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**DECEMBER 2005 UPDATE**  
**OF THE CONVERGENCE PROGRAMME OF CYPRUS**  
**(2005-2009)**  
**AN ASSESSMENT**

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## SUMMARY AND CONCLUSIONS<sup>1</sup>

Cyprus submitted its second update of the convergence programme covering the period 2005 to 2009 on 14 December 2005, later than the deadline of 1 December specified in the new code of conduct, reflecting the authorities' wish to incorporate the budgetary measures announced in the second week of December. The programme broadly follows the model structure and data provision requirements for stability and convergence programmes specified in the code of conduct.<sup>2</sup>

On 5 July 2004, the Council decided that Cyprus was in excessive deficit. According to the Council recommendation under Article 104(7) of the same date, the excessive deficit had to be corrected by 2005. In its opinion of 8 March 2005 on the previous update of the convergence programme, covering the period 2004-2008, the Council invited Cyprus to implement with vigour the measures envisaged to bring the deficit below 3% of GDP by 2005, ensure that the debt ratio started to decline by then, and pursue pension and health reforms.

Supported by robust productivity and employment growth, Cyprus' real GDP growth (3½%) was among the highest in the EU over the last decade. Net borrowing vis-à-vis the rest of the world (the external deficit) has expanded (4.8% of GDP in 2004) due to competitiveness losses and increased competition in some of Cyprus' main export sectors. This was largely matched by the borrowing needs of the public sector, which posted a deficit of 4.1% of GDP in 2004. HICP inflation remained below 3% for most of the decade.

The update envisages real GDP growth just above 4% over the period 2006-2009, based on an expected strengthening of final domestic demand and a positive contribution by the external sector. This is plausible until 2007, but slightly favourable in 2008 and 2009. As a result, cyclical conditions, as measured by the output gap, might be more favourable than implied by the programme's projections. The external deficit is projected to steadily decrease, from 5⅓% of GDP to 2¾% in 2009.

Annual HICP inflation, which remained at around 2% in 2005 in spite of higher energy and unprocessed food prices, is projected to hover around that level throughout the programme period, which appears realistic. Since ERM II entry on 2 May 2005, the CYP/EUR exchange rate has stayed close to the central rate. Government bond yields decreased in the course of 2005, falling below 4% at the beginning of 2006. The spread

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<sup>1</sup> This technical analysis, which is based on information available up to 14 February 2006, accompanies the recommendation by the Commission for a Council opinion on the update of the convergence programme, which the College adopted on 22 February 2006. It has been carried out by the staff of and under the responsibility of the Directorate-General for Economic and Financial Affairs of the European Commission. Comments should be sent to Polyvios Eliofotou (Polyvios.Eliofofou@cec.eu.int). The analysis takes into account (i) the Commission services' autumn 2005 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), (iii) the commonly agreed methodology for the estimation of potential output and cyclically-adjusted balances and (iv) the broad economic policy guidelines included in the integrated guidelines for the period 2005-2008.

<sup>2</sup> The programme provides all compulsory and most of the optional data prescribed by the code of conduct. Optional data on labour market developments (in particular, employment (hours worked) and labour productivity (hours worked)) and on the contributions to potential GDP growth are missing.

vis-à-vis euro area yields has narrowed to less than 100 basis points. Cyprus aims at achieving euro area membership on 1 January 2008.

The current update estimates the 2005 deficit outcome at 2½% of GDP, compared with 2¾% of GDP in the Commission services' autumn 2005 forecast and just below 3% in the previous update. The difference with the previous update mainly reflects a ½% of GDP better than expected interest expenditure.

Building on the deficit reduction to below 3% of GDP in 2005, the update aims at further consolidating public finances until 2009, when the deficit would approach ½% of GDP and the gross debt 53½% of GDP. After reaching ¾% of GDP in 2005, the primary surplus is projected to rise gradually to 1¾% of GDP in 2009. The narrowing of the deficit reflects a cut in the expenditure ratio by around 4% of GDP that is less than fully compensated by a decline in the revenue ratio (by 2%). The adjustment is based on structural cuts in current primary expenditure, savings on interest expenditure and a combination of structural and one-off measures on the revenue side. The more gradual adjustment over the period 2006-2008 compared to the previous programme reflects slightly lower GDP growth.

According to the Commission services' calculations on the basis of the programme using the commonly agreed methodology, the structural deficit (i.e. the cyclically-adjusted general government deficit net of one-off and other temporary measures) would improve from around 3% of GDP in 2005 to about ½% in 2009, i.e. by more than 0.5 percentage points of GDP per year on average, against the background of a gradually closing negative output gap. The lack of improvement in the structural balance in 2007 reflects the anticipated deterioration of Cyprus' net position vis-à-vis the EU budget, as temporary compensating grants associated with accession to the EU are terminated in 2006. The update clearly identifies its medium-term objective (MTO) as a structural deficit of ½% of GDP, and targets to achieve it in 2009. As this MTO is more demanding than the minimum benchmark (estimated at a deficit of close to 2% of GDP), its achievement should fulfil the aim of providing a safety margin against the occurrence of an excessive deficit. The programme's MTO is at an appropriate level as it 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.

The risks to the budgetary projections in the programme appear broadly balanced. Given Cyprus' strong specialisation in tourism, the risks for the macroeconomic scenario are mainly associated with geopolitical developments in the region. Moreover, the macroeconomic outlook in 2008 and 2009 is slightly optimistic and tax projections seem somewhat favourable. However, the Cypriot government has so far over-achieved the budgetary targets and the update reiterates its commitment to adopt additional measures if needed to achieve the projected adjustment.

Taking account of the estimated outcome for 2005 and of the balance of risks to the budgetary targets, the budgetary stance in the programme seems consistent with a correction of the excessive deficit by 2005, in line with the Council recommendation under Article 104(7). From 2008, it also seems sufficient to provide a safety margin against breaching the 3% of GDP deficit reference value with normal macroeconomic fluctuations, and to ensure that the programme's MTO (-½% of GDP) is almost reached in 2009. The pace of adjustment towards the programme's MTO implied by the programme is broadly in line with the Stability and Growth Pact.

Government debt is estimated to have been 70½% of GDP in 2005, above the 60% of GDP reference value. The update projects a steady decline in the debt ratio, to 53½% in 2009, as a result of rising primary balances, high nominal GDP growth, and, from 2006, debt-reducing stock flow adjustments (decumulation of sinking funds). The risks to these developments appear broadly balanced. The debt ratio seems to be on a sufficiently diminishing path.

With regard to the sustainability of public finances, Cyprus appears to be at high risk on grounds of the projected budgetary costs of ageing populations. Implementing rigorously the planned consolidation of public finances over the medium term will alleviate the risks to long-term sustainability and, as recognized in the programme, substantial pension and healthcare reform measures will also be necessary to contain the projected high increase in age-related expenditure in the period up to 2050 and to reduce the risk to long-term sustainability.

The envisaged measures in the area of public finances are broadly consistent with the broad economic policy guidelines included in the integrated guidelines for the period 2005-2008. In particular, Cyprus is on track to correct its excessive deficit by the deadline set by the Council and does the necessary to achieve its MTO, while the debt ratio is on a declining path from 2005 onwards. The programme also projects a declining external imbalance.

The National Reform Programme of Cyprus, submitted on 11 November 2005 in the context of the renewed Lisbon strategy for growth and jobs, identifies the following challenges with significant implications for public finances: (i) promoting R&D and innovation and facilitation of ICT diffusion; (ii) upgrading of basic infrastructures; (iii) enhancing human capital development and (iv) social cohesion. The budgetary implications of the actions outlined in the National Reform Programme are reflected in the budgetary projections in the update of the convergence programme. The envisaged measures in the area of public finances are consistent with the priorities foreseen in the National Reform Programme. In particular, the update outlines measures to monitor and better control public spending.

In view of the above assessment, the structural adjustment planned over the programme period after bringing the deficit below 3% of GDP in 2005 is to be welcome. In the light of the recommendations made by the Council under Article 104(7) of 5 July 2004, it would be appropriate for Cyprus to:

- (i) In line with the updated convergence programme, ensure through measures of a permanent nature that budgetary consolidation towards the programme's medium-term objective is sustained after the excessive deficit has been corrected;
- (ii) Control public pension expenditure and implement further reforms in the areas of pensions and health care in order to improve the long-term sustainability of the public finances.

