from the 4.3 per cent the year before. This continued vigorous output growth is solely supported by sturdy growth in domestic demand, especially in investment, as the area's net exports are forecast to weaken significantly in 2005.

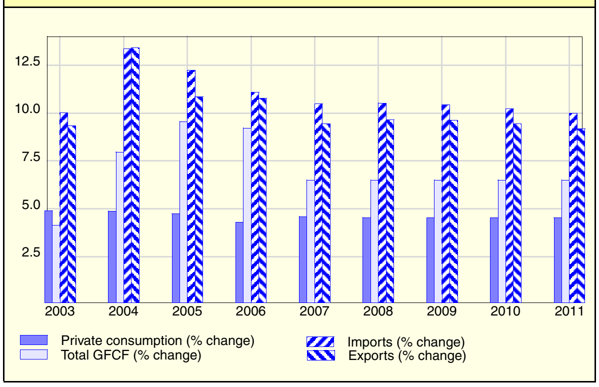
Growth in gross fixed capital formation accelerates from an already high 8 per cent in 2004 to an impressive 9.6 per cent in 2005. At the same time, public consumption growth should increase from 0.7 per cent in 2004 to 2.3 per cent in 2005, while private consumption growth is expected to fall only slightly, down from 4.9 per cent in 2004 to 4.7 per cent in 2005.

In line with this high domestic demand growth, but also stimulated by the easing of customs formalities after the accession of these countries to the European Union, imports continue to grow rapidly. Indeed, imports progress by a whopping 12.2 per cent in 2005, though this is still somewhat lower than the exceptional 13.4 per cent jump that was noted in 2004. Growth in exports is equally impressive, as exports are expected to grow by 10.9 per cent in 2005 after having posted a formidable 13.4 per cent increase in 2004. On balance, in 2005 the area's net exports should subtract 1.8 percentage-points from overall GDP growth, compared with the negative 1 percentage-point contribution to the previous year's growth.

Graph 21 - Gross domestic product in the New EU Member States



Graph 22 - Selected components of demand in the New EU Member States

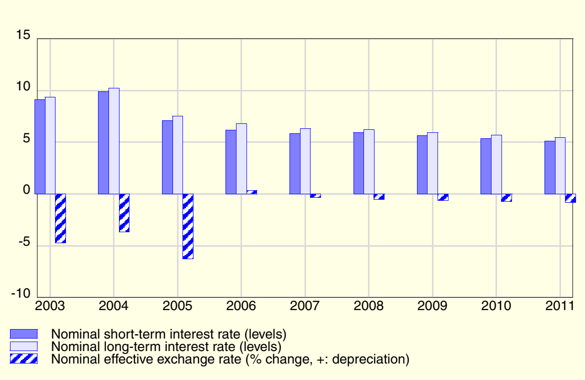


In 2005, consumer price inflation is expected to come out at 2.3 per cent, down by 1.5 percentage-points from the year before. Partly in response to this easing of inflationary pressures, nominal short-term interest rates are forecast to fall by 2.8 percentage-points to a level of 7.1 per cent, while long-term interest rates should decline from 10.2 per cent in 2004 to 7.5 per cent in 2005. Simultaneously, the area's nominal effective exchange rate

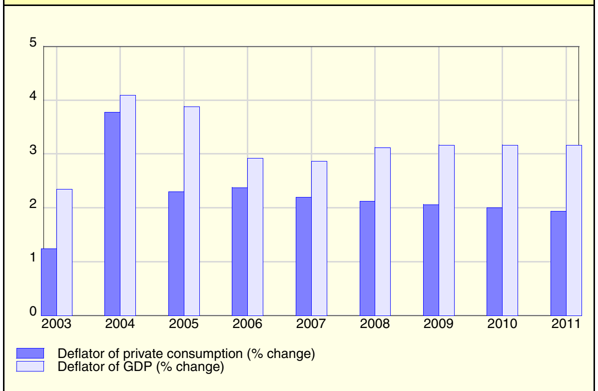
1. "New EU Member States" includes here Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Bulgaria and Romania.

should appreciate by 6.3 per cent, while the real effective exchange rate moves in the opposite direction and depreciates by 0.2 per cent, primarily reflecting stronger price increases in the rest of the world than in the New EU Member States.

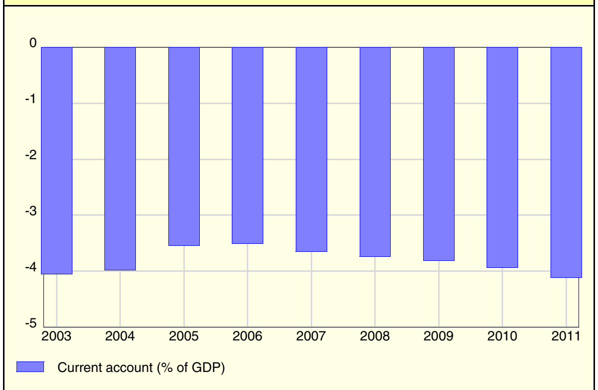
Graph 23 - Interest and exchange rates in the New EU Member States



Graph 24 - Price deflators in the New EU Member States



Graph 25 - Current account of the New EU Member States



As of 2006, continued strong economic activity accompanied by widening current account deficits

Assuming no further policy slippages and a close adherence to growth and stability-oriented macroeconomic policies, real GDP growth of the area averages 3.6 per cent per annum over the 2006-2011 period, compared with just 1.9 per cent in the euro area over the same period.

During the 2006-2011 period, growth in the New EU Member States is mainly underpinned by a robust 4.5 per cent average annual increase in private consumption and a 7 per cent average annual increase in gross fixed capital formation. These high growth rates for investment reflect the efforts that continue to be made to facilitate the further transition of the area to a modern service-oriented, knowledge-based, market economy.

Though the area's nominal effective exchange rate appreciates by 0.4 per cent per annum on average over the 2006-2011 period, the real effective exchange rate depreciates on average by 0.8 per cent per annum. To a large extent, this reflects the relatively higher rates of inflation that prevail in the rest of the world. However, this real depreciation of the area's currencies is insufficient to curb the widening current account deficit, and the area's consolidated current account deficit reaches 4.1 per cent of GDP in 2011.

As the nominal effective exchange rate further appreciates and interest rates are only gradually lowered to levels similar to euro area interest rates, consumer price inflation recedes and comes out at an average rate of 2.1 per cent per annum over the 2006-2011 period, compared with an average rate of 1.7 per cent in the euro area.

The United States

Growth slips as interest rates rise sharply in 2005

After the strong 4.5 per cent rise in real GDP in 2004, real GDP in the United States (US) is expected to progress by a more restrained 3.8 per cent in 2005. This lower growth primarily reflects a slowdown in domestic demand, following the sharp interest rate hike that is forecast over the course of this year. However, as the effective external value of the dollar is expected to continue its slide in 2005, and as previous depreciations start to produce their full impact on import demand, the negative contribution of net exports on overall GDP growth is forecast to decline from 0.8 percentage-point in 2004 to 0.6 percentage-point in 2005.

Growth in private consumption should come out at 3.6 per cent in 2005, down slightly from its 3.8 per cent rise in 2004. In 2004, consumer spending was underpinned by low interest rates, a sharp rise in total employment and rising real wages. In 2005, employment and real take-home wages are expected to progress at almost the same rate as in 2004, i.e. by 1.1 per cent and 2.2 per cent respectively. The slightly lower rise in private consumption is thus primarily due to the rapid rise of US interest rates.

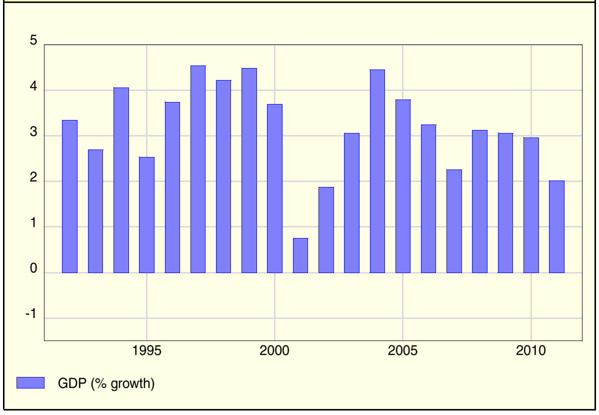
US business sector investment jumped by a massive 10.4 per cent in 2004, as firms attempted to catch up on the below-trend investment rates of the preceding years. This effort is expected to be pursued in 2005, with business sector investment rising by a still impressive 9.3 per cent. Investment in residential buildings should decelerate sharply in 2005, growing by only 3 per cent after the very strong 9.6 per cent rise in 2004. Moreover, inventory demand, which contributed a positive 0.5 percentage-point to domestic demand growth in 2004, is forecast to contribute only a limited 0.1 percentage-point to overall growth in 2005.

US exports performed exceptionally well in 2004, growing by a full 8.5 per cent, mainly thanks to the strong rebound in global demand and the weaker US dollar. Export growth should come out at a still high rate of 6.5 per cent in 2005, benefiting from the further effective depreciation of the US currency and the still robust foreign demand. Imports also surged in 2004, rising by 9.9 per cent as the rapid expansion of the US economy continued to stoke demand for imports. On balance however, the current account deficit swelled to 5.4 per cent of GDP in 2004, and this trend looks set to continue in 2005, leading to an external deficit of 6 per cent of GDP.

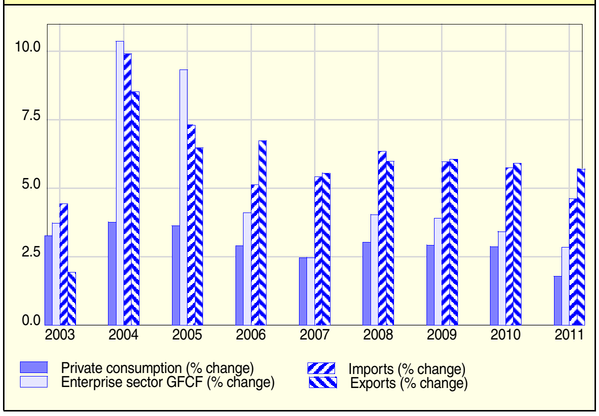
Monetary policy continued to be accommodative in 2004, as nominal short-term interest rates stood at an average rate of 1.6 per cent and real interest rates posted a negative 0.6 per cent rate (deflated by consumer prices). In 2005 however, the US monetary authorities are expected to tackle the inflationary buildup and raise short-term rates to an average rate of 3.4 per cent for the year; this would imply that real interest rates would rise to an average of 1 per cent on the year (deflated by consumer prices). Long-term interest rates are forecast to decline somewhat, falling from 4.3 per cent in 2004 to 4.2 per cent in 2005.

After having depreciated by 6 per cent in 2003 and 4.5 per cent in 2004, the US dollar's nominal effective exchange rate is expected to depreciate by a further 2.4 per cent, despite a noteworthy weakening of the euro in 2005.

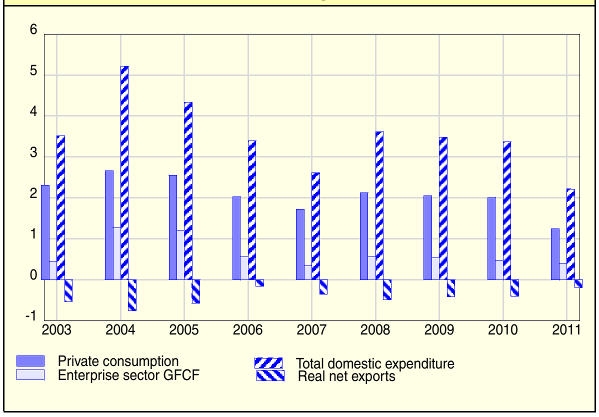
Graph 26 - Gross domestic product in the US



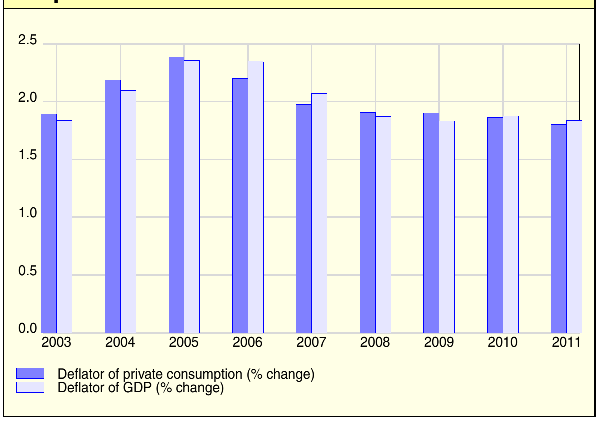
Graph 27 - Selected components of demand in the US



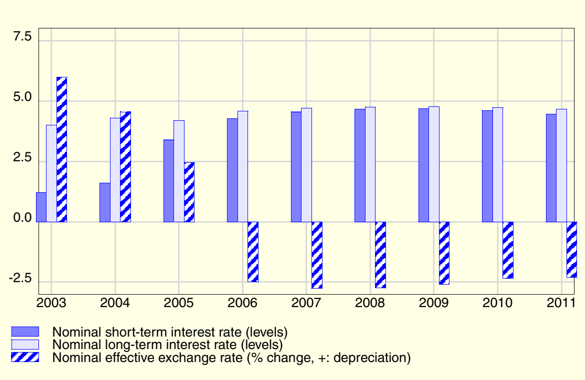
Graph 28 - Contributions to real GDP growth in the US *(percentage-points)*



