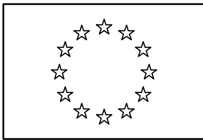

EUROPEAN COMMISSION
DIRECTORATE GENERAL
ECONOMIC AND FINANCIAL AFFAIRS

Brussels, 27 February 2007
ECFIN/50420/07-EN

# ECONOMIC ASSESSMENT OF THE STABILITY PROGRAMME OF GREECE (UPDATE OF DECEMBER 2006)

The Stability and Growth Pact requires each EU Member State to present an annual update of its medium-term fiscal programme, called “stability programme” for countries that have adopted the euro as their currency and “convergence programme” for those that have not. The most recent update of Greece’s stability programme was submitted on 18th December 2006.

The attached technical analysis of the programme, prepared by the staff of, and under the responsibility of, the Directorate-General for Economic and Financial Affairs of the European Commission, was finalised on 26 February 2007. Comments should be sent to Mateo Capó Servera (Mateo.CAPO@ec.europa.eu), Georgios Moschovis (George.MOSCHOVIS@ec.europa.eu) or Polyvios Eliofotou (Polyvios.ELIOFOTOU@ec.europa.eu). The main aim of the technical analysis is to assess the realism of the budgetary strategy presented in the programme as well as its compliance with the requirements of the Stability and Growth Pact. However, the analysis also looks at the overall macro-economic performance of the country and highlights relevant policy challenges.

Based on this technical analysis, the European Commission adopted a recommendation for a Council opinion on the programme on 13 February 2007. The ECOFIN Council is expected to adopt its opinion on the programme on 27 February 2007.

* * *

All these documents, as well as the provisions of the Stability and Growth Pact, can be found on the following website:

**http://ec.europa.eu/economy_finance/about/activities/sgp/main_en.htm**

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## SUMMARY AND CONCLUSIONS[1]

As part of the preventive arm of the Stability and Growth Pact, each Member State that uses the single currency, such as Greece, has to submit a stability programme and annual updates thereof. The most recent programme, covering the period 2006-2009, was submitted on 18th December 2006. Under the corrective arm of the Pact, Greece was placed in excessive deficit by the Council in July 2004. The deadline for correcting the excessive deficit is 2006.

Greece has experienced high economic growth and is closing the gap with the EU25 in terms of living standards. It faces high inflation originating from a mixture of high potential growth and structural problems (product market rigidities). Despite labour shortages in specific sectors, labour market rigidities hinder the reallocation of labour and thus, unemployment remains high, which points to possible mismatches between skills and firm's needs, while participation is low by EU standards, especially of women. Although labour productivity growth is healthy, unit labour costs are increasing faster and in excess of Greece's main trade partners in the euro-area, thus worsening the competitive position of the country. Consequently, Greece records high trade deficits, only partly compensated by surpluses in services. Behind the external deficit largely lies the deficit of the public sector. Greece has traditionally recorded deficits above 3% of GDP. Greece is a high debt country that also faces the risks of the growing cost of the public health system and other current expenditures. This public expenditure pattern is worrying not only because external borrowing is not channelled to productive investments, but also because the external borrowing is dependent on the credibility and sustainability of public finances.

Against this background, the Greek economy faces the following challenges. First, in the area of stabilisation, fiscal consolidation should help reduce the external deficit and partially ease inflationary pressures. It will also reduce the stock of debt and the amount of interest payments. In addition, monitoring and controlling debt-increasing below-the-line operations are paramount to keep debt on a sustainable path. Second, regarding long-term sustainability, sustainable public finances depend on social security reforms, and more specifically on reforms of pensions and health care systems. Finally, in order to increase the efficiency in the use of public resources, public expenditures should be restructured towards public investment in knowledge, human and physical capital, which would increase the attractiveness of the country to business activity of higher technological content. The restructuring of public finances in Greece could also release resources for investing in human capital and active labour market policies with a view to reducing structural unemployment and raising participation.

The macroeconomic scenario underlying the updated stability programme envisages that real GDP growth will be broadly stable at around 4% per year. The programme foresees domestic demand to be the main driver of growth, underpinned by strong private consumption, which in turn is supported by wage and employment gains, as well as low interest rates and rapid credit expansion. Although investment is expected to decelerate,

[1]The analysis takes into account (i) the Commission services' autumn 2006 forecast, (ii) the code of conduct ("Specifications on the implementation of the Stability and Growth Pact and guidelines on the format and content of stability and convergence programmes", endorsed by the ECOFIN Council of 11 October 2005) and (iii) the commonly agreed methodology for the estimation of potential output and cyclically-adjusted balances.

it should remain strong. Exports are projected to accelerate throughout the programme period on the back of high growth of exports of goods. Imports are also expected to accelerate to accommodate high private consumption and investment activity. However, the competitiveness gains reflected by a slowing down in unit labour cost, HICP and in the compensation of employees per head, are not reflected in the exports performance, since growth rate is getting slower, especially at the end of the programme's horizon. Assessed against currently available information, this scenario appears to be based on plausible growth assumptions for 2006 and 2007 but on favourable ones thereafter when the projected evolution of growth appears to be on the high side. The GDP growth projections in the update are about ¼ of a percentage point higher than in the Commission services' autumn 2006 forecast. However, where 2006 and 2007 are concerned, both projections would actually be comparable, since the update takes account of more recent information on the performance of the Greek economy in 2006, which was not available at the cut-off date of the Commission services' autumn 2006 forecast. Moreover, the programme's projections for inflation appear to be on the low side in the outer years of the programme period. Taking into account the strength of real GDP growth, the positive output gap and the employment outlook, the projected economic conditions can be characterised as economic "good times".

For 2006, the general government deficit is estimated at 2.6% of GDP in the Commission services' autumn 2006 forecast and in the new update, fully in line with the target set in the previous update of the stability programme. Total expenditures achieved the target set in the 2006 budget. While most of the main categories of expenditure broadly attained the targets, a ½% of GDP overrun in public investment was fully compensated by a reduction in social transfers other than in kind. Total revenues were marginally higher than expected. One-off measures were partly substituted by permanent measures implemented in the middle of the year, namely increases of the excise tax on fuel and cigarettes, and a tax increase on mobile connection bills. Revenues from these permanent measures compensated for the reduction in one-off revenues from 0.6% of GDP set in the 2006 budget to 0.4% of GDP.

The budgetary strategy in the programme aims at correcting the excessive deficit in 2006. Thereafter, the government deficit is planned to continue narrowing steadily over the programme period, to 1.2% of GDP in 2009. The deficit reduction by 1½ percentage point of GDP between 2006 and 2009 is spread almost equally between revenue increase and expenditure reduction. On the revenue side, total revenue is expected to increase by ¾ percentage points of GDP. This is fully attributed to an increase in indirect taxes and social contribution receipts, while direct taxes marginally decrease throughout the programme period and other revenue categories (excluding one-offs) are expected to remain broadly stable as a share of GDP. On the expenditure side, total expenditure is projected to fall by around ¾ percentage points of GDP over the same period, of which ½ percentage points of GDP, corresponds to lower interest payments. As a result, reductions in primary expenditure are projected to be limited to just ¼ percentage points Social transfers are projected to increase by ½ percentage points of GDP, which would be more than compensated by reductions amounting ¾ percentage points of GDP in other expenditure categories, mainly collective consumption. The primary surplus would improve by around 1 percentage point of GDP over the programme period, to close to 3% of GDP by 2009. Although, compared with the previous programme, the targets for 2006-2008 are broadly unchanged with the same macroeconomic scenario, the current adjustment in 2006 is actually larger since the deficit outcome for 2005 (5.2% of GDP) is higher than projected in the update of December 2005 (4.3% of GDP). Government gross debt is estimated to have reached 104% of GDP in 2006, far above the 60% of GDP

Treaty reference value. The programme projects the debt ratio to gradually decline by almost 13 percentage points of GDP over the programme period, while stock-flow adjustments are very small starting from 2007.

The structural balance (i.e. the cyclically-adjusted balance net of one-off and other temporary measures) calculated according to the commonly agreed methodology is planned to improve from a deficit of around 3½% of GDP in 2006 to 1¾% at the end of the programme period (2009). The consolidation effort is evenly distributed. Specifically, after an improvement of 2¼% of GDP in 2006, compared with the 2005 outcome, the programme foresees a structural adjustment of around ½% of GDP per year until 2009. Taking this into account, the planned stance of fiscal policy, as measured by the change in the structural balance is broadly neutral (to perhaps slightly restrictive) in each year covered by the programme. The programme sets a medium-term objective (MTO) for the public finances of a balanced or surplus position in structural terms, which is in line with the Pact but is targeted to be reached only beyond the programme horizon.

The risks to the budgetary projections in the programme appear broadly balanced until 2007 but the budgetary outcomes could be worse than projected in the programme thereafter. In particular, for 2008 and 2009, the programme does not provide sufficient information on measures envisaged and is based on a favourable macroeconomic scenario. Budgetary projections for 2006 and 2007 are broadly in line with the Commission services' 2006 autumn forecast. However, for 2008 there is a difference of ¾ percentage points of GDP in the government deficit, which is explained by slightly more favourable GDP growth projections in the programme as well as the usual no-policy change scenario used in the Commission services' forecast. Based on past experience, and although no slippages have been recorded for the last two years, risks of expenditure overruns over the programme period can not be excluded, while revenue shortfalls may materialise if the announced measures to fight tax evasion would turn out ineffective. Compared with the Commission services' autumn 2006 forecasts, debt developments in the programme appear somewhat optimistic. Specifically, the lower nominal growth rate featured in the 2006 autumn forecast would imply a lower reduction of the debt ratio profile, compared with the update. As for the deficit targets, the risks to the projected debt reduction path appear to be broadly balanced.

In view of this risk assessment, the budgetary stance in the programme is consistent with a correction of the excessive deficit by 2006 as recommended by the Council. However, it does not seem to provide a sufficient safety margin against breaching the 3% of GDP deficit threshold with normal macroeconomic fluctuations within the programme's horizon. In the years following the correction of the excessive deficit, Greece is expected to continue to experience good times. The pace of the adjustment towards the MTO implied by the programme should be strengthened, especially after 2007, to be in line with the Stability and Growth Pact, which specifies that, for euro-area and ERM II Member States, the annual improvement in the structural balance should be 0.5% of GDP as a benchmark and that the adjustment should be higher in good economic times and could be lower in bad economic times. Concerning debt, the evolution of the debt ratio after 2007 is likely to be less favourable than projected in the programme given the favourable growth projections and the risks to the deficit targets as mentioned above. The debt ratio seems to be sufficiently diminishing towards the reference value over the programme period.

The long-term budgetary impact of ageing in Greece is uncertain as long-term projections of pension expenditure are not available; however, it is very likely to be well

above the EU average; according to the latest available information from the 2002 updated Greek stability programme, a significant increase in pension expenditure as a share of GDP is projected over the long term. The initial budgetary position, albeit improved compared with 2005, constitutes a significant risk to sustainable public finances even before considering the long-term budgetary impact of an ageing population. Moreover, the current level of gross debt is well above the Treaty reference value and reducing it requires achieving high primary surpluses for a long period of time. Consolidating the public finances as planned, together with urgent reform measures aimed at containing the likely significant increase in age-related expenditures, would, as mentioned above, contribute to reducing risks to the long-term sustainability of public finances. Overall, Greece appears to be at high risk with regard to the sustainability of public finances. The availability of long-term projections of pension expenditure would improve the assessment of long term budgetary sustainability.

The implementation report of the national reform programme (NRP) of Greece, provided in the context of the renewed Lisbon strategy for growth and jobs, was submitted in October 2006. The NRP identifies as key challenges: fiscal consolidation; R&D and innovation; modernising public administration; active labour market policies and the reforms of education and training. The Commission's assessment of this programme (adopted as part of its December 2006 Annual Progress Report[2]) showed that Greece is making limited progress in the implementation of its NRP. Greece is moving ahead relatively strongly in the macro-economic area, whereas progress with micro-economic and employment reforms is still insufficient. Regarding governance, better coordination and stronger ownership among administrative levels is needed. Against the background of strengths and weaknesses identified, Greece was recommended to take action in the areas of: fiscal consolidation; public administration; employment protection; and education.

The stability programme and the NRP do not seem well-integrated. The stability programme points out that structural reforms are needed to rationalize public expenditure and safeguard the budgetary implementation for the years ahead, which would enable Greece to develop a robust and flexible economic environment. It indicates that fiscal policy would underpin the general economic policy objectives, by putting in place procedures to improve the control and management of public expenditure, through better and more efficient audits on all public entities of the general government. A new General Directorate of Fiscal Audit within the Ministry of economy and finance has been established for that purpose, encompassing an integrated system of internal auditing agencies and information systems. The reform agenda of the Greek government also includes structural reforms in product markets to strengthen the business environment, competition and export promotion; developing the knowledge society; improving capital markets; environment and sustainable development; and modernisation of public administration.

The overall conclusion is that, following a significant fiscal consolidation and in a context of strong growth prospects, the updated stability programme is consistent with the correction of the excessive deficit by 2006 and it envisages progress towards the MTO, which however would not be attained within the programme period. The consolidation path, which also relies on a significant decline in the interest burden, is

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[2] Communication from the Commission to the Spring European Council, "Implementing the renewed Lisbon strategy for growth and jobs - A year of delivery", 12.12.2006, COM(2006)816.

subject to risks as specific measures are not fully spelled out after 2007. In addition, the programme shows a debt ratio that seems to be sufficiently diminishing towards the reference value over the programme period, along with stock-flow adjustments that are very small. However, Greece appears to be at high risk with regard to the sustainability of public finances, which needs urgent reform measures aimed at containing the likely significant increase in age-related expenditures.

**Comparison of key macroeconomic and budgetary projections**

| | | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| Real GDP (% change) | **SP Dec 2006** | **3.7** | **4.0** | **3.9** | **4.0** | **4.1** |
| | COM Nov 2006 | 3.7 | 3.8 | 3.7 | 3.7 | n.a. |
| | *SP Dec 2005* | *3.6* | *3.8* | *3.8* | *4.0* | *n.a.* |
| HICP inflation (%) | **SP Dec 2006** | **3.5** | **3.3** | **3.0** | **2.8** | **2.6** |
| | COM Nov 2006 | 3.5 | 3.3 | 3.3 | 3.3 | n.a. |
| | *SP Dec 2005* | *3.5* | *3.2* | *3.0* | *2.7* | *n.a.* |
| Output gap (% of potential GDP) | **SP Dec 2006[1]** | **0.9** | **1.0** | **0.9** | **1.1** | **1.5** |
| | COM Nov 2006[5] | 1.5 | 1.5 | 1.5 | 1.8 | n.a. |
| | *SP Dec 2005[1]* | *1.1* | *1.1* | *1.1* | *1.5* | *n.a.* |
| General government balance (% of GDP) | **SP Dec 2006** | **-5.2** | **-2.6** | **-2.4** | **-1.8** | **-1.2** |
| | COM Nov 2006 | -5.2 | -2.6 | -2.6 | -2.4 | n.a. |
| | *SP Dec 2005* | *-4.3* | *-2.6* | *-2.3* | *-1.7* | *n.a.* |
| Primary balance (% of GDP) | **SP Dec 2006** | **-0.4** | **2.0** | **2.0** | **2.4** | **2.9** |
| | COM Nov 2006 | -0.4 | 2.0 | 1.8 | 1.7 | n.a. |
| | *SP Dec 2005* | *0.9* | *2.3* | *2.4* | *2.8* | *n.a.* |
| Cyclically-adjusted balance (% of GDP) | **SP Dec 2006[1]** | **-5.6** | **-3.0** | **-2.8** | **-2.3** | **-1.8** |
| | COM Nov 2006 | -5.9 | -3.3 | -3.3 | -3.1 | n.a. |
| | *SP Dec 2005[1]* | *-4.8* | *-3.1* | *-2.8* | *-2.4* | *n.a.* |
| Structural balance[2] (% of GDP) | **SP Dec 2006[3]** | **-5.6** | **-3.4** | **-2.8** | **-2.3** | **-1.8** |
| | COM Nov 2006[4] | -5.9 | -3.7 | -3.3 | -3.1 | n.a. |
| | *SP Dec 2005* | *-4.8* | *-3.7* | *-2.8* | *-2.4* | *n.a.* |
| Government gross debt (% of GDP) | **SP Dec 2006** | **107.5** | **104.1** | **100.1** | **95.9** | **91.3** |
| | COM Nov 2006 | 107.5 | 104.8 | 101.0 | 96.4 | n.a. |
| | *SP Dec 2005* | *107.9* | *104.8* | *101.1* | *96.8* | *n.a.* |

Notes:
[1]Commission services calculations on the basis of the information in the programme.
[2]Cyclically-adjusted balance (as in the previous rows) excluding one-off and other temporary measures.
[3]One-off and other temporary measures taken from the programme (0.4% of GDP in 2006).
[4]One-off and other temporary measures taken from the Commission services' autumn 2006 forecast (0.4% of GDP in 2006).
[5]Based on estimated potential growth of 3.7%, 3.8%, 3.6% and 3.5% respectively in the period 2005-2008.

Source:
*Stability programme (SP); Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations*

# 1. INTRODUCTION

Greece submitted its sixth update of the stability programme, on 18th December 2006 (in English), two weeks later than the deadline specified in the Code of Conduct (1st December). There appears to be no good reason for the submission delay. The December update of the stability programme covers the period 2006 to 2009.

The update was adopted by the Government on 18th December 2006. On 22nd December 2006, the update was presented to the Parliament and made available to the public on the Internet site of the Ministry of Economy and Finance. The budgetary and economic projections for 2006 and 2007 are consistent with the 2007 Budget Law adopted by the Parliament on 21st December 2006[3].

The programme broadly follows the model structure for stability and convergence programmes specified in the code of conduct. The programme provides all compulsory data and presents gaps in some optional data prescribed by the code of conduct[4]. Annex 3 provides a detailed overview of all aspects of compliance with the code of conduct.

# 2. ECONOMIC TRENDS AND POLICY CHALLENGES

This section is in five parts. The first provides a brief overview of the macroeconomic performance in terms of growth and other major macro-variables. The second part presents the results of a growth accounting exercise and tries to identify the main reasons for low or high average annual economic growth vis-à-vis the reference aggregate (euro area). The third looks at the volatility of growth and other key macroeconomic variables and the stabilising or destabilising role of macro-policies. The fourth part focuses on trends in public finances. The fifth part then identifies major economic challenges with implications for public finances.

## 2.1. Economic performance

The story of the Greek economy in the last ten years is one of buoyant growth and remarkable success in terms of real convergence (Table 2 and Figure 1). The annual average real GDP growth was close to 4% between 1996 and 2005. Especially after 2001,

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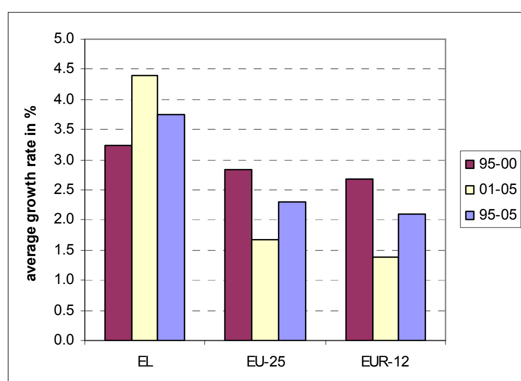
3 On 22nd September, the Greek authorities transmitted to Eurostat new GDP data for the period 1995 – 2005, showing a sharp revision of GDP levels. This revision was carried out within the regular assessment process of compliance with Eurostat's statistical practices. However, the update of the stability programme (and the 2007 Budget Law) does not take into consideration the revised GDP figures. Given the magnitude and complexity of the revision, which is still undergoing complete verification by Eurostat, the Commission in its assessment of the updated programme has used the series of GDP data preceding such revision.

4 The December 2006 update does not provide the following optional data: Table 3 (General government expenditure by function); Table 7 (Long-term sustainability); in Table 1d (Sectoral Balances), item 4 (Statistical discrepancy); in Table 4 (General Government Debt Developments), items 5.1 (differences between cash and accruals), 5.2 (Net accumulation of financial assets), 5.3 (Valuation effects and other), 6. (Liquid financial assets), 7. (Net financial debt); in Table 5 (Cyclical developments), sub-item 4 (Contributions of potential GDP growth).

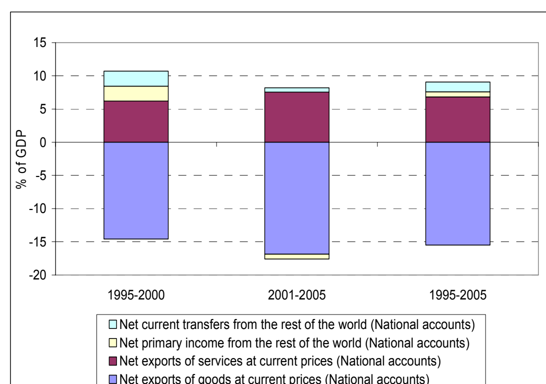
the real growth rate accelerated significantly, fuelled mainly by the preparations for the 2004 Olympic Games. As a result, living standards, measured in terms of GDP per capita in Purchasing Power Standards (PPS), rose from 72¼ in 1996 to just above 83% of the EU average in 2005. In spite of high growth, the general government deficit remained on average well above 3% of GDP over the whole period (5.2% of GDP in 2005). Together with large debt-increasing below-the-line operations, high deficits contributed to the accumulation of public debt, which remained close to or above 110% of GDP during the last ten years.

**Figure 1: Average GDP growth: Greece vs. euro area or EU average**




*Source*:
*Commission Services*

**Figure 2: External position of Greece**




*Source:*
*Commission Services*

In line with economic performance, employment accelerated from an average annual growth rate of just above ½% in the second half of the 1990s to rates of around 1¼% in the 2000s. Yet, a high tax wedge on labour, particularly the low paid, contributes to keep the participation rate at 55% of the working age population, below the EU standards. In addition, the unemployment rate remains around 10%, one of the highest in the euro area. High growth rates of the last decade were not coupled with efficient strategies in developing education and lifelong learning, while the existence of rigidities in labour markets nailed unemployment above 10% for many years.

Monetary policies oriented towards price-stability and, after 2001, monetary conditions, reduced inflation rates from above 4½% in the mid-nineties to around 3½% in 2005, thus still recording persistently high inflation differentials with the euro area, which would not only arise from the typical Balassa-Samuelson effect, associated to catching-up economies, but also from structural factors linked to the malfunctioning of labour and product markets[5]. As a result, nominal wage growth has been outpacing productivity gains, pushing up unit labour costs and hindering the export's performance of the Greek economy, with net exports negatively contributing to GDP growth by about half a point per year.

This combination of dynamic domestic demand and deteriorating competitiveness has been worsening the external balance of the Greek economy (Figure 2). The external

[5] European Central Bank, (2005), *Does product market competition reduce inflation ? Evidence from EU countries and sectors*, Working Paper No. 453, March 2005.

deficit of goods and services has almost doubled since 1996, attaining more than 7¼% of GDP in 2005 compared with a deficit of 4% of GDP in 1996. These developments were mostly due to a growing deficit of goods trade, which attained 16¼% of GDP in 2005, only partially compensated by services trade surpluses of about 8% of GDP. In parallel, the accumulated deficit of the incomes and current transfers accounts attained around 1% of GDP. Although capital transfers of around 1½% to 2% of GDP were enough to largely minimise the external imbalance of the Greek economy in the mid-nineties, in the 2000s they have been overshadowed by the external balance deficit. The net borrowing external position of the country reached 7¾% of GDP in 2005. The bulk of the external imbalance of the Greek economy over the decade originates in the large deficits recorded by the public sector, although the financial position of the household sector has turned to the red in the recent past on the back of easy financial conditions and the buoyant housing market[6]. However, the financial position of the corporate sector is in surplus, which, combined with the relative low credit growth of the sector (see Table 2), would be pointing to insufficient private investment.

The building-up of external imbalances carries the risk of affecting medium-term growth. The patterns of sector and geographical trade specialization show that Greece not only exports too little but its exports of goods are mainly concentrated on low-technology, slow-growing demand products (Table 1). Moreover, the bulk of imports are mainly made up of consumer goods, while equipment and investment goods account for a relatively smaller share. Also important, while FDI inflows are relatively small (around 1% of GDP), the growing external imbalance is being financed mostly through portfolio investment and, reflecting the public-sector origin of the current account deficit, through government bonds[7].

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[6] See box 1 of the Commission services' technical assessment of the Stability Programme of Greece (2005-2008), (available also at:

http://ec.europa.eu/economy_finance/about/activities/sgp/country/commwd/el/com_el20052006.pdf.