#### **Comparison of key macroeconomic and budgetary projections**

		2004	2005	2006	2007	2008	2009
Real GDP	<b>CP December 2005</b>	<b>3.8</b>	<b>4.1</b>	<b>4.2</b>	<b>4.2</b>	<b>4.2</b>	<b>4.3</b>

(% change)	COM Nov 2005	3.8	3.9	4.0	4.2	n.a.	n.a.
	<i>CP December 2004</i>	3.6	4.0	4.4	4.5	4.5	n.a.
HICP inflation (%)	<b>CP December 2005</b>	<b>1.9</b>	<b>2.1</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>
	COM Nov 2005	1.9	2.3	2.1	2.1	n.a.	n.a.
	<i>CP December 2004</i>	2.1	2.6	2.2	2.1	2.0	n.a.
Output gap (% of potential GDP)	<b>CP December 2005<sup>1</sup></b>	<b>-1.3</b>	<b>-0.8</b>	<b>-0.3</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>
	COM Nov 2005 <sup>5</sup>	-1.1	-0.7	-0.2	0.4	n.a.	n.a.
	<i>CP December 2004<sup>1</sup></i>	-1.5	-1.1	-0.6	0.0	+0.5	n.a.
General government balance (% of GDP)	<b>CP December 2005</b>	<b>-4.1</b>	<b>-2.5</b>	<b>-1.9</b>	<b>-1.8</b>	<b>-1.2</b>	<b>-0.6</b>
	COM Nov 2005	-4.1	-2.8	-2.8 <sup>6</sup>	-2.4 <sup>6</sup>	n.a.	n.a.
	<i>CP December 2004</i>	-4.8	-2.9	-1.7	-1.5	-0.9	n.a.
Primary balance (% of GDP)	<b>CP December 2005</b>	<b>-0.9</b>	<b>0.7</b>	<b>1.2</b>	<b>1.2</b>	<b>1.4</b>	<b>1.7</b>
	COM Nov 2005	-0.9	0.5	0.3	0.7	n.a.	n.a.
	<i>CP December 2004</i>	-1.3	0.7	1.8	2.0	2.5	n.a.
Cyclically-adjusted balance (% of GDP)	<b>CP December 2005<sup>1</sup></b>	<b>-3.6</b>	<b>-2.2</b>	<b>-1.8</b>	<b>-1.8</b>	<b>-1.2</b>	<b>-0.6</b>
	COM Nov 2005	-3.9	-2.5	-2.7	-2.6	n.a.	n.a.
	<i>CP December 2004</i>	-4.3	-2.7	-1.7	-1.5	-0.9	n.a.
Structural balance <sup>2</sup> (% of GDP)	<b>CP December 2005<sup>3</sup></b>	<b>-4.6</b>	<b>-3.1</b>	<b>-2.1</b>	<b>-2.1</b>	<b>-1.5</b>	<b>-0.6</b>
	COM Nov 2005 <sup>4</sup>	-4.9	-3.1	-2.7	-2.6	n.a.	n.a.
	<i>CP December 2004</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Government gross debt (% of GDP)	<b>CP December 2005</b>	<b>71.3</b>	<b>70.5</b>	<b>67.0</b>	<b>64.0</b>	<b>56.9</b>	<b>53.5</b>
	COM Nov 2005	72.0	70.4	69.1	67.4	n.a.	n.a.
	<i>CP December 2004</i>	74.9	71.9	69.2	65.7	58.1	n.a.

**Notes:**

<sup>1</sup>Commission services calculations on the basis of the information in the programme

<sup>2</sup>Cyclically-adjusted balance (as in the previous rows) excluding one-off and other temporary measures

<sup>3</sup>One-off and other temporary measures taken from the programme (one-off revenues of 1.0% of GDP in 2004, 0.9% of GDP in 2005, and 0.3% of GDP in 2006-2008)

<sup>4</sup>One-off and other temporary measures taken from the Commission services' autumn 2005 forecast (1.0% of GDP in 2004 and 0.6% of GDP in 2005)

<sup>5</sup>Based on estimated potential growth of 4.0%, 3.5%, 3.5% and 3.5% respectively in the period 2004-2007.

<sup>6</sup> The 2006 deficit projection was made under a no-policy change scenario, since the 2006 draft budget was not available at the cut-off date of the Commission services autumn 2005 forecast, which also partially explains a higher deficit projection for 2007.

**Source:**

*Convergence programme (CP); Commission services' autumn 2005 economic forecasts (COM); Commission services' calculations*

## 1. INTRODUCTION

Cyprus submitted its second update of the convergence programme covering the period 2005 to 2009 on 14 December 2005, later than the deadline of 1 December specified in

the new code of conduct. The programme, which was adopted by the government on 13 December 2005, is consistent with the 2006 budget, approved by the Parliament on 15 December 2005. The convergence programme was discussed with the political parties and social partners.

The programme broadly follows the model structure and data provision requirements for stability and convergence programmes specified in the new code of conduct. The programme provides all compulsory and most of the optional data prescribed by the new code of conduct. Annex 2 provides a detailed overview of all aspects of compliance with the new code of conduct.

## **2. ECONOMIC OUTLOOK**

Over the last decade, Cyprus' real GDP growth was among the highest in the EU. The average annual rate of GDP growth between 1996 and 2004 was 3½%, more than 1 percentage points above the EU25 average of 2¼%. During this period, productivity grew by more than 2% per year compared with 1½% in the EU25. However, due to much faster population growth in Cyprus than in the rest of the EU (above 1½% per year compared to around ¼%), GDP per capita rose only slightly above the EU25 average rate (2%). As a result, the Cypriot GDP per capita increased from 81% of the EU25 average in 1996 to 83½% in 2004. Labour market conditions, in the meantime, remained tight. Employment growth in 1996-2004 averaged almost 1½% (compared to 1% in the EU25), and the unemployment rate hovered around 5% (5¼% in 2004). However, average nominal wage growth (4¼% compared to 3½% in the EU25) during this period outstripped productivity growth causing a relatively faster increase in unit labour costs in Cyprus than in its trade partners. This was reflected in an appreciation of the real exchange rate<sup>3</sup> of about 10% between 1996-2004, which, coupled with increased competitive pressures in Cyprus' main export sectors (in particular, tourism and other services), have led to a growing net borrowing vis-à-vis the rest of the world (4¾% of GDP in 2004). HICP inflation has remained below 3% for most of the decade, except in 2003 when it spiked to 4%, following increases in VAT and excise duties. In 2004, inflation fell back to close to 2%.

Following an estimated real GDP growth of just above 4% for 2005, the macroeconomic scenario in the update of the convergence programme projects a marginal acceleration in 2006 to 4¼%. Real GDP is expected to continue growing at almost the same rate over the programme period (see Table 1). These developments are – until 2007 - broadly consistent with the Commission services autumn 2005 forecast. The programme foresees final domestic demand to be the main driver of growth, underpinned by buoyant private consumption supported, in turn, by rising disposable income and favourable financial conditions. Credit expansion is also expected to support investment, which also benefits from a stable macroeconomic environment, liberalisation of the energy and communications sectors, and public works aiming to upgrade Cyprus' physical infrastructure. A positive contribution to growth of the external sector seems plausible, since tourism (a mainstay of the economy) is recovering and prospects look positive. In addition, re-export activity is expanding and net exports of services other than tourism are expected to continue performing well. Mirroring such healthy growth prospects, the

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<sup>3</sup> Real exchange rate based on unit labour costs in the total economy.

output gap (as recalculated by Commission services on the basis of the information provided in the programme according to the agreed methodology) should steadily close over the programme period.

**Table 1: Comparison of macroeconomic developments and forecasts**

	2005		2006		2007		2008	2009
	COM	CP	COM	CP	COM	CP	CP	CP
Real GDP (% change)	3.9	4.1	4.0	4.2	4.2	4.2	4.2	4.3
<i>Contributions:</i>								
- Final domestic demand	4.1	4.2	4.0	4.2	3.8	4.1	4.1	4.1
- Change in inventories	-1.1	-0.8	-0.3	-0.2	0.0	-0.1	-0.5	-0.1
- External balance on g&s	0.9	0.7	0.3	0.2	0.4	0.2	0.6	0.3
Output gap <sup>1</sup>	-0.7	-0.8	-0.2	-0.3	0.4	0.1	0.0	0.1
Employment (% change)	1.5	1.9	1.3	1.5	1.3	1.4	1.5	1.5
Unemployment rate (%)	4.9	5.3	4.8	5.2	4.6	5.0	4.9	4.7
Labour productivity growth (%)	2.3	2.1	2.7	2.7	2.8	2.8	2.7	2.8
HICP inflation (%)	2.3	2.1	2.1	2.0	2.1	2.0	2.0	2.0
GDP deflator (% change)	2.5	2.7	2.2	2.8	2.1	2.3	2.4	2.5
Compensation of employees (% change)	4.5	4.8	4.0	4.2	4.0	4.0	4.0	4.0
External balance (% of GDP)	-5.7	-5.3	-5.4	-4.7	-4.6	-4.2	-3.2	-2.7
<u>Note:</u>								
<sup>1</sup> In percent of potential GDP, with potential GDP growth as reported in Table 2 below.								
<u>Source:</u>								
Commission services' autumn 2005 economic forecasts (COM); convergence programme update (CP)								

The programme's growth assumptions are plausible until 2007, but they might be slightly favourable in 2008 and 2009 as they imply growth persistently above estimates of potential output growth consistent with the Commission services' forecasts. As a result, cyclical conditions, as measured by the output gap, might be slightly more favourable than implied by the programme's projections. The external assumptions of the macroeconomic scenario are broadly in line with the Commission services autumn 2005 forecast.