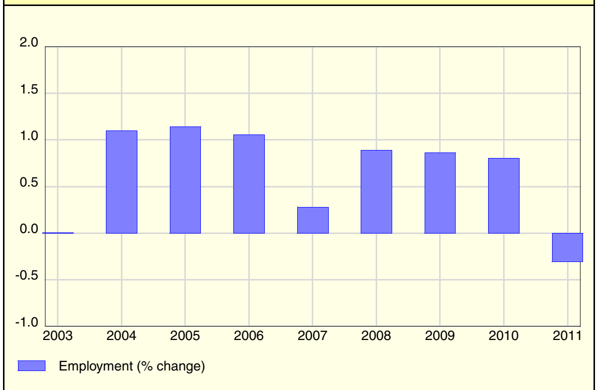
Graph 29 - Price deflators in the US



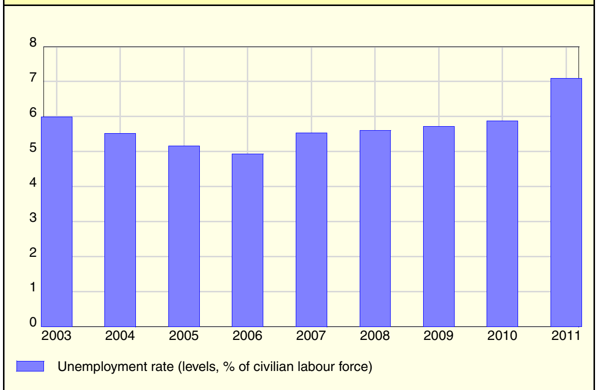
Graph 30 - Interest and exchange rates in the US



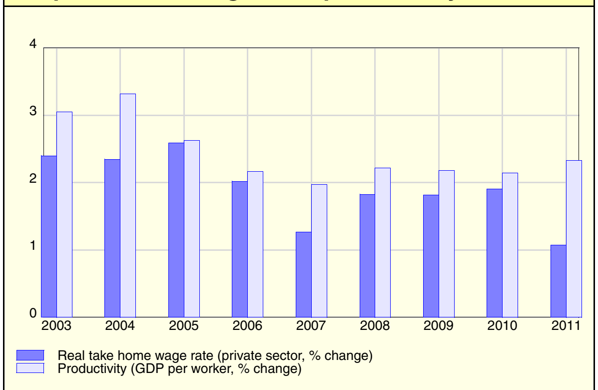
Graph 31 - Employment in the US



Graph 32 - The unemployment rate in the US



Graph 33 - Real wages and productivity in the US



Employment posted a substantial increase in 2004, finally beginning to reverse the course of the "jobless recovery" of the preceding years. Total employment jumped by 1.1 per cent in 2004, while the labour supply rose by 0.6 per cent. This led to a fall in the unemployment rate, which sank from 6 per cent of the civilian labour force in 2003 to 5.5 per cent in 2004. At the same time, labour productivity growth remained strong, rising by 3.3 per cent for the economy as a whole in 2004. In 2005, labour productivity growth should slow somewhat, coming out at 2.6 per cent, while total employment should continue to increase by a strong 1.1 per cent, bringing the unemployment rate down to 5.2 per cent of the civilian labour force.

The US government budget deficit came out at 4.4 per cent of GDP in 2004, down from 4.6 per cent the year before. The US federal budget deficit is expected to pursue its adjustment in 2005, settling at 3.9 per cent of GDP.

Less accommodative monetary and fiscal policies begin to weigh on domestic demand in 2006

As the tightening of monetary policy looks set to continue and as certain important existing tax cut provisions are about to sunset, aggregate demand in the United States is projected to come under increasing pressure. US real GDP growth should decelerate to 3.2 per cent in 2006, compared with 3.8 per cent the previous year.

Private consumption growth slides from 3.6 per cent in 2005 to 2.9 per cent in 2006, as households start to increase their savings in the face of sharp interest rate hikes and future tax increases.

Total gross fixed capital formation rises by 4 per cent in 2006 compared with 7.1 per cent in 2005, as growth in business sector investment falls from 9.3 per cent in 2005 to 4.1 per cent in 2006. Growth in business investment slackens in the wake of the unsustainably high growth rates of the past two years and climbing interest rates. Growth in residential investment comes out at 4.3 per cent in 2006, after posting a more moderate 3 per cent rise in 2005.

In 2006, US exports progress by 6.7 per cent, not only building on the string of dollar depreciations of the three previous years, but also benefiting from a fairly robust global demand. Moreover, as the 2006 dollar appreciation puts US exporters under pressure to remain competitive by limiting the rise in export prices, the negative impact of the 2006 nominal effective appreciation is small. Import growth slows substantially in 2006, down from 7.3 per cent in 2005 to 5.1 per cent in 2006, as imports adjust to the country's lower private sector output growth in 2006. All in all, the reduction in import growth is the dominating effect and the US current account deficit shrinks from 6 per cent of GDP in 2005 to 5.9 per cent of GDP in 2006.

Building on robust private sector output growth and steadily declining real unit labour costs, total employment increases by 1.1 per cent in 2006. Simultaneously, the labour supply expands by 0.8 per cent, slightly reducing the unemployment rate from 5.2 per cent of the civilian labour force in 2005 to 4.9 per cent in 2006. Real take-home wages grow by a modest 2.1 per cent, slightly down from a 2.2 per cent increase the year before.

The US monetary authorities maintain their pace of monetary tightening, raising nominal short-term interest rates from 3.4 per cent in 2005 to 4.3 per cent in 2006. At the same time, nominal long-term interest rates increase from 4.2 per cent in 2005 to 4.6 per cent in 2006. Moreover, as the continuous rise in US interest rates is larger than the rise in interest rates elsewhere in the world, the US nominal effective exchange rate appreciates by 2.5 per cent, thereby reversing the course of three years of significant depreciations since 2003.

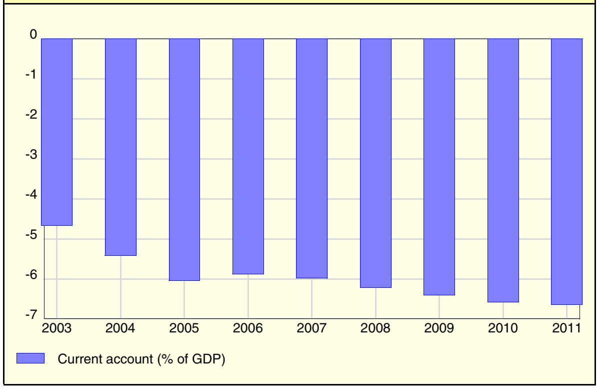
Consumer price inflation falls from 2.4 per cent in 2005 to 2.2 per cent in 2006, indicating that the gradual tightening of monetary and fiscal policy is succeeding in bringing the expansion in domestic demand more into line with the economy's long-term growth potential.

In 2006, fiscal revenue increases at a somewhat faster pace than public expenditures and the US fiscal deficit falls from 3.9 per cent of GDP in 2005 to just 3.8 per cent of GDP.

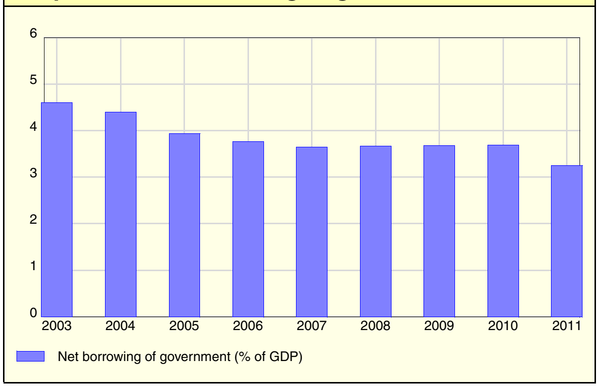
Growth stumbles as significant tax cut provisions expire between 2007 and 2011

GDP growth tends to decline over the 2007-2011 period, as tax cut provisions expire[1] and as the tightening of monetary policy produces its full impact on the US economy. In 2007, GDP growth dips to 2.3 per cent as domestic demand is adversely affected by strong tax increases and as exports suffer from the continued effective appreciation of the dollar. Nevertheless, real GDP growth subsequently rebounds to 3.1 per cent in 2008 and comes out at an annual average rate of 2.9 for the 2007-2010 period. In 2011 however, as taxes are raised sharply once again, US real GDP growth stumbles and comes out at a paltry 2 per cent.

Graph 34 - Current account of the US



Graph 35 - Net borrowing of government in the US



Private consumption grows at an average rate of 2.8 per cent over the 2007-2010 period. Consumption is underpinned by a robust 3.3 per cent annual average increase in household real disposable income over 2007-2010, which is itself linked to a 0.7 per cent average rise in employment, a 1.7 per cent average increase in real take-home wages and a 5.1 per cent average increase in asset income. Real wage growth is somewhat lower than in previous years due to the rise in direct taxes, most notably in 2007. In 2011, consumer spending bears the brunt of the new large tax hike and private consumption growth tumbles to just 1.8 per cent.

During the 2007-2011 period, business sector investment rises on average by 3.3 per cent. Growth in business investment is particularly strong up to 2009, as it is fuelled by still robust private sector output growth. However, as taxes increase and economic activity declines, investment growth also decelerates and finally falls from 3.4 per cent in 2010 to 2.8 per cent in 2011.

1. See the technical appendix for details regarding the baseline assumptions for US fiscal policy.

After reducing growth by a limited 0.2 percentage-point in 2006, the contribution of net exports to growth deteriorates between 2007 and 2010, subtracting about 0.4 percentage-point each year from the overall GDP growth figure. Indeed, export growth falls to an average of 5.8 per cent due to slowing foreign effective demand growth and the dollar's steady appreciation over 2007-2011. Furthermore, the country's import growth initially jumps from 5.1 per cent in 2006 to 6.3 per cent in 2008, as the rise in import prices is limited by the dollar's appreciation. However, once the slow-down in private sector output sets in, import growth also declines to just 4.6 per cent in 2011. All in all, the US current account deficit persists over the whole projection period, and averages 6.4 per cent of GDP per year over the 2007-2011 period.

Private sector employment growth plunges in 2007, coming out at just 0.2 per cent, in the wake of expiring tax cut provisions. These tax increases reduce labour demand growth through their effect on real unit labour costs, which rise for the first time since 2000; they also tend to lower the growth of aggregate domestic demand by limiting the rise in households' purchasing power. However, the effect of the 2007 tax hike dissipates rapidly and employment growth returns to a more neutral average growth rate of 0.9 per cent over the 2008-2010 period. In 2011, the sunset of further significant tax cut provisions adversely affects economic activity, leading to a 0.3 per cent fall in total employment.

Over the 2007-2011 period, the US labour force increases by 1 per cent per annum on average. This stable rise in the labour supply, combined with a relatively lower average rise in employment, pushes the unemployment rate from 5.5 per cent of the civilian labour force in 2007 to 5.9 per cent in 2010. In 2011 however, the unemployment rate jumps to 7.1 per cent of the civilian labour force. Over the 2007-2011 period, growth in real private sector producer wage costs comes out at an average rate of 2.6 per cent, compared with a 1.6 per cent rise in real take-home wages. At the same time, overall labour productivity, measured in terms of GDP per worker, increases at an average rate of 2.2 per cent, but picks up in 2011 as the fall in employment growth is more pronounced than the fall in output growth.

Private sector producer price inflation and consumer price inflation remain relatively subdued, posting average increases of 1.8 per cent and 1.9 per cent respectively over the 2007-2011 period. These relatively tame inflation rates indicate that monetary and fiscal policies succeed in gradually bringing aggregate demand growth into line with the evolution of potential output growth.

The nominal short-term interest rates are raised to 4.5 per cent in 2007. They then rise to 4.7 per cent in both 2008 and 2009, as the output gap is stabilised. In 2011, as taxes rise sharply and demand stumbles, the nominal short-term interest rates are lowered to 4.5 per cent, leaving the real short-term rate at 2.7 per cent (deflated by consumer prices). As inflation expectations for the coming years remain subdued, the long-term interest rate stays close to its equilibrium rate, at about 4.7 per cent between 2007 and 2011. The dollar exchange rate appreciates at an average annual rate of 2.5 per cent over 2007-2011 primarily due to the relatively higher inflation in the rest of the world.

Notwithstanding the rise in fiscal revenue due to the expiration of significant tax cut provisions between 2007 and 2011, the fiscal deficit-to-GDP ratio improves only very slowly. The net public borrowing requirement falls from 3.8 per cent of GDP in 2006 to 3.7 per cent of GDP between 2007 and 2010. A faster improvement in public finances is hindered by the rise in government outlays for unemployment benefits and interest payments on public debt. However, in 2011, as tax rates are once again substantially increased, government revenue surges and the deficit-to-GDP ratio falls to just 3.2 per cent of GDP.

Japan

Growth decelerates and deflation persists in 2005

In 2005, Japanese real GDP growth is expected to rise by a mere 1.2 per cent, after having posted a strong 2.7 per cent increase in 2004. This lower output growth is caused by a strong deceleration in domestic demand, as well as by a noteworthy deterioration in net exports.

Domestic demand suffers from a slowdown in all of its components, except investment in residential buildings which is expected to grow by 3.2 per cent in 2005 compared with 1.7 per cent in 2004. Residential investment exhibits a fairly high growth rate primarily because it is still recovering from its negative growth rates in the recent past.

Private consumption, which suffers from a slowdown in disposable income growth, is forecast to grow by only 0.8 per cent in 2005, compared with 1.5 per cent in 2004.

Growth in business sector investment also decelerates sharply, falling from 5.5 per cent in 2004 to 3 per cent in 2005. Public investments continue to weigh negatively on overall growth, as large fiscal imbalances put public outlays under ever mounting pressure.

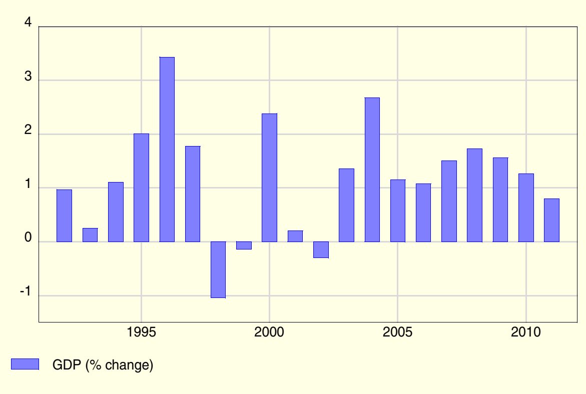
Export growth is expected to fall from a whopping 14.3 per cent in 2004 to 8 per cent in 2005, indicating that the slowdown in global demand growth outweighs the effects of the real effective exchange rate depreciation. Import growth is also expected to decrease, falling from 8.9 per cent in 2004 to 7 per cent in 2005, in line with the slower growth in domestic activity and rising import prices. All in all, Japanese net exports should contribute only 0.4 percentage-point to the country's overall growth in 2005, after having contributed a full percentage-point in 2004.