[7] According to the successive annual monetary reports of the Bank of Greece, foreign investors’ purchases of Greek government bonds have been the main source of the substantial net inflows under portfolio investment. Specifically, in recent years, non-residents’ investment in Greek bonds rose from €6 494 million in 2001 to €20 682 million in 2005, over a total of portfolio investment of € 25 782 million in 2005.

**Table 1: Trade-specialisation indices**[8]

| Lafay Index of industrial groups | 1995-2000 | 2001-2005 | 1995-2005 |
|---|---|---|---|
| Agricutural/fish | 0.0 | 0.0 | 0.0 |
| High-tech manufacturing | -0.2 | -0.2 | -0.2 |
| Low-tech manufacturing | -0.1 | -0.1 | -0.1 |
| Medium/High-tech manufacturing | -0.1 | -0.2 | -0.2 |
| Medium/Low-tech manufacturing | 0.0 | 0.0 | 0.0 |
| Mining | 0.0 | 0.0 | 0.0 |

*Source: Commission Services*

### 2.2. Anatomy of medium-term growth

Within the framework of a traditional growth accounting exercise, this section dissects the sources of high average growth as well as possible differences in average economic growth in Greece vis-à-vis the euro area. The growth accounting exercise is carried out on the basis of a Cobb-Douglas production function, the results of which are displayed in Figures 3 and 4 for real GDP growth and its components over the 1996-2005 period.

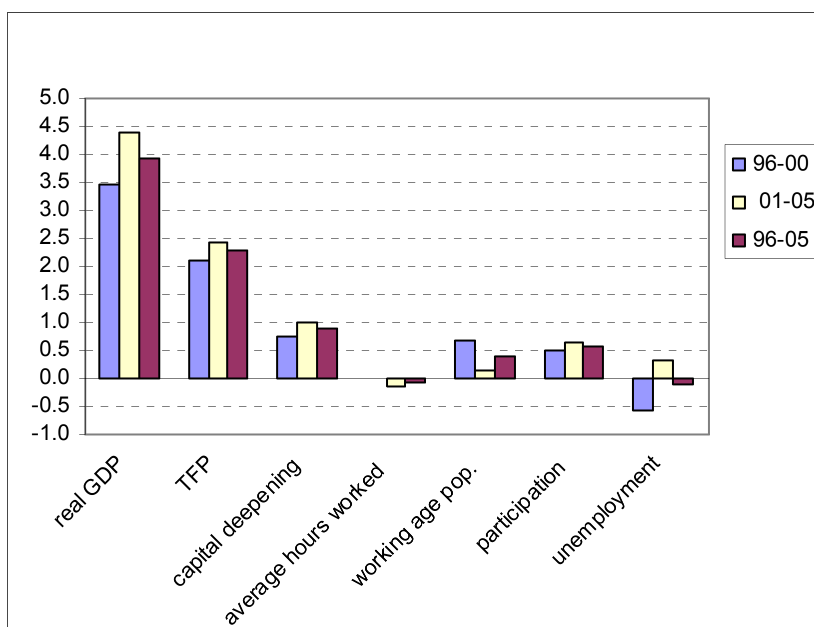
The pattern shown in Figure 3 typically characterizes a catching-up economy, where total factor productivity (TFP) growth and capital deepening are the main factors driving GDP growth. TFP growth explains more than half of GDP growth, while capital deepening explains around ¼. The rest is equally shared by the increases recorded in labour participation and in working age population.

[8] *The Lafay index measures the contribution of each sector or good to the trade balance. This index is calculated by re-grouping the individual sectors of the two-digit ISIC classification following a taxonomy developed by the OECD that classifies ISIC sectors into high, medium-high, medium-low and low-technology manufacturers on the basis of the ratio of R&D expenditure in value added. This allows for tracking changes in the specialisation of Greece in terms of technological content over time.*

$$LF_j^i = \left[ \frac{X_j^i - M_j^i}{X_j^i + M_j^i} - \frac{\sum_{j=1}^{N} X_j^i - M_j^i}{\sum_{j=1}^{N} X_j^i + M_j^i} \right] \frac{X_j^i + M_j^i}{\sum_{j=1}^{N} X_j^i + M_j^i}$$

*Where $X_j^c, M_j^c$ are exports and imports of sector or good j in a given period to and from the rest of the world respectively. N is the number of sectors or goods. A positive contribution is taken to indicate a comparative advantage, a negative a comparative disadvantage.*

**Figure 3: GDP growth and its components**




Note:

Assuming a Cobb-Douglas-production function $Y = A(L \cdot H)^{\alpha} K^{1-\alpha}$ where $Y$ denotes the level of *GDP*, $L$ employment, $H$ the average hours worked per person employed, K the capital stock and $\alpha$ the labour share in income capita GDP can be written as $\frac{Y}{P} = \frac{Y}{H \cdot L}\frac{H \cdot L}{P} = A \cdot \left(\frac{K}{H \cdot L}\right)^{1-\alpha} \frac{H \cdot WP \cdot PART \cdot (1-ur)}{P}$ where $WP$ stands for working age population, $PART$ the participation ratio in percent of WP, $ur$ the rate of unemployment and $P$ total population. In terms of growth rates $g$ this is:

$$g_{Y/P} = g_A + (1-\alpha)(g_K - g_L - g_H) + g_H + g_{WP} + g_{PART} - g_{ur} \cdot \frac{ur}{1-ur} - g_P$$

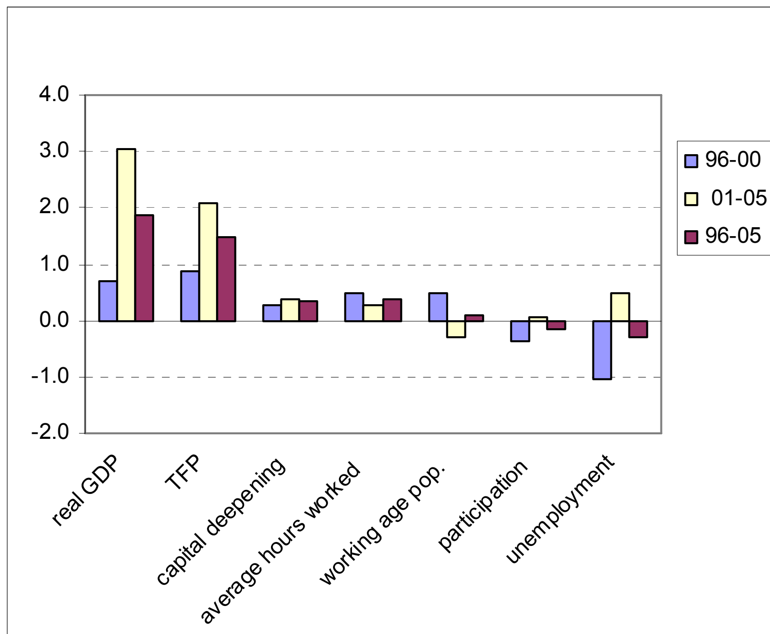
The expression $(g_K - g_L - g_H)$ is referred to as capital deepening, i.e. the increase in the capital labour ratio.

*Source: Commission Services*

More interesting is the fact that TFP growth explains about ¾ of the growth differential with the euro area (Figure 4). The rest should be attributed to a combination of higher capital deepening, growth of hours worked and working age. According to the 2005 Article IV IMF Staff report (see 'Selected Issues')[9] on Greece, higher TFP growth in Greece can be attributed to structural reforms in the services sector, especially in financial services, as well as to the introduction of new information and telecommunication technologies.

[9] International Monetary Fund (2003), Greece – Selected issues, IMF country report No. 06/5, January 2006.

**Figure 4: GDP growth and its components: Difference vis-à-vis euro area**

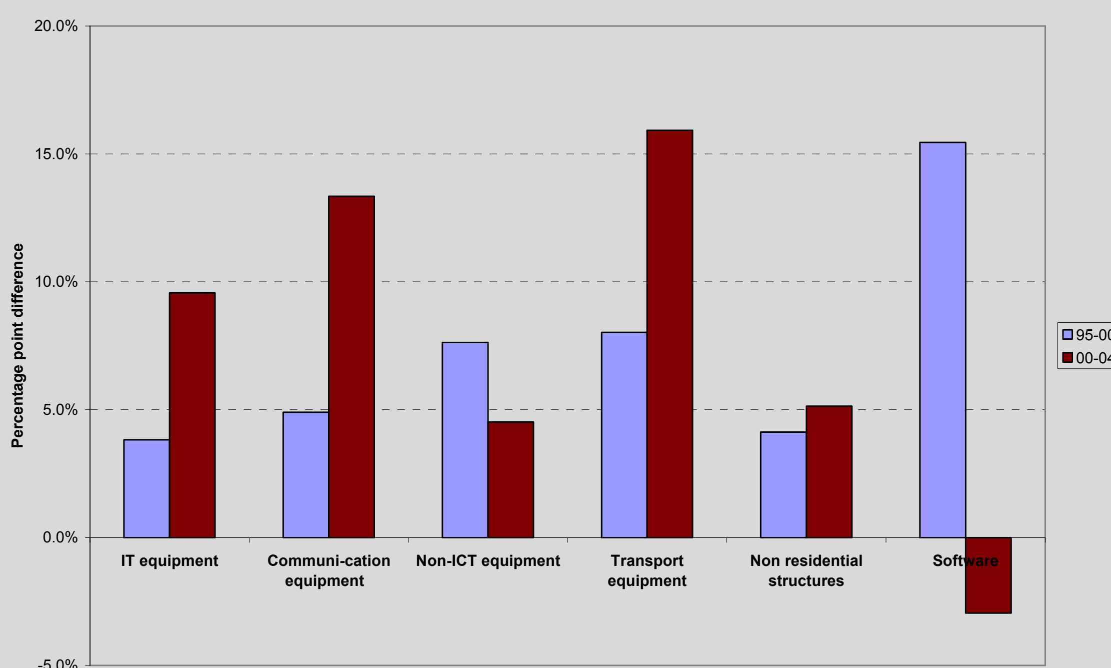



Note: See note of Figure 3
*Source: Commission Services*

**Box 1: The impact of ICT on the Greek TFP growth**

Statistical data from the Total Economy Growth Accounting Database, at the Grogeningen Growth & Development Centre (GGDC), confirms the IMF findings. As the figure below shows, the relative strength of TFP growth may be owed to the fact that the growth rate of gross fixed capital formation in new information and telecommunication technologies has been relatively more important in Greece than in the EU15. This is specifically the case in the first half of 2000s for sectors of IT equipment, communication equipment and transport equipment. Indeed, the growth rate in capital input of IT in Greece stands on average 1½ percentage points higher than in the EU15 in the period 1995-2000, while it stands on average 6 percentage points higher than in the EU15 in the period 2000-2004. Moreover, sectors related to information and telecommunication technologies as well as financial services appear amongst the top ten sectors with the highest labour productivity per person engaged.

Figure 5: **GFCF growth in ICT sectors: Difference vis-à-vis EU-15**




*Note:*
*Average growth rates of gross fixed capital formation of EL compared to EU-15 (in constant 2000 prices)*

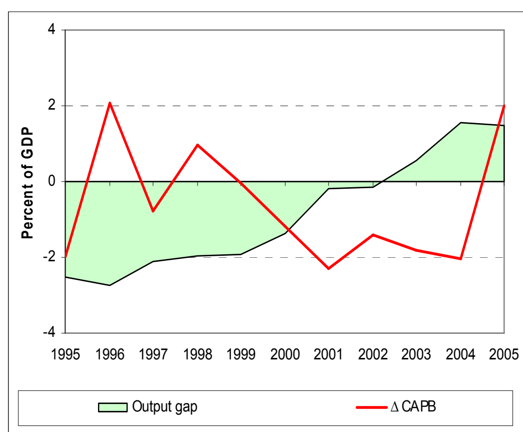
*Source: GGDC Total Economy Growth Accounting Database*

### 2.3. Macro-policies against the backdrop of the economic cycle

Over the last ten years, the high and relatively stable real GDP growth rates recorded by Greece have been coincidental with pro-cyclical fiscal policies. Figure 6 identifies two different periods between the mid-1990s and the mid-2000s. The second half of the 1990s is characterised by a negative output gap, with GDP growing below its potential. In parallel, fiscal policy was overall restrictive reflecting the consolidation efforts aiming at fulfilling the Maastricht criteria on the fiscal front, which facilitated the accession of Greece to EMU in 2001. Witness of such consolidating effort is the almost 1% of GDP increase of the cyclically-adjusted primary balance recorded between 1997 and 1999.

In 2001, the output gap closed and marked the start of an expansionary phase of the cycle, characterised by positive and overall widening output gaps. The fiscal policy stance was expansionary[10], which resulted in a sharp deterioration of the fiscal position against a background of buoyant real GDP growth. In 2005, the fiscal policy stance was reversed within a framework of fiscal consolidation programme put in place by the Greek authorities to correct the excessive deficit in accordance with the corresponding Council Recommendations (see Box 2 in section 4.2). In 2005, the cyclically-adjusted primary balance rose by around 2 percentage points and marked the start of a counter-cyclical fiscal policy for the first time in the recent past of the country.

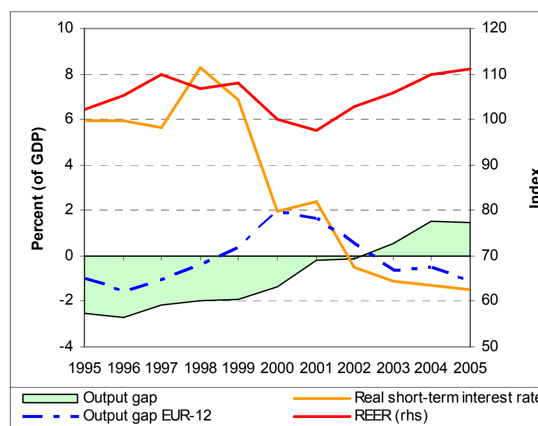
**Figure 6: Output gap and fiscal stance**




Note: ΔCAPB denotes the change in the cyclically-adjusted primary budget balance

*Source: Commission Services*

**Figure 7: Output gap and monetary stance**




*Source: Commission Services*

During the second half of the nineties, inflation rates fell to around 3½%, which allowed Greece to join the euro area. At the same time, nominal interest rates in Greece were falling still more rapidly to those of the future "core" EMU countries. Hence, Greece experienced a substantial fall both in the inflation rate and in real interest rates. In the years 2000, once Greece had adopted the euro, and under the monetary discipline of the ECB, a much higher inflation rate than in the euro area has led to a monetary loosening. The high and persistent inflation is leading to a deterioration of the real effective exchange rate vis-à-vis the euro area (Figure 7). Easier monetary conditions together with the liberalization of the banking sector, which had already started in the mid-nineties, have supported consumption and facilitated access to credit to households, boosting the demand for housing.

## 2.4. Public finances

When looking at the developments of public finances in Greece since 1996, three different periods can be distinguished: a first period of fiscal consolidation in view of the

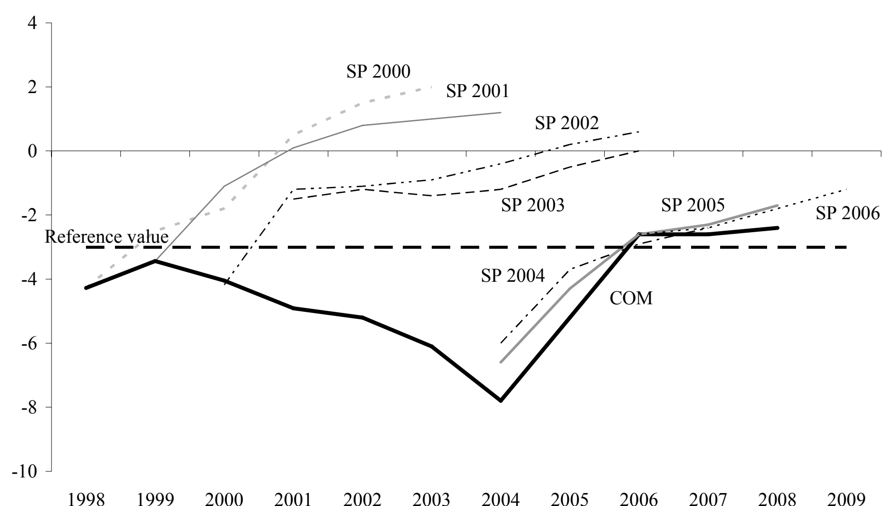
[10] The evidence of the expansionary fiscal stance clearly emerged in 2004 when the figures on government deficit for the period 1999-2003 were significantly revised upwards.

accession to EMU (1997-1999), a second period of fiscal profligacy (2000-2004), and finally a third period of fiscal adjustment that started in 2005.

The general government balance in Greece has been in deficit since 1997, when it attained -6.6% of GDP, which compares with the -5.2% recorded in 2005[11]. The reduction of the deficit is the result of a lowering of around 5¾% of GDP in interest payments, partially offset by a worsening in the primary balance by close to 4% of GDP. The gross debt-to-GDP ratio has followed a slow downward path, from 114% of GDP in 1997 to almost 108% in 2005. Significant below-the-line operations are largely behind developments in the gross debt in Greece and are a main explanatory factor of its slow decline, in spite of high nominal GDP growth and shrinking deficits.

Greece implemented a revenue-led consolidation programme in 1997-1999, also helped by a reduction of interest payments (2¼% of GDP), that cut the deficit by half from around 6½% of GDP in 1997 to about 3½% of GDP in 1999. The adjustment in the primary balance was only achieved through higher tax revenues (2½% of GDP), especially from direct taxes, while collective and intermediate consumption rose by 1¼ and ¾% of GDP respectively.

**Figure 8: General government balance projections in successive stability programmes (% of GDP)**




Source: Commission services and national stability programmes

[11] In 2004, the Greek data on the government deficit and debt underwent a very large revision. The deficit ratios over the period 1997–2003 were also quite significantly revised upwards by up to 2½% of GDP. A separate revision of the debt data led to increases of between 5% and 8% of GDP. Moreover, if a revision which had already taken place in autumn 2002 is taken into account, the overall upward revision in the deficit and debt ratios reaches, for some years, 4 and 15 percentage points, respectively. In addition, in March 2005, Eurostat did not validate the revised Greek data and highlighted inconsistencies in the recording of flows with the EU budget which could lead to further upward revisions in the deficit figures. Since the statistical revisions went back only to 1997, this part will only focus on the period 1997-2005, for which fully comparable data exist.

Consolidation was halted between 2000 and 2004 when deficit targets started being missed in the successive stability programmes (Figure 8). The deficit rose by more than 3¾ percentage points marking a peak of 7¾% of GDP in 2004, or by 5% of GDP in cyclically-adjusted terms. In parallel, interest payments kept on falling (2¾ percentage points of GDP between 2000 and 2004). Total government revenues also fell, from 47% to 42% of GDP, especially, and in equal proportion, direct and indirect taxes. Total primary expenditures fell marginally. The increase recorded by social transfers in kind and compensation of employees, by nearly 1% of GDP each, largely offset savings in collective and intermediate consumption.

Greece implemented a significant fiscal adjustment in 2005. It led to cut the deficit by around 2½% of GDP. The cyclically-adjusted deficit was reduced by the same amount, while the cyclically-adjusted primary surplus improved by 2 percentage points. The fiscal adjustment was achieved mainly through reductions in expenditures close to 2¾ percentage points of GDP, particularly on the back of the discontinuation of a number of investment projects linked to the organisation of the Olympic Games of 2004.

Achieving primary surpluses for a long time would allow reducing the current level of gross debt and thus, reduce the risk associated to the long-term budgetary impact of an ageing population on the sustainability of public finances. According to the European Commission's report on the sustainability of public finances[12], consolidating the public finances as currently planned together with reform measures aimed at containing the likely significant increase in age related expenditures would be key in view of reducing risks to the sustainability of public finances.

### 2.5. Medium and long-term policy challenges for public finances

Greece has experienced high economic growth and is closing the gap with the EU25 in terms of living standards[13]. It faces high inflation originating from a mixture of high potential growth and structural problems (product market rigidities). Despite labour shortages in specific sectors, labour market rigidities hinder the reallocation of labour and thus, unemployment remains high, which points to possible mismatches between skills and firm's needs, while participation is low by EU standards, especially of women. Although labour productivity growth is healthy, unit labour costs are increasing faster and in excess of Greece's main trade partners in the euro-area, thus worsening the competitive position of the country. Consequently, Greece records high trade deficits, only partly compensated by surpluses in services. Behind the external deficit largely lies the deficit of the public sector. Greece has traditionally recorded deficits above 3% of GDP. Greece is a high debt country that also faces the risks of the growing cost of the public health system and other current expenditures. This public expenditure pattern is

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[12] European Commission (2006), The Long-term sustainability of public finances in the European Union, European Economy 4/2006.

[13] On 22nd September 2006, the Greek authorities transmitted to Eurostat new GDP data for the period 1995 – 2005, showing a sharp revision of GDP levels. This revision was carried out within the regular assessment process of compliance with Eurostat's statistical practices. However, the update of the stability programme (and the 2007 Budget Law) does not take into consideration the revised GDP figures. Given the magnitude and complexity of the revision, which is still undergoing complete verification by Eurostat, the Commission in its assessment of the updated programme has used the series of GDP data preceding such revision.

worrying not only because external borrowing is not channelled to productive investments, but also because the external borrowing is dependent on the credibility and sustainability of public finances.

In light of this assessment, the challenges faced by the Greek economy are:

- On stabilisation: fiscal consolidation should help reduce the external deficit and partially ease inflationary pressures. It will also reduce the stock of debt and the amount of interest payments. In addition, monitoring and controlling debt-increasing below-the-line operations are paramount to keep debt on a sustainable path.
- On sustainability: the sustainability of the Greek public finances in the long-term greatly depends on social security reforms, and more specifically on reforms of pensions and health care systems.
- On efficiency: increasing the efficiency in the use of public resources through a restructuring of public expenditures towards public investment in knowledge, human and physical capital should increase the attractiveness of the country to business activity of higher technological content. The restructuring of public finances in Greece could also release resources for investing in human capital and active labour market policies with a view to reducing structural unemployment and raising participation.

## Table 2: Key economic indicators

| | GREECE | | | | | | Euro Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Averages** | | | **2003** | **2004** | **2005** | **Averages** | | | **2003** | **2004** | **2005** |
| | **'96–'05** | **'96–'00** | **'01–'05** | | | | **'96–'05** | **'96–'00** | **'01–'05** | | | |
| **Economic activity** | | | | | | | | | | | | |
| Real GDP (% change) | 3.9 | 3.5 | 4.4 | 4.8 | 4.7 | 3.7 | 2.1 | 2.7 | 1.4 | 0.8 | 2.0 | 1.4 |
| Contributions to real GDP growth: | | | | | | | | | | | | |
| *Domestic demand* | 4.4 | 4.4 | 4.5 | 5.9 | 5.1 | 2.7 | 2.0 | 2.7 | 1.3 | 1.4 | 1.8 | 1.7 |
| *Net exports* | -0.5 | -1.0 | -0.1 | -1.2 | -0.4 | 1.0 | 0.1 | 0.0 | 0.1 | -0.7 | 0.2 | -0.3 |
| **Prices, costs and labour market** | | | | | | | | | | | | |
| HICP inflation (% change) | 4.0 | 4.6 | 3.5 | 3.4 | 3.0 | 3.5 | 1.9 | 1.7 | 2.2 | 2.1 | 2.1 | 2.2 |
| Labour productivity (% change) | 3.1 | 2.9 | 3.3 | 3.4 | 1.7 | 2.3 | 1.2 | 1.5 | 0.8 | -0.1 | -1.0 | -0.8 |
| Real unit labour costs (% change) | -0.3 | -0.5 | -0.1 | -2.2 | 0.6 | 0.4 | -0.5 | -0.6 | -0.5 | -0.1 | -1.0 | -0.8 |
| Employment (% change) (8) | 0.8 | 0.6 | 1.1 | 1.3 | 2.9 | 1.3 | 1.2 | 1.5 | 0.9 | 0.7 | 0.7 | 0.8 |
| Unemployment rate (% of labour force) | 10.5 | 10.7 | 10.2 | 9.7 | 10.5 | 9.8 | 9.1 | 9.8 | 8.5 | 8.7 | 8.9 | 8.6 |
| **Competitiveness and external position** | | | | | | | | | | | | |
| Real effective exchange rate (% change) (1) | 0.8 | -0.4 | 2.1 | 3.0 | 3.6 | 1.1 | N/A | N/A | N/A | N/A | N/A | N/A |
| Export performance (% change) (2) | 0.2 | 3.8 | -3.5 | -4.3 | 2.4 | -3.7 | N/A | N/A | N/A | N/A | N/A | N/A |
| Net borrowing v-à-v RoW | -5.3 | -2.6 | -8.1 | -8.6 | -7.7 | -7.7 | N/A | N/A | N/A | N/A | N/A | N/A |
| **Public finances** | | | | | | | | | | | | |
| General government balance (% of GDP) | -5.5 | -5.2 | -5.9 | -6.1 | -7.8 | -5.2 | -2.3 | -2.1 | -2.5 | -3.0 | -2.8 | -2.4 |
| General government debt (% of GDP) | 110.9 | 112.3 | 109.6 | 107.8 | 108.5 | 107.5 | 70.8 | 72.3 | 69.3 | 69.3 | 69.8 | 70.8 |
| Structural budget balance (% of GDP) (3) | N/A | N/A | N/A | -6.4 | -8.4 | -5.9 | N/A | N/A | N/A | -3.2 | -2.9 | -2.2 |
| **Financial indicators (4)** | | | | | | | | | | | | |
| Long term real interest rate (%) (5) | 2.2 | 3.2 | 1.2 | 0.8 | 0.8 | -0.1 | 3.1 | 4.1 | 2.1 | 2.0 | 2.2 | 1.5 |
| Household debt (% of GDP) (6) | 20.9 | 11.4 | 26.5 | 25.9 | 30.7 | 36.3 | N/A | N/A | N/A | N/A | N/A | N/A |
| Corporate sector debt (% of GDP) (7) | 35.9 | 31.3 | 38.6 | 38.8 | 38.9 | 39.4 | N/A | N/A | N/A | N/A | N/A | N/A |

Notes:
More detailed tables summarising the economic performance of the country are included in Annex 4.
(1) Unit labour costs relative to rest of a group of industrialised countries (USD): EU24 (=EU25 excl. LU), BG, RO, TR, CH, NR, US, CA, JP, AU, MX and NZ.
(2) Market performance of exports of goods and services on export weighted imports of goods and services of 35 industrial markets.
(3) Cyclically-adjusted budget balance net of one-off and other temporary measures.
(4) Data available up to 2004.
(5) Using GDP deflator.
(6) Households' and non-profit institutions serving households' debt, defined as loans and securities other than shares.
(7) Non-financial corporate sector debt, defined as loans and securities other than shares.
(8) Methodological changes were applied to the Labour Force Survey in 2004.
*Source:*
*Commission services*

## 3. MACROECONOMIC OUTLOOK

This section is in seven parts, six of which refer to various dimensions of the macroeconomic scenario, notably: the external assumptions, overall economic growth, the labour market, costs and prices, sectoral balances and potential output growth. The final part summarises the assessment and includes (i) an overall judgement on the plausibility of the macroeconomic scenario and (ii) an indication of whether economic conditions over the programme period can be characterised as economic 'good' or 'bad' times.