According to the programme, labour market outcomes will further improve. Employment is projected to increase by an annual average of 1½% over 2005-2009, above the EU average and consistent with historical trends. This is made possible by a rise in the participation rate of foreign workers and the gradual long-term increase in the participation rate mainly of female and old-aged workers, the latter related to the gradual rise in the retirement age. The lower, compared to historical trends, average labour content of GDP growth foreseen in the programme is therefore not due to labour market deficiencies but rather to significant productivity gains (consistent with the Commission services autumn 2005 forecast). Productivity growth is expected to increase following the large investment undertaken in recent years on the utilisation of new technologies and the development of human capital. Concurrently, the programme projects the unemployment rate to fall from 5¼% in 2005 to 4¾% by 2009, on the back of strong economic growth and a closing output gap.

The programme projects nominal unit labour costs to increase by 1½% over the programme period, which is below the average of the last decade but consistent with the Commission services autumn 2005 forecast. In parallel, HICP inflation remained subdued at 2% in 2005 and, consistently with the Commission services' autumn 2005 forecast, it is expected to remain around that level until 2009. So far, the large increases

in oil prices do not appear to have spilled-over to wage developments. The programme's inflation projections appear realistic.

The estimate of potential output growth consistent with the programme's macroeconomic scenario (as recalculated by Commission services on the basis of the information provided in the programme according to the agreed methodology) is broadly in line with the Commission service's autumn 2005 forecast until 2007. However, the pick-up in the outer years, driven by an increased labour contribution, seems slightly favourable (see Table 2). Capital accumulation and total factor productivity provide the largest contribution to potential GDP growth.

For 2005, the update estimates the external deficit (net borrowing vis-à-vis the rest of the world) to increase to 5¼% of GDP, up from 4¾% of GDP in the previous year. This reflects mainly a fall in the capital account, as the balance of goods and services remains broadly unchanged. In 2005, the increase in the external deficit occurs despite a reduction in the general government deficit, which suggests a decrease in the private sector savings-investment balance, partly linked to higher private sector investment. Beginning from 2006, net borrowing vis-à-vis the rest of the world is projected to steadily decrease, reaching 2¾% of GDP in 2009, simultaneously with the reduction in the general government deficit, and private sector dissavings, as private sector investment picks up. At the same time, the expected rebound in export markets (including tourism) and the envisaged continuation of structural reforms are expected to increase competitiveness and support export performance, especially of services.

**Table 2: Sources of potential output growth**

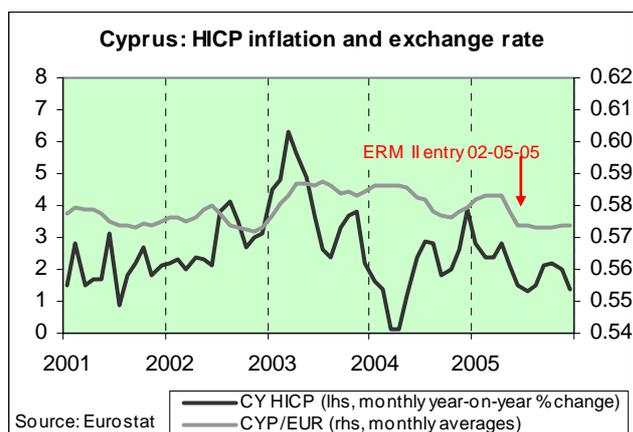
	2005		2006		2007		2008	2009
	COM	CP <sup>2</sup>	COM	CP <sup>2</sup>	COM	CP <sup>2</sup>	CP <sup>2</sup>	CP <sup>2</sup>
Potential GDP growth <sup>1</sup>	3.5	3.6	3.5	3.7	3.5	3.8	4.3	4.2
<i>Contributions:</i>								
- Labour	0.5	0.6	0.5	0.6	0.5	0.6	1.0	1.0
- Capital accumulation	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7
- TFP	1.3	1.4	1.3	1.4	1.3	1.5	1.5	1.5
<b>Notes:</b>								
<sup>1</sup> based on the production function method for calculating potential output growth								
<sup>2</sup> Commission services' calculations on the basis of the information in the programme								
<b>Source:</b>								
<i>Commission services' autumn 2005 economic forecasts (COM); Commission services' calculations</i>								

Considering past experience, especially 1998 and 2000, the projected decline in net borrowing vis-à-vis the rest of the world in the programme could appear somewhat optimistic. In the past, private sector dissavings impeded the net borrowing vis-à-vis the rest of the world from declining. However, from 2001 onward, the composition of external financing has improved, thanks to sizeable inflows of foreign direct investment (FDI), a significant part of which is "reinvested earnings". Inward FDI has increased concomitantly with capital liberalisation while further liberalisation of the capital market and structural reforms, enhancing further the performance of export services (such as business and banking services), are expected to support the financing of Cyprus external balance.

### 3. MEDIUM-TERM MONETARY POLICY OBJECTIVES AND THEIR RELATIONSHIP TO PRICE AND EXCHANGE RATE STABILITY

Cyprus monetary policy continues to be based on the maintenance of a currency peg to the euro, in place since 1999 when the euro replaced the ECU as the reference currency. Since 2 May 2005, Cyprus has been participating in the ERM II mechanism with an official fluctuation band of  $\pm 15\%$ . In practice, the CYP/EUR exchange rate has stayed close to the central rate and moved between 0.50 and 2.11% in the stronger half of the fluctuation band. The Cyprus convergence programme reaffirms the authorities' commitment to prepare for the adoption of the euro by 1 January 2008.

Cyprus continues to record low, although occasionally volatile, inflation. After a substantial decrease in the first half of 2004 (partly due to the impact of the reduction of excise taxes on cars in November 2003), year-on-year HICP inflation increased in the second half of 2004 and peaked at 3.9% in December. HICP inflation decreased again progressively in the first seven months of 2005 to a low of 1.3%



year-on-year in July. Main factors included deflation of non-energy industrial goods driven by international factors and a progressively slowing growth of food prices. Between September and November inflation picked-up to slightly above 2 percent year-on-year mainly due to a higher growth of prices of unprocessed food and of prices of energy, before decreasing again to 1.4% in December. Average annual HICP inflation in 2005 reached 2%, compared with 1.9% in 2004.

The implementation of a fiscal consolidation programme and increased market confidence following ERM II entry allowed the central bank to ease its monetary stance. Policy interest rates have been decreased by a cumulative 125 basis points in 2005, of which 100 basis points after ERM II entry. Since the last policy rate cut on 9 June 2005, the key marginal lending facility rate equalled 4.25%. The corresponding spread vis-à-vis ECB rates also progressively decreased and reached 100 basis points since the ECB interest rate hike on 6 December. In line with policy rate cuts, the three months money market interest rates also decreased from levels above 5 percent at the beginning of 2005 to 3.6% in October 2005. While the spread against the euro area money market rates substantially narrowed, it remained at 140 basis points in October 2005. The prevailing spread associated with a lowering exchange rate risk premium contributed to a rapid increase in resident's foreign currency borrowing and to higher foreign exchange inflows in 2005. A favourable investors' assessment of Cyprus has also been visible in a quick lowering of long-term interest rates in 2005. In the absence of an active secondary market, the yield recorded in the successive primary emissions of government bonds decreased from above 6% at the beginning of 2005 to below 4% in the first emission in 2006. The corresponding spread vis-à-vis the euro area thus recently narrowed to well below 100 basis points.

#### 4. GENERAL GOVERNMENT BALANCE

This section is in four parts. The first briefly compares the targets for the general government balance in the new update with those presented in previous convergence programmes. It also discusses budgetary implementation in the year 2005. The second part describes the budgetary strategy in the new update, including the programme's medium-term objective. The third provides the analysis of the risks attached to the budgetary targets and assesses the country's position in relation to the budgetary objectives of the Treaty and the Stability and Growth Pact. The final part discusses the results of a sensitivity analysis.

##### 4.1. Targets in successive programmes and implementation in 2005

The update projects a reduction in the general government deficit from 2.5% of GDP in 2005 to 0.6% of GDP in 2009. The envisaged adjustment path is more gradual compared to last year's programme. This is mainly due to lower expected GDP growth (projected at 4.2% over 2006-2008, compared with about 4.5% in the previous update) and planned general government revenues from 2006 onwards, which are not fully offset by lower general government expenditure.