Prices continue their downward spiral, notwithstanding zero interest rates supplemented by a monetary policy of quantitative easing. In 2005, the deflator of private consumption is expected to fall by 0.4 per cent, following a 0.5 per cent drop in 2004. The GDP deflator should decline by 0.8 per cent in 2005, after falling by 1.2 per cent in 2004.

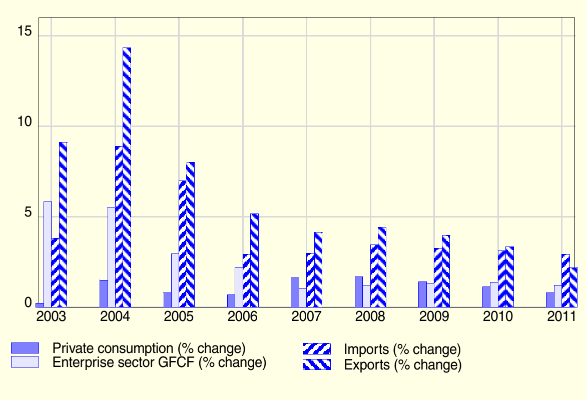
While short-term interest rates are expected to remain at their lower bound, nominal long-term interest rates are expected to fall by 0.1 percentage-point to 1.3 per cent in 2005. Japan's nominal effective exchange rate is forecast to remain unchanged in 2005, after having appreciated by 3.1 per cent in 2003 and 3.7 per cent in 2004. However, as domestic prices continue to fall in the face of rising foreign prices, the real effective exchange rate moves in the opposite direction, depreciating by 1.1 per cent in 2004 and 4.4 per cent in 2005.

In 2005, total employment is expected to rise by a meagre 0.1 per cent. However, as the labour force contracts by 0.3 per cent, the unemployment rate falls from 4.7 per cent of the civilian labour force in 2004 to 4.3 per cent in 2005.

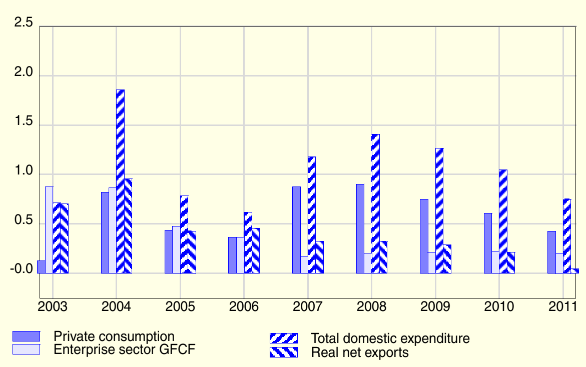
Graph 36 - Gross domestic product in Japan



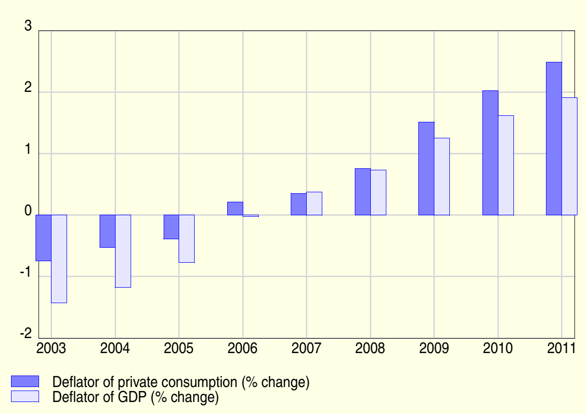
Graph 37 - Selected components of demand in Japan



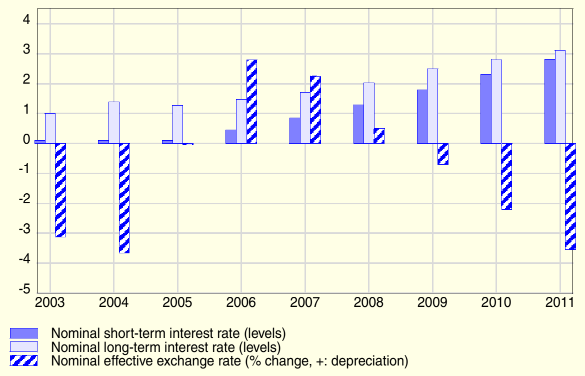
Graph 38 - Contributions to real GDP growth in Japan *(percentage-points)*



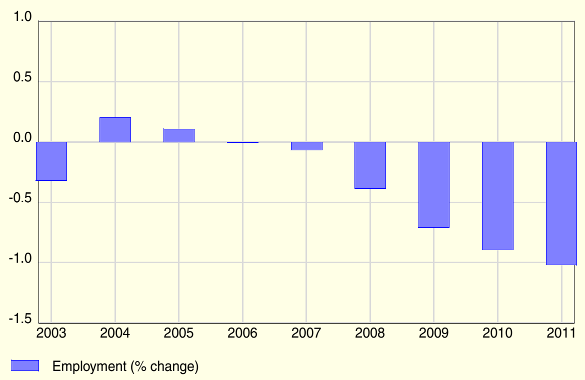
Graph 39 - Price deflators in Japan



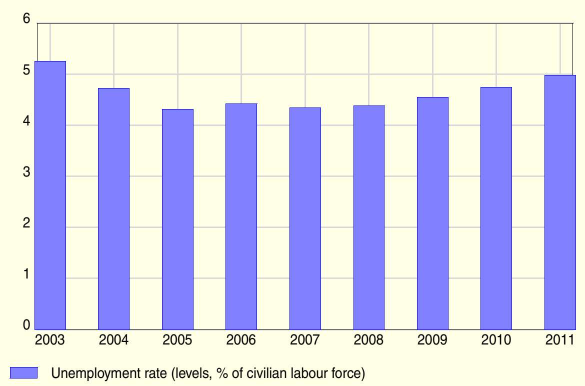
Graph 40 - Interest and exchange rates in Japan



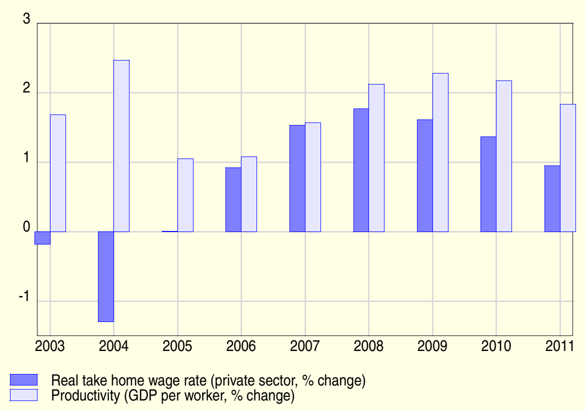
Graph 41 - Employment in Japan



Graph 42 - The unemployment rate in Japan



Graph 43 - Real wages and productivity in Japan



Growth remains weak but inflation reappears in 2006

Real GDP growth remains weak in 2006, coming out at only 1.1 per cent. However, a seven-year streak of deflation is finally brought to an end as the deflator of private consumption increases by 0.2 per cent.

In 2006, private consumption growth comes out at a frail 0.7 per cent, primarily reflecting slightly lower growth in household disposable income and lackluster increases in other sources of household purchasing power, including financial assets whose real value is now eroded by the new consumer price increases. The 0.9 per cent increase in real take-home wages only allows for a 0.6 per cent rise in household real disposable income, as growth in other income remains feeble.

Growth in business sector investment decelerates further, falling from 3 per cent in 2005 to 2.2 per cent in 2006, mainly in response to slow Japanese output growth. Investment in residential buildings plummets from 3.2 per cent in 2005 to just 0.5 per cent in 2006, primarily reflecting the slow income growth and an investment pause after two years of relatively strong growth. After having declined by more than 9 per cent per year during the previous three years, public investment is cut by yet another 5.1 per cent in 2006, in an attempt to balance the government fiscal stance in the medium-term.

Exports grow by only 5.2 per cent in 2006 compared with 8 per cent in 2005, mainly because of a slowdown in the growth of foreign effective demand. Nevertheless, despite the fall in export growth, the contribution of net exports to overall GDP growth rises slightly to 0.5 per cent, as import growth decelerates from 7 per cent in 2005 to just 2.9 per cent in 2006. Import growth declines sharply in response to continued low domestic output growth and the sharp rise in import prices mainly as a result of high oil prices as of 2004.

In 2006, after several years of a zero-interest-rate policy, supplemented by a policy of quantitative easing, inflation expectations begin to rise and Japanese deflation finally comes to an end. The deflator of private consumption increases by 0.2 per cent, but deflationary pressures persist and a number of prices - such as gross output prices -

have not yet completely returned to positive growth.

Real private sector wage costs increase sharply, rising by 1.8 per cent in 2006, as labour markets become tighter following strong decreases in the unemployment rate as of 2004. Simultaneously, real unit labour costs rise for the first time since 1999, coming out 0.5 per cent higher for the economy as a whole. The level of total employment remains unchanged in 2006, as the 1 per cent rise in GDP proves to be insufficient to generate new jobs. However, as the labour force only increases by a very marginal 0.1 per cent in 2006, the unemployment rate edges up slightly from 4.3 per cent of the civilian labour force in 2005 to 4.4 per cent in 2006.

In 2006, nominal short-term interest rates rise above their lower bound for the first time since 2001, reaching an average rate of 0.5 per cent on the year. The long-term interest rate rises to 1.5 per cent. Moreover, as deflation has finally come to an end and the price increases prove to be more rapid than the rise in nominal interest rates, real interest rates decline in 2006.

The nominal effective exchange rate depreciates by 2.8 per cent in 2006, as the interest rate hikes in the rest of the world are larger than the very modest rate increases in Japan. At the same time, the real effective exchange rate continues to depreciate, as prices in the rest of the world tend to rise more rapidly than in Japan.

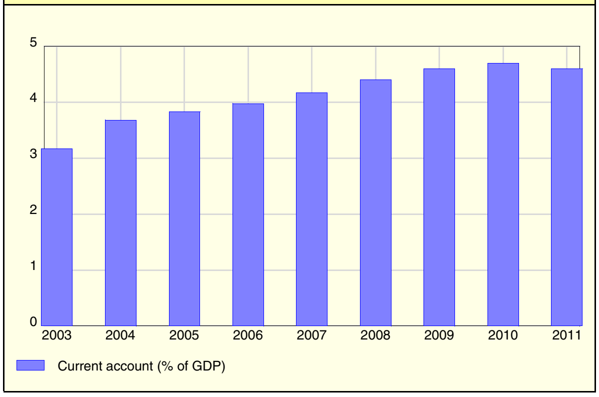
The Japanese fiscal deficit remains high in 2006, although it declines from 6.6 per cent of GDP in 2005 to 5.9 per cent of GDP in 2006. This fall is primarily due to an increase in fiscal revenues, caused by a small rise in the social security contribution rates and an increase in the tax base following a rise in real wages.

Growth picks up in 2007 before faltering in the face of ever mounting pressures from an ageing population

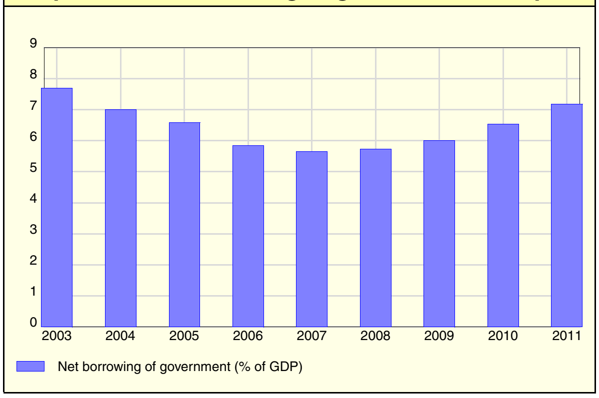
Over the 2007-2011 period, Japan's real GDP grows on average by 1.4 per cent per year. During this period, economic growth is driven mainly by private consumption and investment in residential buildings, while the positive contribution to growth from net exports gradually evaporates. At the same time, deflation is completely eradicated and the deflator of private consumption increases on average by 1.4 per cent per annum, while the GDP deflator rises on average by 1.2 per cent per annum.

Private consumption grows by a noteworthy 1.7 per cent in 2007, after having posted tepid growth rates during the two previous years. However, after this temporary rebound consumption growth stumbles and comes out at only 0.8 per cent in 2011. This steady decline in private consumption growth results from the declining growth of expected future income linked to the rapidly shrinking Japanese labour force, as well as from a loss of purchasing power of nominal assets due to the reappearance of inflation and the decline in real interest rates.

Graph 44 - Current account of Japan



Graph 45 - Net borrowing of government in Japan



Business sector fixed capital investment rises on average by a moderate 1.2 per cent over the 2007-2011 period, primarily because the contracting labour supply and declining output growth require fewer new capital inputs. Investment in residential buildings grows strongly in 2008 and 2009, but this growth slows down thereafter, coming out at an average growth rate of 2.2 per cent over the 2007-2011 period. The temporary surge in investment in residential buildings is primarily due to a temporary increase in household real disposable income and the fall in real interest rates.

The contribution of net exports to overall growth gradually declines over the medium term, falling from 0.3 percentage-point in 2007 to zero in 2011. This decline reflects a sharper deceleration in export growth than in import growth. Indeed, although exports grow on average by 3.6 per cent over the 2007-2011 period, their growth rate declines from 4.1 per cent in 2007 to 2.2 per cent in 2011. During this time, import growth remains relatively stable, rising on average by 3.1 per cent per annum. Export growth loses momentum over the 2009-2011 period, mainly due to the strengthening of the Japanese currency. Import growth remains more stable, as the fall in domestic output is partly off-set by the effect of the yen's effective appreciation.

Over the 2007-2011 period, population growth stagnates and the Japanese labour force contracts by 0.5 per cent per year on average. At the same time, overall labour productivity growth remains robust, giving rise to fairly high wage growth without any parallel increase in real unit labour costs. However, as consumer prices tend to rise more quickly than producer prices, real take-home wage growth declines between 2008 and 2011.