### 3.1. External assumptions

The external assumptions underpinning the macroeconomic scenario are broadly in line with the Commission services' autumn 2006 forecast (until 2008). Excluding the EU, world GDP growth is estimated at more than 5½% for 2006. Global growth is assumed to ease somewhat towards the end of the year, mainly due to a projected slowdown in the United States, and moderate slightly over the programme period, to a rate just above 5%. Economic growth in 2006 is expected to reach 2.8% and 2.6% in the EU and the euro area, respectively, and moderate to a rate close to potential thereafter for both the EU and the euro-area. Oil prices are projected to increase gradually to around USD 68.0 per barrel in the beginning of 2008 and stabilise thereafter. The long-term interest rate assumed in the programme is slightly lower than in Commission services' autumn 2006 forecast.

### 3.2. Economic activity

The update projects GDP growth above potential over the programme period, at around 4% per year (Table 3). The programme foresees domestic demand to be the main driver of growth, underpinned by strong private consumption, which in turn is supported by wage and employment gains, as well as low interest rates and rapid credit expansion. Although investment is expected to decelerate, it should remain strong, supported by a reduction of the tax burden on enterprises, and the new investment incentives law and public-private partnerships laws. Exports are projected to accelerate throughout the programme period on the back of high growth of exports of goods, especially to the Balkans countries. Imports are also expected to accelerate to accommodate high private consumption and investment activity. Consequently, the update projects a negative contribution to growth of the external sector until the end of the programme period.

**Table 3: Comparison of macroeconomic developments and forecasts**

| | 2006 | | 2007 | | 2008 | | 2009 |
|---|---|---|---|---|---|---|---|
| | COM | SP | COM | SP | COM | SP | SP |
| Real GDP (% change) | 3.8 | 4.0 | 3.7 | 3.9 | 3.7 | 4.0 | 4.1 |
| Private consumption (% change) | 3.4 | 3.8 | 3.2 | 3.7 | 3.0 | 3.7 | 3.7 |
| Gross fixed capital formation (% change) | 6.3 | 9.1 | 6.2 | 7.7 | 5.4 | 7.7 | 7.8 |
| Exports of goods and services (% change) | 6.6 | 5.1 | 5.9 | 6.5 | 5.6 | 7.3 | 7.6 |
| Imports of goods and services (% change) | 6.3 | 6.5 | 5.1 | 7.0 | 4.9 | 7.3 | 7.4 |
| *Contributions to real GDP growth:* | | | | | | | |
| - Final domestic demand | 4.2 | 5.2 | 4.0 | 4.8 | 4.0 | 4.8 | 4.9 |
| - Change in inventories | 0.1 | -0.3 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 |
| - Net exports | -0.5 | -0.9 | -0.3 | -0.8 | -0.3 | -0.8 | -0.8 |
| Output gap[1] | 1.5 | 1.0 | 1.5 | 0.9 | 1.8 | 1.1 | 1.5 |
| Employment (% change) | 1.4 | 1.7 | 1.3 | 1.8 | 1.3 | 1.8 | 1.8 |
| Unemployment rate (%) | 9.3 | 9.2 | 8.9 | 8.2 | 8.6 | 7.4 | 6.5 |
| Labour productivity growth (%) | 2.3 | 2.2 | 2.3 | 2.1 | 2.4 | 2.2 | 2.3 |
| HICP inflation (%) | 3.3 | 3.3 | 3.3 | 3.0 | 3.3 | 2.8 | 2.6 |
| GDP deflator (% change) | 3.6 | 3.7 | 3.2 | 3.2 | 3.3 | 3.0 | 2.8 |
| Comp. of employees (per head, % change) | 5.9 | 6.5 | 5.0 | 6.1 | 5.0 | 5.1 | 4.9 |
| Real unit labour costs (% change) | -0.1 | 1.0 | -0.6 | 1.0 | -0.8 | 0.1 | 0.0 |
| External balance (% of GDP) | -7.2 | -8.9 | -6.7 | -7.9 | -6.2 | -7.6 | -7.3 |

Note:
[1]In percent of potential GDP, with potential GDP growth as reported in

Table 5 below.

*Source:*
*Commission services' autumn 2006 economic forecasts (COM); stability programme (SP)*

The growth projections in the update are about ¼ of a percentage point higher than in the Commission services' autumn 2006 forecast. However, where 2006 and 2007 are concerned, both projections would actually be comparable, since the update takes account of the better-than-expected performance of the Greek economy in the 3rd quarter of 2006, information which was not available at the cut-off date of the Commission services' autumn 2006 forecast. For the same reason, the update also represents an upward revision of GDP growth projections in the 2007 Budget Law, from 3.8% for both 2006 and 2007 to 4.0% and 3.9% respectively. For 2008 and beyond, the programme projections appear optimistic. In particular, the update projects a further acceleration of the economic activity above growth estimates in the Commission services' 2006 autumn forecast.

Regarding the components of GDP, the update projects private consumption remaining strong over the programme period, while the Commission services' autumn 2006 forecast expected a deceleration, which reflected more cautious projections on disposable income and employment. According to the update, after a slowdown in 2007, investment growth will remain close to 8% until 2009, which compares with the downward path projected by the Commission services as a result of a less optimistic assessment of the impact of reforms, planned or implemented, such as the new investment incentive law or the reduction in corporate taxes. Consequently, while the Commission services' forecast projected a downward trend for imports, the programme projects an acceleration of imports over the programme period, which would reflect, in turn, the increased investment activity. Concerning the exports growth rate, according to the update is estimated to remain strong throughout the programme period, reflecting buoyant international demand, especially in the Balkans. However, the competitiveness gains reflected by a slowing down in unit labour cost, HICP, and in the compensation of

employees per head, are not reflected in the exports performance, since growth rate is getting slower, especially in 2008 and 2009.

In 2007 and 2008, cyclical conditions as measured by the output gap recalculated by the Commission services using the programme figures, are positive, although the output gap is smaller than in the Commission services' projections. This seems to be explained by the consideration in the update of earlier positive effects on potential growth of the structural reforms already implemented or planned within the framework of the National Reform Programme (see Section 7) . According to the update, the output gap would also widen further in 2009. It should be noticed that the successive Commission services' forecast exercises and stability programmes show a downward trend of real time estimates of the output gap. Such a declining path is mainly explained by upward revisions of potential growth, as a result of a relatively higher contribution of TFP to growth (see Section 3.3 below).

**Table 4: Output gap estimates in successive Commission services' forecasts and stability programmes**

| (% of potential GDP) | 2006 | | 2007 | | 2008 | |
|---|---|---|---|---|---|---|
| | COM | SP[1] | COM | SP[1] | COM | SP[1] |
| December 2006 | | 1.0 | | 0.9 | | 1.1 |
| Autumn 2006 | 1.5 | | 1.5 | | 1.8 | |
| Spring 2006 | 1.9 | | 1.9 | | n.a. | |
| December 2005 | | 1.1 | | 1.1 | | 1.5 |
| Autumn 2005 | 2.0 | | 2.2 | | n.a. | |
| Spring 2005 | 2.2 | | n.a. | | n.a. | |
| March 2005 | | 1.5 | | 1.5 | | n.a. |

Note:
[1]Commission services' calculations according to the commonly agreed method based on the information in the programme.

*Source:*
*Commission services' forecasts, convergence programmes and Commission services*

### 3.3. Potential growth and its determinants

The estimated potential output growth, as recalculated by Commission services on the basis of the information provided in the programme according to the agreed methodology, is more favourable than the Commission services' autumn 2006 forecast. The Commission services' 2006 autumn forecast estimates a potential output growth ¼ percentage point lower each year over the period 2006-2008. However, both estimates follow a similar marginal downward trend.

The main factors driving GDP growth in the long term are no significantly changing over the programme horizon. The deceleration in potential growth implied by the macroeconomic scenario of the update is estimated to result from a marginal decrease in the contribution of total factor productivity. However, the contribution of capital accumulation rises slightly, especially in 2009, which may indicate that investment projections may be on the high side. All in all, such developments might be at odds with the apparently optimistic assessment of the earlier impacts of the structural reforms, specifically, those to promote research and development and reforms in the labour market aiming at enhancing human capital, which should accelerate technological change.

**Table 5: Sources of potential output growth**

| | 2006 | | 2007 | | 2008 | | 2009 |
|---|---|---|---|---|---|---|---|
| | COM | SP[2] | COM | SP[2] | COM | SP[2] | SP[2] |
| Potential GDP growth (%)[1] | 3.8 | 4.0 | 3.6 | 3.9 | 3.5 | 3.8 | 3.7 |
| *Contributions:* | | | | | | | |
| - Labour | 0.7 | 0.8 | 0.7 | 0.9 | 0.7 | 0.8 | 0.7 |
| - Capital accumulation | 1.3 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | 1.6 |
| - TFP | 1.6 | 1.7 | 1.5 | 1.6 | 1.4 | 1.5 | 1.4 |

Notes:
[1]Based on the production function method for calculating potential output growth.
[2]Commission services' calculations on the basis of the information in the stability programme (SP).

*Source:*
*Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations*

### 3.4. Labour market developments

According to the programme, labour market performance is expected to improve further over the programme period. Employment is projected to increase by an average of 1¾% over 2006-2009. These projections seem consistent with the measures announced in the National Reform Programme (NRP) (see Section 7) as well as its Implementation Report, aiming at increasing participation and employment rates. The projections in the update are slightly higher than in the Commission services' autumn 2006 forecasts, which project employment growth at around 1¼% per year between 2006 and 2008. The differences between both projections are explained by the more favourable growth scenario envisaged by the update. The programme foresees that the labour content of GDP growth will remain stable over 2006-2008, which is broadly in line with the Commission services autumn 2006 forecast. Productivity growth is consistently expected to remain at around 2¼%. Concerning unemployment, it is projected to follow a declining path from a rate of 9¼% in 2006 to 6½% in 2009, within a framework of strong economic growth and positive output gap. However, compared to the Commission services' 2006 autumn forecasts, the projected unemployment rate would decline clearly faster in the update, reflecting more optimistic GDP and employment growth scenarios.

### 3.5. Costs and price developments

Following the developments in the oil market, after the price hike of the first months of 2006, inflationary pressures are expected to ease and HICP is projected to rise by 3.3% for the year as a whole. The impact of the reduction in oil prices would be further carried over in early 2007. This is broadly consistent with the Commission services' autumn 2006 forecast. The update envisages inflation to further decelerate to 2.8% in 2008, ½ percentage point below the Commission services' autumn 2006 forecast, and to 2.6% in 2009, which would situate inflation well below the average rates of the last decade.

In parallel, the update foresees compensation of employees per head to decelerate further, from 6½% in 2006 to just below 5% in 2009, while the growth rate of real unit labour cost would approach zero, until the end of the programme's period. According to the programme, it is assumed that real compensation of employees per head will follow the trend of labour productivity growth, which should remain at the level of around 2¼% over 2006-2009. Costs developments, especially in 2008 and 2009, may be on the high side when compared with the Commission services' autumn 2006 forecasts.

### 3.6. Sectoral balances

The update estimates the external deficit (net borrowing vis-à-vis the rest of the world) to increase to nearly 9% of GDP in 2006, up from 7¾% of GDP in 2005. This development is mainly explained by significantly higher imports, partly reflecting the impact of higher oil prices. Over the programme period, the update projects an improvement in competitiveness coming from a real unit labour cost slowdown along with a decrease in the compensation of employees per head, which together with the expected further improvement in export markets, would support export performance, thus improving the trade balance. Beginning from 2007, net borrowing vis-à-vis the rest of the world is projected to steadily decrease, reaching 7¼% of GDP in 2009.

The programme provides limited information on the development of sectoral balances over the horizon covered. According to the update's figures, private sector balances worsen in 2006 and remain negative although stable over the programme period. On the contrary, although public dissavings remain, they improve significantly on the back of fiscal consolidation. This is broadly in line with the Commission services' autumn 2006 forecast, which shows that the worsening of the private sector balances is largely related to the credit expansion to households associated to the housing boom.

### 3.7. Assessment

The assessment of the macroeconomic outlook covers two questions: first, whether the macroeconomic scenario is plausible, and, second, whether the economy should be considered to be in economic ‘good’ or ‘bad’ times.

#### *3.7.1. Plausibility of the macroeconomic scenario*

According to the update, economic activity in Greece should remain strong with domestic demand and exports still the main drivers of growth in the medium-term. This reflects mainly a buoyant investment activity and steadily high growth rates for private consumption, as well as good growth prospects in main export markets throughout the programme's horizon. Labour market conditions are projected to remain tight, with employment growing at about 1¾% per year and unemployment steadily diminishing to 6½% by 2009. Regarding inflation, HICP is projected to follow a downward trend to reach 2.6% by 2009.

The programme's macroeconomic outlook appears to be based on favourable growth assumptions: growth projections for the period 2006-2008 seem high compared to the Commission services' autumn 2006 forecast and that for 2009 exceeds the Commission services’ estimate of potential GDP growth. Nevertheless, it should be pointed out that the update has taken into account economic activity in the 3rd quarter of 2006, which posted a higher-than-expected growth rate attributed mainly to stronger-than-initially projected final demand. This information was not available at the cut-off date of the Commission services' autumn 2006 forecast. Consequently, the programme's macroeconomic assumptions are plausible for 2006 and 2007. However, the macroeconomic outlook for 2008 and 2009 remains favourable, particularly regarding the programme's somewhat more optimistic performance of domestic demand.

#### *3.7.2. Economic good vs. bad times*

On the basis of the Commission services' 2006 autumn forecast, the output gap for Greece remains positive up to 2008. Specifically, the output gap stands at around 1½%

for 2006 and 2007, while it widens further in 2008. An overall assessment of the macroeconomic prospects, in particular taking into account the strength of real GDP growth, the positive output gap and the employment outlook, supports the conclusion that the projected economic conditions can be characterised as economic "good times".

## 4. GENERAL GOVERNMENT BALANCE

This section consists of four parts. The first part discusses budgetary implementation in the year 2006 and the second presents the budgetary strategy in the new update, including the programme's medium-term objective (MTO) for the budgetary position. The third analyses the risks attached to the budgetary targets in the programme. The final part contains the assessment of the fiscal stance and of the country's position in relation to the budgetary objectives of the Stability and Growth Pact.

### 4.1. Budgetary implementation in 2006

According to the December 2006 update, the general government deficit for 2006 is projected to decrease to 2.6% of GDP in 2006 (from more than 5% in 2005), as targeted in the 2006 Budget Law and in the previous update of the stability programme. The projected deficit outturn in the Commission services' autumn 2006 forecast is also 2.6% of GDP. Therefore, the slightly better-than-projected real GDP growth rate in 2006 (4% instead of 3.8%), compared with the Commission services' forecast, had a negligible impact on the general government deficit, although, as shown below, the final outcome included less one-off revenues than budgeted. However, compared with the previous update, the estimated outcome for 2006 actually represents a much larger adjustment in nominal terms, since the general government deficit for 2005[14] was revised[15] up from 4.5% of GDP to 5.2% of GDP. The cyclically adjusted balance, net of one-off revenues and other temporary measures, is estimated at around 3½% (see Table 8 below).

Total expenditure for 2006 is estimated at 44¾% of GDP, in line with the Commission services' autumn forecast and with the target set in the 2006 budget. Most of the main categories of expenditure broadly attained the budget targets, except for public investment, whose ½% of GDP overrun was fully compensated by a reduction in social transfers other than in kind. Total revenues are estimated at 42¼% of GDP, consistent with the Commission services' autumn forecast, just marginally higher than in the December 2005 update. One-off measures in 2006 finally amounted to 0.4% of GDP, instead of the initially budgeted 0.6% of GDP. In order to safeguard the execution of the 2006 Budget and limit the one off revenues as much as possible, a number of revenue enhancing measures of permanent nature were implemented in the middle of the year, namely increases of the excise tax on fuel, the minimum excise tax on cigarettes, of the tax duty imposed on mobile connection bills and in the rate of income tax prepayments

[14] The 2005 update of the Stability Programme of Greece showed a government deficit for 2005 of 4.3% of GDP. However, the EDP notification of April 2006 showed an upward revision to 4.5% for the same year.

[15] In October 2006, Eurostat agreed with the Greek authorities an upward revision of general government deficit, mainly due to a downward revision of the overestimated surpluses in social security funds and other entities. As a result, the figures for the government deficit increased by around ½ percentage points on average over the period 2002-2006.

by banks and enterprises in 2006. According to the programme, these measures are estimated to yield ¼% of GDP in additional revenues.

**Table 6: Evolution of budgetary targets in successive programmes**

| | | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| General government balance (% of GDP) | **SP December 2006** | **-5.2** | **-2.6** | **-2.4** | **-1.8** | **-1.2** |
| | SP December 2005 | -4.3 | -2.6 | -2.3 | -1.7 | n.a. |
| | *SP March 2005* | *-3.7* | *-2.9* | *-2.4* | *n.a.* | *n.a.* |
| | COM Nov 2006 | -5.2 | -2.6 | -2.6 | -2.4 | n.a. |
| General government expenditure (% of GDP) | **SP December 2006** | **45.7** | **44.8** | **44.5** | **44.3** | **44.1** |
| | SP December 2005 | 45.4 | 44.7 | 44.3 | 43.7 | n.a. |
| | *SP March 2005* | *49.1* | *48.0* | *49.2* | *n.a.* | *n.a.* |
| | COM Nov 2006 | 46.8 | 44.9 | 44.7 | 44.4 | n.a. |
| General government revenues (% of GDP) | **SP December 2006** | **40.5** | **42.2** | **42.1** | **42.5** | **42.9** |
| | SP December 2005 | 41.1 | 42.1 | 42.0 | 41.9 | n.a. |
| | *SP March 2005* | *45.4* | *46.1* | *46.7* | *n.a.* | *n.a.* |
| | COM Nov 2006 | 41.6 | 42.2 | 42.1 | 42.0 | n.a. |
| Real GDP (% change) | **SP December 2006** | **3.7** | **4.0** | **3.9** | **4.0** | **4.1** |
| | SP December 2005 | 3.6 | 3.8 | 3.8 | 4.0 | n.a. |
| | *SP March 2005* | *2.9* | *3.0* | *3.0* | *n.a.* | *n.a.* |
| | COM Nov 2006 | 3.7 | 3.8 | 3.7 | 3.7 | n.a. |

Source:
*Stability programmes (SP) and Commission services' autumn 2006 economic forecasts (COM)*

### 4.2. The programme's medium-term budgetary strategy

This section covers in turn the following aspects of the medium-term budgetary strategy outlined in the programme: (i) the main goal of the budgetary strategy; (ii) the composition of the budgetary adjustment, including the broad measures envisaged; and (iii) the programme's medium-term objective and the adjustment path towards it in structural terms.

#### *4.2.1. The main goal of the programme's budgetary strategy*

The budgetary strategy outlined in the programme aims at the correction of the excessive deficit by 2006 and at further reducing the deficit thereafter by pursuing fiscal consolidation towards the medium term objective (MTO) of a balanced budget (or surplus position) in structural terms (i.e. in cyclically-adjusted terms net of one-off and other temporary measures), to be achieved by 2012 at the latest, with annual reductions in the structural deficit of at least 0.5% of GDP (see also section 4.2.3 below).

According to the update, the general government deficit would be reduced to 1.2% of GDP by the end of period covered by the programme. After two years of a strong fiscal correction in 2005 and 2006, the update foresees the general government deficit to decline from 2.6% of GDP in 2006 to 2.4% in 2007, 1.8% in 2008 and 1.2% until 2009. The programme foresees also an improvement in the primary surplus with a similar, but less ambitious profile. Specifically, the primary surplus is projected to increase from 2% of GDP in 2006 to just below 3% at the end of the update's horizon.

The targets for 2007 and 2008 in the current update are only marginally worse than in the previous one, while the macroeconomic scenario is broadly comparable. According to the December 2006 update, the deficit should fall by more than 3¼ percentage points of GDP between 2005 and 2008, which is ¾ percentage points of GDP larger than the

envisaged correction in the previous update reflecting the above-mentioned upward revision of the 2005 deficit.

**Box 2: The excessive deficit procedure for Greece**

According to the excessive deficit procedure (EDP), the Commission and the Council monitor the development of the budgetary position in each Member State, notably in relation to the reference values of 3% of GDP for the deficit and 60% of GDP for the debt, in order to assess the existence (or risk) of an excessive deficit and to ensure its correction. The EDP is laid down in Article 104 of the Treaty and further clarified in the Stability and Growth Pact.

On 5 July 2004, the Council adopted a decision stating that Greece had an excessive deficit in accordance with Article 104(6). At the same time, the Council addressed a recommendation under Article 104(7) specifying that the excessive deficit had to be corrected by 2006. In particular, Greece was recommended to implement permanent measures to correct the excessive deficit by 2006 at the latest, reduce the cyclically adjusted deficit by at least 0.5% of GDP from 2007 onward, ensure a faster debt reduction path, implement the enacted pension reforms to ensure the sustainability of public finances, and further improve the collection and processing of general government data.

On 18 January 2005, the Council decided in accordance to Article 104(8) that Greece had not taken effective action in response to these recommendations and, upon a Commission recommendation in accordance with Article 104(9), on 17 February 2005, the Council decided to give notice to Greece to take measures for the deficit reduction judged necessary to remedy the situation. According to this notice, the excessive deficit has to be corrected by 2006. On 6 April 2005, the Commission adopted a communication to the Council on the action taken by the Greek authorities in response to the Council notice, taking account of the March 2005 update of the stability programme submitted as part of the follow-up to the Council notice. The communication concluded that, on then available information, the Greek government had taken decisions consistent with the Council notice so that no further steps under the EDP were needed at that stage. In its meeting of 12 April 2005, the Council concurred with this assessment.