**Table 3: Evolution of budgetary targets in successive programmes**

		2004	2005	2006	2007	2008	2009
General government balance (% of GDP)	<b>CP December 2005</b>	<b>-4.1</b>	<b>-2.5</b>	<b>-1.9</b>	<b>-1.8</b>	<b>-1.2</b>	<b>-0.6</b>
	CP December 2004	-4.8	-2.9	-1.7	-1.5	-0.9	<i>n.a.</i>
	CP May 2004	-5.2	-2.9	-2.2	-1.6	<i>n.a.</i>	<i>n.a.</i>
	COM Nov 2005	-4.1	-2.8	-2.8 <sup>1</sup>	-2.4 <sup>1</sup>	<i>n.a.</i>	<i>n.a.</i>
General government expenditure (% of GDP)	<b>CP December 2005</b>	<b>43.6</b>	<b>43.8</b>	<b>41.9</b>	<b>41.8</b>	<b>40.8</b>	<b>39.7</b>
	CP December 2004	43.8	43.0	42.2	42.1	41.5	<i>n.a.</i>
	CP May 2004	44.6	43.3	42.9	42.5	<i>n.a.</i>	<i>n.a.</i>
	COM Nov 2005	44.1	44.1	43.3	42.9	<i>n.a.</i>	<i>n.a.</i>
General government revenues (% of GDP)	<b>CP December 2005</b>	<b>39.5</b>	<b>41.2</b>	<b>40.0</b>	<b>40.0</b>	<b>39.6</b>	<b>39.1</b>
	CP December 2004	39.0	40.1	40.5	40.6	40.6	<i>n.a.</i>
	CP May 2004	39.4	40.4	40.7	40.9	<i>n.a.</i>	<i>n.a.</i>
	COM Nov 2005	39.9	41.4	40.5	40.4	<i>n.a.</i>	<i>n.a.</i>
Real GDP (% change)	<b>CP December 2005</b>	<b>3.8</b>	<b>4.1</b>	<b>4.2</b>	<b>4.2</b>	<b>4.2</b>	<b>4.3</b>
	CP December 2004	3.6	4.0	4.4	4.5	4.5	<i>n.a.</i>
	CP May 2004	3.5	4.3	4.4	4.5	<i>n.a.</i>	<i>n.a.</i>
	COM Nov 2005	3.8	3.9	4.0	4.2	<i>n.a.</i>	<i>n.a.</i>

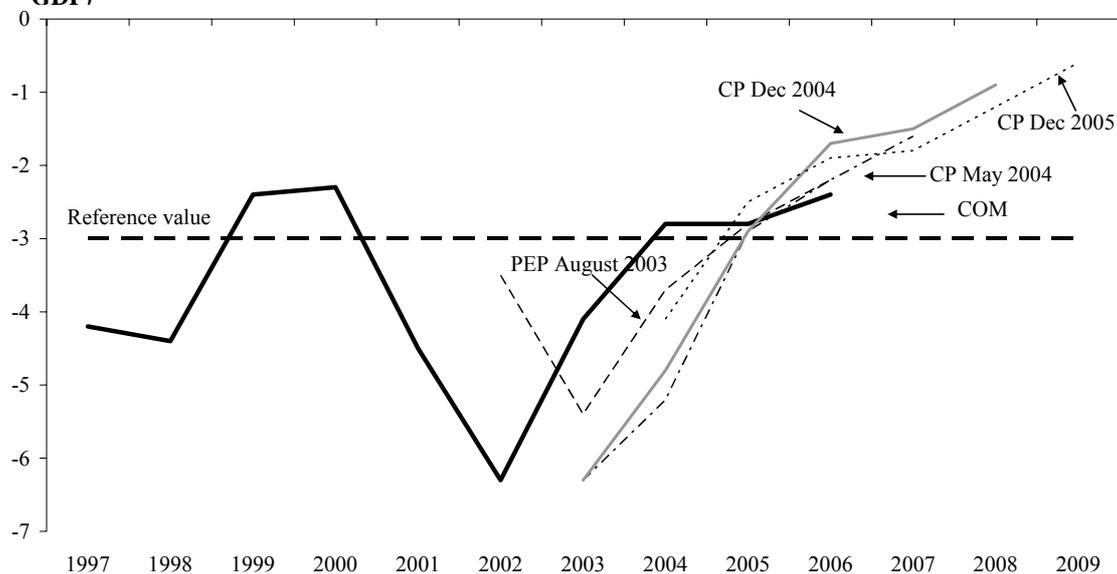
<sup>1</sup> The 2006 deficit projection was made under a no-policy change scenario, since the 2006 draft budget was not available at the cut-off date of the Commission services autumn 2005 forecast, which also partially explains a higher deficit projection for 2007.

*Source:*  
Convergence programmes (CP) and Commission services' autumn 2005 economic forecasts (COM)

For 2005, the programme estimates the deficit to decrease to 2.5% of GDP from 4.1% a year earlier, which is lower than the target in the previous programme (2.9% of GDP) and also slightly better than estimated in the Commission services' autumn 2005 forecast (2.8%). The better-than-targeted deficit outcome is attributed to the sustained growth of economic activity, to the impact of a composition of demand, which is favourable to public finances, and to the better-than-expected impact of fiscal consolidation measures on both expenditure and (mainly) revenue sides not only in 2005, but also in 2004. More specifically, the programme estimates that the impact of revenue measures contributed 1¾ percentage points of GDP to the fall in the deficit in 2005, the bulk of which reflects the tax amnesty (see Box 3), the widening of the VAT tax base and the regularisation of

dividend income policy for semi-governmental organisations. However, due to an offsetting rise in the primary expenditure, the primary surplus, estimated at  $\frac{3}{4}\%$  of GDP in the update, is the same as in last year's programme. Therefore, the better-than-expected headline deficit in 2005 rather owes to savings on interest expenditure (amounting at 3.2% of GDP compared to 3.6% in last year's programme).

**Figure 1: General government balance projections in successive convergence programmes (% of GDP)**



Source: Commission services' autumn 2005 forecast (COM) and successive convergence programmes

### Box 1: The excessive deficit procedure for Cyprus

On 5 July 2004, the Council decided that an excessive deficit existed in Cyprus. At the same time, the Council addressed a recommendation to Cyprus under Article 104(7), requesting Cyprus to take effective action by 5 November 2004 in order to bring the deficit below 3% of GDP by 2005 in a credible and sustainable manner and to implement with vigour the measures envisaged in the May 2004 programme. Cyprus was also recommended to pursue the reform process in the pension and health care system in order to reduce the sustainability risks associated with the future evolution of age-related expenditures, together with the planned and necessary budgetary consolidation in the medium term.

A Commission communication of 22 December 2004 concluded that, on then available information and on the basis of the measures detailed in the 2005 budget, it appeared that the Cypriot government had taken effective action to achieve the 2005 deficit target by the deadline of 5 November, in compliance with the Council recommendation under Article 104(7). Accordingly, the Commission concluded that no further steps were necessary at that point under the excessive deficit procedure.

## 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

Building on the reduction in the deficit to 2.5% of GDP in 2005 (below the 3% of GDP reference value), the programme aims at further consolidation of public finances with the objective of attaining the country-specific medium-term objective (see below in Section 4.2.3) of a structural deficit (i.e. a cyclically-adjusted deficit net of one-off and other temporary measures) of 0.5% of GDP by the end of the programme's period. By then, the general government deficit is projected to fall to 0.6% of GDP and the gross debt to 53.5% of GDP.