The GDP deflator increases on average by 1.2 per cent per year between 2007 and 2011, while the consumer price deflator rises at an annual average rate of 1.4 per cent per annum. This relative price increase of private consumption is necessary in order to contain consumer demand, which tends to rise more rapidly than potential output growth. Indeed, Japanese aggregate demand is fostered by an increasing number of pensioners with a low propensity to save, while potential output growth is hampered by the steady decline in the working-age population.

Over the 2007-2011 period, growth in domestic demand consistently outstrips growth in potential output, leading the Japanese monetary authorities to increase nominal short-term interest rates from 0.9 per cent in 2007 to 2.8 per cent in 2011. Long-term interest rates also react to this surge in inflation and rise from 1.7 per cent in 2007 to 3.1 per cent in 2011. However, real interest rates fail to rise in any significant manner and remain well below their long-term neutral level of about 2.1 per cent, as the monetary authorities fear that a too severe tightening of its monetary policy could quell the economic recovery.

The yen's nominal effective exchange rate depreciates over the 2006-2008 period, as foreign interest rates increase more quickly than domestic interest rates. However, higher inflation abroad, as well as a steady narrowing of the interest rate differential, lead to an appreciation of Japan's nominal effective exchange rate as of 2009.

The Japanese fiscal deficit narrows slightly in 2007, but starts to widen again as of 2008, largely due to the effects of a rapidly ageing population which lowers the tax base and increases public transfers to households.

The Rest of the World

Renewed high output growth forecast for 2005

Gross output of the rest of the world is expected to grow by 5.6 per cent in 2005, compared with 6.5 per cent in 2004. The area's output growth remains resilient due to relatively low interest rates and sustained productivity growth. Inflation is slightly down from the previous years, coming out at 5.1 per cent in 2005, against 5.2 per cent the year before. The area's import growth is expected to increase from 7.1 per cent in 2004 to 8.7 per cent in 2005, while export growth is forecast to increase from 8.3 per cent in 2004 to 9.2 per cent in 2005.

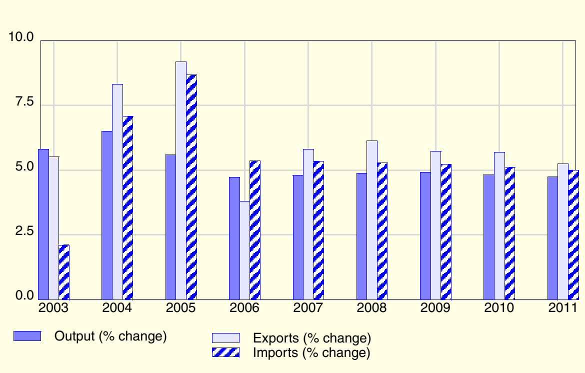
Sustained output growth and a stabilized inflation rate as of 2006

Assuming no major shocks to the area's economies - including a successful soft-landing of the Chinese economy - the rate of growth of the area's aggregate output is expected to decline to 4.7 per cent in 2006, before averaging a robust 4.8 per cent per annum over the 2007-2011 period. At the same time, prices rise on average by 5.1 per cent over the 2007-2011 period.

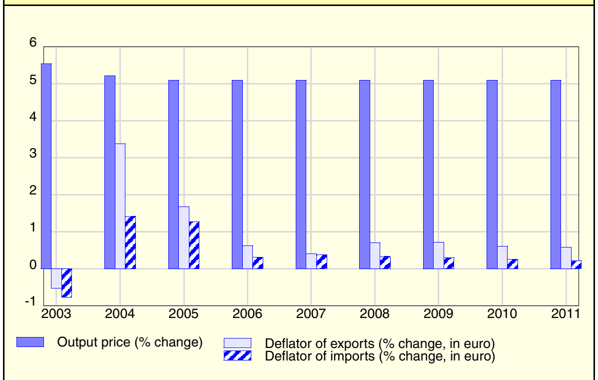
The area's exports grow by 5.4 per cent per annum on average over the 2006-2011 period, thereby outstripping the area's import growth performance, which comes out at an average annual rate of 5.2 per cent. The area's nominal effective exchange rate depreciates at an annual average rate of 4.3 per cent over the 2006-2011 period, primarily due to higher overall inflation in this area than in the other major areas of the world. Export prices denominated in euro are projected to grow by a very moderate 0.6 per cent per annum over the

2006-2011 period, while import prices denominated in euro increase by an even lower 0.3 per cent per annum over the 2006-2011 period. All in all, the area's consolidated current account should continue to post significant surpluses, right up to the end of the projection period.

Graph 46 - Output and trade in the rest of the world



Graph 47 - Price deflators in the rest of the world



Risks and uncertainties surrounding the NIME World Economic Outlook

A balance of risks that is tilted to the downside

The balance of risks to this medium-term outlook is definitely tilted to the downside. Indeed, the strong and widening global current account imbalances, combined with the fragile fiscal positions in many areas and the continued undervaluation of the currencies of certain net exporting countries, continue to pose a serious downward risk to the stability and growth prospects of the world economy. These developments do not only portend the possibility of abrupt exchange rate realignments or of sharp reductions in global growth, but they may also pose a threat to the successful completion of the Doha round of trade negotiations and feed a protectionist backlash in the United States and Europe. Though such an outcome might yield short-term benefits to some countries, it might also affect trend productivity growth in the global economy and exacerbate the medium-term fiscal positions of those countries that are already suffering from structurally low GDP growth.

In the European Union, political uncertainty regarding the progress towards an "ever closer union" has increased dramatically in recent weeks, as the consensus over the European Constitution has broken down and discussions over the EU's 2007-2013 financial framework have stalled. This has undoubtedly played a part in the recent significant weakening of the euro, as it led to mounting concern about the long-run sustainability of European economic and monetary union.

Other downside risks to this outlook include further increases in the price of oil, as world oil consumption growth continues to outpace the rise in oil production and refining capacity, and a still possible future "hard landing" of the Chinese economy. A further strong increase in the price of oil may significantly increase inflationary pressures in the global economy and reduce overall growth prospects[1]. A hard landing of the Chinese economy would not only slow export growth of its trading partners, but would most probably also hinder a smooth realignment of exchange rates.

On the upside, the possibility remains that the recent political turmoil in the European Union will galvanize politicians into implementing the EU's Lisbon Strategy in a more resolute way[2]. In the medium-term, this would allow the euro area to benefit fully from the growth and employment opportunities created by globalization and technological change. In the United States, bolder attempts towards fiscal consolidation could prove to be conducive to a rise in domestic savings and so reduce the risks posed by the widening US current account deficit. Furthermore, financial reform in emerging Asia could be enhanced, clearing the way for more exchange rate flexibility and a better investment climate. The recent move by China away from its fixed peg towards a managed floating exchange rate regime can be seen as a first, small but significant, step in this direction. Last but not least, a co-ordinated implementation of these measures would foster not only better overall prospects for economic growth and stability, but would also make the policy measures implemented by individual countries and areas more effective by giving them more credibility as they mutually reinforce one another.

1. See Meyermans and Van Brusselen (2005.b).
2. See the Focus on the Lisbon Strategy in Meyermans and Van Brusselen (2005.a).

Detailed World Area Tables - The Euro Area

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Private consumption	1.1	1.2	1.4	2.0	2.2	2.3	2.1	2.0	1.8
2. Government consumption	1.6	1.6	0.9	1.8	1.5	1.5	1.5	1.6	1.6
3. Gross fixed capital formation	-0.6	1.9	2.0	2.3	1.6	1.7	1.7	1.7	1.7
. of which enterprise sector	-1.7	2.3	2.9	3.2	1.9	2.0	1.9	1.9	2.0
4. Exports	-2.1	5.5	5.9	5.5	4.8	4.9	4.8	4.6	4.4
5. Imports	1.1	6.0	5.9	4.4	4.9	5.4	5.2	4.9	4.7
6. Gross domestic product	0.5	2.0	1.5	2.3	2.0	1.9	1.9	1.8	1.7
7. Private sector value added	0.4	2.1	1.6	2.5	2.1	2.0	2.0	1.9	1.7
8. Gross private sector output	0.5	2.8	2.3	2.9	2.6	2.7	2.6	2.5	2.3
9. Output gap (deviation of GDP from trend GDP, in %)	-1.8	-1.6	-1.9	-1.0	-0.7	-0.4	-0.3	-0.2	-0.2
10. Contributions to real GDP growth									
a. Total domestic expenditure	1.1	2.0	1.4	2.0	1.9	1.9	1.9	1.8	1.7
b. Net exports	-0.6	0.0	0.1	0.3	0.1	-0.0	0.0	0.0	0.0
II. Deflators									
1. Private consumption	2.0	2.0	2.0	1.5	1.6	1.7	1.8	1.9	1.9
2. Gross fixed capital formation	1.5	2.9	2.4	1.9	1.5	1.2	1.1	0.9	0.9
. of which enterprise sector	0.3	1.6	2.3	2.0	1.7	1.5	1.2	1.0	0.8
3. Exports	-1.5	1.1	1.9	-0.2	0.1	0.1	0.1	0.0	0.1
4. Imports	-2.8	1.7	2.1	0.7	0.3	0.4	0.6	0.7	0.8
5. Gross domestic product	2.1	1.9	1.9	1.2	1.5	1.4	1.4	1.4	1.5
6. Private sector value added	2.1	2.0	1.9	1.1	1.5	1.4	1.4	1.4	1.5
7. Gross private sector output	1.3	1.9	1.9	1.0	1.3	1.2	1.2	1.3	1.3
III. Financial Markets									
1. Short-term interest rate (level)	2.3	2.1	2.1	2.3	2.7	3.0	3.4	3.7	4.1
2. Long-term interest rate (level)	4.1	4.0	3.4	3.6	3.8	4.0	4.2	4.4	4.5
3. Spot exchange rate, local/euro (level)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4. Spot exchange rate, local/euro (+: depreciation)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Nominal effective exchange rate (+: depreciation)	-12.1	-4.4	2.5	-2.9	-2.7	-2.9	-3.1	-3.2	-3.3
6. Real effective exchange rate (+: depreciation)	-7.5	-2.0	4.4	0.6	0.5	0.3	0.1	0.0	-0.1
IV. Labour Market									
1. Labour supply	0.7	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.6
2. Employment	0.2	0.6	0.7	1.1	1.1	1.0	0.8	0.6	0.6
. of which private sector	0.3	0.7	0.8	1.1	1.3	1.1	0.9	0.7	0.6
3. Unemployment rate (level, % of civilian labour force)	8.7	8.8	8.8	8.4	8.0	7.7	7.7	7.7	7.8
4. Nominal wage rate, private sector	2.2	2.1	2.3	1.9	2.6	3.1	3.4	3.5	3.4
5. Real take-home wage rate, private sector	0.6	0.2	0.4	0.2	1.0	1.4	1.6	1.6	1.5
6. Real producer wage rate, private sector	1.1	0.4	0.4	0.9	1.3	1.9	2.1	2.2	2.1
7. Labour productivity (GDP per employee)	0.3	1.4	0.8	1.2	0.8	0.9	1.1	1.2	1.1
V. Household sector									
1. Total real means	3.5	3.2	3.1	2.0	2.2	1.8	1.5	1.2	1.0
. of which real disposable income	1.1	2.2	1.4	1.3	1.5	1.8	1.8	1.7	1.6
2. Net saving by households (level, % of disposable income)	9.6	10.3	10.3	9.6	9.0	8.6	8.3	8.2	8.1
VI. Fiscal sector									
1. Net lending (+) or borrowing (-) (% of GDP)	-2.8	-2.7	-2.5	-2.4	-2.1	-1.8	-1.5	-1.4	-1.2
2. Government gross debt (% of GDP)	70.8	71.2	71.6	71.5	71.2	70.6	69.9	69.0	68.1
VII. International environment									
1. Foreign effective output	4.1	5.3	4.8	4.2	3.9	4.0	4.0	3.9	3.7
2. Foreign effective output price	3.6	3.6	3.7	3.4	3.4	3.4	3.4	3.4	3.4
3. Foreign effective short-term interest rate (level)	2.1	2.6	3.8	4.4	4.6	4.7	4.7	4.7	4.6
4. Current account (level, % of GDP)	0.3	0.4	0.7	0.9	1.0	1.0	0.9	0.9	0.8

All figures are year-on-year growth rates, unless specified otherwise.

The euro area includes Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

Exports and imports: consolidated trade flows.

The real effective exchange rate of the area is defined here as the ratio of the area's foreign effective output price to its export price, measured in the area's own currency.