**Table 7: Composition of the budgetary adjustment**

| (% of GDP) | 2005 | 2006 | 2007 | 2008 | 2009 | Change: 2009-2006 |
|---|---|---|---|---|---|---|
| **Revenues** | 40.5 | 42.2 | 42.1 | 42.5 | 42.9 | **0.7** |
| *of which:* | | | | | | |
| - Taxes & social contributions | 36.5 | 36.8 | 37.2 | 37.5 | 38.1 | **1.3** |
| - Other (residual) | 4.0 | 5.4 | 4.9 | 5 | 4.8 | **-0.6** |
| **Expenditure** | 45.7 | 44.8 | 44.5 | 44.3 | 44.1 | **-0.7** |
| *of which:* | | | | | | |
| - Primary expenditure | 40.8 | 40.2 | 40.1 | 40.1 | 40.0 | **-0.2** |
| *of which:* | | | | | | |
| Consumption | 16.3 | 16 | 15.7 | 15.2 | 14.8 | **-1.2** |
| Transfers other than in kind & subsidies | 17.5 | 17.5 | 17.8 | 18.1 | 18.5 | **1** |
| Gross fixed capital formation | 3.5 | 3.5 | 3.5 | 3.5 | 3.4 | **-0.1** |
| Other (residual) | 3.5 | 3.2 | 3.1 | 3.3 | 3.3 | **0.1** |
| - Interest expenditures | 4.9 | 4.6 | 4.4 | 4.2 | 4.1 | **-0.5** |
| **General government balance (GGB)** | **-5.2** | **-2.6** | **-2.4** | **-1.8** | **-1.2** | **1.4** |
| **Primary balance** | **-0.4** | **2.0** | **2.0** | **2.4** | **2.9** | **0.9** |
| One-offs[1] | 0 | 0.4 | 0.0 | 0.0 | 0.0 | |
| **GGB excl. one-offs** | **-5.2** | **-3.0** | **-2.4** | **-1.8** | **-1.2** | **1.9** |

Note:
[1]One-off and other temporary measures.

Source:
*Stability programme update; Commission services' calculations*

### *4.2.2. The composition of the budgetary adjustment*

According to the update, the adjustment path is underpinned by a mixed strategy almost equally based on increasing revenues and on expenditure restraint. According to the programme, total revenues will increase by ¾ of a percentage point of GDP through the update's horizon, from just above 42% of GDP in 2006 to almost 43% of GDP in 2009. This is fully attributed to an increase in indirect taxes and social contribution receipts, while direct taxes marginally decrease throughout the programme period and other revenue categories (excluding one-offs) are expected to remain broadly stable as a share of GDP. The rise in receipts should come from a gradual increase in the excise tax on oil products and tobacco in 2007, 2008 and 2009, which has already been legislated and from the intensification of the fight against tax evasion. Especially for the VAT, the introduction of a 19% rate on sales of new constructions in 2006, is expected to strengthen further revenues from indirect taxation in 2007. However, the programme does not provide a more detailed estimation of the expected outcomes of this measure. The effect of these measures will be particularly relevant in 2007, thus compensating the discontinuation of one-off revenue measures of 2006. Concerning social contributions, they are expected to follow an upward trend, on the back of increasing employment rates.

On the expenditure side, total outlays are envisaged to decrease by slightly less than ¾ of a percentage point of GDP to reach just above 44% of GDP in 2009, with interest expenditure contributing to the bulk of the spending retrenchment through a fall of ½% of GDP. Consequently, primary expenditure is expected to decrease only marginally in terms of GDP between 2006 and 2009. Transfers other than in kind (notably pensions) and subsidies are projected to rise by around 1% of GDP, almost fully offsetting the planned savings in public consumption (above 1¼% of GDP) and in other expenditures.

Gross fixed capital formation is projected to remain broadly constant, at around 3½% of GDP, over the programme period.

The reduction of the deficit in 2007 reflects a decrease in interest expenditures by around ¼ a percentage point of GDP, while one-off revenues in 2006 (0.4% of GDP) are fully replaced by permanent revenues. While the measures for 2007 and their estimated impact are clear (notably from the budget for 2007 – see box 3 below), for 2008 and 2009, except for the above-mentioned measures on the tax side there is no clear indication in the programme of broad measures necessary to achieve the envisaged consolidation.

**Box 3: The budget for 2007**

The final draft of the 2007 budget was presented on 14th November 2006 and approved by the Parliament on 22nd December 2006. According to the 2007 Budget Law, the general government deficit for 2006 is estimated at 2.6% of GDP. The target for 2007 is set at 2.4% of GDP.

On the revenue side, the main measures consist of:

(1) Fighting against tax evasion, through the exploitation of the results from the cross-checking of invoices by the General Secretariat of Information Systems; targeted audits for companies in specific sectors such as construction, services, wholesale; a telecommunications campaign against tax evasion, through TV spots, open seminars, etc. aiming at raising the general public's awareness of the consequences of these practices.

(2) The second phase of the reform of property taxation, consisting of further increases of the legal values of properties, which are the tax base for taxation on property transfers.

(3) A second rise in excise taxes on fuel, which is estimated to bring some 400 million in 2007. This is the second phase of the adjustment started in 2006 and is expected to be followed by further adjustment, bringing the total increase of the excise taxes on fuel to 20% by the end of 2009, in order to comply with the EU directive 2003/96/EC on restructuring the Community framework for the taxation of energy products and electricity.

(4) The introduction of a 19% rate of VAT on sales of new constructions (buildings for commercial use and housing). Although the specific measure has been introduced in 2006, it had only marginal effect in 2006 because the constructions transferred in the year had been licensed before 1/1/2006 and thus, not subject to VAT.

Social contributions are expected to increase in 2007, on the back of increasing employment rates, attributing an additional ¼% of GDP in total revenues.

On the expenditure side, the annual growth of primary expenditures is projected to fall short of that of nominal GDP and, along with a further reduction in interest costs, should lead to a decline in total expenditures as a percentage of GDP. The reduction will be facilitated by a slower growth in the total public wage bill (approx. 25% of total primary expenditure), which according to the budget will not exceed 6¼%, as well as significant cutbacks in intermediary government expenditure (mainly operational and administrative cost). To this end, new legislation has been submitted to the Parliament regarding fiscal audits and controls. This legislation provides for the establishment of a General Directorate for Fiscal Audits and of internal audit units in all entities under the latter's jurisdiction.

| Table: Main measures in the budget for 2007 | |
|---|---|
| **Revenue measures*** | **Expenditure measures**** |
| ○ Indirect taxes (excise taxes on fuel and tobacco increase, VAT on transfers of new constructions, tax duty imposed on mobile connection bills) - (¼% of GDP)<br>○ Direct taxes (income tax reform) - (-0.1% of GDP) | ○ Cutbacks in intermediary government expenditure, through the improvement of fiscal audits and controls – Establishment of a DG for Fiscal audits within the Ministry of Economics and Finance |

* Estimated impact on general government revenues.
** Estimated impact on general government expenditure.
*Sources*: Commission services and source 2007 Budget Law.

### *4.2.3. The medium-term objective (MTO) and the structural adjustment*

The update clearly presents a medium-term objective (MTO) for the budgetary position of a balanced general government budget in structural terms, i.e. cyclically-adjusted, net of one off and other temporary measures, which is not expected to be achieved by the end of the programme period but by 2012 at the latest (see also section 4.2.1 above). The MTO is the same as in the previous programme, which however did not specify a target date for achieving it (the previous update merely stated that the MTO would not be achieved by 2008, the end of the period covered by it).

The MTO lies within the range indicated for euro area and ERM II Member States in the Stability and Growth Pact and the code of conduct and adequately reflects the debt ratio and average potential output growth in the long term. As the MTO is more demanding than the minimum benchmark (estimated at a deficit of around 1½% of GDP), its achievement should satisfy the condition of providing a safety margin, against the occurrence of an excessive deficit. The minimum benchmark is the estimated budgetary position in cyclically-adjusted terms that provides a sufficient safety margin for automatic stabilisers to operate freely during normal economic downturns without breaching the 3% of GDP deficit reference value

**Box 4: The medium-term objective (MTO) for the budgetary position**

According to the Stability and Growth Pact, stability and convergence programmes must present a medium-term objective (MTO) for the budgetary position. The MTO is country-specific to take into account the diversity of economic and budgetary positions and developments as well as of fiscal risk to the sustainability of public finances.

The MTO should fulfil a triple aim. First, it should provide a safety margin with respect to the 3% of GDP deficit limit. Second, it should ensure rapid progress towards sustainability. Third, taking into account the first two goals, it should allow room for budgetary manoeuvre, considering in particular the needs for public investment. The code of conduct further specifies that, as long as the methodology for incorporating implicit liabilities is not fully developed and agreed by the Council, the country-specific MTOs are set taking into account the current government debt ratio and potential growth (in a long-term perspective), while preserving a sufficient margin against breaching the 3% of GDP deficit reference value. Member States are free to set an MTO that is more demanding than strictly required by these provisions.

The MTO is defined in structural terms, i.e. it is adjusted for the cycle and one-off and other temporary measures are excluded. For countries belonging to the euro area or participating in the exchange-rate mechanism (ERM II), the MTO should be in a range between a deficit of 1% of GDP and balance or surplus (in structural terms).

Based on Commission services' calculations, on the basis of the programme and according to the commonly agreed methodology, the structural balance is projected to improve by 1½ percentage points of GDP over the programme period, from a structural deficit of 3½% of GDP in 2006 to 1¾% of GDP in 2009. The consolidation effort is evenly distributed. Specifically, after an improvement of 2¼% of GDP in 2006, compared with the 2005 outcome, the programme foresees a structural adjustment of around ½% of GDP per year until 2009. However, as mentioned above, the improvement is due in part to a declining interest burden. In primary terms, the structural balance improves by around 1 percentage point of GDP over the period.

Taking this into account, the planned stance of fiscal policy, as measured by the change in the structural balance is broadly neutral (to perhaps slightly restrictive) in each year covered by the programme.

**Table 8: Output gaps and cyclically-adjusted and structural balances**

| (% of GDP) | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | Change: 2009-2006 |
|---|---|---|---|---|---|---|---|---|---|---|
| | COM | SP[1] | COM | SP[1] | COM | SP[1] | COM | SP[1] | SP[1] | SP[1] |
| Gen. gov't balance | -5.2 | -5.2 | -2.6 | -2.6 | -2.6 | -2.4 | -2.4 | -1.8 | -1.2 | 1.4 |
| One-offs[2] | 0 | 0 | 0.4 | 0.4 | 0 | 0 | 0 | 0 | 0 | -0.4 |
| Output gap[3] | 1.5 | 0.9 | 1.5 | 1.0 | 1.5 | 0.9 | 1.8 | 1.1 | 1.5 | |
| CAB[4] | -5.9 | -5.6 | -3.3 | -3.0 | -3.3 | -2.8 | -3.1 | -2.3 | -1.8 | 1.2 |
| *change in CAB* | *2.5* | *2.7* | *2.6* | *2.6* | *0* | *0.2* | *0.2* | *0.5* | *0.4* | |
| CAPB[4] | -1.0 | -0.7 | 1.3 | 1.6 | 1.1 | 1.6 | 0.9 | 1.9 | 2.3 | 0.7 |
| Structural balance[5] | -5.9 | -5.6 | -3.7 | -3.4 | -3.3 | -2.8 | -3.1 | -2.3 | -1.8 | 1.6 |
| *change in struct. bal.* | *2.5* | *2.7* | *2.2* | *2.2* | *0.4* | *0.6* | *0.2* | *0.5* | *0.4* | - |
| Struct. prim. balance[5] | -1.0 | -0.7 | 0.9 | 1.2 | 1.1 | 1.6 | 0.9 | 1.9 | 2.3 | 1.1 |

Notes:
[1]Output gaps and cyclical adjustment according to the stability programme (SP) as recalculated by Commission services on the basis of the information in the programme.
[2]One-off and other temporary measures.
[3]In percent of potential GDP. See Table 3 above.
[4]CA(P)B = cyclically-adjusted (primary) balance.
[5]Structural (primary) balance = CA(P)B excluding one-off and other temporary measures.

*Source:*
*Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations*

### 4.3. Risk assessment

The programme's budgetary projections for 2006 and 2007 are broadly in line with the Commission services' 2006 autumn forecast. For 2008, there is a difference of ¾ percentage points in the government deficit, which is explained by slightly more favourable GDP growth projections in the programme as well as the usual no-policy change scenario used in the Commission services' forecast. A detailed analysis of possible risk factors for the achievement of the programme's budgetary targets follows below.

As mentioned in Section 3.7.1 above, the economic activity outcome in the 3rd quarter of 2006, which posted a higher-than-expected GDP growth rate, makes plausible the update's macroeconomic scenario for 2007. For 2008 and 2009, the macroeconomic scenario appears tilted to the favourable, hence constituting a risk of higher-than-expected deficits for these years.

Commission services' simulations of the cyclically-adjusted balance under the assumptions of (i) a sustained 1 percentage point below from the real GDP growth projections in the programme over the 2006-2009 period; (ii) trend output based on the HP-filter and (iii) no policy response, reveal that, by 2009, the cyclically-adjusted balance is 0.7 percentage point of GDP below the update's baseline scenario. Hence, in the case of persistently lower real growth, additional measures of around 0.7 percentage point of GDP would be necessary to keep the public finances on the path targeted in the assumed scenario.

**Table 9: Comparison of budgetary developments and projections**

| (% of GDP) | **2005** | **2006** | | **2007** | | **2008** | | **2009** |
|---|---|---|---|---|---|---|---|---|
| | | **COM** | **SP** | **COM** | **SP** | **COM[1]** | **SP** | **SP** |
| **Revenues** | 40.5 | 42.2 | 42.2 | 42.1 | 42.1 | 42.0 | 42.5 | 42.9 |
| *of which*: | | | | | | | | |
| - Taxes & social contributions | 36.5 | 36.8 | 36.8 | 37.1 | 37.2 | 37.0 | 37.5 | 38.1 |
| - Other (residual) | 4.0 | 5.5 | 5.4 | 5.0 | 4.9 | 5.0 | 5.0 | 4.8 |
| **Expenditure** | 45.7 | 44.9 | 44.8 | 44.7 | 44.5 | 44.4 | 44.3 | 44.1 |
| *of which:* | | | | | | | | |
| - Primary expenditure | 40.8 | 40.3 | 40.2 | 40.3 | 40.1 | 40.3 | 40.1 | 40.0 |
| *of which:* | | | | | | | | |
| Consumption | 16.3 | 10.3 | 16.0 | 10.2 | 15.7 | 10.1 | 15.2 | 14.8 |
| Transfers other than in kind & subsidies | 17.5 | 17.4 | 17.5 | 17.7 | 17.8 | 17.7 | 18.1 | 18.5 |
| Gross fixed capital formation | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.4 |
| Other (residual) | 3.5 | 9.0 | 3.2 | 8.9 | 3.1 | 9.0 | 3.3 | 3.3 |
| - Interest expenditure | 4.9 | 4.6 | 4.6 | 4.4 | 4.4 | 4.0 | 4.2 | 4.1 |
| **General government balance (GGB)** | -5.2 | -2.6 | **-2.6** | -2.6 | **-2.4** | -2.4 | **-1.8** | **-1.2** |
| **Primary balance** | -0.3 | 2.0 | **2.0** | 1.8 | **2.0** | 1.7 | **2.4** | **2.9** |
| One-offs[2] | 0 | 0.4 | 0.4 | 0 | 0.0 | 0 | 0.0 | 0.0 |
| **GGB excl. one-offs** | -5.2 | -3.0 | **-3.0** | -2.6 | **-2.4** | -2.4 | **-1.8** | **-1.2** |

Notes:
[1]On a no-policy change basis.
[2]One-off and other temporary measures.

*Source:*
*Commission services' autumn 2006 economic forecasts (COM); stability programme update (SP); Commission services' calculations*

As regards the information content of the programme, section 4.2.2 above already indicated that, while the planned adjustment for 2007 is backed up by specific measures, the programme does not provide sufficient information on measures envisaged for the subsequent years. There is thus a risk that the deficits from 2008 onwards will be higher than targeted.

Furthermore, based on past experience, and although no slippages have been recorded for the last two years, risks of expenditure overruns over the programme period cannot be excluded. However steps are being taken towards a more efficient expenditure management system, focusing on spending lines, effective audit and accounting controls and transparency. In particular, in order to strengthen fiscal management, the Greek authorities have established task forces to examine the recommendation of the IMF technical assistance mission on expenditure management and tax administration. In

addition, they set up a Directorate General for Fiscal Audits. The new legislation has been submitted to the Parliament. However, it is very early to assess the effectiveness of these new initiatives. In addition, the next parliamentary elections (due by March 2008) might pose a downside risk as expenditure slippages might occur. While the projected decline in the interest burden over the programme period seems plausible, a more serious effort than in the past should be undertaken by the authorities in order to contain primary expenditure.

There are also risks on the revenue side. Revenue shortfalls might materialise if the announced measures to fight tax evasion and tax fraud would turn out ineffective. The programme does not provide information on specific targets. Past experience shows that it has been notoriously difficult to estimate both the precise level of tax evasion itself and the results of the fight against it. According to Table 10, the tax intensity assumed in the update is broadly in line with the Commission services' autumn 2006 forecasts for 2007. However, while the composition component is marginally negative, denoting that national authorities are pessimistic regarding developments in the tax base, the elasticity component stands positive, albeit low, indicating that the authorities may be optimistic, especially regarding the performance of social contributions and personal income taxes (see also Annex 5). This could pose a marginal downside risk to the budgetary target in 2007. In 2008, the update's assumption on tax intensity is much higher than in the Commission services autumn 2006 forecast, which was based on the customary no-change policy assumption. However, the measures presented in the update for 2008 and 2009 cannot fully account for the projected increase in the tax ratio.

Finally, the track record regarding the achievement of the budgetary targets is very difficult to assess in view also of the different deficit revisions in recent years. However, the government's recent record of accomplishment to adopt additional measures if needed[16] could be taken into consideration.

In sum, the expected budgetary outturn for 2006, as well as the target for 2007, seems broadly plausible and overall in line with the Commission services' autumn 2006 forecast. For 2008 and 2009, however, there is a risk that the deficits will be higher than targeted essentially because (i) the macroeconomic scenario appears favourable, (ii) there is not sufficient information about the envisaged measures in the programme, and (iii) there is a past track record of expenditure overruns. Finally, the fight against tax evasion and tax fraud may be less effective than budgeted in the programme.

[16] As shown in the implementation of the 2006 budget (cf. Section 4.1 above).

**Table 10: Assessment of tax projections**

| | 2007 | | | 2008 | | | 2009 |
|---|---|---|---|---|---|---|---|
| | **SP** | **COM** | **OECD[3]** | **SP** | **COM[1]** | **OECD[3]** | **SP** |
| Change in tax-to-GDP ratio (total taxes) | 0.4 | 0.3 | 0.2 | 0.3 | 0.0 | 0.0 | 0.6 |
| Difference (SP – COM) | 0.1 | | / | 0.4 | | / | / |
| *Of which*[2]: | | | | | | | |
| - discretionary and elasticity component | 0.2 | | / | 0.7 | | / | / |
| - composition component | -0.1 | | / | -0.2 | | / | / |
| Difference (COM - OECD) | / | 0.1 | | / | -0.2 | | / |
| *Of which*[2]: | | | | | | | |
| - discretionary and elasticity component | / | 0.2 | | / | 0.0 | | / |
| - composition component | / | 0.0 | | / | -0.1 | | / |
| p.m.: Elasticity to GDP | 1.2 | 1.1 | 1.1 | 1.1 | 1.0 | 1.1 | 1.2 |

Notes:
[1]On a no-policy change basis.
[2]The decomposition is explained in Annex 5.
[3] Based on OECD ex-ante elasticity relative to GDP.

Source:
*Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations and OECD (N. Girouard and C. André (2005), "Measuring Cyclically-Adjusted Budget Balances for the OECD Countries", OECD Working Paper No. 434)*

### 4.4. Assessment of the fiscal stance and budgetary strategy

The table below offers a summary assessment of the country's position relative to the budgetary requirements laid down in the Stability and Growth Pact. In order to highlight the role of the preceding analysis of the risks that are attached to the budgetary targets presented in the programme, this assessment is done in two stages: first, a preliminary assessment on the basis of the targets taken at face value is made (middle column) and, second, the final assessment that also takes into account risks (final column).

**Table 11: Overview of compliance with the Stability and Growth Pact**

| | **Based on programme**[3] (with targets taken at face value) | **Assessment** (taking into account risks to targets) |
|---|---|---|
| a. Consistency with correction of excessive deficit by 2006 deadline | yes | yes |
| b. Safety margin against breaching 3% of GDP deficit limit[1] | not within programme period | not within programme period |
| c. Achievement of the MTO | not within programme period (2012) | not within programme period |
| d. Adjustment towards MTO in line with the Pact (after the correction of the excessive deficit)[2]? | should be strengthened | should be strengthened, esp. after 2007 |

Notes:
[1]The risk of breaching the 3% of GDP deficit threshold with normal cyclical fluctuations, i.e. the existence of a safety margin, is assessed by comparing the cyclically-adjusted balance with the above mentioned minimum benchmark (estimated as a deficit of around 1½% of GDP for Greece). These benchmarks represent estimates and as such need to be interpreted with caution.
[2]The Stability and Growth Pact requires Member States to make progress towards their MTO (for countries in the euro area or in ERM II, this has been quantified as an annual improvement in the structural balance of at least 0.5% of GDP as a benchmark). In addition, the structural adjustment should be higher in good times, whereas it may be more limited in bad times.
[3]Targets in structural terms as recalculated by Commission services on the basis of the information in the programme.
*Source*:
*Commission services*

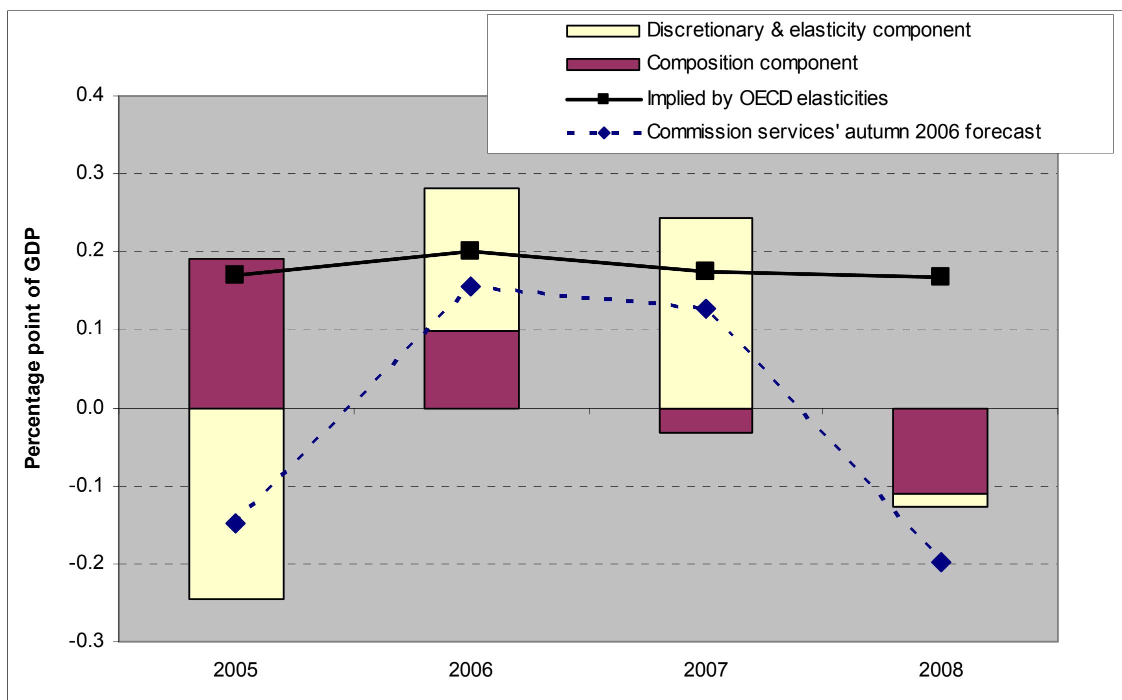
Taking account of the balance of risks to the budgetary targets, Greece appears on track to correct its excessive deficit by the 2006 deadline set by the Council. In terms of fiscal effort, the actions taken and planned by the Greek authorities appear consistent with the recommendations given by the Council in its notice under Article 104(9). Specifically, the planned fiscal effort in 2006, as measured by the change in the structural balance, would amount to around 2¼% of GDP, which is consistent with the fiscal effort corresponding to the implementation of the budget as projected in the Commission services' autumn 2006 forecast.

The programme projects a reduction of the structural deficit by around 1½ percentage point of GDP between 2006 and 2009, which is broadly evenly spread over the different years. This occurs against the background of relatively favourable economic conditions (strong nominal growth, tight labour market conditions and a widening positive output gap). The cyclical conditions in Greece over the programme period can be qualified as economic 'good times' as defined in the revised Stability and Growth Pact (SGP). This is supported by the analysis of tax elasticities, so that Greece can be assessed to be in 'good times taking into account tax elasticities'.