**Table 4: Composition of the budgetary adjustment**

(% of GDP)	2004	2005	2006	2007	2008	2009	Change: 2009-2005
<b>Revenues</b>	<b>39.5</b>	<b>41.2</b>	<b>40.0</b>	<b>40.0</b>	<b>39.6</b>	<b>39.1</b>	<b>-2.1</b>
<i>of which:</i>							
- Taxes & social contributions	33.9	34.7	35.0	35.1	34.9	34.7	0.0
- Other (residual)	5.6	6.5	5.0	4.8	4.6	4.4	-2.1
<b>Expenditure</b>	<b>43.6</b>	<b>43.8</b>	<b>41.9</b>	<b>41.8</b>	<b>40.8</b>	<b>39.7</b>	<b>-4.1</b>
<i>of which:</i>							
- Primary expenditure	40.3	40.5	38.8	38.9	38.2	37.2	-3.3
<i>of which:</i>							
Consumption	18.3	18.0	18.0	17.7	17.4	17.2	-0.8
Transfers other than in kind & subsidies	13.2	13.0	12.0	12.0	11.4	10.8	-2.2
Gross fixed capital formation	4.1	4.0	4.0	4.0	4.0	3.9	-0.1
Other (residual)	4.7	5.5	4.8	5.2	5.4	5.3	-0.2
- Interest expenditure	3.2	3.2	3.1	3.0	2.6	2.3	-0.9
<b>General government balance (GGB)</b>	<b>-4.1</b>	<b>-2.5</b>	<b>-1.9</b>	<b>-1.8</b>	<b>-1.2</b>	<b>-0.6</b>	<b>1.9</b>
<b>Primary balance</b>	<b>-0.9</b>	<b>0.7</b>	<b>1.2</b>	<b>1.2</b>	<b>1.4</b>	<b>1.7</b>	<b>1.0</b>
One-off and other temporary measures	-1.0	-0.9	-0.3	-0.3	-0.3	0.0	0.0
<b>GGB excl. one-off &amp; other temporary measures</b>	<b>-5.1</b>	<b>-3.4</b>	<b>-2.2</b>	<b>-2.1</b>	<b>-1.5</b>	<b>-0.6</b>	<b>1.9</b>
<i>Source:</i>							
<i>Convergence programme update; Commission services' calculations</i>							

The adjustment path reflects the government's commitment to adopt the euro in 2008. After declining sharply to 2.5% of GDP in 2005, from 4.1% of GDP in 2004, the general government deficit is projected to gradually decline to 0.6% of GDP in 2009. The improvement is 0.6 percentage point of GDP each year, except in 2007, when the headline deficit hardly changes. The profile of the primary balance is similar to that of the headline balance: after attaining 0.7% of GDP in 2005, from a deficit of 0.9% a year earlier, the primary surplus is planned to gradually rise to 1.7% of GDP in 2009.

#### 4.2.2. The composition of the budgetary adjustment in the programme

The new update envisages a series of mostly structural measures to restrain expenditure, which is where most of the slippage occurred in past years, and a combination of structural and one-off measures to increase revenue. A key element of the fiscal

consolidation strategy presented in the programme is to restrain public expenditure growth below that of nominal GDP.

The deficit reduction, in nominal terms, is expected to be mainly achieved via a decrease in expenditures, by more than 4 percentage points of GDP between 2005 and 2009 (when they should reach 39¾% of GDP). The reduction in expenditure is planned to be achieved mainly through a decrease in current primary spending (by ¾ percentage points) and interest expenditure (by almost 1 percentage point). The programme projects a stable government investment-to-GDP ratio at around 4% of GDP.

On the revenue side, the update projects revenues to decline by more than 2 percentage points, from 41½% of GDP in 2005 to 39% of GDP in 2009, mainly due to the vanishing effect of the tax amnesty and the termination of compensating grants through the EU budget in 2007, equivalent to 0.5% of GDP (included under “other revenues”). The fall in revenues will be supported by a one-off measure related to the issuance of title deeds for buildings erected with minor irregularities, estimated to yield about ⅓% of GDP per year between 2006 and 2008.

In 2006, the fiscal adjustment is projected to be underpinned by a decline in the expenditure ratio of close to 2 percentage points. In particular, transfers other than in kind and subsidies, as well as other expenditure, are projected to decline by 1 and ¾ percentage points of GDP, respectively. Moreover, temporary fiscal measures enacted in 2005 to enhance social cohesion amounting to ¼% of GDP would fade out. As mentioned above, such expenditure costs would be largely compensated by a 1½% of GDP reduction in revenues, as a consequence of the vanishing of the one-off proceeds from tax amnesty in 2004-2005.

#### **Box 2: The budget for 2006**

The 2006 budget was approved by the Parliament on 15 December 2005. The budget targets a nominal general government deficit of 1.9% of GDP. On the revenue side, the main measures are the regularisation of dividend income policy for semi-governmental organisations (0.3% of GDP); the issuance of title deeds for buildings with irregularities (0.3% of GDP); the increase of Land and Survey department services fees (0.2% of GDP). On the expenditure side, the main measures include a ceiling on the nominal growth rate of current expenditures of 2% (0.8% of GDP) and of capital expenditures of 6%; the containment of current transfers and subsidies (pensions, allowances) in line with inflation (0.1% of GDP); an increase in the retirement age of public sector employees (0.2% of GDP); an adjustment of the contribution levels of self-employed to the Social Security Funds (0.1% of GDP); a reduction of net interest payments resulting from the reduction of debt due to the running down of sinking fund deposits (0.1% of GDP); .

#### *4.2.3. The programme’s medium-term objective (MTO) and the adjustment path in structural terms*

According to the Stability and Growth Pact, stability and convergence programmes should present a medium-term objective (MTO) for the budgetary position. The MTO should be differentiated for individual Member States, 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 country-specific MTO is defined in structural terms (i.e. cyclically-adjusted, net of one-off and other temporary measures) and should fulfil a triple aim, namely (i) provide a safety margin with respect to the 3% of GDP deficit limit; (ii) ensure rapid progress towards sustainability; and (iii), taking (i) and (ii) into account, allow room for budgetary manoeuvre, considering in particular the needs for

public investment. The code of conduct (Section I thereof) 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 deficit reference value of 3% of GDP. Member States are free to set an MTO that is more demanding than strictly required to achieve the triple aim of MTOs.

**Table 5: Output gaps, cyclically-adjusted and structural balances**

	2004		2005		2006		2007		2008	2009	Change: 2009-2005
	COM	CP <sup>1</sup>	COM	CP <sup>1</sup>	COM	CP <sup>1</sup>	COM	CP <sup>1</sup>	CP <sup>1</sup>	CP <sup>1</sup>	CP <sup>1</sup>
Gen. gov't balance	-4.1	-4.1	-2.8	-2.5	-2.8 <sup>7</sup>	-1.9	-2.4 <sup>7</sup>	-1.8	-1.2	-0.6	1.9
One-offs <sup>2</sup>	1.0	1.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	-
Output gap <sup>3</sup>	-1.1	-1.3	-0.7	-0.8	-0.2	-0.3	0.4	0.1	0.0	0.1	-
CAB <sup>4</sup>	-3.9	-3.6	-2.5	-2.2	-2.7	-1.8	-2.6	-1.8	-1.2	-0.6	1.6
change in CAB	2.1	2.3	1.4	1.4	-0.2	0.4	0.1	0.0	0.6	0.6	-
CAPB <sup>4</sup>	-0.7	-0.4	0.8	1.0	0.4	1.3	0.5	1.2	1.4	1.7	0.7
Structural balance <sup>5</sup>	-4.9	-4.6	-3.1	-3.1	-2.7	-2.1	-2.6	-2.1	-1.5	-0.6	-2.5
change in struct. bal.	n.a	n.a	0.8	1.5	0.4	1.0	0.1	0.0	0.6	0.9	-
Struct. prim. bal. <sup>6</sup>	-0.7	-1.4	0.2	0.1	0.4	1.3	0.5	1.2	1.4	1.7	1.6

Notes:  
<sup>1</sup>Output gaps and cyclical adjustment according to the convergence programme (CP) as recalculated by Commission services on the basis of the information in the programme  
<sup>2</sup>One-off and other temporary measures  
<sup>3</sup>In percent of potential GDP  
<sup>4</sup>CAB = cyclically-adjusted balance; CAPB = cyclically-adjusted primary balance.  
<sup>5</sup>CAB excluding one-off and other temporary measures.  
<sup>6</sup>Structural primary balance = CAPB excluding one-off and other temporary measures  
<sup>7</sup>The 2006 deficit projection was made under a no-policy change scenario, since the 2006 draft budget was not available at the cut-off date of the Commission services autumn 2005 forecast, which also partially explains a higher deficit projection for 2007.  
Source:  
Commission services' autumn 2005 economic forecasts (COM); Commission services' calculations

The update clearly identifies its MTO as a general government deficit in structural terms (i.e. in cyclically-adjusted terms and net of one-off and other temporary measures) of 0.5% of GDP, which it aims to achieve by the end of the programme period. Based on Commission services' calculations on the basis of the programme according to the commonly agreed methodology, the structural deficit is projected to improve from just above 3% of GDP in 2005 to about ½% of GDP in 2009. The structural balance is thus planned to improve on average by more than ½ percentage point of GDP per year. The consolidation effort is unevenly distributed; in particular, after an improvement by about 1 percentage point of GDP in 2006, the programme foresees practically no structural adjustment in 2007. This is attributed to the (anticipated) deterioration of the net position of Cyprus vis-à-vis the EU budget, within the framework of the 2007-2013 financial perspectives, which coincides with the termination of the provision of compensating grants through the EU budget, equivalent to ½% of GDP. The output gap implied by the programme is estimated to be close to zero from 2007 onwards, implying broadly neutral cyclical conditions in the programme's last three years.

### 4.3. Assessment

This assessment is in three parts. The first assesses the appropriateness of the programme's medium-term objective. The second analyses risks attached to the budgetary targets and the third examines whether the budgetary strategy laid down in the programme is consistent with the budgetary objectives of the Treaty and the Stability and Growth Pact.