Detailed World Area Tables - The Western Non-Euro EU Member States

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Private consumption	2.1	3.1	2.6	2.4	2.5	2.3	2.3	2.3	2.3
2. Government consumption	2.6	3.2	2.6	2.6	3.4	3.5	3.4	3.3	3.2
3. Gross fixed capital formation	1.5	5.6	6.0	3.6	3.5	3.4	3.3	3.2	3.2
. of which enterprise sector	-1.5	4.5	5.6	3.7	4.0	3.9	3.7	3.5	3.4
4. Exports	1.5	4.0	6.3	4.8	4.2	4.6	4.7	4.6	4.3
5. Imports	2.0	5.5	6.4	3.7	4.5	3.7	3.6	3.9	4.0
6. Gross domestic product	1.9	2.8	3.0	3.0	2.7	3.0	3.1	2.9	2.8
7. Private sector value added	1.9	2.8	3.0	3.3	2.6	3.0	3.0	2.9	2.7
8. Gross private sector output	1.9	3.6	4.1	3.4	3.2	3.2	3.2	3.2	3.1
9. Output gap (deviation of GDP from trend GDP, in %)	-1.1	-0.8	-0.3	0.0	-0.1	0.1	0.2	0.2	-0.1
10. Contributions to real GDP growth									
a. Total domestic expenditure	2.2	3.6	3.4	2.8	3.0	2.9	2.8	2.8	2.8
b. Net exports	-0.3	-0.8	-0.4	0.2	-0.3	0.2	0.3	0.2	-0.0
II. Deflators									
1. Private consumption	1.2	1.5	1.6	2.0	1.9	2.0	2.0	1.9	1.9
2. Gross fixed capital formation	1.4	2.5	2.7	2.2	1.8	1.6	1.4	1.3	1.2
. of which enterprise sector	-0.7	1.0	2.2	1.9	1.8	1.6	1.5	1.5	1.5
3. Exports	5.4	-1.4	4.0	0.5	0.7	0.8	1.1	1.2	1.5
4. Imports	4.5	-1.5	4.3	0.5	1.7	2.0	1.8	1.5	1.5
5. Gross domestic product	2.5	2.1	2.0	2.1	1.5	1.3	1.4	1.6	1.7
6. Private sector value added	2.1	2.1	1.8	1.9	1.7	1.3	1.4	1.6	1.7
7. Gross private sector output	2.6	1.0	2.1	1.6	1.6	1.4	1.5	1.5	1.6
III. Financial Markets									
1. Short-term interest rate (level)	3.5	4.1	4.2	4.4	4.5	4.4	4.4	4.5	4.6
2. Long-term interest rate (level)	4.6	4.8	4.3	4.5	4.5	4.5	4.5	4.5	4.6
3. Spot exchange rate, local/euro (level)	5.8	5.7	5.7	5.7	5.6	5.6	5.7	5.7	5.8
4. Spot exchange rate, local/euro (+: depreciation)	7.4	-1.5	0.0	-1.1	-0.6	0.1	0.6	0.9	1.0
5. Nominal effective exchange rate (+: depreciation)	-2.0	-5.4	1.3	-3.5	-2.8	-2.2	-1.7	-1.5	-1.4
6. Real effective exchange rate (+: depreciation)	-4.1	-0.9	0.6	-1.3	-0.7	-0.2	0.1	0.1	-0.0
IV. Labour Market									
1. Labour supply	0.8	0.6	0.3	0.8	0.7	0.6	0.7	0.7	0.7
2. Employment	0.8	0.7	0.5	0.6	0.5	0.6	0.6	0.7	0.7
. of which private sector	0.9	0.8	0.5	0.7	0.5	0.6	0.7	0.7	0.7
3. Unemployment rate (level, % of civilian labour force)	5.1	5.0	4.9	5.0	5.2	5.3	5.3	5.3	5.4
4. Nominal wage rate, private sector	2.7	3.6	4.3	4.7	3.8	3.6	3.6	3.7	3.8
5. Real take-home wage rate, private sector	1.2	1.4	2.2	2.2	1.9	1.6	1.6	1.7	1.8
6. Real producer wage rate, private sector	0.0	2.6	1.9	3.1	2.2	2.1	2.1	2.2	2.2
7. Labour productivity (GDP per employee)	1.1	2.1	2.5	2.4	2.2	2.5	2.4	2.2	2.0
V. Household sector									
1. Total real means	4.4	3.5	3.6	2.4	2.3	2.0	1.9	2.0	2.1
. of which real disposable income	3.0	3.3	2.6	2.5	2.6	2.4	2.4	2.5	2.6
2. Net saving by households (level, % of disposable income)	1.8	1.8	1.7	1.9	2.1	2.2	2.4	2.7	3.0
VI. Fiscal sector									
1. Net lending (+) or borrowing (-) (% of GDP)	-2.5	-2.1	-2.0	-1.6	-1.6	-1.7	-1.7	-1.8	-1.8
2. Government gross debt (% of GDP)	41.9	43.0	42.8	42.3	42.3	42.2	42.1	42.0	41.9
VII. International environment									
1. Foreign effective output	3.1	4.6	3.9	3.7	3.5	3.7	3.6	3.5	3.3
2. Foreign effective output price	3.0	3.3	3.3	2.8	2.9	2.9	2.9	2.9	2.9
3. Foreign effective short-term interest rate (level)	1.7	1.9	2.7	3.2	3.5	3.8	4.0	4.2	4.3
4. Current account (level, % of GDP)	-0.5	-0.3	-0.7	-0.7	-1.2	-1.4	-1.5	-1.5	-1.5

All figures are year-on-year growth rates, unless specified otherwise.

“Western non-euro EU Member States” includes Denmark, Sweden and the United Kingdom.

Exports and imports: consolidated trade flows.

The real effective exchange rate of the area is defined here as the ratio of the area’s foreign effective output price to its export price, measured in the area’s own currency.

Detailed World Area Tables - The United States

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Private consumption	3.3	3.8	3.6	2.9	2.5	3.0	2.9	2.9	1.8
2. Government consumption	3.2	2.3	1.8	3.4	3.3	3.7	3.8	3.9	3.8
3. Gross fixed capital formation	4.4	8.8	7.1	4.0	2.5	4.1	4.0	3.6	2.3
. of which enterprise sector	3.7	10.4	9.3	4.1	2.5	4.0	3.9	3.4	2.8
4. Exports	1.9	8.5	6.5	6.7	5.6	6.0	6.1	5.9	5.7
5. Imports	4.4	9.9	7.3	5.1	5.4	6.3	6.0	5.7	4.6
6. Gross domestic product	3.1	4.5	3.8	3.2	2.3	3.1	3.1	3.0	2.0
7. Private sector value added	3.2	4.8	4.0	3.3	2.2	3.1	3.0	2.9	1.8
8. Gross private sector output	3.4	5.6	4.6	3.7	2.7	3.7	3.5	3.4	2.4
9. Output gap (deviation of GDP from trend GDP, in %)	-0.5	0.5	1.1	1.1	0.6	0.6	0.6	0.4	0.2
10. Contributions to real GDP growth									
a. Total domestic expenditure	3.5	5.2	4.3	3.4	2.6	3.6	3.5	3.4	2.2
b. Net exports	-0.5	-0.8	-0.6	-0.2	-0.3	-0.5	-0.4	-0.4	-0.2
II. Deflators									
1. Private consumption	1.9	2.2	2.4	2.2	2.0	1.9	1.9	1.9	1.8
2. Gross fixed capital formation	1.2	2.5	2.8	2.6	2.1	1.8	1.8	2.1	2.1
. of which enterprise sector	-0.8	1.0	2.4	1.5	1.0	0.9	1.3	2.0	2.7
3. Exports	2.1	3.5	3.3	1.8	1.0	0.8	0.9	1.2	1.3
4. Imports	3.4	5.0	4.0	1.7	1.3	1.4	1.5	1.6	1.6
5. Gross domestic product	1.8	2.1	2.4	2.3	2.1	1.9	1.8	1.9	1.8
6. Private sector value added	1.7	2.0	2.4	2.3	2.1	1.9	1.9	1.9	1.9
7. Gross private sector output	1.9	2.3	2.6	2.2	1.9	1.7	1.7	1.8	1.7
III. Financial Markets									
1. Short-term interest rate (level)	1.2	1.6	3.4	4.3	4.5	4.7	4.7	4.6	4.5
2. Long-term interest rate (level)	4.0	4.3	4.2	4.6	4.7	4.8	4.8	4.7	4.7
3. Spot exchange rate, local/euro (level x 100)	113.1	124.2	125.1	126.5	127.3	128.2	129.3	130.7	132.2
4. Spot exchange rate, local/euro (+: depreciation)	19.6	9.8	0.8	1.1	0.6	0.7	0.9	1.1	1.2
5. Nominal effective exchange rate (+: depreciation)	6.0	4.5	2.4	-2.5	-2.8	-2.7	-2.6	-2.4	-2.3
6. Real effective exchange rate (+: depreciation)	7.7	4.8	2.9	-0.9	-0.2	0.0	0.1	0.1	0.1
IV. Labour Market									
1. Labour supply	0.3	0.6	0.8	0.8	0.9	1.0	1.0	1.0	1.0
2. Employment	0.0	1.1	1.1	1.1	0.3	0.9	0.9	0.8	-0.3
. of which private sector	0.0	1.1	1.2	1.1	0.2	0.9	0.8	0.7	-0.6
3. Unemployment rate (level, % of civilian labour force)	6.0	5.5	5.2	4.9	5.5	5.6	5.7	5.9	7.1
4. Nominal wage rate, private sector	3.7	4.6	5.2	4.3	4.5	4.2	4.2	4.2	4.9
5. Real take-home wage rate, private sector	2.4	2.3	2.6	2.0	1.3	1.8	1.8	1.9	1.1
6. Real producer wage rate, private sector	1.6	2.1	2.5	2.1	2.6	2.4	2.4	2.4	3.1
7. Labour productivity (GDP per employee)	3.1	3.3	2.6	2.2	2.0	2.2	2.2	2.1	2.3
V. Household sector									
1. Total real means	6.0	4.5	4.3	2.6	2.4	2.6	2.6	2.7	1.9
. of which real disposable income	3.8	4.2	3.2	3.3	2.7	3.4	3.4	3.4	2.3
2. Net saving by households (level, % of disposable income)	2.9	3.3	3.0	3.4	3.7	4.2	4.7	5.3	5.8
VI. Fiscal sector									
Net lending (+) or borrowing (-) (% of GDP)	-4.6	-4.4	-3.9	-3.8	-3.7	-3.7	-3.7	-3.7	-3.2
VII. International environment									
1. Foreign effective output	4.1	5.2	4.5	4.0	4.0	4.0	4.0	3.9	3.8
2. Foreign effective output price	3.8	3.7	3.7	3.5	3.6	3.6	3.7	3.7	3.8
3. Foreign effective short-term interest rate (level)	1.2	1.5	2.3	3.2	3.5	3.8	4.0	4.2	4.2
4. Current account (level, % of GDP)	-4.7	-5.4	-6.0	-5.9	-6.0	-6.2	-6.4	-6.6	-6.6

All figures are year-on-year growth rates, unless specified otherwise.

The real effective exchange rate of the country is defined here as the ratio of the country's foreign effective output price to its export price, measured in the country's own currency.

Detailed World Area Tables - Japan

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Private consumption	0.2	1.5	0.8	0.7	1.6	1.7	1.4	1.1	0.8
2. Government consumption	1.2	2.7	1.7	0.9	0.9	0.9	0.9	0.8	0.8
3. Gross fixed capital formation	0.9	1.6	0.5	0.6	0.6	1.4	1.5	1.3	0.8
. of which enterprise sector	5.8	5.5	3.0	2.2	1.0	1.2	1.3	1.4	1.2
4. Exports	9.1	14.3	8.0	5.2	4.1	4.4	4.0	3.3	2.2
5. Imports	3.8	8.9	7.0	2.9	3.0	3.4	3.3	3.1	2.9
6. Gross domestic product	1.4	2.7	1.2	1.1	1.5	1.7	1.6	1.3	0.8
7. Private sector value added	1.3	2.9	1.2	1.4	1.6	1.8	1.6	1.3	0.8
8. Gross private sector output	1.5	3.4	1.7	1.5	1.7	2.0	1.8	1.5	1.0
9. Output gap (deviation of GDP from trend GDP, in %)	-0.9	0.8	0.8	0.3	0.3	0.7	1.2	1.5	1.6
10. Contributions to real GDP growth									
a. Total domestic expenditure	0.7	1.9	0.8	0.6	1.2	1.4	1.3	1.0	0.8
b. Net exports	0.7	1.0	0.4	0.5	0.3	0.3	0.3	0.2	0.0
II. Deflators									
1. Private consumption	-0.7	-0.5	-0.4	0.2	0.4	0.8	1.5	2.0	2.5
2. Gross fixed capital formation	-2.0	-0.7	-0.6	-0.2	0.1	0.3	0.5	0.7	0.9
. of which enterprise sector	-2.3	-0.9	-0.8	-0.1	0.3	0.5	0.6	0.7	0.8
3. Exports	-3.3	-1.6	-1.1	0.6	1.4	1.7	1.8	1.7	1.4
4. Imports	-0.8	2.2	0.4	0.8	0.4	0.5	0.8	1.0	1.1
5. Gross domestic product	-1.4	-1.2	-0.8	-0.0	0.4	0.7	1.3	1.6	1.9
6. Private sector value added	-1.4	-1.2	-0.8	-0.2	0.6	0.8	1.3	1.7	2.0
7. Gross private sector output	-1.3	-0.7	-0.5	-0.1	0.6	0.8	1.3	1.6	1.9
III. Financial Markets									
1. Short-term interest rate (level)	0.1	0.1	0.1	0.5	0.9	1.3	1.8	2.3	2.8
2. Long-term interest rate (level)	1.0	1.4	1.3	1.5	1.7	2.0	2.5	2.8	3.1
3. Spot exchange rate, local/euro (level)	131.0	134.3	133.4	140.2	146.3	150.2	152.7	153.0	151.4
4. Spot exchange rate, local/euro (+: depreciation)	10.9	2.6	-0.7	5.1	4.3	2.7	1.6	0.2	-1.1
5. Nominal effective exchange rate (+: depreciation)	-3.1	-3.7	-0.0	2.8	2.3	0.5	-0.7	-2.2	-3.5
6. Real effective exchange rate (+: depreciation)	3.4	1.1	4.4	5.2	3.8	1.6	0.3	-1.1	-2.2
IV. Labour Market									
1. Labour supply	-0.4	-0.3	-0.3	0.1	-0.1	-0.3	-0.5	-0.7	-0.8
2. Employment	-0.3	0.2	0.1	-0.0	-0.1	-0.4	-0.7	-0.9	-1.0
. of which private sector	-0.3	0.2	0.1	0.0	-0.0	-0.4	-0.7	-0.9	-1.0
3. Unemployment rate (level, % of civilian labour force)	5.3	4.7	4.3	4.4	4.3	4.4	4.5	4.7	5.0
4. Nominal wage rate, private sector	-0.6	-1.2	0.0	1.7	1.9	2.5	3.1	3.4	3.5
5. Real take-home wage rate, private sector	-0.2	-1.3	0.0	0.9	1.5	1.8	1.6	1.4	1.0
6. Real producer wage rate, private sector	0.4	-0.4	0.5	1.8	1.3	1.8	1.8	1.8	1.5
7. Labour productivity (GDP per employee)	1.7	2.5	1.0	1.1	1.6	2.1	2.3	2.2	1.8
V. Household sector									
1. Total real means	0.3	0.3	0.3	0.6	1.7	1.2	0.7	0.3	-0.1
. of which real disposable income	0.4	1.7	0.9	0.6	1.5	1.8	1.7	1.5	1.2
2. Net saving by households (level, % of disposable income)	7.3	7.6	7.6	7.6	7.6	7.8	8.2	8.6	9.1
VI. Fiscal sector									
Net lending (+) or borrowing (-) (% of GDP)	-7.7	-7.0	-6.6	-5.9	-5.7	-5.7	-6.0	-6.5	-7.2
VII. International environment									
1. Foreign effective output	3.7	5.3	4.5	3.9	3.5	3.9	3.8	3.7	3.3
2. Foreign effective output price	3.1	3.2	3.3	3.0	2.9	2.8	2.8	2.9	2.9
3. Foreign effective short-term interest rate (level)	1.5	1.8	3.2	3.9	4.2	4.3	4.4	4.4	4.4
4. Current account (level, % of GDP)	3.2	3.7	3.8	4.0	4.2	4.4	4.6	4.7	4.6

All figures are year-on-year growth rates, unless specified otherwise.