Therefore, in order to be in line with the Stability and Growth Pact, the planned annual structural adjustment towards the MTO should be faster than the benchmark of ½% of GDP in the years following the correction of the excessive deficit. This would allow attaining earlier a cyclically-adjusted budget deficit below the minimum benchmark so as to build a safety margin against breaching the 3% of GDP threshold for the deficit with normal cyclical fluctuations. Given also the risks associated with budgetary targets for 2008 and beyond, the structural adjustment could fall short of the requirements of the

SGP toward the end of the programme; thus, the adjustment should be strengthened, especially after 2007.

**Figure 9**: **Changes in the tax-to-GDP ratio: actual/projected changes vs. changes implied by OECD elasticity**




Note:
The dashed line displays the change in the tax ratio in the Commission services' 2006 autumn forecast, for 2008, on a no-policy-change basis. The solid line shows the change in the tax ratio implied by the ex-ante OECD elasticity with respect to GDP. The difference between the two is explained by the bars. The composition component captures the effect of differences in the composition of aggregate demand (more tax rich or more tax poor components). The discretionary and elasticity component captures the effect of discretionary fiscal policy measures as well as variations of the yield of the tax system that may result from factors such as time lags, variations of taxable income that do not necessarily move in line with GDP e.g. capital gains. Both components may not add up to the total difference because of a residual component, which is generally small. The decomposition is explained in detail in Annex 5.

*Source:*
*Commission services*

## 5. GOVERNMENT DEBT AND LONG-TERM SUSTAINABILITY

Government debt is the result of the financing needs of government over the years. It corresponds primarily to an accumulation of deficits, although the build-up of financial assets and other adjustments may also play a role.[17] The reform of the Stability and

[17] On the factors other than the deficit which explain the evolution of the government debt, see European Commission (2005), Public Finances in EMU 2005: The dynamics of government debt: decomposing the stock-flow adjustment, chapter II.2.2, European Economy, N°3/2005.

Growth Pact has raised attention to the crucial importance of government debt and of sustainability in fiscal surveillance.

This section is in two parts: a first part describes recent developments and the medium-term prospects for government gross debt; it describes the stability programmes targets, compares them with the Commission services' forecasts and assesses the associated risks. A second part looks into the government debt from a longer-term perspective with the aim of assessing the long-term sustainability of public finances.

## 5.1. Recent debt developments and medium-term prospects

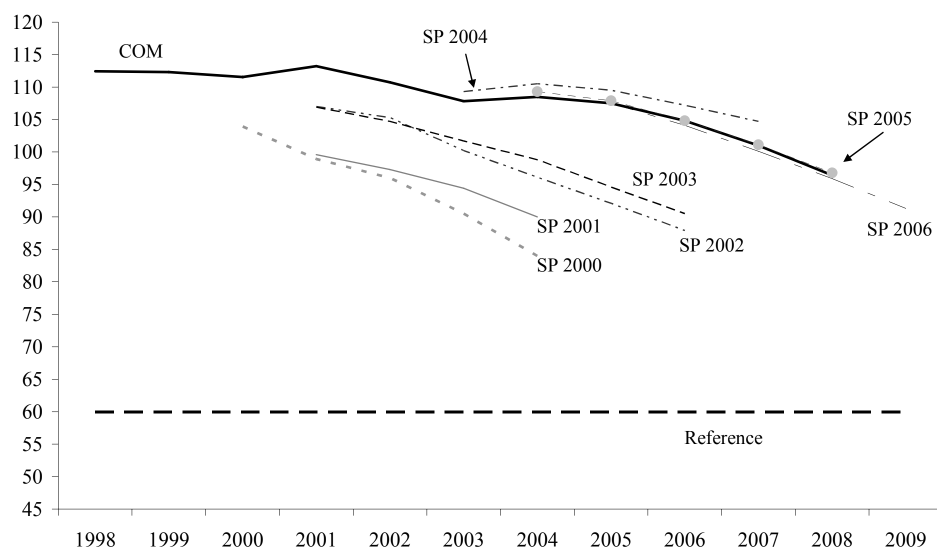
### *5.1.1. Debt projections in the programme*

Table 12 describes the evolution of the debt ratio and its determinants. According to the programme, the debt ratio would fall by almost 13 percentage points of GDP between 2006 and 2009, thus still remaining well above the 60% of GDP reference value by the end of the programme period. These projections are conditional on favourable growth projections and, on account of the associated risks, on optimistic deficit targets. Moreover, those projections assume that the SFAs would become very small, almost zero, thus discontinuing the experience of several years, when the debt increased by more than implied by the deficit figures.

In particular, the debt ratio is projected to decline from around 104% of GDP in 2006 to almost 100% in 2007 and then 91¼% in 2009. The estimated outcome for 2006 stands as projected in the December 2005 update, and is slightly more favourable than projected by the Commission services in the autumn 2006 forecasts. According to the update, the combined effect of increasing primary surpluses, diminishing stock-flow adjustments, (including privatizations) and strong nominal GDP growth would be the main driving forces behind the projected path of debt-reduction until the end of the programme period. A new strategy of restructuring the debt duration and composition of the debt portfolio has been designed, aiming at improving the efficiency of public debt management and is expected to contribute to a more rapid fall of the debt ratio via lower interest expenditure and better borrowing terms of the Greek government. However, the update does not provide any further detailed information.

Debt targets in the previous updates have been persistently missed. For instance, according to the update presented in 2002, the debt ratio should have been close to 90% of GDP by 2005. However, according to the 2006 update, the actual outturn will be 15 percentage points higher. The upward revisions of the debt series carried out in 2005 and 2006 in co-operation with Eurostat are only a partial explanation for such systematic divergences, which are rather due to the effect of the downward revision of the primary surplus from one update to the following – though these are also partially connected with revisions in statistical series –, the impact of lower nominal growth and last, but not least, the effects of substantial deficit increasing stock-flow adjustments which were systematically underestimated in previous updates.

**Figure 10: Debt projections in successive programmes (% of GDP)**




*Source: Commission services' autumn 2006 forecast (COM) and successive stability programmes*

## Table 12: Debt dynamics

| (% of GDP) | average 2000-04 | 2005 | 2006 COM | 2006 SP | 2007 COM | 2007 SP | 2008 COM | 2008 SP | 2009 SP |
|---|---|---|---|---|---|---|---|---|---|
| **Gross debt ratio[1]** | **108.5** | **107.5** | **104.8** | **104.1** | **101.0** | **100.1** | **96.4** | **95.9** | **91.3** |
| Change in the ratio | -0.8 | -1.0 | -2.7 | -3.4 | -3.9 | -4.0 | -4.6 | -4.2 | -4.6 |
| *Of which[2]:* | | | | | | | | | |
| Primary balance | -0.6 | 0.4 | -2.0 | -2.0 | -1.8 | -2.0 | -1.7 | -2.4 | -2.9 |
| "Snow-ball" effect | -2.2 | -2.7 | -2.9 | -3.2 | -2.4 | -2.6 | -2.7 | -2.4 | -2.2 |
| *Of which:* | | | | | | | | | |
| Interest expenditure | 6.4 | 4.9 | 4.6 | 4.6 | 4.4 | 4.4 | 4.0 | 4.2 | 4.1 |
| Growth effect *(real GDP)* | -4.7 | -3.7 | -3.8 | -4.0 | -3.6 | -3.8 | -3.5 | -3.7 | -3.7 |
| Inflation effect *(GDP deflator)* | -3.9 | -3.9 | -3.8 | -3.8 | -3.3 | -3.2 | -3.2 | -2.9 | -2.6 |
| Stock-flow adjustment | 1.8 | 1.4 | 2.3 | 1.8 | 0.4 | 0.6 | -0.2 | 0.6 | 0.5 |
| *Of which:* | | | | | | | | | |
| Cash/accruals diff. | 0.4 | 1.7 | - | - | - | - | - | - | - |
| Acc. financial assets | 0.9 | -0.5 | - | - | - | - | - | - | - |
| *Privatisation* | *-0.7* | *-1.1* | - | - | - | - | - | - | - |
| Val. effect & residual | 0.6 | 0.2 | - | - | - | - | - | - | - |

Notes:

[1]End of period.

[2]The change in the gross debt ratio can be decomposed as follows:

$$\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}} = \frac{PD_t}{Y_t} + \left( \frac{D_{t-1}}{Y_{t-1}} * \frac{i_t - y_t}{1 + y_t} \right) + \frac{SF_t}{Y_t}$$

where $t$ is a time subscript; $D$, $PD$, $Y$ and $SF$ are the stock of government debt, the primary deficit, nominal GDP and the stock-flow adjustment respectively, and $i$ and $y$ represent the average cost of debt and nominal GDP growth (in the table, the latter is decomposed into the growth effect, capturing real GDP growth, and the inflation effect, measured by the GDP deflator). The term in parentheses represents the "snow-ball" effect. The stock-flow adjustment includes differences in cash and accrual accounting, accumulation of financial assets and valuation and other residual effects.

Source:

*Stability programme update (SP); Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations*

### *5.1.2. Assessment*

Compared with the Commission services' autumn 2006 forecasts, debt developments in the programme appear somewhat optimistic. Specifically, the lower nominal growth rate featured in the 2006 autumn forecast would imply a lower reduction of the debt ratio profile, compared with the update. As for the deficit targets, the risks to the projected debt reduction path appear to be broadly balanced.

The update builds on the achievement of the debt targets set in the December 2005 update. It also includes a sensitivity analysis of the debt to real GDP growth rates. The alternative scenario assumes that the growth rate stands at 3.5% throughout the programme's horizon, lower by around ½ percentage point each year than in the baseline scenario. Other things being equal, the debt to GDP ratio would be only 2 percentage point of GDP higher compared to the baseline scenario, by the end of the programme horizon. The update does not include any other alternative scenarios or analysis of possible impact from interest rates differentials on the debt to GDP ratio, while no information of the debt structure is available.

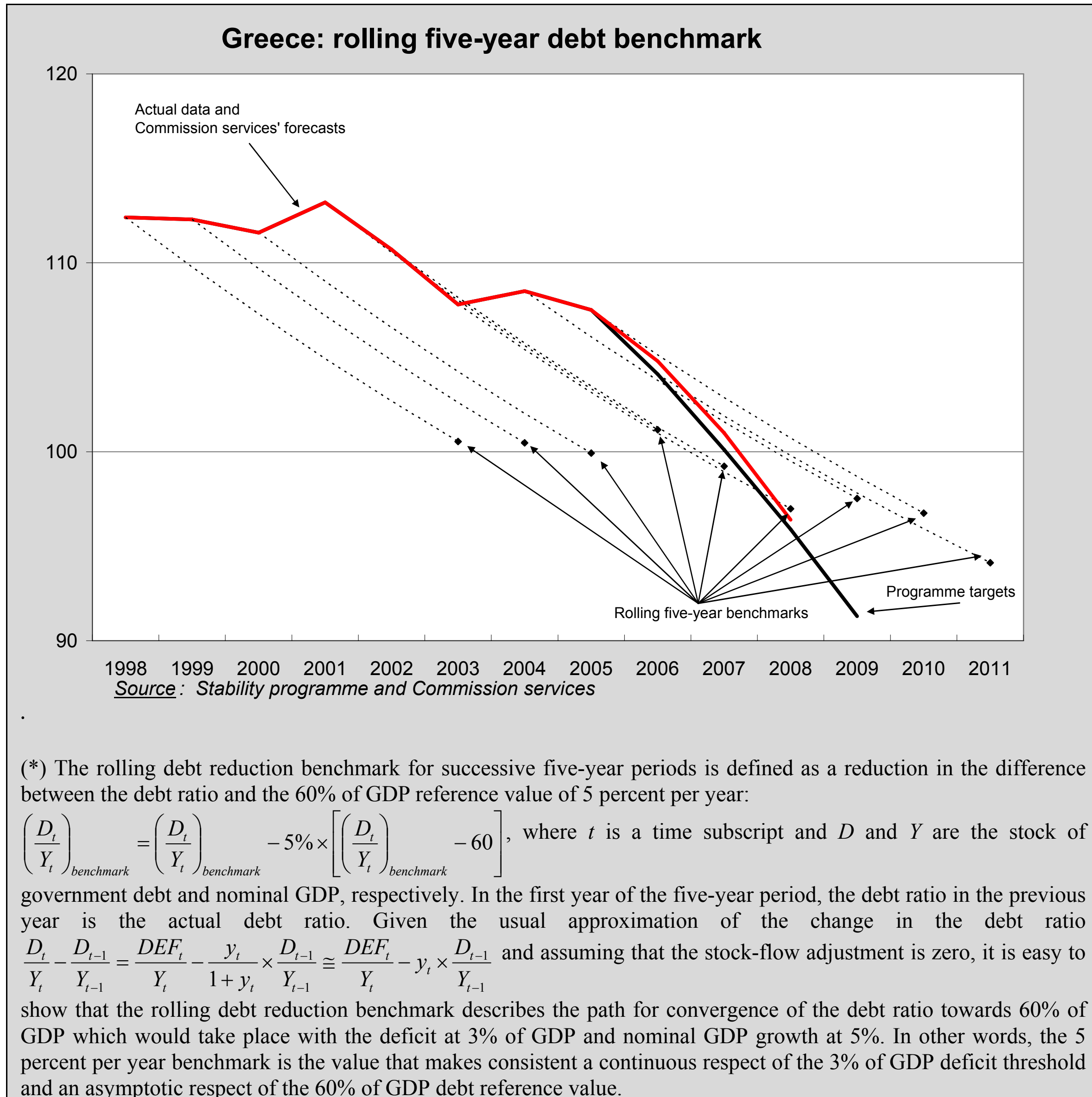
In view of this risk assessment, although debt remains well above the reference value of 60% throughout the update horizon, it has been diminishing, as requested by the Council notice in accordance to Article 104(9). It is projected that debt would fall below 100% from 2008 onwards. The debt reduction strategy in the update is also consistent with the broad economic policy guidelines in the area of public finances. Nevertheless, the projected path for 2008 (on a no-policy change basis), as well as for 2009, is conditional on favourable growth projections and, on account of associated risks, to ambitious deficit targets. The achievement of the target would imply that the projected debt ratio would only be considered as sufficiently declining at least by the end of the programme period.

**Box 5: The rolling debt reduction benchmark**

The debt ratio has been exceeding the 60% of GDP reference value since the presentation of the initial convergence programme in 1998

A tentative assessment of the pace of debt reduction over a medium-term horizon is presented in the accompanying graph. It shows historical data, the Commission services' autumn 2006 forecasts until 2008 (which are on a no-policy change scenario) and the multi-annual debt projections in the update and compares them with the paths obtained by applying an illustrative "rolling debt reduction benchmark" (*). The benchmark reflects the idea that a minimum debt reduction should be ensured not year after year but over a medium-term horizon (five years in the graph). For instance, the debt projection for 2007 is compared with the value obtained for the same year by applying the formula starting in 2002. Debt level projections in the programme exceeding those obtained by applying the benchmark are taken as an indicator of a slow reduction in the debt ratio.

The graph clearly shows that the planned reduction of the debt ratio in the update is declining by slightly less than implied by the five-year rolling debt reduction benchmark during the period 2002-2007, but such a conclusion would be reversed from 2008 on.



<u>Source</u> : *Stability programme and Commission services*

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(*) The rolling debt reduction benchmark for successive five-year periods is defined as a reduction in the difference between the debt ratio and the 60% of GDP reference value of 5 percent per year:
$\left(\frac{D_t}{Y_t}\right)_{benchmark} = \left(\frac{D_t}{Y_t}\right)_{benchmark} - 5\% \times \left[\left(\frac{D_t}{Y_t}\right)_{benchmark} - 60\right]$, where $t$ is a time subscript and $D$ and $Y$ are the stock of government debt and nominal GDP, respectively. In the first year of the five-year period, the debt ratio in the previous year is the actual debt ratio. Given the usual approximation of the change in the debt ratio $\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}} = \frac{DEF_t}{Y_t} - \frac{y_t}{1+y_t} \times \frac{D_{t-1}}{Y_{t-1}} \cong \frac{DEF_t}{Y_t} - y_t \times \frac{D_{t-1}}{Y_{t-1}}$ and assuming that the stock-flow adjustment is zero, it is easy to show that the rolling debt reduction benchmark describes the path for convergence of the debt ratio towards 60% of GDP which would take place with the deficit at 3% of GDP and nominal GDP growth at 5%. In other words, the 5 percent per year benchmark is the value that makes consistent a continuous respect of the 3% of GDP deficit threshold and an asymptotic respect of the 60% of GDP debt reference value.

### 5.2. Long-term debt projections and the sustainability of public finances

The issue of long-term sustainability is a multi-faceted one. It involves avoiding imposing an excessive burden on future generations and ensuring the country's capacity to appropriately adjust budgetary policy in the medium and long run.[18]

Debt sustainability is derived from the government's *intertemporal budget constraint*. It imposes that current total liabilities of the government, i.e. the current public debt and the discounted value of future expenditure including the budgetary impact of ageing populations, should be covered by the discounted value of future government revenue. If current policies ensure that the intertemporal budget constraint is fulfilled, current policies are sustainable.

The approach adopted by the Commission services and the Ageing Working Group of the Economic Policy Committee (EPC) is to project the debt, and to calculate the

[18] For a detailed analysis of long-term sustainability issues, see “The Long Term Sustainability of Public Finances – A report by the Commission services”, European Economy n°4/2006, published in October 2006 (hereinafter Sustainability Report).

associated sustainability indicators (See box 6), on the basis of two different scenarios. The first scenario assumes that the structural primary balance will remain unchanged from 2006 through 2010, the final year of the convergence programme; it is called the "2006 scenario". Debt projections in this scenario start in 2007. The second scenario assumes that the macroeconomic and budgetary plans until 2009 provided in the convergence programme will be fully respected. This is the "programme scenario". Debt and primary balance projections in this scenario start in 2010. Both projections assume zero stock-flow adjustments. In addition to this quantitative analysis, other relevant factors are taken into account, which allows to better qualifying the assessment with regard to where the main risks are likely to stem from and to reach an overall assessment.

### *5.2.1. Sustainability indicators and long-term debt projections*

Table 13 shows the evolution of government spending on healthcare, education and unemployment benefits according to the EPC's projections.[19] It should be noted that up-to-date projections on pensions – which is often the variable that increases by most in several EU member States – and long-term care are not available for Greece. Non age-related primary expenditure and revenue is assumed to remain constant as a share of GDP.

**Table 13: Long-term age-related expenditure: main projections**

| (% of GDP) | 2004 | 2010 | 2020 | 2030 | 2040 | 2050 | changes |
|---|---|---|---|---|---|---|---|
| **Total age-related spending** | 8.9 | 8.7 | 8.7 | 9.1 | 9.7 | 10.2 | 1.2 |
| Pensions | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Healthcare | 5.1 | 5.4 | 5.6 | 5.9 | 6.5 | 6.8 | 1.7 |
| Long-term care | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Education | 3.5 | 3.1 | 2.9 | 3.0 | 3.0 | 3.1 | -0.4 |
| Unemployment benefits | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | -0.1 |

*Source: Economic Policy Committee and Commission services.*

The projected increase in age-related spending in Greece is not comparable with the other Member States, since projections for pension expenditure were not available in the Ageing Report. The latest available projections included in the 2002 Greek stability programme showed a very considerable increase of 10.2% points of GDP from 2004 up to 2050. The increase in expenditure on health-care is projected to be 1.7% points of GDP from 2004 up to 2050, close to the EU average. No projections of long-term care expenditure were available in the Ageing report, either.

Based on the long-term budgetary projections, sustainability indicators can be calculated.

[19] These assumptions cover labour productivity growth, real GDP growth, participation rates, unemployment rate, demographic developments, government spending in pensions, healthcare, long-term care for the elderly, education and unemployment benefits. See Economic Policy Committee and European Commission (DG ECFIN) (2006), "The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, health-care, long-term care, education and unemployment transfers (2004-2050)", European Economy, Special Report No 1 (hereinafter Ageing Report).

**Table 14: Sustainability indicators and the required primary balance**

| | 2006 scenario | | | Programme scenario | | |
|---|---|---|---|---|---|---|
| | **S1** | **S2** | **RPB** | **S1** | **S2** | **RPB** |
| Value | 1.2 | 1.3 | 2.5 | 0.1 | 0.1 | 2.5 |
| *of which:* | | | | | | |
| Initial budgetary position | 0.3 | 0.4 | - | -0.8 | -0.7 | - |
| Debt requirement in 2050 | 0.5 | - | - | 0.5 | - | - |
| Future changes in budgetary position | 0.3 | 0.8 | - | 0.3 | 0.8 | - |

*Source: Commission services.*
*Note: The sustainability indicators for Greece in this table are severely underestimated, since they were prepared without considering the impact on ageing on pensions and long-term care expenditure.*

## Box 6 – Sustainability indicators*

- The **sustainability gap S1** shows the permanent budgetary adjustment (often presented as an increase in the tax burden**) required to reach a debt ratio in 2050 of 60% of GDP.
- The **sustainability gap S2**, shows the permanent budgetary adjustment that guarantees the respect of the intertemporal budget constraint of the government. In order to estimate S2, the revenue and expenditure ratios (age-related and non age-related) after 2050 are assumed to remain constant at the 2050 level.
- The sustainability indicators can be decomposed into the***: (i) **initial budgetary position (IBP)**; and, (ii) **long-term change in the budgetary position (LTC)**;
- In addition, the **required primary balance (RPB)** can be derived from the S2 indicator. It measures the average primary balance over the first five years after the programme horizon (i.e. 2010-2014) that results from a permanent budgetary adjustment carried out to comply fully with the S2 indicator.

**Summarizing the sustainability indicators**

| | Impact of | | |
|---|---|---|---|
| | **Initial budgetary position** | | **Long-term changes in the primary balance** |
| **S1***=** | Gap to the debt-stabilizing primary balance | + | Additional adjustment required to finance the increase in public expenditure *up to 2050* |
| **S2=** | Gap to the debt-stabilizing primary balance | + | Additional adjustment required to finance the increase in public expenditure *over an infinite horizon* |

* For a complete description of the sustainability indicators, see Annex I of the "The Long Term Sustainability of Public Finances – A report by the Commission services", European Economy n°4/2006, published in October 2006.

** Although the sustainability gap indicators (S1, S2) are usually defined as differences between revenue ratios, this does not mean that countries are asked to increase taxes to reach sustainability. There are several ways to ensure sustainability and governments typically choose a combination of budget consolidation over the medium term (either through expenditure reduction and/or tax hikes) and the implementation of structural reforms aiming at curbing long-term public spending (e.g. pension reforms).

*** Moreover, in the case of S1, the decomposition also separates the impact of the debt position (60% of GDP in 2050); the debt requirement in 2050 (DR). In particular, if the current debt/GDP ratio is below 60% of GDP debt is allowed to rise and this component reduces the sustainability gap as measured by the S1 indicator, and

Table 14 shows the sustainability indicators for the two scenarios. Even without taking into account the developments of pension expenditure over the long-term, a sustainability gap emerges in Greece (of about 1¼ % of GDP). Compared with the results of the Commission's Sustainability Report, the sustainability gaps are smaller in the present assessment, by about 1¾% of GDP. This is mainly due to a significantly higher estimated structural primary balance in 2006 (1.2% of GDP) compared with the structural primary balance in 2005 estimated in spring 2006 (-0.3% of GDP) that was used in the Sustainability Report.

The initial budgetary position is still weak and is not sufficiently high to offset the impact of the increase in age-related expenditure up to 2050 and there is a risk of unsustainable public finances before considering the long-term budgetary impact of ageing. The programme plans a gradual strengthening of a structural budgetary consolidation by 1.6% of GDP between 2006 and 2009, which would have a favourable impact on the sustainability gap indicator ("programme scenario"). However, as noted above, given that the latest available pension projections point to an increase of pension expenditure of more than 10 percentage points of GDP up to 2050, a significant sustainability gap remains.

Without taking into account the missing projections (expenditure on pensions and on long-term care), the required primary balance (RPB) is about 2½ % of GDP, slightly higher than the structural primary balance of 1.6% of GDP in 2006. Projections on pensions and long-term care would certainly increase the RPB quite substantially.