#### 4.3.1. *Appropriateness of the programme's medium-term objective*

As the programme's MTO is more demanding than the minimum benchmark (estimated at a deficit of close to 2% of GDP), its achievement should fulfil the aim of providing a safety margin, against the occurrence of an excessive deficit. The programme's MTO is at an appropriate level as it 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.

#### 4.3.2. *Risks attached to the budgetary targets*

Although there are significant differences between the official deficit projections for 2006 and 2007 and the Commission services' autumn 2005 forecasts (see Table 5), it should be noted that the 2006 draft budget was not available at the cut-off date of the Commission services' autumn 2005 forecasts. Therefore, the autumn 2005 forecasts project budgetary variables on a no-policy change basis.

From a macroeconomic point of view, the risks entailed in achieving the targets projected by the new update are mainly associated with geopolitical developments in the region. Given Cyprus' strong specialisation in tourism, unforeseen tensions could adversely affect growth prospects and consequently, the envisaged fiscal consolidation process. Moreover, as highlighted in Section 2 above, the budgetary projections in the last years of the programme are based on slightly favourable growth assumptions.

Some risks to the consolidation process may also arise from domestic political developments. In particular, the parliamentary elections in 2006 and presidential elections in 2008, coupled with previous years' experience of submission of supplementary expenditure budget laws during the year, may pose a downside risk as expenditure slippages might occur.

Table 6 presents annual changes in the overall tax-to-GDP ratio and the tax elasticity relative to GDP. Based on this data, it appears that the programme is consistent with the Commission services autumn 2005 forecast in its assumptions on the tax ratio for 2006-2007. However, while the composition component is negative, denoting that national authorities are more pessimistic than the Commission regarding developments in the tax base (in particular, as shown in Annex 4, compensation of employees), the elasticity component is positive and relatively high, indicating that the authorities are more optimistic regarding the performance of, in particular, social contributions and personal income taxes. This could pose a downside risk to the budgetary targets. Nonetheless, these differences are also reflecting the update incorporates measures of the 2006 budget, which have not been available at the cut-off date of the Commission services autumn 2005 forecasts.

**Table 6: Assessment of tax projections**

	2006		2007		2008	2009	p.m.: OECD 1
	COM	CP	COM <sup>2</sup>	CP	CP	CP	
<b>Total taxes</b>							
Change in tax-to-GDP ratio	1.0	1.3	0.0	0.1	-0.2	-0.3	/
<i>Difference</i>	0.2		0.1		/	/	
<i>of which<sup>3</sup>: - elasticity component</i>	0.9		0.6		/	/	
<i>- composition component</i>	-0.5		-0.3		/	/	
p.m.: Observed elasticity to GDP	1.5	1.5	1.0	1.0	0.9	0.9	1.14
<b>Notes:</b>							
<sup>1</sup> Ex-ante elasticity relative to GDP according to OECD method							
<sup>2</sup> On a no-policy change basis							
<sup>3</sup> The decomposition is explained in Annex 4							
<b>Source:</b>							
<i>Commission services' autumn 2005 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)</i>							

The programme also highlights that tax collection remains a key challenge. In this context and following the tax amnesty (see Box 4), the update lists a number of measures introduced during 2005 aiming at improving tax collection and encouraging tax compliance. Pending on the successful implementation of these measures, tax revenues may perform better than in the past.

The Cypriot government has so far over-achieved the budgetary targets set in the previous update. After a lower-than-expected 2004 deficit, a better-than-planned result is also projected for 2005. Furthermore, according to the programme, the government stands ready to introduce additional corrective measures, should this be warranted by adverse growth developments and/or delays or failures to implement any of the envisaged measures. Taking into consideration the current government's record of accomplishment and expressed readiness to adopt additional measures if needed, the risks to the budgetary targets and projections in the programme appear broadly balanced.

#### 4.3.3. Compliance with the budgetary requirements of the Treaty and the Stability and Growth Pact

Taking account of the estimated deficit outcome for 2005 and of the balance of risks to the budgetary targets, Cyprus is on track to correct its excessive deficit by 2005, in line with the Council recommendation under Article 104(7). The programme conforms to the deficit reduction path specified by the Council.

The budgetary strategy outlined in the programme is sufficient to ensure that the programme's MTO (-0.5% of GDP) will be nearly reached in 2009, as planned in the programme.

The structural balance based on the Commission services' calculations on the basis of the programme is estimated at -1½% of GDP in 2008. A safety margin against breaching 3% of GDP deficit threshold would thus be provided from 2008 onwards.

The programme projects a reduction of the structural deficit of around 2½% of GDP over five years. Per year on average this is just above the 0.5% of GDP "benchmark" set in the Stability and Growth Pact for euro area and ERM II Member States. This occurs against

the background of relatively favourable economic conditions (strong nominal growth, tight labour market conditions and a closing negative output gap), so that, taking into account also tax elasticities (see Table 7), the programme seems to be marked by “good times”. The structural adjustment is unevenly distributed. Specifically, the programme projects an adjustment of close to zero in 2007, when cyclical conditions, as measured by the output gap implied by the programme, are expected to be rather favourable. The programme attributes this development to the (anticipated) deterioration of the net position of Cyprus vis-à-vis the EU budget. Overall, the planned fiscal adjustment is thus in line with the requirements of the Stability and Growth Pact.

**Table 7: Assessment of tax elasticities**

	2006		2007	
	COM <sup>2</sup> (observed)	ex-ante <sup>1</sup>	COM <sup>2</sup> (observed)	ex-ante <sup>1</sup>
<b>Total taxes</b>				
Change in tax-to-GDP ratio	1.0	0.4	0.0	0.4
<i>Difference</i>	0.6		-0.4	
<i>of which<sup>3</sup>: - elasticity component</i>	0.1		-1.0	
<i>- composition component</i>	0.3		0.3	
p.m.: Elasticity to GDP	1.5	1.1	1.0	1.1
<b>Notes:</b>				
<sup>1</sup> Tax projections obtained by applying ex-ante standard tax elasticities estimated following the OECD method				
<sup>2</sup> On a no-policy change basis as the Commission services' forecast was finalised before the adoption of the budget for 2006				
<sup>3</sup> The decomposition is explained in Annex 4				
<b>Source:</b>				
<i>Commission services' autumn 2005 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)</i>				

The strategy for the general government balance outlined in the programme is broadly consistent with the broad economic policy guidelines in the area of public finances. In particular, Cyprus is on track to correct its excessive deficit by the deadline set by the Council and is doing the necessary to achieve its MTO (see also Annex 3). Moreover, the fiscal stance in the programme avoids pro-cyclicality and should help contain the risks from external imbalances.

#### 4.4. Sensitivity analysis

The update includes a section on the sensitivity of the public finances with respect to changes in economic activity to the basic scenario during the programme's period. Three alternative scenarios are described taking into account; (i) higher growth by 0.5% per year; (ii) lower growth by 0.5% per year; and (iii) a higher interest rates (0.5% above baseline for each year). No explicit reference is made on how revenues are projected to react to variations in economic variables. On expenditures, the update assumes that automatic stabilizers would be allowed to operate fully but expenditure targets would not be altered. The calculations present only the impact on GDP growth, general government balance and debt. In the higher growth scenario, the general government balance and debt are projected to reach about ¼% of GDP and 50.¾% respectively, by 2009 (compared to -½% of GDP and 53½% in the central scenario). In the lower growth scenario, general government balance and debt are projected to reach -1½% of GDP and 56¼% respectively, by 2009.

Commission services' simulations of the cyclically-adjusted balance under the assumptions of (i) a sustained 0.5 percentage point deviation from the real GDP growth projections in the programme over the 2005-2009 period; (ii) trend output based on the HP-filter<sup>4</sup> and (iii) no policy response (notably, the expenditure level is as in the central scenario<sup>5</sup>), reveal that, by 2009, the cyclically-adjusted balance is about ½ percentage point of GDP below the central scenario. Hence, in the case of persistently lower real growth, additional measures of around ½ percentage point of GDP would be necessary to keep the public finances on the path targeted in the central scenario.<sup>6</sup>

## **5. GENERAL GOVERNMENT GROSS DEBT**

This section is in two parts: the first describes the debt path envisaged in the programme and the second contains the assessment.

### **5.1. Debt developments in the programme**

The update projects a progressively declining debt-to-GDP ratio over the programme's period to reach 53½% of GDP at the end of 2009, from 70½% in 2005. Debt would fall below the 60% of GDP reference value from 2008 onwards. Increasingly positive primary balances and an annual GDP growth above the average interest rate throughout the period are the main drivers of this large reduction (see table 8). Moreover, debt-reducing stock-flow adjustments (SFAs) contribute to the reduction of the debt-to-GDP ratio from 2006 onwards.