The real effective exchange rate of the country is defined here as the ratio of the country's foreign effective output price to its export price, measured in the country's own currency.

Detailed World Area Tables - The New EU Member States

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Private consumption	4.9	4.9	4.7	4.3	4.6	4.6	4.5	4.5	4.5
2. Gross fixed capital formation	4.1	8.0	9.6	9.2	6.5	6.5	6.5	6.5	6.5
3. Exports	9.3	13.4	10.9	10.8	9.4	9.7	9.6	9.4	9.2
4. Imports	10.0	13.4	12.2	11.1	10.5	10.5	10.4	10.2	10.0
5. Gross domestic product	3.7	4.3	4.2	4.5	3.4	3.4	3.4	3.3	3.2
II. Deflators									
1. Private consumption	1.2	3.8	2.3	2.4	2.2	2.1	2.1	2.0	1.9
2. Gross fixed capital formation	1.4	1.9	1.9	2.0	2.1	2.0	2.0	2.0	2.0
3. Exports	0.9	3.6	-2.6	0.9	3.1	3.0	3.0	2.9	2.8
4. Imports	0.5	2.8	-4.6	0.3	2.0	2.0	2.0	2.0	2.0
5. Gross domestic product	2.3	4.1	3.9	2.9	2.9	3.1	3.2	3.2	3.2
III. Financial variables									
1. Short-term interest rate	9.1	9.9	7.1	6.2	5.8	5.9	5.6	5.4	5.1
2. Long-term interest rate	9.4	10.2	7.5	6.8	6.3	6.2	5.9	5.7	5.5
3. Nominal exchange rate (local/euro, + : depreciation)	7.8	1.7	-7.7	4.0	3.1	3.1	3.1	3.1	3.1
4. Nominal effective exchange rate (+ : depreciation)	-4.7	-3.7	-6.3	0.4	-0.3	-0.5	-0.6	-0.7	-0.8
5. Real effective exchange rate (+ : depreciation)	-1.5	-3.1	0.2	3.3	0.5	0.3	0.3	0.3	0.3
IV. International environment									
1. Foreign effective output	4.3	5.5	4.7	4.2	4.2	4.2	4.2	4.2	4.0
2. Foreign effective output price	4.3	4.2	4.1	3.9	4.0	3.9	3.9	3.9	4.0
3. Foreign effective short-term interest rate (level)	1.5	1.8	3.0	3.7	4.0	4.2	4.3	4.4	4.4
4. Current account (level, % of GDP)	-4.0	-4.0	-3.5	-3.5	-3.6	-3.7	-3.8	-3.9	-4.1

All figures are year-on-year growth rates, unless specified otherwise.

“New EU Member States” includes Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Bulgaria and Romania.

Exports and imports: consolidated trade flows.

The real effective exchange rate of the area is defined here as the ratio of the area’s foreign effective output price to its export price, measured in the area’s own currency.

Detailed World Area Tables - The Rest of the World

	03	04	05	06	07	08	09	10	11
I. Aggregate demand and supply									
1. Gross output	5.8	6.5	5.6	4.7	4.8	4.9	4.9	4.8	4.8
2. Exports	5.5	8.3	9.2	3.8	5.8	6.1	5.7	5.7	5.2
3. Imports	2.1	7.1	8.7	5.4	5.3	5.3	5.2	5.1	5.0
II. Deflators									
1. Gross output	5.5	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1
2. Exports, in euro	-0.5	3.4	1.7	0.6	0.4	0.7	0.7	0.6	0.6
3. Imports, in euro	-0.8	1.4	1.3	0.3	0.4	0.3	0.3	0.3	0.2
III. Financial variables									
1. Nominal exchange rate (local/euro, + : depreciation)	18.4	7.9	-2.2	5.2	5.0	5.2	5.3	5.5	5.7
2. Nominal exchange rate (local/US$, + : depreciation)	-1.0	-1.7	-3.0	4.1	4.3	4.5	4.4	4.3	4.5
3. Nominal effective exchange rate (+ : depreciation)	8.2	4.0	-1.6	3.8	3.9	4.3	4.4	4.6	5.0
4. Real effective exchange rate (+ : depreciation)	-6.9	-5.0	1.0	-0.4	0.2	-0.0	0.0	0.3	0.5
IV. International environment									
1. Foreign effective output	2.1	4.1	3.4	3.2	2.7	3.1	3.0	2.8	2.3
2. Foreign effective output price	1.4	1.8	2.0	1.5	1.6	1.6	1.6	1.7	1.7
3. Foreign effective short-term interest rate (level)	1.2	1.6	3.4	4.3	4.5	4.7	4.7	4.6	4.5

All figures are year-on-year growth rates, unless specified otherwise.

Exports and imports: consolidated trade flows.

The real effective exchange rate of the area is defined here as the ratio of the area’s foreign effective output price to its export price, measured in the area’s own currency.

Monetary Policy, Asset Prices and Economic Growth During the 1995-2004 Period

In this Focus, the NIME model is used to examine whether the economies of the United States and the euro area would have experienced a more balanced growth path over the 1995-2004 period, had the monetary authorities of these areas not only targeted contemporaneous consumer price inflation but also changes in asset prices.

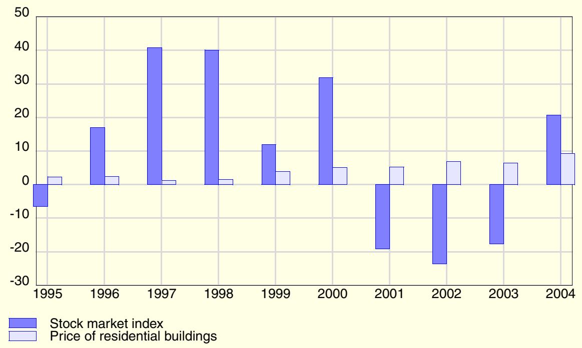
Monetary policy, asset prices and economic growth during the 1995-2004 period

Over the last ten years, the evolution of stock market indices in the United States and the euro area has shown a distinct boom-and-bust pattern. In the euro area, a weighted average of the area's stock market indices increased by 22.5 per cent per annum on average between 1995 and 2000, only to fall at an annual average rate of 20.2 per cent between 2001 and 2003, followed by a 20.6 per cent increase in 2004. In the United States, the S&P500 index increased by 21 per cent per annum on average over 1995-2000. It then fell at an annual average rate of 12 per cent between 2001 and 2003, but then rebounded by 17.2 per cent in 2004.

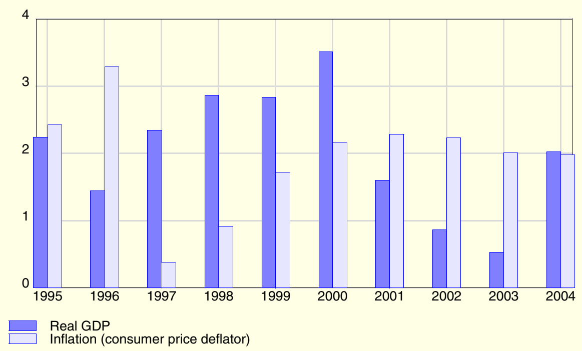
These changes in asset prices affected household wealth as well as the financing cost of investments so that periods of rapidly rising asset prices were characterised by strong GDP growth, while periods of falling asset prices were characterised by declining GDP growth rates.

Indeed, euro area real GDP grew at an average rate of 2.5 per cent per annum during the 1995-2000 period, compared with just 1.3 per cent during the 2001-2004 period. In the United States, real GDP growth averaged 3.9 per cent during the 1995-2000 period, compared with 2.5 per cent over the 2001-2004 period. Over the 1995-2000 period, the average growth rate of private consumption in the euro area and the United States came out at 2.4 per cent and 4.1 per cent respectively, compared with only 1.2 and 3.2 per cent respectively over the 2001-2004 period. Business investment in the euro area and the United States grew on average by 5.5 and 9.7 per cent respectively over 1995-2000, and by - 0.6 and 0.4 per cent respectively over 2001-2004. At the same time, consumer price inflation remained fairly low and stable, averaging 1.9 per cent per annum in the euro area as well as the US over the 1995-2004 period.

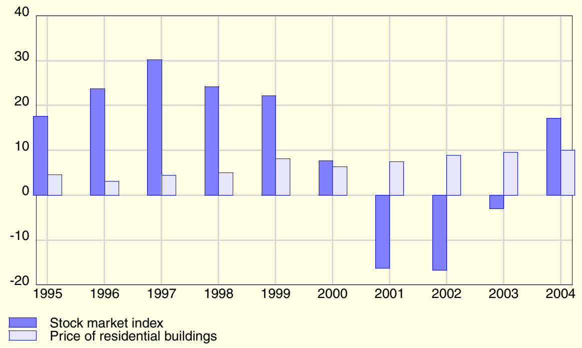
Graph 48 - Selected asset prices in the euro area:1995-2004 *(growth rates)*



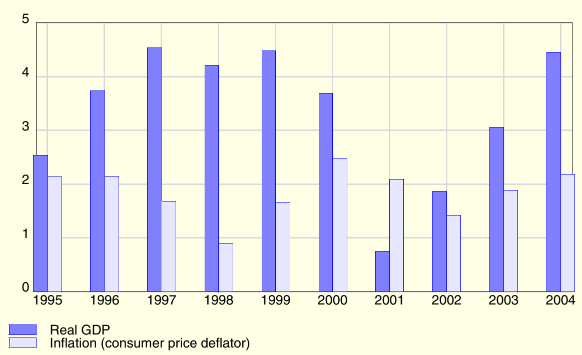
Graph 49 - Real GDP and consumer price inflation in the euro area: 1995-2004 *(growth rates)*



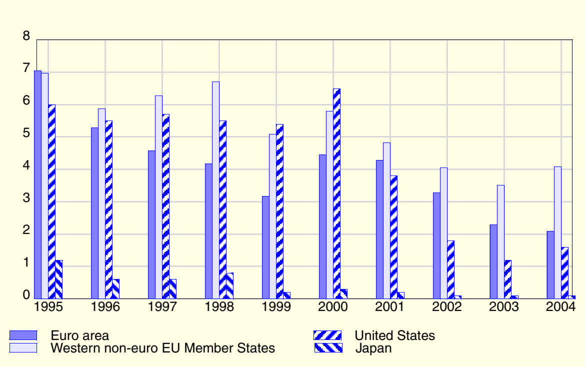
Graph 50 - Selected asset prices in the United States: 1995-2004 *(growth rates)*



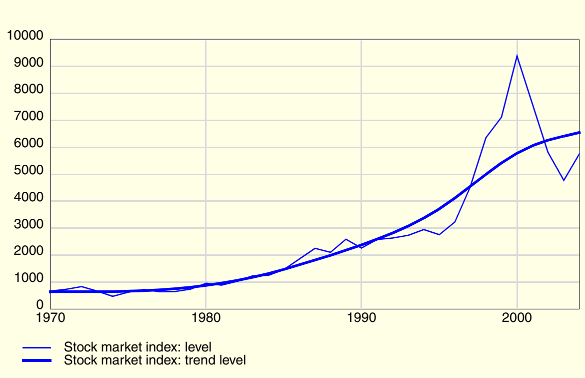
Graph 51 - Real GDP and consumer price inflation in the United States: 1995-2004 *(growth rates)*



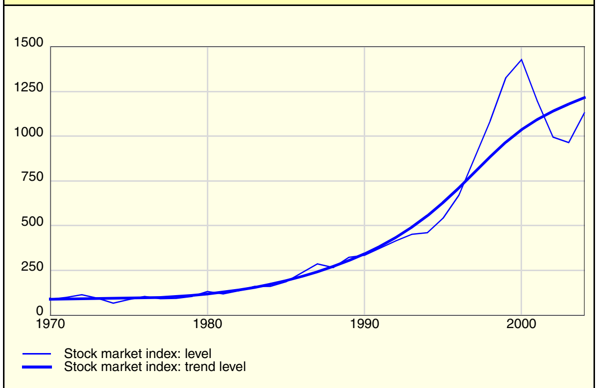
Graph 52 - Short-term interest rates in the main areas of the world economy: 1995-2004



Graph 53 - The composite stock market index in the euro area: 1970-2004



Graph 54 - The S&P500 index in the United States: 1970-2004



Against this background, interest rates were kept fairly low for most part of the 1995-2004 period, when compared with the average rates prevailing since the 1970s. In the euro area, nominal short-term interest rates fell from 7.1 per cent in 1995 to 3.2 per cent in 1999, after which they were raised abruptly to 4.5 per cent in 2000 before declining to 2.1 per cent in 2004. In the United States, nominal short-term interest rates stood at 6 per cent in 1995, fell to 5.4 per cent in 1999, before jumping to a peak of 6.5 per cent in 2000. US rates subsequently declined to just 1.2 per cent in 2003 and rose to an average of 1.6 per cent in 2004.

An alternative interest rate rule

It is a widely held view that monetary authorities should set short-term interest rates as a function of consumer price inflation and the output gap[1]. From this perspective, interest rates should not be used to correct deviations of asset prices from their fundamentals, though a change in interest rates could be warranted to mitigate the fall-out of an equity market correction when it occurs[2].