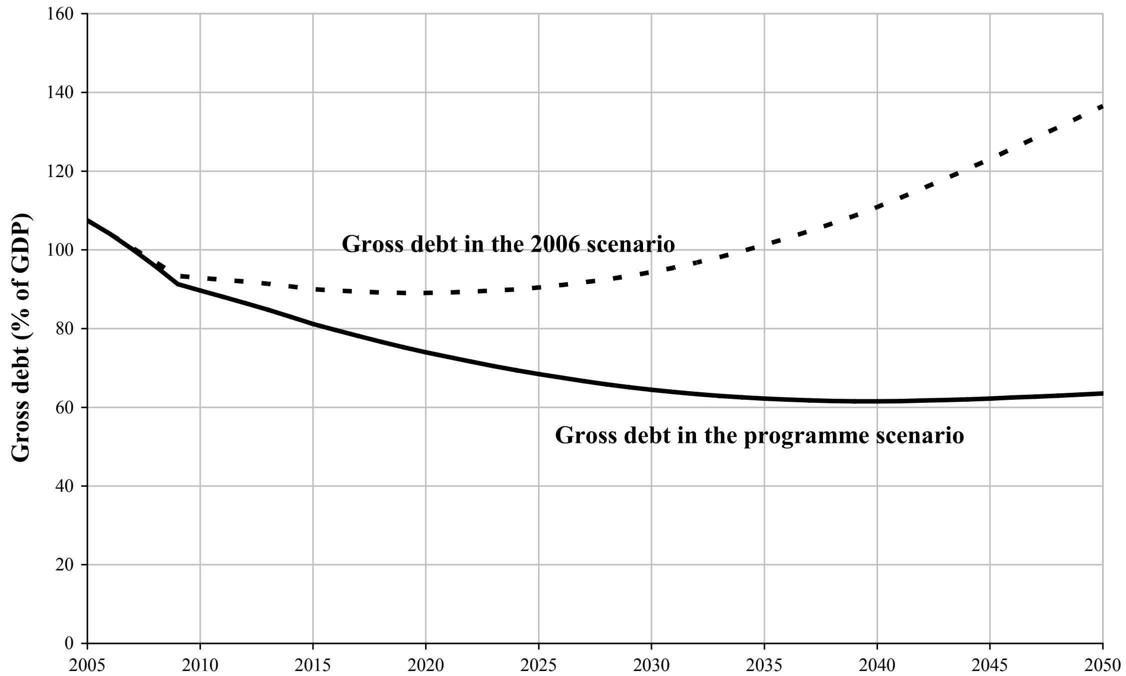
Moreover, the sustainability gap indicators would increase by around 0.2 % of GDP – and significantly more if projections on pension and long-term care were taken into account) if the planned adjustment were to be postponed by 5 years, highlighting that savings can be made over time if action is taken sooner rather than later.

Another way to look at the prospects for long-term public finance sustainability is to project the debt/GDP ratio over the long-term using the same assumptions as for the calculations of S1 and S2. The long-term projections for government debt under the two scenarios are shown in Figure 11.

The gross debt ratio is currently well above 60% of GDP reference value, estimated at about 104% of GDP in 2006 in the programme. According to the "2006 scenario", up to mid-2020s, the debt ratio is projected to be on a declining curve, to just below 90% of GDP. Thereafter, it is expected to increase significantly throughout the rest of projection period. In the "programme scenario", debt is expected to be decline to levels just above 60% of GDP, but would again around 2040 start increasing.[20]

[20] It should be recalled, however, that being a mechanical, partial-equilibrium analysis, the long-term debt projections are bound to show highly accentuated profiles. As a consequence, the projected evolution of debt levels should not be seen as a forecast similar to the Commission services' short-term forecasts, but as an indication of the risks faced by Member States.

**Figure 11: Long-term projections for the government debt ratio (without pension projections)**




*Note: The long-term debt projections for Greece in this chart are severely underestimated, since they were prepared without considering the impact on ageing on pensions and long-term care expenditure.*
*Source: Commission services.*

### *5.2.2. Additional factors*

To reach an overall assessment of the sustainability of public finances, other relevant issues are taken into account, which in addition allows to better qualifying the assessment with regard to where the main risks are likely to stem from.

First, the current level of debt is very high in Greece, at 104.1% of GDP in 2006. Ensuring a reduction of the very high debt to below the 60% of GDP reference value at a satisfactory pace is of utmost importance so as to strengthen the resilience of the public finances to adverse shocks and to reduce risks to public finance sustainability.

Second, the Greek authorities acknowledge the need for reforming their social security system and have established an "Experts Committee" which is mandated to prepare the proposals in order to contain the problems that the social security system faces. It is expected that the Committee will have completed its mandate by fall 2007.

### *5.2.3. Assessment*

The long-term budgetary impact of ageing in Greece is incomplete as long-term projections of pension expenditure are not available. However, it is very likely to be well above the EU average; according to the latest available information from the 2002 updated Greek stability programme, a substantial increase in pension expenditure as a share of GDP is projected over the long-term.

The initial budgetary position, albeit improved compared with 2005, constitutes a significant risk to sustainable public finances even before considering the long-term budgetary impact of an ageing population. Moreover, the current level of gross debt is well above the Treaty reference value. Reducing it requires achieving high primary

surpluses for a long period of time. Consolidating the public finances as planned together with urgent reform measures aimed at containing the likely significant increase in age-related expenditures would contribute to reducing risks to the long-term sustainability of public finances.

Overall, Greece appears to be at high risk with regard to the sustainability of public finances. The availability of long-term projections of pension expenditure would improve the assessment of long term budgetary sustainability.

## 6. STRUCTURAL REFORM, THE QUALITY OF PUBLIC FINANCES AND INSTITUTIONAL FEATURES

The update provides a very brief presentation of the government's policy strategy for the improvement of the quality of public finances and the creation of a growth-supportive environment, in the context of the Lisbon strategy.

The programme points out that structural reforms are needed to rationalize public expenditure and safeguard the budgetary implementation for the years ahead, which would enable Greece to develop a robust and flexible economic environment. The update also indicates that fiscal policy would underpin the general economic policy objectives, by putting in place procedures to improve the control and management of public expenditure, through better and more efficient audits on all public entities of the general government. Total expenditures are expected to fall throughout the programme's horizon; however, the most challenging target is to keep them in line with the annual budget estimates. A General Directorate of Fiscal Audit has been established for that purpose, encompassing an integrated system of internal auditing agencies and information systems. The operation of the new General Directorate should control and monitor the expenditures of Ministries, local government and other public entities and propose corrective measures when necessary, while at the same time encouraging the expenditures reallocation, in favour of growth enhancing activities which are consistent with the priorities set by the National Reform Programme. However, almost one year since the new agency has been established by law, it does not actually exist. Moreover, the signs of slowdown in primary expenditures are rather an outcome of prudence in policy interventions than the result of specific structural reforms.

The reform agenda of the Greek government also includes structural reforms in product markets to strengthen the business environment, competition and export promotion; developing the knowledge society; improving capital markets; environment and sustainable development; and modernisation of public administration. However, there is little sign of the reform agenda having enhanced the management of public finances.

The programme assumes that the optimistic expected increase in employment levels would make an important contribution to sustainable public finances. It also puts forward a number of reforms in the healthcare sector, although there is no information on the quantitative and financial impact of these measures on government expenditure. The 2006 December update, nor the Implementation Report, does not present a strategy for reforming the pension system to improve adequacy and sustainability. Nevertheless, a public consultation was launched in spring 2006 and an Advisers Committee was established to study the social security system and the financial sustainability problem faced by the pension system. It is expected that the Committee will have completed its mandate by the end of 2007. In that framework, the government has announced that the

reform of the pension system will be initiated after the next election, but, there is no clear implementation calendar for the package of measures decided.

As far as healthcare expenditure is concerned, the update underlines it as an important priority for the long-term sustainability of public finances. However, it does not provide any information, while comments that relevant measures and policies are detailed in the Implementation report of the National Reform Programme.

The update reiterates also a number of issues concerning transparency and accuracy of fiscal accounts. The progress in the field of statistical governance by the Greek authorities is significant. Moreover, the Greek government in cooperation with Eurostat, will establish an action plan for further improvement of statistical methods used.

**Box 7: Statistical Revisions on the Greek fiscal accounts**

On September 2004, the Greek authorities submitted the EDP notification, presenting new and revised data compared to that notified in March 2004, which indicated that Greece had been in excessive deficit since 2000. In particular, the general government deficits notified to the Commission over 2000-2003 were revised upwards by more than two percentage points of GDP each year (see table). The debt figures had also been revised upwards by more than 7 percentage points of GDP over the period of the notification. The projected figures for 2004 implied an upwards revision of the deficit and debt figures by 2.3% and 14% of GDP respectively.

This data revision was carried out on the basis of new information provided by the Greek authorities, at the request of Eurostat, for the period 2000-2003, and rested on a more faithful application of the ESA95. After scrutinising the reported data, Eurostat validated the new 2000-2003 figures on 23 September 2004. In response to a request by the Council, Eurostat also revised the accounts for the years 1997, 1998 and 1999. In its report of 22 November 2004 on the 'Revision of the Greek government deficit and debt figures', the Commission concluded that the actual deficits in those years had also been well above 3%.

The EDP notification of March 2005 also presented new and revised data compared to that notified in September 2004. In particular, the general government deficit reported to the Commission for 2001 was revised downwards by 0.1 percentage points of GDP, while the government deficits for 2002, 2003 and 2004 were revised upwards to 4.1% of GDP, 5.2% and 6.1% respectively. The main reason for this new revision, in particular for 2002 and 2003, was due to the fact that the expenditure of hospitals for past years had been wrongly recorded on a cash basis and not on an accrual basis, as well as to the downward revisions of the surpluses of the social security by 0.1% in 2002 and 0.2% in 2003. The debt figures for the years 2002 and 2003 were also slightly revised downwards from 109.9 to 109.3% of GDP in 2003 and from 112.5 to 112.2% of GDP in 2002. The main reason for this revision was due to the reclassification of a mutual fund in the social security sector. However, Eurostat did not validate the new revised data since, according to its News releases on 26 September 2005, some pending issues remained for the recording of EU transactions, the accounts of social security and the amounts of other receivables and payables for the years 2002-2004.

In June 2006 and in September 2006, Eurostat carried out a methodological visit to Greece. The mission led to an agreement between Eurostat and the Greek authorities, clarifying the pending issues mentioned in the Eurostat News Releases of 26 September 2005 and 24 April 2006, concerning the recording of transactions with the EU budget, the accounts of social security and the amounts of other receivables and payables for the years 2002-2005. On 29 September 2006, Eurostat agreed with the Greek authorities a reduction of surpluses of other central government bodies and social security funds (corrections for transfers received from the ordinary budget in 2002-2005, and change in data sources in 2005). The revisions would amount to ¾ percentage points of GDP in 2004 and 2005. In particular, the downward revision of social security surpluses

represents around ¼% of GDP per year. The methodological visit will be finalised by the establishment of an action plan for further improvement of Greek government finance statistics, to be carried out during the course of next years.

**Table 1: The revision of Greek data between the figures reported in EDP March 2004 and October 2006**

| *In % of GDP* | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| **General Government deficit** | | | | | | |
| **March 2004** | -2.0 | -1.4 | -1.4 | -1.7 | | |
| **September 2004** | -4.1 | -3.7 | -3.7 | -4.6 | | |
| **March 2005** | | -3.6 | -4.1 | -5.2 | -6.1 | |
| **September 2005** | | -6.1 | -4.9 | -5.7 | -6.6 | |
| **April 2006** | | | -4.9 | -5.8 | -6.9 | -4.5 |
| **October 2006** | | | -5.2 | -6.1 | -7.8 | -5.2 |
| **General Government gross debt** | | | | | | |
| **March 2004** | 106.1 | 106.6 | 104.6 | 102.6 | | |
| **September 2004** | 114.0 | 114.7 | 112.5 | 109.9 | | |
| **March 2005** | | 114.8 | 112.2 | 109.3 | 110.5 | |
| **September 2005** | | 114.4 | 111.6 | 108.8 | 109.3 | |
| **April 2006** | | | 110.7 | 107.8 | 108.5 | 107.5 |
| **October 2006** | | | 110.7 | 107.8 | 108.5 | 107.5 |

***Note:*** *According to the Commission Communication 'Report on the accountability issue related to the revision of Greek budgetary data' (COM(2004)784 of 1 December 2004), on 10th November 2004, Eurostat and the Greek authorities came to the conclusion that the deficit figures for the period 1997-1999 should also be revised, compared with the EDP notification. In specific:*

*-for 1997, 6.6% of GDP, instead of 4.0%*
*-for 1998, 4.3% of GDP, instead of 2.5%*
*-for 1999, 3.4% of GDP, instead of 1.8%*

*The corresponding debt figures were:*

*-for 1997, 114.0% of GDP, instead of 108.2%*
*-for 1998, 112.4% of GDP, instead of 105.8%*
*-for 1999, 112.3% of GDP, instead of 105.2%*

## 7. CONSISTENCY WITH THE NATIONAL REFORM PROGRAMME AND WITH THE BROAD ECONOMIC POLICY GUIDELINES

The macro-economic and economic policy focus in the implementation report of the NRP is on public finances, employment, education and lifelong learning, as well as in a broad range of micro-economic and environmental policy areas.

The NRP also targets the improvement of the quality of public expenditures by enhancing auditing and control, reforming the social security system and pensions, reforming the tax system, while tackling administrative malpractice could release resources for more and better investment in infrastructures, human capital and active labour market policies. The main objectives, as set out in the 2006 December update, are fully in line with the key challenges for the Greek economy, identified in the Implementation report. However, the lack of detailed description of the measures to be taken, in order to ensure the implementation of policies proposed, raises concerns over the lack of specific timetables and information about budgetary implications.

Moreover, the programme does not contain a qualitative assessment of the overall impact of the National Reform Programme within the medium term fiscal strategy. Nevertheless, according to the update, the majority of the measures and actions planned for 2007, included in the Implementation report of the NRP and the relevant budgetary provisions have been included in the 2007 Budget Law. However, no further detail is provided. The initiatives promoted within the framework of the implementation of the Lisbon programme are financed through, national funds, EU funds and private funds. Respectively, the update does not provide systematic information on the direct budgetary costs associated with the main reforms envisaged in the NRP.

All in all, the degree of integration between the stability programmes and the implementation report of the NRP is somewhat low, especially in terms of whether the update embodies the budgetary implications of actions envisaged in the Implementation report

**Box 8: The Commission assessment of the implementation report of the National Reform Programme**

The implementation report of the National Reform Programme of Greece, provided in the context of the renewed Lisbon strategy for growth and jobs, was submitted on October 2006. The Commission's assessment of this report, which was adopted on 12 December 2006 as part of its Annual Progress Report, can be summarised as follows.

The Greek 2005-2008 National Reform Programme (NRP) identified key challenges in the field of public finances, employment, education and lifelong learning, as well as in a broad range of micro-economic and environmental policy areas. The Commission broadly shared this analysis and in the 2006 Annual Progress Report (APR) invited Greece to pay further attention to fiscal consolidation; R&D and innovation; modernising public administration; active labour market policies (ALMP) and the reforms of education and training. The Commission also expressed concerns over the lack of targets, timetables and budgetary implications in the NRP.

There is good progress on consolidation of public finances. There are promising signs of progress in public resource allocation, improving business environment; R&D and innovation; improving public administration and education and training. Implementation in those areas now needs to be stepped up. Progress is limited on reforming the pensions system, on environment management and infrastructure, on public procurement, reducing undeclared work; the level and efficiency of ALMP's, and on increasing adult participation in lifelong learning.

Efforts to develop ownership have been reinforced. Communication on the Growth and Jobs Strategy with a wider range of stakeholders and citizens has improved. A constructive cooperation between the government and the social partners has been established and the Lisbon Observatory set up by the Greek Economic and Social Committee is assessing implementation. More work is needed to step up cooperation between central, regional and local level. The Implementation Report partially addresses the concerns expressed by the Commission over the lack of targets, timetables and budgetary implications. More information on this has become available. The Commission welcomed the commitment to reach at least 60% earmarking for Lisbon related expenditure within the National Strategic Reference Framework (NSRF). However, there is a need to better integrate the two processes and to improve the absorption of the Structural and Cohesion Funds.

The policy areas in the Greek National Reform Programme where weaknesses need to be tackled with the highest priority are: improving the long-term sustainability of public finances by reforming the pension system; modernisation of the public administration; stronger measures to increase employment rates, tackle unemployment and undeclared work, modernise employment protection and promote labour mobility; and enhancing the quality and labour market relevance of education and training. Against this background, it is recommended that Greece:

- ensure the continuation of fiscal consolidation and debt reduction and fix a timetable for the implementation of pension reform with a view to improving long-term fiscal sustainability;

- modernise its public administration by building up effective regulatory, control and enforcement capacities, including through upgrading skills, in order to ensure effective use of Structural Funds;

- modernise employment protection including legislation, reduce the tax wedge on labour, and strengthen active labour policies to foster flexibility and security in the labour market and transform undeclared work into formal employment;

- increase investment in compulsory and higher education, implement the reform of lifelong learning and improve quality and responsiveness to labour market needs, reduce early school leaving, and increase adult participation.

The table below provides an overview of whether the strategy and policy measures in the programme are consistent with the broad economic policy guidelines in the area of public finances, which are included in the integrated guidelines for the period 2005-2008. The assessment of guideline 1 corresponds to the evaluation in Section 4.4 above, whereas that of the pace of debt reduction in guideline 2 (relevant for high-debt countries only) is covered in Section 5.1.2 above. Information on the different elements covered by the remaining guidelines in the table can be found in Sections 5.2 and 6.

Overall, the budgetary strategy in the stability programme is broadly consistent with the broad economic policy guidelines.

**Table 15: Consistency with the broad economic policy guidelines**

| Broad economic policy guidelines | Yes | Steps in right direction | No | Not applicable |
|---|---|---|---|---|
| ***1. To secure economic stability*** | | | | |
| – Member States should respect their medium-term budgetary objectives. As long as this objective has not yet been achieved, they should take all the necessary corrective measures to achieve it[1]. | | X | | |
| – Member States should avoid pro-cyclical fiscal policies[2]. | | | | X |
| – Member States in excessive deficit should take effective action in order to ensure a prompt correction of excessive deficits[3]. | X | | | |
| – Member States posting current account deficits that risk being unsustainable should work towards (…), where appropriate, contributing to their correction via fiscal policies. | | X | | |
| ***2. To safeguard economic and fiscal sustainability*** In view of the projected costs of ageing populations, | | | | |
| – Member States should undertake a satisfactory pace of government debt reduction to strengthen public finances. | | X | | |
| – Member States should reform and re-enforce pension, social insurance and health care systems to ensure that they are financially viable, socially adequate and accessible (…) | | | X | |
| ***3. To promote a growth- and employment-orientated and efficient allocation of resources*** | | | | |
| Member States should, without prejudice to guidelines on economic stability and sustainability, re-direct the composition of public expenditure towards growth-enhancing categories in line with the Lisbon strategy, adapt tax structures to strengthen growth potential, ensure that mechanisms are in place to assess the relationship between public spending and the achievement of policy objectives and ensure the overall coherence of reform packages. | | X | | |

Notes:
[1]As further specified in the Stability and Growth Pact and the code of conduct, i.e. with an annual 0.5% of GDP minimum adjustment in structural terms for euro area and ERM II Member States.
[2]As further specified in the Stability and Growth Pact and the code of conduct, i.e. Member States that have already achieved the medium-term objective should avoid pro-cyclical fiscal policies in "good times".
[3]As further specified in the country-specific Council recommendations and decisions under the excessive deficit procedure.

*Source:*
*Commission services*

* * *

## Annex 1: Glossary

**Automatic stabilisers** Various features of the tax and spending regime which tend to have a dampening effect on economic fluctuations without requiring a discretionary intervention of the fiscal authorities. As a result, the budget balance in percent of GDP tends to improve in years of high growth and deteriorate during economic slowdowns. See also *cyclically-adjusted balance*, *structural balance* and *minimum benchmark*.

**Broad economic policy guidelines (BEPGs)** Guidelines for the economic and budgetary policies of the Member States. Together with the Employment Guidelines, they form the Integrated Guidelines, prepared by the Commission and adopted by the Council of Ministers responsible for Economic and Financial Affairs (ECOFIN). See also *Lisbon strategy*.

**Budget balance** The balance between total public revenue and expenditure (according to *ESA95*); with a positive balance indicating a surplus (also know as *government net lending*) and a negative balance indicating a deficit (also known as *government net borrowing*). For the monitoring of Member States' budgetary positions, the EU uses *general government* aggregates. See also *cyclically-adjusted balance*, *primary balance, structural balance* and *reference values*.

**Budget constraint** A basic condition applying to the public finances, according to which total public expenditure in any one year must be financed by taxation, borrowing or changes in the monetary base; the latter is prohibited in the EU. See also *stock-flow adjustment* and *long-term sustainability*.

**Budgetary sensitivity** The variation in the *budget balance* brought about by a change in the *output gap*. In the EU, it is estimated to be 0.5 on average, i.e. for any percentage point of GDP below or above potential, the budget-balance-to-GDP ratio deteriorates or improves by half a percentage point. The size of the budgetary sensitivity essentially reflects (i) the revenue and expenditure elasticities of the budget and (ii) the size of discretionary government expenditure. See also *cyclically-adjusted balance, structural balance* and *tax elasticity*.

**Code of conduct** Policy document adopted by the Economic and Financial Committee (an advisory committee gathering high-level officials from national governments, national central banks, the European Central Bank and the European Commission which prepares the meetings of the Council of Ministers responsible for Economic and Financial Affairs (ECOFIN)) and endorsed by the ECOFIN Council in October 2005, containing specifications on the implementation of the *Stability and Growth Pact* and guidelines on the format and content of *stability programmes* and *convergence programmes*.

**Contingent liabilities** A possible government obligation to pay, the existence of which will be confirmed by the occurrence of one or more uncertain events in the future not wholly under the control of the government. For instance, government guarantees on debt issued by private or public companies are contingent liabilities since the government obligation to pay depends on the non-ability of the original debtor to honour its obligations. See also *implicit liabilities*.

**Convergence programme** Medium-term budgetary strategy presented by each Member State that has not yet adopted the euro; updated annually, according to the provisions of the *Stability and Growth Pact*. See also *stability programme, code of conduct* and *medium-term objective*.

**Cyclically-adjusted balance** The *budget balance* adjusted for its cyclical component (which captures the part of public revenue and expenditure that is linked to the *output gap*), i.e. the budget balance that would prevail if GDP were at its potential level. See also *structural balance, budgetary sensitivity* and *output gap*.

**Cyclically-adjusted primary balance** The *cyclically-adjusted balance* net of interest expenditure on *general government* debt. See also *interest burden*.

**Debt dynamics** The evolution of *government debt* as a ratio to GDP; it depends on the primary deficit, the debt-increasing impact of interest payments, the dampening effect of GDP growth on the ratio and the *stock-flow adjustment*.

**EDP notification** See *notification of deficit and debt*.

**ERM II** Exchange rate mechanism linking some currencies of non-euro Member States to the euro, which is the centre of the mechanism. For the currency of each Member State participating in the mechanism, a central rate against the euro and a standard fluctuation band of ±15% are defined.

**ESA95** European accounting standards for the compilation and reporting of macroeconomic (including budgetary) data by the EU Member States.

**Excessive deficit procedure (EDP)** A procedure, laid down in the EC Treaty, according to which the Commission and the Council monitor the development of national *budget balances* and *public debt* in relation to the *reference values*, in order to assess the existence (or risk) of an excessive deficit in each Member State and to ensure its correction. Its application has been further clarified in the *Stability and Growth Pact*.

**Fiscal stance** A measure of the thrust of discretionary fiscal policy such as, in this document, the change in the *structural balance* (or in the *structural primary balance*) relative to the preceding year. When the change is positive (negative) the fiscal stance is said to be restrictive (expansionary).

**Funded pension scheme** Pension system in which current pension expenditures are financed by running down assets accumulated over the years on the basis of contributions by the scheme beneficiaries. According to *ESA95*, defined-contribution funded pension schemes are not considered as part of the *general government* sector. See also *pay-as-you-go pension scheme*.

**Government debt** See *public debt*.

**General government** The focus of EU budgetary surveillance under the *Stability and Growth Pact* and the *excessive deficit procedure* is on general government aggregates, with the general government sector covering national, regional and local government, as well as social security. In principle, public enterprises are excluded.

**Government net lending/borrowing** See *budget balance*.

**Implicit liabilities** Future government expenditure which has not yet been funded, even when future expenditure is not backed by law or contractual obligations, but is simply grounded in strong expectations of the public. To be meaningful for economic analysis, implicit liabilities should be assessed net of future revenue assuming that the government will keep collecting taxes (and other non-tax revenue) at rates comparable to current levels. See also *contingent liabilities*.

**Interest burden** *General government* interest expenditure on *government debt* as a share of GDP.

**Intertemporal budget constraint** A basic condition imposing that current total liabilities of the government, i.e. the current public debt and the discounted value of future expenditure including the budgetary impact of ageing populations, be covered by the discounted value of future government revenue.