As extensively discussed in the technical assessment of the December 2004 convergence programme, Cyprus' SFAs (of a debt-increasing nature) have been among the highest in EU and the highest among the new Member States, with an average of about 2½% of GDP during 2000-2004. Hitherto, these SFAs have been mainly associated with the accumulation of financial assets by the government in the form of deposits in sinking funds with the Central Bank. Sinking funds, which have been used for the repayment of long-term loans, according to the update amount to some 7% of GDP. As of 2003, the policy of sinking funds was abolished and their decumulation, which is planned to be completed by 2009, is projected to contribute by about 6 percentage points to the reduction in the gross debt-to-GDP ratio.

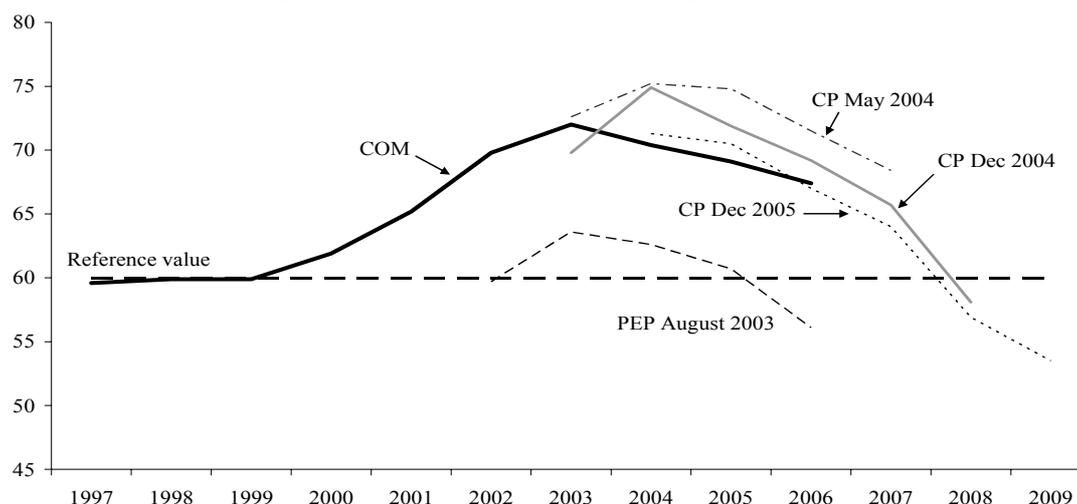
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<sup>4</sup> In the absence of a fully-specified macroeconomic scenario that would underlie such deviations, it is obviously impossible to derive new estimates of potential growth from the agreed production function method.

<sup>5</sup> The effect of lower/higher growth on revenues is captured by using the conventional sensitivity parameters adopted in cyclical adjustment procedures.

<sup>6</sup> Unexpected changes in inflation are not assumed to affect the expenditure-to-GDP ratio as nominal expenditure should broadly move in lockstep with the price level.

**Figure 2: Debt projections in successive convergence programmes (% of GDP)**



Source: Commission services' autumn 2005 forecast (COM) and successive convergence programmes

**Table 8: Debt dynamics**

	average	2005		2006		2007		2008	2009
	2000-2004	COM	CP	COM	CP	COM	CP	CP	CP
<b>Government gross debt ratio</b>	<b>65.6</b>	<b>69.7</b>	<b>70.5</b>	<b>68.4</b>	<b>67.0</b>	<b>66.7</b>	<b>64.0</b>	<b>56.9</b>	<b>53.5</b>
Change in debt ratio (1 = 2+3+4)	2.3	-1.6	-0.8	-1.4	-3.5	-1.7	-3.0	-7.1	-3.4
<i>Contributions:</i>									
- Primary balance (2)	<b>0.6</b>	<b>-0.5</b>	<b>-0.7</b>	<b>-0.3</b>	<b>-1.2</b>	<b>-0.7</b>	<b>-1.2</b>	<b>-1.4</b>	<b>-1.7</b>
- "Snow-ball" effect (3)	<b>-0.8</b>	<b>-1.1</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-1.6</b>	<b>-1.0</b>	<b>-1.2</b>	<b>-1.4</b>	<b>-1.3</b>
- Interest expenditure	3.3	3.2	3.2	3.1	3.1	3.1	3.0	2.6	2.3
- Real GDP growth	-2.0	-2.6	-2.7	-2.6	-2.8	-2.7	-2.6	-2.5	-2.3
- Inflation (GDP deflator)	-2.1	-1.7	-1.8	-1.5	-1.9	-1.4	-1.5	-1.5	-1.4
- <b>Stock-flow adjustment</b> (4)	<b>2.4</b>	<b>0.0</b>	<b>1.3</b>	<b>0.0</b>	<b>-0.8</b>	<b>0.0</b>	<b>-0.6</b>	<b>-4.3</b>	<b>-0.3</b>
- Cash/accruals	0.5		0.0		0.0		0.0	0.0	0.0
- Accumulation of financial assets	1.9		1.5		-0.6		-0.4	-4.1	-0.2
of which: Privatisation proceeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Valuation effects & residual adj.	0.1		0.0		0.0		0.0	0.0	0.0

Note:

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. The term in parentheses represents the "snow-ball" effect.

Sources:

Convergence programme update (CP); Commission services autumn 2005 economic forecasts (COM) adjusted for the revised GDP level; ECFIN calculations

## 5.2. Assessment

The Commission services' autumn 2005 forecast and the programme estimate similar debt-to-GDP ratios for 2005. However, the autumn forecast predicts a slower decline in the debt-to-GDP ratio in 2006 and 2007. To a large extent, these differences can be explained by the programme's more favourable outlook for the primary balance, projected to reach 1¼% of GDP in 2006 and 2007, vis-à-vis ¼% of GDP and ¾%, respectively, in the Commission services' autumn 2005 forecasts. It should be recalled, however, that the Commission services' forecasts were prepared before the adoption of the 2006 budget and projected budgetary variables for 2006 and 2007 on a no-policy change basis.

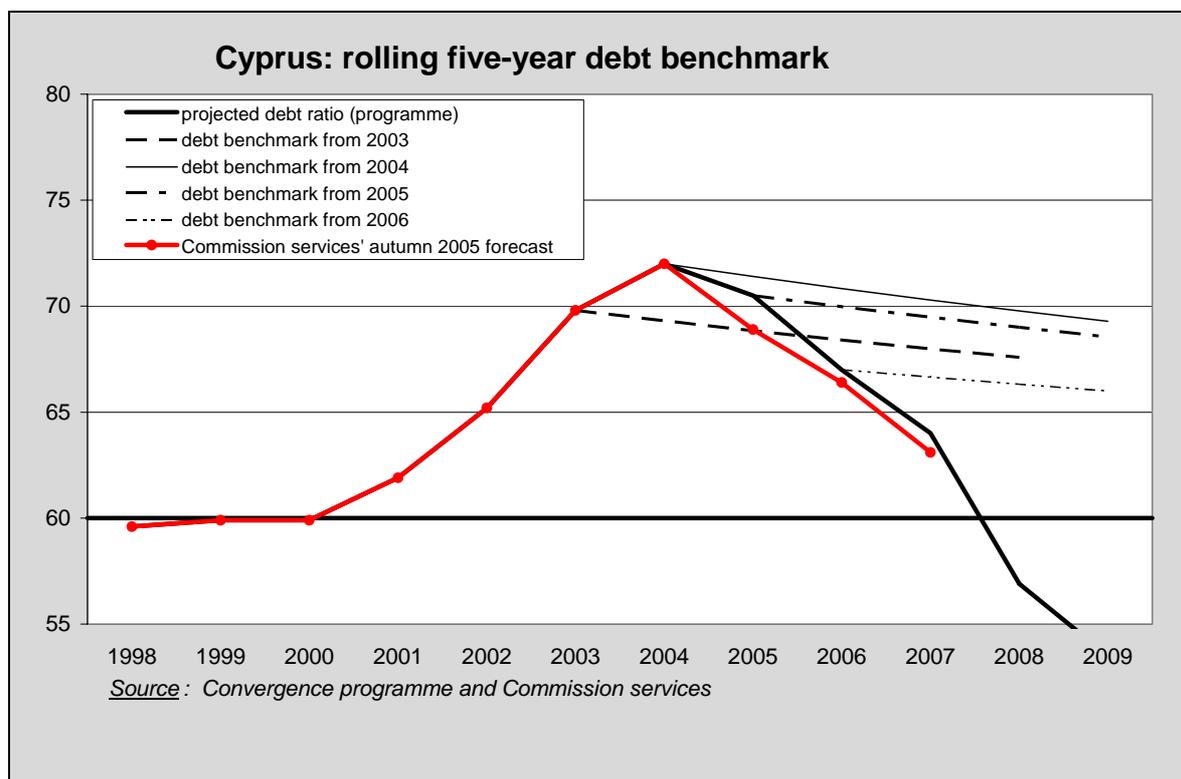
As for the deficit targets, the risks to the projected debt deduction path appear to be broadly balanced. The update builds on the overachievement of the debt targets set in the December 2004 programme for 2004 and 2005. The programme includes an analysis of the sensitivity of the debt to interest rate variations. Assuming interest rates 50 basis point above the baseline in each year during 2005-2009, the programme estimates that the debt-to-GDP ratio would be 1 percentage point higher than the baseline in 2009. The moderate impact is due to the fact that the bulk of the debt stock (about 90%) is at fixed interest rates and relatively long maturities. Foreign currency exposure is also decreasing: according to the update, foreign debt in 2005 amounted to 25% of the total in 2005, down from 30% in 2004.