In this Focus, we investigate what might have happened during the 1995-2004 period had the euro area and US monetary authorities targeted changes in a broader price index, one which would have covered not only contemporaneous consumer prices, but also equity and real estate prices. The use of a broader price index finds its justification in the fact that the household sector's intertemporal utility depends not only on contemporaneous consumer prices, income and wealth, but also on future prices, income and wealth. Indeed, if equity prices rise above (fall below) their fundamentals, households tend to consume more (less) than in the case where equity prices increase in line with their fundamentals. However, if equity prices rise above (drop below) their fundamentals, a future fall (rise) in equity prices will be necessary to restore stock market equilibrium and this future correction in asset prices will entail a future drop (increase) in consumption. Policy makers weigh the contemporanous gains from an excessive increase (decrease) in equity prices against the future losses (gains) entailed by a necessary correction in asset prices; by limiting the fluctuations of asset prices around their fundamentals, monetary authorities may hope to reduce fluctuations in household consumption expenditures.

In the counterfactual exercise that we carry out, the size of the response of interest rates to deviations of asset prices from their target values is primarily determined by the weight of each individual expenditure item in the household's overall budget, as well as by the monetary authorities' loss function. The targets for consumer price inflation and asset prices are calculated applying a Hodrick-Prescott filter to the corresponding historical series.[3]

1. This has come to be known as the "Taylor rule". See, for instance, Taylor, J.B. (1993), "Discretion versus Policy Rules in Practice", *Carnegie Rochester Conference Series on Public Policy*, Vol. 39, pp. 195-214.
2. See, for example, the testimony of Alan Greenspan before the Committee on Banking and Financial Services in July 1999.
3. More technical details will be available in a forthcoming Working Paper. See also graphs 53 and 54.

A counterfactual simulation with the NIME model

The NIME model was simulated to investigate how the macroeconomic variables of the euro area and the United States might have behaved during the 1995-2004 period, had their respective monetary authorities not only targeted consumer price inflation and the output gap, but also a measure of asset price inflation.

The simulation results indicate that had such an alternative interest rate rule been adopted, nominal short-term interest rates would have come out above their historical baseline levels between 1997 and 2000 in the euro area, and between 1995 and 2000 in the United States. More particularly, the nominal short-term interest rates would have peaked at 1.4 percentage-points above their baseline level in the United States in 1999, and at 0.9 percentage-point above their baseline level in the euro area in 2000.

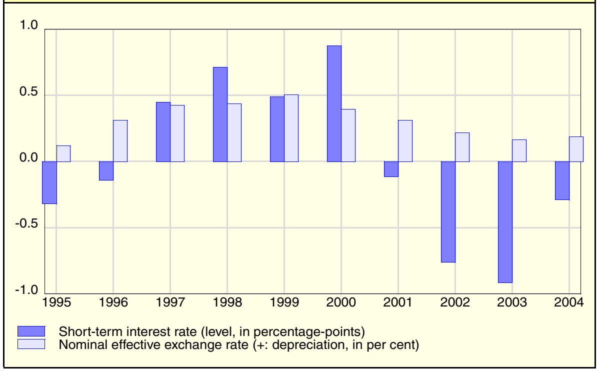
These interest rate hikes in the euro area and the United States lower these areas' domestic demand components by simultaneously increasing the cost of investment and reducing household wealth. Moreover, as the rate hikes - and their dampening effect on inflation - would have been highest in the United States, the US dollar would have appreciated against other major currencies. This would in turn have reinforced the contraction in US export growth.

After 2000, the implementation of such an alternative interest rule would have pushed interest rates down below their historical baseline levels in both the euro area and the United States. Hence, most components of domestic demand in these areas would have started to come out above their historical baseline levels after 2000.

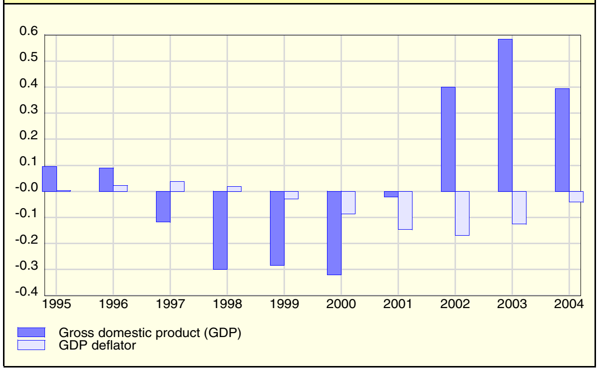
In the euro area, the higher interest rates over the 1997-2000 period tend to lower domestic demand. Total gross fixed capital formation falls by up to 0.8 per cent below the baseline in 2000, while private consumption falls by up to 0.4 per cent. However, the changes brought to international interest rate differentials also limit the euro's baseline nominal effective appreciation, thereby improving the euro area's net exports. Hence, taking all these effects into account, the overall negative impact of the higher interest rates on real euro area GDP is limited to a 0.3 per cent reduction relative to the historical baseline during this period.

Graph 55 - Counterfactual interest and exchange rates in the euro area

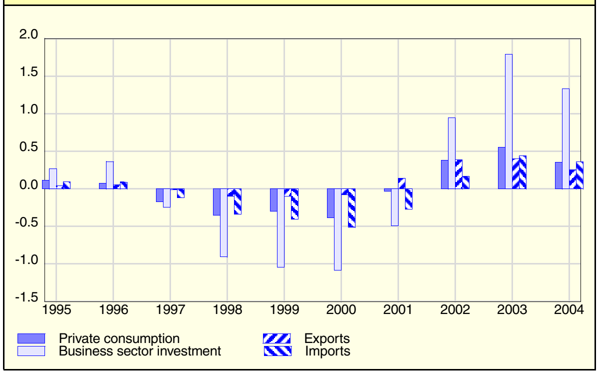
(deviations from historical baseline)



Graph 56 - Counterfactual GDP and prices in the euro area *(deviations from historical baseline level, in per cent)*



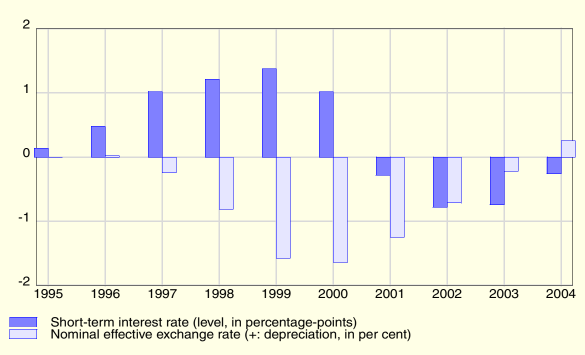
Graph 57 - Components of aggregate demand in the euro area in the counterfactual outcome *(deviations from historical baseline level, in per cent)*



As of 2001, the euro area's short-term interest rates fall below their historical baseline level. This decline in interest rates boosts domestic demand, raising GDP by 0.6 per cent above baseline in 2003 and by 0.4 per cent in 2004. Looking at the different components of demand, we note that total gross fixed capital formation rises by 1.3 per cent above baseline in 2003 and by 1 per cent in 2004, while private consumption rises by 0.6 per cent above baseline in 2003 and by 0.4 per cent in 2004. Exports reach 0.4 per cent above baseline in 2002 and 2003. Imports are positively affected as of 2002 and reach 0.4 per cent above baseline in 2003, in the wake of the more vigorous domestic demand. Finally, throughout the simulation period the general price level is affected only marginally.

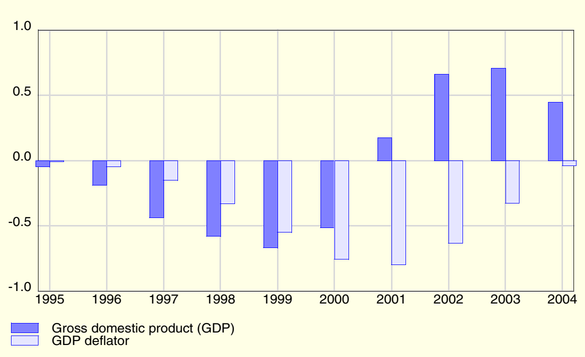
Graph 58 - Counterfactual interest and exchange rates in the United States

(deviations from historical baseline)

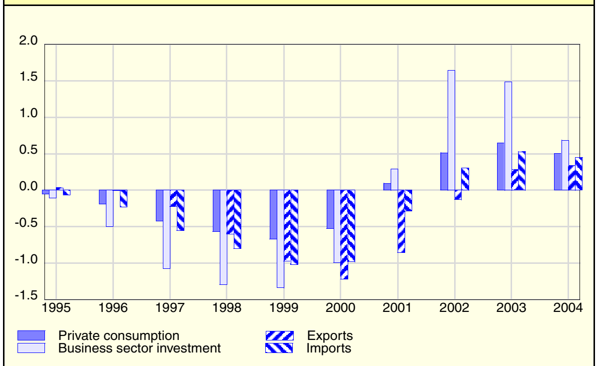


Graph 59 - Counterfactual GDP and prices in the United States

(deviations from historical baseline level, in per cent)



Graph 60 - Components of aggregate demand in the United States in the counterfactual outcome *(deviations from historical baseline level, in per cent)*



In the United States, short-term interest rates rise above their historical baseline level between 1995 and 2000, reaching a maximum deviation of 1.4 percentage-points above baseline in 1999. From 2001 to 2004, interest rates fall below their baseline level, reaching a low of 0.8 percentage-point below baseline in 2002. As the interest rate hikes and their dampening effects on inflation are larger in the United States than in other areas of the world during most of the 1995-2004 period, the baseline appreciation of the US currency is markedly reinforced between 1997 and 2003.

During the 1995-2000 period, US real GDP is reduced compared with its baseline, falling by 0.7 per cent below baseline in 1999. At the same time, inflationary pressures are tempered by the fall in effective demand and the stronger appreciation of the dollar, leaving the GDP deflator 0.8 per cent below baseline in 2000. As of 2001, short-term interest rates are cut and fall below the historical baseline, allowing real GDP to rise by 0.7 per cent above baseline in 2002 and 2003, and by 0.4 per cent above baseline in 2004.

Private consumption in the United States falls below its baseline level throughout the 1995-2000 period, reaching a low of 0.7 per cent below baseline in 1999. The relative decline in nominal interest rates as of 2001 then provides a boost to private consumption, which comes out at 0.6 per cent above baseline in 2003. At the same time, total gross fixed capital formation falls by 1 per cent below baseline in 1998 and 1999, only to rebound to 1.7 per cent above baseline in 2002 and to 0.8 per cent above baseline in 2004.

US exports fall below their historical baseline level up to 2002, primarily due to the stronger appreciation of the dollar and to the weaker foreign effective demand. The deviation between the counterfactual simulation and the historical baseline is largest in 2000, when exports come out 1.2 per cent below their baseline level. As of 2003, exports recover and jump above baseline as economic activity in the rest of the world rebounds (relative to the historical baseline) and the appreciation of the dollar becomes less marked. Imports lie below their baseline level from 1995 to 2001, primarily due to the fall in domestic activity. As of 2002, US imports rise above baseline in reaction to the relatively more robust GDP growth.

A broader rule might have raised euro area output and reduced US output

The counterfactual simulation indicates that an alternative interest rate rule, which would have targeted changes in a broader price index rather than the narrow consumer price index, would have raised the euro area's GDP level by about 0.3 per cent over the 1995-2004 period[1] and lowered the US's GDP level by about 0.6 per cent over the same period.