**Lisbon strategy** Partnership between the EU and Member States for growth and more and better jobs. Originally approved in 2000, the Lisbon Strategy was revamped in 2005. Based on the Integrated Guidelines (merger of the *broad economic policy guidelines* and the employment guidelines, dealing with macro-economic, micro-economic and employment issues) for the period 2005-2008, Member States drew up 3-year national reform programmes in autumn 2005. They reported on the implementation of the national reform programmes for the first time in autumn 2006. The Commission analyses and summarises these reports in an EU Annual Progress Report each year, in time for the Spring European Council.

**Long-term sustainability** A combination of *budget balance* and *public debt* that ensures that the latter does not grow without bound. While conceptually intuitive, an agreed operational definition of sustainability has proven difficult to achieve.

**Maturity structure of public debt** The profile of *public debt* in terms of when it is due to be paid back. Interest rate changes affect the *budget balance* directly to the extent that the *general government* sector has debt with a relatively short maturity structure. Long maturities reduce the sensitivity of the *budget balance* to changes in the prevailing interest rate. See also *interest burden*.

**Medium-term objective (MTO)** According to the *Stability and Growth Pact*, *stability programmes* and *convergence programmes* must present a medium-term objective for the budgetary position. It is country-specific to take into account the diversity of economic and budgetary positions and developments as well as of fiscal risk to the sustainability of public finances, and is defined in structural terms (see *structural balance*).

**Minimum benchmark** Estimated budgetary position (in *cyclically-adjusted* terms) that provides a "safety margin" that is enough for the *automatic stabilisers* to operate freely during normal economic slowdowns without breaching the 3% of GDP deficit *reference value*. The minimum benchmarks are estimated by the European Commission. They do not cater for other risks such as unexpected budgetary developments and interest rate shocks.

**National reform programme (NRP)** See *Lisbon strategy*.

**Notification of deficit and debt (EDP notification)** Twice a year (by 1 April and 1 October), EU Member States have to notify their *general government* deficit and debt figures (and a number of associated data) to the Commission, the quality of which is then checked by Eurostat, the Commission department in charge of statistics. See also *budget balance* and *public debt*.

**One-off and temporary measures** Government transactions having a transitory budgetary effect that does not lead to a sustained change in the intertemporal budgetary position. See also *structural balance*.

**Output gap** The difference between actual GDP and potential GDP in any given year, usually expressed as a percent of potential GDP. Potential GDP is an unobserved variable and needs to be estimated from actual data. It is the level of real GDP in a given year that is consistent with a stable rate of inflation. If actual output rises above its potential level, then constraints on capacity begin to bind and inflationary

pressures build; if output falls below potential, then resources are lying idle and inflationary pressures abate. See also *production function method*.

**Pay-as-you-go pension scheme (PAYG)** Pension system in which current pension expenditures are financed by the contributions of current employees. Also known as *unfunded pension scheme*. See also *funded pension scheme*.

**Primary balance** The *budget balance* net of interest expenditure on *general government* debt. See also *interest burden*.

**Pro-cyclical fiscal policy** A *fiscal stance* which amplifies the economic cycle by lowering the *structural balance* when the *output gap* is positive or improving, or by increasing the *structural balance* when the *output gap* is negative or widening, as opposed to a counter-cyclical fiscal policy stance. A neutral fiscal policy keeps the *structural balance* unchanged over the economic cycle by letting the *automatic stabilisers* work.

**Production function method** A method to estimate potential GDP typically based on a Cobb-Douglas production function. Potential GDP is estimated as the level of GDP consistent with a full utilisation of capital, an unemployment rate that does not accelerate inflation and factor productivity at its trend level. See also *output gap, cyclically-adjusted balance, budgetary sensitivity*.

**Public debt (or government debt)** Consolidated gross debt for the *general government* sector. It includes the total nominal value of all debt owed by government units, except that part of the debt which is owed to government units in the same Member State. It is a gross debt measure meaning that government financial assets on other sectors are not netted out. See also *debt dynamics* and *reference values*.

**Public investment** The component of total public expenditure which consists in the acquisition of durable assets and through which governments increase and improve the stock of capital employed in the production of the goods and services they provide. Also known as government gross fixed capital formation (GFCF).

**Public-private partnerships (PPP)** Agreements between government and corporations according to which the latter build and operate public-use infrastructure (roads, tunnels, bridges, but also hospitals, prisons, concert halls, etc.) which were traditionally directly controlled by government. In exploiting the infrastructure, the corporation receives prices paid by final users, rentals or fees from the government or both. Infrastructure built under PPPs is considered as either *public investment* or corporate investment depending on a number of specific criteria.

**Quality of public finances** A multi-dimensional concept which refers to the contribution that public finances make to the efficient allocation of resources in the economy and to achieving the government's strategic objectives (sustainable growth, macroeconomic stability, competitiveness, social cohesion etc.). It concerns notably the overall level of expenditure and taxation, their composition, the budgeting and control mechanisms and the institutional arrangements for deciding on public finance issues.

**Reference values for public deficit and debt** Respectively, a 3 percent *general government* deficit-to-GDP ratio and a 60 percent *general government* debt-to-GDP ratio. See also *excessive deficit procedure, government debt* and *budget balance*.

**Sensitivity analysis** An econometric or statistical simulation designed to test the robustness of an estimated economic relationship or projection to changes in the underlying assumptions.

**'Snow-ball' effect** The self-reinforcing effect of *public debt* accumulation or decumulation arising from a positive or negative differential between the implicit interest rate on public debt and the GDP growth rate. See also *debt dynamics*.

**Stability and Growth Pact (SGP)** Approved in 1997 and reformed in 2005, the SGP clarifies the provisions on budgetary surveillance in the EC Treaty. The "preventive" arm of the SGP obliges Member States to submit annual *stability programmes* or *convergence programmes*, while the "corrective" arm of the SGP clarifies and speeds up the *excessive deficit procedure*.

**Stability programme** Medium-term budgetary strategy presented by each Member State that has already adopted the euro; updated annually, according to the provisions of the *Stability and Growth Pact*. See also *convergence programme, code of conduct* and *medium-term objective*.

**Stock-flow adjustment (SFA)** The stock-flow adjustment (also known as the debt-deficit adjustment) ensures consistency between *government net borrowing*, which is a flow variable, and the variation in *government debt*, which is a stock variable. It includes differences between cash and accrual accounting, accumulation of financial assets, changes in the value of debt denominated in foreign currency and remaining statistical adjustments. See also *debt dynamics.*

**Structural balance** The *budget balance* in *cyclically-adjusted* terms and excluding *one-off and temporary measures*. See also *fiscal stance*.

**Structural primary balance** The *structural balance* net of interest expenditure on *general government* debt. See also *interest burden*.

**Tax elasticity** A parameter measuring the relative change in tax revenues with respect to a relative change in GDP. The tax elasticity is an input to the *budgetary sensitivity*.

## Annex 2: Summary tables from the programme update

The tables below present the information provided in the programme in the format prescribed by the code of conduct (Annex 2 thereof).

**Table 1a. Macroeconomic prospects**

| | ESA Code | 2005<br>Level | 2005<br>rate of change | 2006<br>rate of change | 2007<br>rate of change | 2008<br>rate of change | 2009<br>rate of change |
|---|---|---|---|---|---|---|---|
| **1. Real GDP** | B1*g | 117.4 | 3.7 | 4 | 3.9 | 4 | 4.1 |
| **2. Nominal GDP** | B1*g | 181.1 | 7.5 | 7.8 | 7.2 | 7.1 | 7 |
| **Components of real GDP** | | | | | | | |
| **3. Private consumption expenditure** | P.3 | 80.9 | 3.7 | 3.8 | 3.7 | 3.7 | 3.7 |
| **4. Government consumption expenditure** | P.3 | 16.9 | 3.1 | 2.1 | 1.1 | 0.7 | 0.7 |
| **5. Gross fixed capital formation** | P.51 | 30.5 | -1.4 | 9.1 | 7.7 | 7.7 | 7.8 |
| **6. Changes in inventories and net acquisition of valuables (% of GDP)** | P.52 + P.53 | 0.4 | 0.3 | 0 | 0 | 0 | 0 |
| **7. Exports of goods and services** | P.6 | 26.2 | 3 | 5.1 | 6.5 | 7.3 | 7.6 |
| **8. Imports of goods and services** | P.7 | 37.5 | -1.2 | 6.5 | 7 | 7.3 | 7.4 |
| **Contributions to real GDP growth** | | | | | | | |
| **9. Final domestic demand** | | | 2.62 | 5.23 | 4.81 | 4.78 | 4.86 |
| **10. Changes in inventories and net acquisition of valuables** | P.52 + P.53 | | -0.03 | -0.3 | -0.07 | -0.01 | -0.01 |
| **11. External balance of goods and services** | B.11 | | 1.07 | -0.94 | -0.83 | -0.77 | -0.76 |

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**Table 1b. Price developments**

| | ESA Code | 2005<br>level | 2005<br>rate of change | 2006<br>rate of change | 2007<br>rate of change | 2008<br>rate of change | 2009<br>rate of change |
|---|---|---|---|---|---|---|---|
| **1. GDP deflator** | | | 3.7 | 3.7 | 3.2 | 3 | 2.8 |
| 2. Private consumption deflator | | | 3.7 | 3.4 | 3 | 2.8 | 2.6 |
| **3. HICP[1]** | | | 3.5 | 3.3 | 3.0 | 2.8 | 2.6 |
| 4. Public consumption deflator | | | 3 | 3.4 | 3.5 | 3.5 | 3.5 |
| 5. Investment deflator | | | 2.6 | 3.9 | 3.1 | 2.2 | 2 |
| **6. Export price deflator (goods and services)** | | | 4.2 | 4.2 | 2.6 | 2.5 | 2.3 |
| **7. Import price deflator (goods and services)** | | | 2.7 | 5.3 | 1.9 | 1.4 | 1 |

[1] Optional for Stability programmes.

**Table 1c. Labour market developments**

| | ESA Code | 2005 Level | 2005 rate of change | 2006 rate of change | 2007 rate of change | 2008 rate of change | 2009 rate of change |
|---|---|---|---|---|---|---|---|
| **1. Employment, persons [1]** | | 4148,2 | 1.3 | 1.7 | 1.8 | 1.8 | 1.8 |
| 2. Employment, hours worked [2] | | 7918.9 | 1.3 | 1.7 | 1.8 | 1.8 | 1.8 |
| **3. Unemployment rate (%) [3]** | | | 10.4 | 9.2 | 8.2 | 7.4 | 6.5 |
| **4. Labour productivity, persons [4]** | | | 2.3 | 2.2 | 2.1 | 2.2 | 2.3 |
| 5. Labour productivity, hours worked[5] | | | 2.3 | 2.2 | 2.1 | 2.2 | 2.3 |
| **6. Compensation of employees** | D.1 | 61.7 | 7.7 | 8.7 | 8.6 | 7.7 | 7.5 |

[1] Occupied population, domestic concept national accounts definition.

[2] National accounts definition.

[3] Harmonised definition, Eurostat; levels.

[4] Real GDP per person employed.

[5] Real GDP per hour worked.

**Table 1d. Sectoral balances**

| % of GDP | ESA Code | **2005** | **2006** | **2007** | **2008** | **2009** |
|---|---|---|---|---|---|---|
| **1. Net lending/borrowing vis-à-vis the rest of the world** | B.9 | -7.7 | -8.9 | -7.9 | -7.6 | -7.3 |
| of which: | | | | | | |
| - Balance on goods and services | | -7.2 | -8 | -8.1 | -8 | -7.8 |
| - Balance of primary incomes and transfers | | -1.9 | -2.8 | -1.4 | -1.2 | -1 |
| - Capital account | | 1.5 | 1.9 | 1.7 | 1.6 | 1.5 |
| 2. Net lending/borrowing of the private sector | B.9/EDP B.9 | -2.5 | -6.3 | -5.5 | -5.8 | -6.1 |
| 3. Net lending/borrowing of general government | B.9 | -5.2 | -2.6 | -2.4 | -1.8 | -1.2 |
| **4. Statistical discrepancy** | | | | | | |

**Table 2. General government budgetary prospects**

| | ESA code | 2005 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|
| | | Level | % of GDP | % of GDP | % of GDP | % of GDP | % of GDP |
| **Net lending (EDP B.9) by sub-sector** | | | | | | | |
| **1. General government** | S.13 | -9.5 | -5.2 | -2.6 | -2.4 | -1.8 | -1.2 |
| **2. Central government** | S.1311 | -11.6 | -6.4 | -4.5 | -4.3 | -3.7 | -2.8 |
| **3. State government** | S.1312 | | | | | | |
| **4. Local government** | S.1313 | 0.01 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **5. Social security funds** | S.1314 | 2.1 | 1.1 | 1.8 | 1.8 | 1.8 | 1.5 |
| **General government (S13)** | | | | | | | |
| **6. Total revenue** | TR | 73.3 | 40.5 | 42.2 | 42.1 | 42.5 | 42.9 |
| **7. Total expenditure** | TE[1] | 82.8 | 45.7 | 44.8 | 44.5 | 44.3 | 44.1 |
| **8. Net lending/borrowing** | EDP B.9 | -9.5 | -5.2 | -2.6 | -2.4 | -1.8 | -1.2 |
| **9. Interest expenditure (incl. FISIM)** | EDP D.41 incl. FISIM | 8.8 | 4.9 | 4.6 | 4.4 | 4.2 | 4.1 |
| **pm: 9a. FISIM** | | 0.035 | 0 | 0 | 0 | 0 | 0 |
| **10. Primary balance** | [2] | -0.7 | -0.4 | 2 | 2 | 2.4 | 2.9 |
| **Selected components of revenue** | | | | | | | |
| **11. Total taxes (11=11a+11b+11c)** | | 40 | 22.1 | 22.3 | 22.5 | 22.6 | 22.9 |
| **11a. Taxes on production and imports** | D.2 | 22.8 | 12.6 | 13.1 | 13.4 | 13.6 | 13.8 |
| **11b. Current taxes on income, wealth, etc** | D.5 | 16.8 | 9.3 | 9 | 8.9 | 8.8 | 8.9 |
| **11c. Capital taxes** | D.91 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **12. Social contributions** | D.61 | 26.1 | 14.4 | 14.5 | 14.7 | 14.9 | 15.2 |
| **13. Property income** | D.4 | 1.7 | 1 | 1.1 | 1.1 | 1 | 1 |
| **14. Other (14=15-(11+12+13))** | | 5.5 | 3 | 4.3 | 3.8 | 4 | 3.8 |
| **15=6. Total revenue** | TR | 73.3 | 40.5 | 42.2 | 42.1 | 42.5 | 42.9 |
| **p.m.: Tax burden (D.2+D.5+D.61+D.91-D.995)[3]** | | | 36.5 | 36.7 | 37.1 | 37.5 | 38 |
| **Selected components of expenditure** | | | | | | | |
| **16. Collective consumption** | P.32 | 17.9 | 9.9 | 9.8 | 9.7 | 9.4 | 9.2 |
| **17. Total social transfers** | D.62 + D.63 | 43.2 | 23.8 | 23.6 | 23.7 | 23.9 | 24.1 |
| 17a. Social transfers in kind | P.31 = D.63 | 11.7 | 6.4 | 6.2 | 6 | 5.8 | 5.6 |
| 17b. Social transfers other than in kind | D.62 | 31.5 | 17.4 | 17.4 | 17.7 | 18.1 | 18.5 |
| **18.=9. Interest expenditure (incl. FISIM)** | EDP D.41 incl. FISIM | 8.8 | 4.9 | 4.6 | 4.4 | 4.2 | 4.1 |
| **19. Subsidies** | D.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| **20. Gross fixed capital formation** | P.51 | 6.3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.4 |
| **21. Other (21=22-(16+17+18+19+20))** | | 6.3 | 3.5 | 3.2 | 3.1 | 3.3 | 3.3 |
| **22=7. Total expenditure** | TE[4] | 82.8 | 45.7 | 44.8 | 44.5 | 44.3 | 44.1 |
| **Pm: compensation of employees** | D.1 | 21.9 | 12.1 | 12 | 11.9 | 11.8 | 11.7 |

[1] Adjusted for the net flow of swap-related flows, so that TR-TE=EDP B.9.
[2] The primary balance is calculated as (EDP B.9, item 8) plus (EDP D.41 + FISIM recorded as intermediate consumption, item 9).
[3] Including those collected by the EU and including an adjustment for uncollected taxes and social contributions (D.995), if appropriate.
[4] Adjusted for the net flow of swap-related flows, so that TR-TE=EDP B.9.

**Table 3. General government expenditure by function**

| % of GDP | COFOG Code | **2004** | **2009** |
|---|---|---|---|
| 1. General public services | 1 | | |
| 2. Defence | 2 | | |
| 3. Public order and safety | 3 | | |
| 4. Economic affairs | 4 | | |
| 5. Environmental protection | 5 | | |
| 6. Housing and community amenities | 6 | | |
| 7. Health | 7 | | |
| 8. Recreation, culture and religion | 8 | | |
| 9. Education | 9 | | |
| 10. Social protection | 10 | | |
| 11. Total expenditure (= item 7=26 in Table 2) | TE | | |

**Table 4. General government debt developments**

| % of GDP | | **2005** | **2006** | **2007** | **2008** | **2009** |
|---|---|---|---|---|---|---|
| **1. Gross debt[1]** | | 107.5 | 104.1 | 100.1 | 95.9 | 91.3 |
| **2. Change in gross debt ratio** | | -1 | -3.4 | -4 | -4.2 | -4.6 |
| **Contributions to changes in gross debt** | | | | | | |
| **3. Primary balance[2]** | | -0.4 | 2 | 2 | 2.4 | 2.9 |
| **4. Interest expenditure (incl.FISIM) [3]** | | 4.9 | 4.6 | 4.4 | 4.2 | 4.1 |
| **5. Stock-flow adjustment** | | 1.4 | 1.7 | 0.6 | 0.6 | 0.5 |
| - Differences between cash and accruals[4] | | | | | | |
| - Net accumulation of financial assets[5] | | | | | | |
| of which - privatisation proceeds | | | | | | |
| - Valuation effects and other[6] | | | | | | |
| **p.m. implicit interest rate on debt[7]** | | 4.7 | 4.5 | 4.4 | 4.4 | 4.5 |
| **Other relevant variables** | | | | | | |
| 6. Liquid financial assets[8] | | | | | | |
| 7. Net financial debt (7=1-6) | | | | | | |

[1] As defined in Regulation 3605/93 (not an ESA concept).

[2] Cf. item 10 in Table 2.

[3] Cf. item 9 in Table 2.

[4] The differences concerning interest expenditure, other expenditure and revenue could be distinguished when relevant.

[5] Liquid assets, assets on third countries, government controlled enterprises and the difference between quoted and non-quoted assets could be distinguished when relevant.

[6] Changes due to exchange rate movements, and operation in secondary market could be distinguished when relevant.

[7] Proxied by interest expenditure (incl. FISIM recorded as consumption) divided by the debt level of the previous year.

[8] AF1, AF2, AF3 (consolidated at market value), AF5 (if quoted in stock exchange; including mutual fund shares).

**Table 5. Cyclical developments**

| % of GDP | ESA Code | **2005** | **2006** | **2007** | **2008** | **2009** |
|---|---|---|---|---|---|---|
| **1. Real GDP growth (%)** | | 3.7 | 4 | 3.9 | 4 | 4.1 |
| **2. Net lending of general government** | EDP B.9 | -5.2 | -2.6 | -2.4 | -1.8 | -1.2 |
| **3. Interest expenditure (incl. FISIM recorded as consumption)** | EDPD.41 + FISIM | 4.9 | 4.6 | 4.4 | 4.2 | 4.1 |
| 4. Potential GDP growth (%) (1) | | 4.2 | 4 | 4 | 4 | 4 |
| contributions: | | | | | | |
| - labour | | | | | | |
| - capital | | | | | | |
| - total factor productivity | | | | | | |
| 5. Output gap | | 1.2 | 1.2 | 1.1 | 1.1 | 1.2 |
| 6. Cyclical budgetary component | | 0.4 | 0.8 | 0.3 | 0.4 | 0.4 |
| 7. Cyclically-adjusted balance (2-6) | | -5.6 | -3.4 | -2.7 | -2.2 | -1.6 |
| 8. Cyclically-adjusted primary balance (7-3) | | -0.7 | 1.2 | 1.7 | 2 | 2.5 |

(1) Until an agreement on the Production Function Method is reached, Member States can use their own figures (*SP*)

**Table 6. Divergence from previous update**

| | ESA Code | **2005** | **2006** | **2007** | **2008** | **2009** |
|---|---|---|---|---|---|---|
| **Real GDP growth (%)** | | | | | | |
| **Previous update** | | 3.6 | 3.8 | 3.8 | 4 | |
| **Current update** | | 3.7 | 4 | 3.9 | 4 | 4.1 |
| **Difference** | | 0.1 | 0.2 | 0.1 | 0 | |
| **General government net lending (% of GDP)** | EDP B.9 | | | | | |
| **Previous update** | | -4.3 | -2.6 | -2.3 | -1.7 | |
| **Current update** | | -5.2 | -2.6 | -2.4 | -1.8 | -1.2 |
| **Difference** | | -0.9 | 0 | -0.1 | -0.1 | |
| **General government gross debt (% of GDP)** | | | | | | |
| **Previous update** | | 107.9 | 104.8 | 101.1 | 96.8 | |
| **Current update** | | 107.5 | 104.1 | 100.1 | 95.9 | 91.3 |
| **Difference** | | -0.4 | -0.7 | -1 | -0.9 | |

**Table 7. Long-term sustainability of public finances**

| % of GDP | 2000 | 2004 | 2010 | 2020 | 2030 | 2040 | 2050 |
|---|---|---|---|---|---|---|---|
| Total expenditure | | | | | | | |
| Of which: age-related expenditures | | | | | | | |
| Pension expenditure | | | | | | | |
| Social security pension | | | | | | | |
| Old-age and early pensions | | | | | | | |
| Other pensions (disability, survivors) | | | | | | | |
| Occupational pensions (if in general government) | | | | | | | |
| Health care | | | | | | | |
| Long-term care *(this was earlier included in the health care)* | | | | | | | |
| Education expenditure | | | | | | | |
| Other age-related expenditures | | | | | | | |
| Interest expenditure | | | | | | | |
| Total revenue | | | | | | | |
| Of which: property income | | | | | | | |
| *of which*: from pensions contributions (or social contributions if appropriate) | | | | | | | |
| Pension reserve fund assets | | | | | | | |
| Of which: consolidated public pension fund assets | | | | | | | |
| (assets other than government liabilities) | | | | | | | |
| **Assumptions** | | | | | | | |
| Labour productivity growth | | | | | | | |
| Real GDP growth | | | | | | | |
| Participation rate males (aged 20-64) | | | | | | | |
| Participation rates females (aged 20-64) | | | | | | | |
| Total participation rates (aged 20-64) | | | | | | | |
| Unemployment rate | | | | | | | |
| Population aged 65+ over total population | | | | | | | |

**Table 8. Basic assumptions**

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| **Short-term interest rate[1] (annual average)** | | 2.2 | 3.1 | 3.7 | 3.6 | 3.6 |
| **Long-term interest rate (annual average)** | | 3.4 | 3.8 | 4.1 | 4.2 | 4.2 |
| **USD/€ exchange rate (annual average) (euro area and ERM II countries)** | | 1.24 | 1.25 | 1.27 | 1.27 | 1.27 |
| **Nominal effective exchange rate** | | | | | | |
| **(for countries not in euro area or ERM II) exchange rate vis-à-vis the € (annual average)** | | | | | | |
| **World excluding EU, GDP growth** | | 5.6 | 5.7 | 5.2 | 5.2 | 5.2 |
| **EU GDP growth** | | 1.7 | 2.8 | 2.4 | 2.4 | 2.4 |
| **Growth of relevant foreign markets** | | | | | | |
| **World import volumes, excluding EU** | | 7.3 | 9.6 | 8.1 | 7.5 | 7.5 |
| **Oil prices, (Brent, USD/barrel)** | | 54.1 | 65.6 | 66.3 | 68 | 68 |

# Annex 3: Compliance with the code of conduct

The table below provides a detailed assessment of whether the programme respects the requirements of Section II of the code of conduct. It is in four parts, covering compliance with (i) the window for the date of submission of the programme; (ii) the model structure (table of contents) in Annex 1 of the code; (iii) the data requirements (model tables) in Annex 2 of the code; and (iv) other information requirements.