1. Measured as the discounted cumulative deviations of these variables from their baseline levels.

Summary Table - Monetary policy, Asset Prices and Economic Growth

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Historical outcome: selected macroeconomic variables										
(growth rates, unless specified otherwise)										
Euro area										
Private consumption	1.8	1.6	1.5	3.0	3.5	2.8	1.9	0.6	1.1	1.2
Gross fixed capital formation	2.4	1.3	2.4	5.2	6.0	4.9	-0.3	-2.7	-0.6	1.9
Exports	7.6	6.3	12.8	3.5	1.2	18.1	3.6	1.4	-2.1	5.5
Imports	6.8	4.4	10.7	8.4	5.5	16.5	0.6	-0.7	1.1	6.0
Gross Domestic Product	2.2	1.4	2.3	2.9	2.8	3.5	1.6	0.9	0.5	2.0
Deflator of private consumption	2.4	3.3	0.4	0.9	1.7	2.2	2.3	2.2	2.0	2.0
GDP deflator	2.4	2.8	-0.2	1.2	1.7	1.4	2.4	2.5	2.1	1.9
Short-term nominal interest rate (level)	7.1	5.3	4.6	4.2	3.2	4.5	4.3	3.3	2.3	2.1
Nominal effective exchange rate (+: depreciation)	-13.8	-10.7	-4.2	-6.4	-0.4	10.1	-1.2	-7.8	-12.1	-4.4
Equity prices	-6.5	17.0	40.8	40.1	12.0	31.8	-19.2	-23.6	-17.7	20.6
Output gap (deviation of GDP from trend GDP, in %)	0.5	-0.1	0.2	-0.0	0.7	1.3	0.5	-0.6	-1.8	-1.7
United States										
Private consumption	2.7	3.4	3.8	5.0	5.1	4.7	2.5	3.1	3.3	3.8
Gross fixed capital formation	6.2	8.4	8.8	9.3	8.3	6.1	-1.9	-3.5	4.4	8.8
Exports	10.1	8.4	11.9	2.4	4.3	8.7	-5.4	-2.4	1.9	8.5
Imports	8.0	8.7	13.6	11.6	11.5	13.1	-2.7	3.4	4.4	9.9
Gross Domestic Product	2.5	3.7	4.5	4.2	4.5	3.7	0.8	1.9	3.1	4.5
Deflator of private consumption	2.1	2.2	1.7	0.9	1.7	2.5	2.1	1.4	1.9	2.2
GDP deflator	2.0	1.9	1.7	1.1	1.4	2.2	2.4	1.7	1.8	2.1
Short-term nominal interest rate (level)	6.0	5.5	5.7	5.5	5.4	6.5	3.8	1.8	1.2	1.6
Nominal effective exchange rate (+: depreciation)	-2.6	-6.6	-8.2	-10.2	-5.3	-4.6	-6.1	-4.8	6.0	4.5
Equity prices	17.7	23.8	30.3	24.3	22.2	7.6	-16.3	-16.7	-3.1	17.2
Output gap (deviation of GDP from trend GDP, in %)	-0.9	-0.5	0.3	0.5	0.9	0.2	-2.1	-0.5	-0.5	0.5
Counterfactual outcome: selected macroeconomic variables										
(deviation from historical baseline; without *: level deviation in per cent; with * : level deviation in percentage-points)										
Euro area										
Private consumption	0.1	0.1	-0.2	-0.4	-0.3	-0.4	-0.0	0.4	0.6	0.4
Gross fixed capital formation	0.2	0.2	-0.2	-0.6	-0.7	-0.8	-0.3	0.7	1.3	1.0
Exports	0.0	0.1	-0.0	-0.1	-0.1	-0.1	0.1	0.4	0.4	0.3
Imports	0.1	0.1	-0.1	-0.3	-0.4	-0.5	-0.3	0.2	0.4	0.4
Gross Domestic Product	0.1	0.1	-0.1	-0.3	-0.3	-0.3	-0.0	0.4	0.6	0.4
Deflator of private consumption	0.0	0.0	0.0	0.0	-0.0	-0.1	-0.2	-0.2	-0.1	0.0
GDP deflator	0.0	0.0	0.0	0.0	-0.0	-0.1	-0.1	-0.2	-0.1	-0.0
Short-term nominal interest rate (level) *	-0.3	-0.1	0.4	0.7	0.5	0.9	-0.1	-0.8	-0.9	-0.3
Nominal effective exchange rate (+: depreciation)	0.1	0.3	0.4	0.4	0.5	0.4	0.3	0.2	0.2	0.2
Equity prices	2.9	1.6	-5.5	-9.6	-7.7	-10.7	1.7	14.2	22.4	6.4
Output gap (deviation of GDP from trend, in %) *	0.1	0.1	-0.1	-0.3	-0.3	-0.3	-0.0	0.4	0.6	0.4
United States										
Private consumption	-0.1	-0.2	-0.4	-0.6	-0.7	-0.5	0.1	0.5	0.6	0.5
Gross fixed capital formation	-0.1	-0.4	-0.9	-1.0	-1.0	-0.7	0.6	1.7	1.6	0.8
Exports	0.0	-0.0	-0.2	-0.6	-1.0	-1.2	-0.9	-0.1	0.3	0.3
Imports	-0.1	-0.2	-0.6	-0.8	-1.0	-1.0	-0.3	0.3	0.5	0.4
Gross Domestic Product	-0.0	-0.2	-0.4	-0.6	-0.7	-0.5	0.2	0.7	0.7	0.4
Deflator of private consumption	-0.0	-0.0	-0.1	-0.2	-0.3	-0.5	-0.6	-0.6	-0.4	-0.2
GDP deflator	-0.0	-0.0	-0.2	-0.3	-0.6	-0.8	-0.8	-0.6	-0.3	-0.0
Short-term nominal interest rate (level) *	0.1	0.5	1.0	1.2	1.4	1.0	-0.3	-0.8	-0.7	-0.3
Nominal effective exchange rate (+: depreciation)	-0.0	0.0	-0.2	-0.8	-1.6	-1.6	-1.2	-0.7	-0.2	0.3
Equity prices	-1.1	-4.5	-8.9	-11.4	-12.6	-8.7	3.5	15.3	17.5	4.9
Output gap (deviation of GDP from trend, in %) *	-0.0	-0.2	-0.4	-0.6	-0.7	-0.5	0.2	0.7	0.7	0.4

Underlying Technical Assumptions of the 2005-2011 NIME Economic Outlook

This World Economic Outlook is produced with a version of the NIME model which is based on data from the most recent AMECO database of the European Commission, data from the Direction of Trade Statistics and the International Financial Statistics of the International Monetary Fund, and the World Population Prospects of the United Nations. The AMECO database provides historical data for the 1970-2004 period and estimates for 2005, as published in the European Commission's Spring 2005 Economic Forecasts[1].

Calibration of the projection for 2005

Early July 2005, we updated the assumptions retained in the NIME model for the year 2005, by reviewing the model's financial variables such as interest and exchange rates on the basis of financial futures, but also by updating the macroeconomic data in order to reflect the most recent Eurosystem staff macroeconomic projections[2] for the euro area in 2005. A first-run computation was made of the impact of all these changes on the overall macroeconomic conditions for 2005. Once the initial conditions for 2005 had been determined, the model was run to generate the projection for the 2006-2011 period.

Medium-term trends

The NIME model's underlying medium-term trend values, such as trend productivity growth (i.e. growth in private sector gross output per employee), the equilibrium real interest rate (i.e. the long-term nominal interest rate deflated by the consumer price index) and secular inflation (with the exception of secular inflation in Japan, which is assumed to rise gradually as of 2006), were set to their latest available estimates and were held constant over the projection period. These estimates were obtained by applying a Hodrick-Prescott filter to the historical data series. Trend values for population are calibrated on the basis of the latest 2004 revision of the United Nations' "World Population Prospects"[3]. Oil price projections are based on oil futures, as quoted on international commodity markets early July 2005.

The table below shows the medium-term trend values for labour productivity growth, the equilibrium real interest rate, secular inflation, population growth, labour supply growth and the price of oil. These trend values are kept constant throughout the simulation period, except for oil prices, population data and trend inflation in Japan, for which averages are shown.

Medium-term trend values for the 2005-2011NIME World Economic Outlook

	Euro area	Western non-euro EU	United States	Japan
Labour productivity growth [a, b]	1.0	2.1	2.3	1.6
Equilibrium real interest rate	2.0	2.8	2.6	2.1
Secular inflation	1.9	1.7	1.9	0.1[b]
Population growth [b]	0.2	0.3	0.9	0.1
Trend labour supply growth [b]	0.7	0.7	1.0	-0.6
Price of oil (US$ per barrel) [b]	52.5	52.5	52.5	52.5

[a] GDP per employee.
[b] 2005-2011 average.

Finally, due to the limited scope of the available data for the New EU Member States, the 2007-2011 projections of this area's gross investment and public consumption are set equal to the 2002-2006 average of the values available in the latest AMECO database of the European Commission.

Monetary and fiscal policies

With respect to the conduct of fiscal policy, we use a constant policy assumption. However, whenever possible, the anticipated effects of existing legislation are taken into account. This is of particular relevance for the United States where, under current law, certain important tax cut provisions are assumed to sunset over the projection's horizon[4]. With respect to monetary policy, we assume that short-term interest rates follow a Taylor rule, embedded in a partial adjustment scheme.

1. The Commission's Forecasts are available at the following internet address: http://europa.eu.int/comm/economy_finance/publications/european_economy/forecasts_en.htm
2. "The Eurosystem Staff Macroeconomic Projections for the Euro Area" are available at the following internet address: http://www.ecb.int/pub/pdf/other/ecbstaffprojections200506en.pdf
3. The UN's latest world population projections are available at the following internet address: http://www.un.org/esa/population/unpop.htm
4. See: Congressional Budget Office, "CBO's Current Budget Projections", May 2005. Internet address: http://www.cbo.gov/showdoc.cfm?index=1944&sequence=0 and: The Brookings Institution, "Bush Administration Tax Policy: Revenue and Budget Effects", October 2004. Internet address: http://www.brookings.edu/views/articles/20041004orszaggale.pdf

The NIME Model of the World Economy

The NIME model is a macroeconometric world model developed by economists at the Belgian Federal Planning Bureau. The model is used to make medium-term projections for the international economy, as well as to study the transmission mechanisms of economic policies and exogenous shocks.

In the current version of the NIME model, the world is divided into six blocs, i.e. the euro area, the bloc consisting of the Western EU Member States that do not belong to the euro area, the New EU Member States, the United States, Japan and a bloc representing the rest of the world. All these country blocs are linked together by trade and financial flows. Data for the euro area is aggregated using ECU/euro exchange rates. Data for the Western non-euro EU Member States and the New EU Member States are aggregated in a common synthetic currency unit.

In all of these blocs but two, i.e. the New EU Member States and the rest of the world, we distinguish a household sector, an enterprise sector, a government sector and a monetary sector. A similar set of behavioural equations and accounting identities is specified for each sector across blocs, while the parameter values of the equations are obtained using econometric techniques applied to the aggregated, annual data of the different blocs.

The household sector allocates its total available means over goods and services, real money balances, residential buildings and other assets as a function of the nominal interest rate, the real interest rate, the user cost of residential buildings and a scale variable. This scale variable consists of the household sector's assets (including bonds and residential buildings), its current income from assets, its current and expected future take-home labour income and its transfers. Error correction mechanisms and partial adjustment schemes are used to capture sluggish adjustment in the expenditure plans of the household sector. Moreover, in the short-run the household sector is liquidity-constrained, implying that a fraction of its expenditures must be financed by disposable income.

The enterprise sector maximizes its profits by hiring production factors and selling its output to final users. Gross output consists of goods for private consumption, investment and exports. There are three production factors: labour, fixed capital and intermediary imports. Error correction mechanisms and partial adjustment schemes are used to model the short-run demand for the production factors. In these demand schemes, the long-run factor demand equations are derived from a Cobb-Douglas production function with constant returns to scale.

Prices and wages are not fully flexible and clear the markets only in the long-run. Moreover, country blocs are engaged in multilateral trade where importers are price setters and exporters are price takers, except for the price of oil which is determined outside the model. The (equilibrium) real wage rate is a weighted average of labour productivity and the reservation wage, while the natural rate of unemployment is determined by the gap between the take-home wage and the reservation wage of the employees.

Government income is determined by endogenous tax bases and predetermined tax rates, while its expenditures are to a large extent determined by the business cycle and trend growth. The automatic fiscal stabilisers operate on the expenditure side mainly through unemployment benefits and interest payments on government gross debt and, on the revenue side, mainly through direct wage income taxes, profit taxes, social security contributions and indirect taxes.

Short-term interest rates are set according to the Taylor principle. This implies that the monetary authorities increase (decrease) the short-term nominal interest rate more than proportionally to increases (decreases) in inflation, thus increasing (decreasing) real interest rates when inflationary pressures arise (subside). It also implies that the monetary authorities keep the short-term interest rate below (above) the equilibrium interest rate if demand is below (above) potential output. Long-term interest rates are determined by the term structure theory of interest rates. In this outlook, changes in an area's nominal effective exchange rate are determined by changes in the interest rate differential and the (expected) inflation differential. The risk premia in the financial markets are kept constant.

NIME Studies and Publications

Case studies and technical variants

Several studies have been made with the NIME model[1]. Meyermans (2002.a and 2002.b) used the NIME model to investigate to what extent the working of the automatic fiscal stabilisers and monetary policy can contribute to the full realisation of potential output and price stability. Meyermans (2003) used the NIME model to assess the transmission of shocks from the United States to the euro area under alternative exchange rate policies. Meyermans (2004) studied how a cut in the social security contribution rate and an increase in the labour participation rate affect economic activity in the euro area in the medium-term. Meyermans and Van Brusselen (2003) examined the impact on the Belgian international environment of a temporary worldwide autonomous drop in private consumption, a further monetary easing by the European Central Bank, a fiscal consolidation in the euro area and of a prolonged worldwide fall in stock markets. Meyermans and Van Brusselen (2004 and 2005.a) used the NIME model to prepare economic outlooks for the world economy for the periods 2004-2010 and 2005-2011. Finally, Meyermans and Van Brusselen (2005.b) examined the impact of an oil price shock on the world economy.

Selected NIME publications

Meyermans, E. (2002.a), "Automatic Fiscal Stabilisers in the Euro Area. Simulations with the NIME Model", in Banca d'Italia (2002), The Impact of Fiscal Policy, pp. 389-416, (also available as Working Paper 5-02, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0205

Meyermans, E. (2002.b), "Monetary Policy in the Euro Area. Simulations with the NIME Model", in Bayar, A. and A. Dramais (eds., CD-ROM) (2002), EcoMod2002, International Conference on Policy Modeling, Proceedings, Brussels (also available as Working Paper 11-02, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0211

Meyermans, E. (2003), "The International Transmission of Shocks. Some Selected Simulations with the NIME Model", Working Paper 9-03, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0309

Meyermans, E. (2004), "The Macro-Economic Effects of Labour Market Reforms in the European Union. Some Selected Simulations with the NIME Model", Working Paper 12-04, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0412

Meyermans, E. and P. Van Brusselen (2001), "The NIME Model: A Macroeconometric World Model", Working Paper 3-01, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0103

Meyermans, E. and P. Van Brusselen (2003), "An Assessment of the Risks to the Medium-Term Outlook of the Belgian International Economic Environment. Simulations with the NIME Model", Working Paper 12-03, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0312

Meyermans, E. and P. Van Brusselen (2004), "The NIME Economic Outlook for the World Economy: 2004-2010. Also in this issue: oil price shocks", Working Paper 16-05, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0416

Meyermans, E. and P. Van Brusselen (2005.a), "The NIME Economic Outlook for the World Economy: 2005-2011. Also in this issue: The Lisbon Strategy", Working Paper 02-05, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/nl/pub/WP/detail_WP.php?pub=WP0502

Meyermans, E. and P. Van Brusselen (2005.b), "The Macroeconomic Effects of an Oil Price Shock on the World Economy. A Simulation with the NIME Model", Working Paper 6-05, Federal Planning Bureau, Brussels.
Internet: http://www.plan.be/en/pub/wp/detail_wp.php?pub=WP0506

1. The technical details concerning the NIME model are primarily discussed in Meyermans and Van Brusselen (2001).

Federal Planning Bureau

Avenue des Arts 47-49 Kunstlaan
B-1000 Brussels
Belgium

Tel.: +32 2 507.73.11
Fax: +32 2 507.73.73
E-mail: contact@plan.be
URL: http://www.plan.be

Responsible editor: Henri Bogaert - Legal depot: D/2005/7433/29