| Guidelines in the code of conduct | Yes | No | Comments |
|---|---|---|---|
| **1. Submission of the programme** | | | |
| Programme was submitted not earlier than mid-October and not later than 1 December[1]. | | X | |
| **2. Model structure** | | | |
| The model structure for the programmes in Annex 1 of the code of conduct has been followed. | X | | |
| **3. Model tables (so-called data requirements)** | | | |
| The quantitative information is presented following the standardised set of tables (Annex 2 of the code of conduct). | X | | |
| The programme provides all compulsory information in these tables. | X | | |
| The programme provides all optional information in these tables. | | X | |
| The concepts used are in line with the European system of accounts (ESA). | X | | |
| **4. Other information requirements** | | | |
| *a. Involvement of parliament* | | | |
| The programme mentions its status vis-à-vis the national parliament. | | X | |
| The programme indicates whether the Council opinion on the previous programme has been presented to the national parliament. | | X | |
| *b. Economic outlook* | | | |
| Euro area and ERM II Member States uses the “common external assumptions” on the main extra-EU variables. | X | | |
| Significant divergences between the national and the Commission services’ economic forecasts are explained[2]. | X | | |
| The possible upside and downside risks to the economic outlook are brought out. | X | | |
| The outlook for sectoral balances and, especially for countries with a high external deficit, the external balance is analysed. | | X | |
| *c. Monetary/exchange rate policy* | | | |
| The convergence programme presents the medium-term monetary policy objectives and their relationship to price and exchange rate stability. | | | Not applicable |
| *d. Budgetary strategy* | | | |
| The programme presents budgetary targets for the general government balance in relation to the MTO, and the projected path for the debt ratio. | X | | |
| In case a new government has taken office, the programme shows continuity with respect to the budgetary targets endorsed by the Council. | | | Not applicable |
| When applicable, the programme explains the reasons for possible deviations from previous targets and, in case of substantial deviations, whether measures are taken to rectify the situation, and provide information on them. | | | Not applicable |
| The budgetary targets are backed by an indication of the broad measures necessary to achieve them and an assessment of their quantitative effects on the general government balance is analysed. | X | | |
| Information is provided on one-off and other temporary measures. | X | | One-off measures, only in 2006 |
| The state of implementation of the measures (enacted versus planned) presented in the programme is specified. | X | | |

| Guidelines in the code of conduct | Yes | No | Comments |
|---|---|---|---|
| If for a country that uses the transition period for the classification of second-pillar funded pension schemes, the programme presents information on the impact on the public finances. | | | Not applicable |
| *e. "Major structural reforms"* | | | |
| If the MTO is not yet reached or a temporary deviation is planned from the achieved MTO, the programme includes comprehensive information on the economic and budgetary effects of possible 'major structural reforms' over time. | | X | |
| The programme includes a quantitative cost-benefit analysis of the short-term costs and long-term benefits of such reforms. | | X | |
| *f. Sensitivity analysis* | | | |
| The programme includes comprehensive sensitivity analyses and/or develops alternative scenarios showing the effect on the budgetary and debt position of:<br>a) changes in the main economic assumptions<br>b) different interest rate assumptions<br>c) for non-participating Member States, different exchange rate assumptions<br>d) if the common external assumptions are not used, changes in assumptions for the main extra-EU variables. | X | | |
| In case of "major structural reforms", the programme provides an analysis of how changes in the assumptions would affect the effects on the budget and potential growth. | | X | |
| *g. Broad economic policy guidelines* | | | |
| The programme provides information on the consistency with the broad economic policy guidelines of the budgetary objectives and the measures to achieve them. | X | | |
| *h. Quality of public finances* | | | |
| The programme describes measures aimed at improving the quality of public finances on both the revenue and expenditure side (e.g. tax reform, value-for-money initiatives, measures to improve tax collection efficiency and expenditure control). | X | | |
| *i. Long-term sustainability* | | | |
| The programme outlines the country's strategies to ensure the sustainability of public finances, especially in light of the economic and budgetary impact of ageing populations. | | X | |
| Common budgetary projections by the AWG are included in the programme. The programme includes all the necessary additional information. (…) To this end, information included in programmes should focus on new relevant information that is not fully reflected in the latest common EPC projections. | | X | |
| *j. Other information (optional)* | | | |
| The programme includes information on the implementation of existing national budgetary rules (expenditure rules, etc.), as well as on other institutional features of the public finances, in particular budgetary procedures and public finance statistical governance. | | | |

Notes:
[1]The code of conduct allows for the following exceptions: (i) Ireland should be regarded as complying with the deadline in case of submission on "budget day", i.e. traditionally the first Wednesday of December, (ii) the UK should submit as close as possible to its autumn pre-budget report; and (iii) Austria and Portugal cannot comply with the deadline but will submit no later than 15 December.
[2]To the extent possible, bearing in mind the typically short time period between the publication of the Commission services' autumn forecast and the submission of the programme.

*Source:*
*Commission services*

## Annex 4: Key economic indicators of past economic performance

This Annex includes two tables. The first displays key economic indicators that summarise the economic performance of the country. To put the country's performance into perspective, the second table displays the same set of indicators for the euro area.

**Greece - Key economic indicators**

| | Averages | | | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| | 1996–2005 | 1996–2000 | 2001–2005 | | | |
| **Economic activity** | | | | | | |
| Real GDP (% change) | 3.9 | 3.5 | 4.4 | 4.8 | 4.7 | 3.7 |
| Private consumption (% change) | 3.3 | 2.6 | 4.0 | 4.5 | 4.7 | 3.7 |
| Government consumption (% change) | 3.3 | 4.5 | 2.1 | -2.0 | 2.8 | 3.1 |
| Investment (% change) | 7.5 | 9.0 | 6.0 | 13.7 | 5.7 | -1.4 |
| Exports (% change) | 6.8 | 12.2 | 1.4 | 1.0 | 11.7 | 2.9 |
| Imports (% change) | 6.7 | 12.1 | 1.2 | 4.5 | 9.3 | -1.2 |
| Contributions to real GDP growth: | | | | | | |
| *Domestic demand* | 4.4 | 4.4 | 4.5 | 5.9 | 5.1 | 2.7 |
| *Net exports* | -0.5 | -1.0 | -0.1 | -1.2 | -0.4 | 1.0 |
| Output gap (% of potential GDP) | -0.7 | -2.0 | 0.6 | 0.5 | 1.5 | 1.5 |
| **Prices and costs** | | | | | | |
| HICP inflation (% change) | 4.0 | 4.6 | 3.5 | 3.4 | 3.0 | 3.5 |
| Unit labour costs (% change) | 4.1 | 5.1 | 3.1 | 1.2 | 4.0 | 4.1 |
| Labour productivity (% change) | 3.1 | 2.9 | 3.3 | 3.4 | 1.7 | 2.3 |
| Real unit labour costs (% change) | -0.3 | -0.5 | -0.1 | -2.2 | 0.6 | 0.4 |
| Comparative price levels (EUR25=100) | 80.6 | 80.2 | 81.0 | 80.0 | 81.9 | 84.9 |
| **Labour market** | | | | | | |
| Employment (% change) | 0.8 | 0.6 | 1.1 | 1.3 | 2.9 | 1.3 |
| Employment (% of working age population) | 53.3 | 52.9 | 53.7 | 53.2 | 54.8 | 55.5 |
| Unemployment rate (% of labour force) | 10.5 | 10.7 | 10.2 | 9.7 | 10.5 | 9.8 |
| NAIRU (% of labour force) | 9.5 | 9.3 | 9.6 | 9.5 | 9.7 | 9.5 |
| Participation rate (% of working age population) | 59.8 | 59.3 | 60.2 | 59.4 | 61.5 | 61.9 |
| Working age population (% change) | 0.4 | 0.7 | 0.1 | 0.1 | 0.1 | 0.0 |
| **Competitiveness and external position** | | | | | | |
| Real effective exchange rate (% change) (1) | 0.8 | -0.4 | 2.1 | 3.0 | 3.6 | 1.1 |
| Export performance (% change) (2) | 0.2 | 3.8 | -3.5 | -4.3 | 2.4 | -3.7 |
| External balance of g & s (% of GDP) | -8.8 | -8.6 | -9.0 | -9.6 | -8.9 | -7.2 |
| Net borrowing v-à-v RoW | -5.3 | -2.6 | -8.1 | -8.6 | -7.7 | -7.7 |
| FDI inflow (% of GDP) | 0.7 | 0.7 | 0.6 | 0.4 | 0.8 | n.a. |
| **Public finances** | | | | | | |
| Total expenditure (% of GDP) | 49.4 | 49.9 | 48.9 | 49.2 | 49.8 | 46.7 |
| Total revenue (% of GDP) | 43.9 | 44.7 | 43.1 | 43.0 | 42.1 | 41.6 |
| General government balance (% of GDP) | -5.5 | -5.2 | -5.9 | -6.1 | -7.8 | -5.2 |
| General government debt (% of GDP) | 110.9 | 112.3 | 109.6 | 107.8 | 108.5 | 107.5 |
| Structural budget balance (% of GDP) (3) | n.a. | n.a. | n.a. | -6.4 | -8.4 | -5.9 |
| **Financial indicators (4)** | | | | | | |
| Short term real interest rate (%) (5) | 2.7 | 5.7 | -0.4 | -1.1 | -1.3 | -1.5 |
| Long term real interest rate (%) (5) | 2.2 | 3.2 | 1.2 | 0.8 | 0.8 | -0.1 |
| Household debt (% change) (6) | 31.1 | 31.4 | 31.0 | 28.2 | 28.0 | 26.2 |
| Corporate sector debt (% change) (7) | 12.4 | 16.3 | 10.8 | 11.0 | 8.6 | 6.4 |
| Household debt (% of GDP) (6) | 20.9 | 11.4 | 26.5 | 25.9 | 30.7 | 36.3 |
| Corporate sector debt (% of GDP) (7) | 35.9 | 31.3 | 38.6 | 38.8 | 38.9 | 39.4 |

Notes:

(1) Unit labour costs relative to rest of a group of industrialised countries (USD): EU24 (= EU25 excl. LU), BG, RO, TR, CH, NR, US, CA, JP, AU, MX and NZ.

(2) Market performance of exports of goods and services on export weighted imports of goods and services of 35 industrial markets.

(3) Cyclically-adjusted budget balance net of one-off and other temporary measures.

(4) Data available up to 2004.

(5) Using GDP deflator.

(6) Households' and non-profit institutions serving households' debt, defined as loans and securities other than shares.

(7) Non-financial corporate sector debt, defined as loans and securities other than shares.
Source:
*Commission services*

## Euroarea - Key economic indicators

| | Averages | | | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| | 1996 – 2005 | 1996 – 2000 | 2001 - 2005 | | | |
| **Economic activity** | | | | | | |
| Real GDP (% change) | 2.1 | 2.7 | 1.4 | 0.8 | 2.0 | 1.4 |
| Private consumption (% change) | 2.0 | 2.6 | 1.4 | 1.2 | 1.5 | 1.3 |
| Government consumption (% change) | 1.7 | 1.7 | 1.8 | 1.8 | 1.2 | 1.4 |
| Investment (% change) | 2.6 | 4.3 | 1.0 | 1.0 | 2.1 | 2.7 |
| Exports (% change) | 5.8 | 8.1 | 3.5 | 1.1 | 6.8 | 4.2 |
| Imports (% change) | 5.9 | 8.4 | 3.4 | 3.1 | 6.7 | 5.3 |
| Contributions to real GDP growth (percentage points) | | | | | | |
| *Domestic demand* | 2.0 | 2.7 | 1.3 | 1.4 | 1.8 | 1.7 |
| *Net exports* | 0.1 | 0.0 | 0.1 | -0.7 | 0.2 | -0.3 |
| Output gap | -0.1 | -0.2 | 0.1 | -0.5 | -0.3 | -0.9 |
| **Prices and costs** | | | | | | |
| HICP inflation (% change) | 1.9 | 1.7 | 2.2 | 2.1 | 2.1 | 2.2 |
| Unit labour costs (% change) | 1.3 | 0.8 | 1.7 | 2.0 | 0.9 | 1.0 |
| Labour productivity (% change) | 1.2 | 1.5 | 0.8 | 0.8 | 1.6 | 0.9 |
| Real unit labour costs (% change) | -0.5 | -0.6 | -0.5 | -0.1 | -1.0 | -0.8 |
| Comparative price levels (EUR25=100) | 73.6 | 73.9 | 73.2 | 73.2 | 72.9 | 72.7 |
| **Labour market** | | | | | | |
| Employment (% change) | 1.2 | 1.5 | 0.9 | 0.7 | 0.7 | 0.8 |
| Employment (in % of working age population) | 63.7 | 62.0 | 65.4 | 65.4 | 65.6 | 65.8 |
| Unemployment rate (in % of labour force) | 9.1 | 9.8 | 8.5 | 8.7 | 8.9 | 8.6 |
| NAIRU (in % of labour force) | 8.7 | 9.0 | 8.5 | 8.5 | 8.4 | 8.3 |
| Participation rate (in % of working age population) | 69.9 | 68.5 | 71.2 | 71.4 | 71.7 | 71.8 |
| Working age population (% change) | 0.3 | 0.2 | 0.4 | 0.5 | 0.5 | 0.4 |
| **Competitiveness and external position** | | | | | | |
| Real effective exchange rate (% change) (1) | n.a | n.a | n.a | n.a | n.a | n.a |
| Export performance (% change) (2) | n.a | n.a | n.a | n.a | n.a | n.a |
| External balance of g & s (in % of GDP) | 1.9 | 1.7 | 2.0 | 2.1 | 2.1 | 1.5 |
| Net borrowing v-à-v RoW (in % of GDP) | n.a | n.a | n.a | n.a | n.a | n.a |
| FDI inflow (in % of GDP) | 2.4 | 2.5 | 2.2 | 1.9 | 1.1 | n.a. |
| **Public finances** | | | | | | |
| Total expenditure (in % of GDP) | 48.1 | 48.5 | 47.7 | 48.2 | 47.5 | 47.5 |
| Total revenue (in % of GDP) | 45.8 | 46.4 | 45.1 | 45.1 | 44.7 | 45.1 |
| General government balance (in % of GDP) | -2.3 | -2.1 | -2.5 | -3.0 | -2.8 | -2.4 |
| General government debt (in % of GDP) | 70.8 | 72.3 | 69.3 | 69.3 | 69.8 | 70.8 |
| Structural budget balance (in % of GDP) | n.a | n.a | n.a | -3.2 | -2.9 | -2.2 |
| **Financial indicators (4)** | | | | | | |
| Short term real interest rate (in %) (5) | 1.7 | 2.7 | 0.7 | 0.2 | 0.2 | 0.3 |
| Long term real interest rate (in %) (5) | 3.1 | 4.1 | 2.1 | 2.0 | 2.2 | 1.5 |
| Household debt (% change) (6) | n.a | n.a | n.a | n.a | n.a | n.a |
| Corporate sector debt (% change) (7) | n.a | n.a | n.a | n.a | n.a | n.a |
| Household debt (in % of GDP) (6) | n.a | n.a | n.a | n.a | n.a | n.a |
| Corporate sector debt (in % of GDP) (7) | n.a | n.a | n.a | n.a | n.a | n.a |

Notes:
(1) Unit labour costs relative to rest of a group of industrialised countries (usd): EUR24 (excl. LU), BG, RO, TR, CH, NR, US, CA,
(2) Market performance of exports of goods and services on export weighted imports of goods and services of 35 industrial markets.
(3) Cyclically-adjusted budget balance net of one-off and other temprary measures.
(4) Data available up to 2004.
(5) Using GDP deflator.

| (6) Households' and non-profit institutions serving households' debt defined as loans and securities other than shares. |
|---|
| (7) Non-financial corporate sector debt, defined as loans and securities other than shares. |
| *Source: Commission services* |

## Annex 5: Assessment of tax projections

Table 9 in the main text compares the tax projections of the programme with those of the Commission services' autumn 2006 forecast and those obtained by using standard ex-ante elasticities, as estimated by the OECD. It summarises the results for the total tax-to-GDP ratio. The underlying analysis exploits information for the four major tax categories, i.e. indirect taxes, corporate and private income taxes and social contributions (see results in the table below)[21].

Conceptually, the analysis draws on the definition of a semi-elasticity, which measures the change in a ratio vis-à-vis the relative change in the denominator. The semi-elasticity of the tax-to-GDP ratio of the *i-th* tax $\frac{T_i}{Y}$ can be written as:

$$\eta_i = \frac{d\left(\frac{T_i}{Y}\right)}{dY} Y = \left(\frac{dT_i}{dY}\frac{Y}{T_i} - 1\right)\frac{T_i}{Y} = \left(\frac{dT_i}{dB_i}\frac{B_i}{T_i}\frac{dB_i}{dY}\frac{Y}{B_i} - 1\right)\frac{T_i}{Y} = (\varepsilon_{T_i,B_i}\varepsilon_{B_i,Y} - 1)\frac{T_i}{Y}$$

where $\varepsilon_{T_i,B_i}$ and $\varepsilon_{B_i,Y}$ denote the elasticity of the *i-th* tax $T_i$ relative to its tax base $B_i$ and the elasticity of the tax base $B_i$ relative to aggregate GDP $Y$ respectively.

To the extent that $\varepsilon_{T_i,B_i}$ is derived from observed or projected data, it will typically reflect (i) the effect of discretionary measures (including one-offs) and (ii) the tax elasticity[22]. By contrast, if $\varepsilon_{T_i,B_i}$ is the standard *ex-ante* elasticity, as estimated by the OECD, it will be net of discretionary measures.

The second elasticity $\varepsilon_{B_i,Y}$ can be used as an indicator of the tax intensity of GDP growth; for instance, a higher elasticity of consumption relative to GDP means that for the same GDP growth indirect taxes will be higher.

The definition of a semi-elasticity has two practical implications. First, any change in the tax-to-GDP ratio of the *i-th* tax can be written as the product of the semi-elasticity and GDP growth:

$$d\left(\frac{T_i}{Y}\right) = \eta_i \cdot \frac{dY}{Y}$$

and the change in the total tax-to-GDP ratio is the sum:

$$\sum_i d\left(\frac{T_i}{Y}\right) = \sum_I \eta_i \frac{dY}{Y}.$$

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[21] Private and corporate income taxes are generally not provided, neither in the programme nor in the Commission services' autumn 2006 forecast. Only the aggregate, direct income taxes, is given. For the purpose of this exercise the breakdown is obtained using the average shares over the past ten years, i.e. the composition of direct taxes is assumed to stay constant.

[22] The observed or projected elasticity (ex-post elasticity) of the *i*-th tax also includes the effect of other factors (OF) such as discretionary measures: $\frac{\Delta T_i}{T_i} = \varepsilon_{T_i,B_i exante}\frac{dB_i}{B_i} + \frac{OF_i}{T_i} = \varepsilon_{T_i,B_i ex post}\frac{dB_i}{B_i}$.

Second, differences between two tax projections can be decomposed into an elasticity component and a composition component:

$$d\left(\frac{T_i}{Y}\right)' - d\left(\frac{T_i}{Y}\right) \approx \left[\left(\varepsilon'_{T_i,B_i}\varepsilon'_{B_i,Y}-1\right)\frac{T_i}{Y} - \left(\varepsilon_{T_i,B_i}\varepsilon_{B_i,Y}-1\right)\frac{T_i}{Y}\right]\frac{dY}{Y}$$

If $(\varepsilon'_{T_i,B_i} - \varepsilon_{T_i,B_i}) = \alpha_i;\quad (\varepsilon'_{B_i,Y} - \varepsilon_{B_i,Y}) = \beta_i$,

then $d\left(\frac{T_i}{Y}\right)' - d\left(\frac{T_i}{Y}\right) \approx \left[\left(\alpha_i\varepsilon_{B_i,Y} + \beta_i\varepsilon_{T_i,B_i} + \alpha_i\beta_i\right)\frac{T_i}{Y}\right]\frac{dY}{Y}$

where $\alpha_i\varepsilon_{B_i,Y}\frac{T_i}{Y}\frac{dY}{Y}$ determines the elasticity component and $\beta_i\varepsilon_{T_i,B_i}\frac{T_i}{Y}\frac{dY}{Y}$ the composition component. The third component in the equation $\alpha_i\beta_i\frac{T_i}{Y}\frac{dY}{Y}$ measures the interaction of the elasticity and the composition components. It is generally small but can become important in some cases. The tax elasticity relative to GDP of total taxes is obtained as $\varepsilon = \sum_i w_i\varepsilon_{T_tB_i}\varepsilon_{B_iY}$ with $w_i$ the share of the *i-th* tax in the overall tax burden.

## Assessment of tax projections by major tax category

| | 2007 | | | 2008 | | | 2009 |
|---|---|---|---|---|---|---|---|
| | **SP/CP** | **COM** | **OECD1** | **SP/CP** | **COM**[2] | **OECD**[1] | **SP/CP** |
| **Taxes on production and imports:** | | | | | | | |
| Change in tax-to-GDP ratio | 0.3 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | 0.2 |
| *Difference SP/CP – COM* | 0.0 | | | 0.2 | | | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | 0.0 | | | 0.1 | | | / |
| *- composition component* | 0.1 | | | 0.1 | | | / |
| *Difference COM – OECD*[1] | / | 0.3 | | / | 0.0 | | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | / | 0.4 | | / | 0.2 | | / |
| *- composition component* | / | -0.1 | | / | -0.1 | | / |
| p.m.: Elasticity | | | | | | | |
| - of taxes to tax base[4] | 1.4 | 1.4 | 1.0 | 1.3 | 1.2 | 1.0 | 1.4 |
| - of tax base[4] to GDP | 0.9 | 0.9 | 1.0 | 0.9 | 0.9 | 1.0 | 0.9 |
| **Social contributions:** | | | | | | | |
| Change in tax-to-GDP ratio | 0.2 | 0.1 | -0.2 | 0.2 | 0.0 | -0.2 | 0.3 |
| *Difference SP/CP – COM* | 0.1 | | / | 0.2 | | / | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | 0.2 | | / | 0.6 | | / | / |
| *- composition component* | -0.1 | | / | -0.2 | | / | / |
| *Difference COM – OECD*[1] | / | 0.3 | | / | 0.2 | | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | / | 0.3 | | / | 0.2 | | / |
| *- composition component* | / | 0.0 | | / | 0.0 | | / |
| p.m.: Elasticity | | | | | | | |
| - of taxes to tax base[5] | 1.4 | 1.2 | 0.9 | 1.7 | 1.1 | 0.9 | 1.9 |
| - of tax base[5] to GDP | 0.8 | 0.9 | 0.9 | 0.7 | 0.9 | 0.9 | 0.7 |
| **Personal income tax**[6]**:** | | | | | | | |
| Change in tax-to-GDP ratio | -0.1 | -0.1 | 0.3 | -0.1 | 0.0 | 0.3 | 0.1 |
| *Difference SP/CP – COM* | 0.0 | | / | 0.0 | | / | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | 0.0 | | / | 0.1 | | / | / |
| *- composition component* | 0.0 | | / | -0.1 | | / | / |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Difference COM – OECD*[1] | / | -0.4 | | / | -0.3 | | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | / | -0.4 | | / | -0.4 | | / |
| *- composition component* | / | 0.0 | | / | 0.0 | | / |
| p.m.: Elasticity | | | | | | | |
| - of taxes to tax base[5] | 1.0 | 0.9 | 2.0 | 1.2 | 1.0 | 2.0 | 1.7 |
| - of tax base[5] to GDP | 0.8 | 0.9 | 0.9 | 0.7 | 0.9 | 0.9 | 0.7 |
| **Corporate income tax**[6]**:** | | | | | | | |
| Change in tax-to-GDP ratio | 0.0 | 0.0 | -0.2 | 0.0 | 0.0 | -0.2 | 0.0 |
| *Difference SP/CP – COM* | 0.0 | | / | 0.0 | | / | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | 0.0 | | / | 0.0 | | / | / |
| *- composition component* | 0.0 | | / | 0.0 | | / | / |
| *Difference COM – OECD*[1] | / | 0.3 | | / | 0.2 | | / |
| *of which*[3]*:* | | | | | | | |
| *- discretionary & elasticity component* | / | 0.3 | | / | 0.2 | | / |
| *- composition component* | / | 0.0 | | / | 0.0 | | / |
| p.m.: Elasticity | | | | | | | |
| -of taxes to tax base[7] | 0.8 | 0.8 | 0.9 | 0.7 | 0.8 | 0.9 | 1.0 |
| -of tax base[7] to GDP | 1.1 | 1.0 | 0.9 | 1.1 | 1.0 | 0.9 | 1.1 |

Notes:

[1]Based on OECD ex-ante elasticities

[2]On a no-policy change basis

[3]The decomposition is explained in the text above

[4]Tax base = private consumption expenditure

[5]Tax base = compensation of employees

[6]Taxes on income and wealth are split into private and corporate income tax using the average tax share over the past ten years, i.e. the share is assumed to be constant over the programme period

[7]Tax base = gross operating surplus

*Source:*

*Commission services' autumn 2006 economic forecasts (COM); Commission services' calculations and OECD (N. Girouard and C. André (2005), "Measuring Cyclically-Adjusted Budget Balances for the OECD Countries", OECD Working Paper No. 434)*