In view of this risk assessment, the debt ratio seems to be sufficiently diminishing towards the 60% of GDP reference value, as requested by the Council recommendation in accordance to Article 104(7), and is projected to fall below the reference value from 2008. The debt reduction strategy in the update is also consistent with the broad economic policy guidelines in the area of public finances (see Annex 3).

### **Box 3: The rolling debt reduction benchmark**

Cyprus has entered the EU with a government gross debt in excess of 60% of GDP. 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 2005 forecasts until 2007 (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" (see Annex 5). 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 2008 is compared with the value obtained for the same year by applying the formula starting in 2003. 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 shows that the planned reduction of the debt ratio in the update is more than implied by the five-year rolling debt reduction benchmark.



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

The update provides a brief presentation of the government's structural reform agenda, referring to the National Reform Programme (NRP) - submitted on 11 November 2005 in the context of the renewed Lisbon strategy for growth and jobs - for more details. The reform agenda deals with labour, product and capital market policies, fostering a knowledge-based economy, and sustainable development via enhancing competitiveness and improving the business climate; increasing diversification; promoting R&D and innovation and facilitation of ICT diffusion; upgrading of basic infrastructures; and enhancing human capital development. In the framework of preparing for adoption of the euro, the convergence programme update observes that structural reforms will enable Cyprus to develop a robust and flexible economy, able to withstand external shocks. The update indicates that fiscal policy would support these objectives mainly by redirecting funds from current to capital expenditure. The budgetary impact of proposed policies would amount to around 1½% of GDP in 2005 and 2% in 2006, already included in the respective Budget Laws, and to similar amounts thereafter. Therefore, the budgetary projections in the programme, broadly reflect the public finance implications of the actions envisaged in the NRP and the measures in the convergence programme, specifically those resulting in a reduction in current expenditure, are consistent with the priorities of the NRP.

The budgetary projections are also consistent with the integrated guidelines of the broad economic policy guidelines (BEPG) in the area of public finances to: secure economic stability; safeguard economic and fiscal sustainability; and promote growth- and employment-oriented policies and efficient allocation of resources (see Annex 3).

The update reiterates a number of planned reforms of healthcare and pension systems. However, the introduction (already announced in 2001) of a National Health Scheme (NHS) has been further postponed to 2008. The reform aims at limiting the growth of health care expenditure from the current level of 3¼% of GDP to 4¼% of GDP by 2050, through, *inter alia*, exposing public hospitals to competitive pressure and ensuring efficiency gains.

On pension reform, the update presents the budgetary implications of the July 2005 decision to implement a gradual extension of the retirement age of civil servants, with the exception of educational service, from 60 to 63 years (see also Section 7 below). However, the programme considers that an additional extension of the retirement age to 65 is not realistic at present. Moreover, the update does not provide a precise timing, concerning the extension of the public sector employees' pensionable age limit for the Social Insurance Fund from 63 years to 65, although it mentions that consultations are underway among stakeholders. A number of possible parametric adjustments, currently under discussion, are also briefly indicated.

On the institutional features of public finances, the programme notes in particular the stricter controls on expenditures, with the imposition of ceilings (2% of GDP for current expenditure and 6% for capital expenditure) in 2006. It also presents the financial and management accounting system (FIMAS) put into operation a year ago, to monitor expenditure on a monthly and program basis, which should improve the management of public finances. (For a detailed analysis of government expenditure developments in the period 1998-2004, see Box 5.)

#### **Box 4: Tax Amnesty**

In order to consolidate public finances and reduce the general government deficit ratio to below the 3% reference value, the government adopted measures in 2004 and 2005 aiming at enhancing revenues through "the special settlement of tax liabilities law" (tax amnesty) and at the same time discouraging tax evasion by granting extensive competences to the Commissioner of Inland Revenue Department and increasing the penalties for non-compliance.

The tax amnesty aimed at the final settlement of any tax liabilities relating to undeclared income earned before 31 December 2002. Specifically, the law provided for the establishment of a – totally independent from any other public service department – Committee that would officially receive the special declaration forms submitted by the taxpayers and collect the taxes due. The declarations included income or profits earned up to the end of 2002, not previously declared for tax purposes, and which (i) had been deposited with banks in Cyprus or abroad, or (ii) had been converted to movable or immovable property in or outside the country or (iii) had been spent domestically or abroad before 31 December 2002.

The law provided for a special tax charge of 5% for any amounts declared until 6 December 2004 and of 6.5% for amounts declared thereafter, until the end of December 2004. These deadlines however have been extended to 31 December 2004 and 28 February 2005, respectively. The tax amnesty did not cover value added tax.

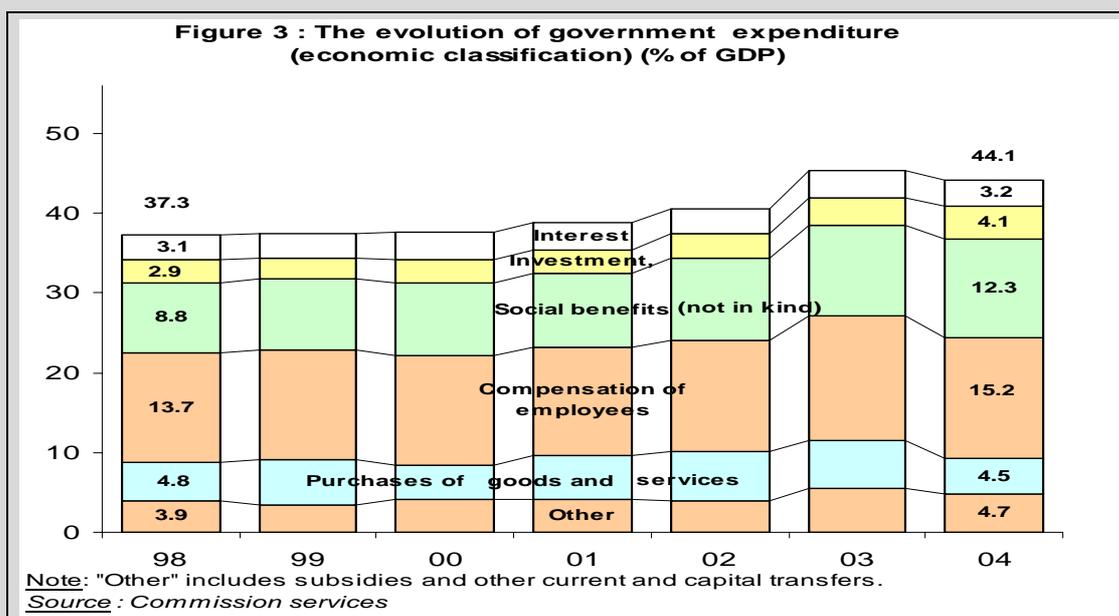
The projected yield of the tax amnesty was around ½% of GDP. However, the final amount collected corresponded to more than 1½% of GDP, of which ¾ of a percentage point was recorded in 2004 and almost 1% in 2005. The collected amount was deposited in the general government consolidated fund, in line with constitutional provisions. It has contributed significantly to the reduction of the general government budget deficit to 4.1% of GDP in 2004 and 2.5% of GDP in 2005.

Beyond this direct impact though, the tax amnesty is expected to also have a more permanent effect by increasing the tax base through higher tax compliance of the tax-payers and the use of the uncovered funds for production purposes. This development in conjunction with amending legislation passed in 2005 to enforce better tax compliance is expected to yield higher tax revenues. However, due to the time lag between the enactment of the measures and the tax revenues response, it is too early to see the full magnitude of this 'more permanent effect'. Tax revenues (income taxes) represented 5½% of GDP in 2003 and 5¾% of GDP in 2004. Preliminary data for 2005 indicate that this will rise further.

A significant determinant of the success of the Tax Amnesty in Cyprus has been the firm commitment of the government and the fiscal authorities to a successful outcome of the task, alongside a strong and extensive public campaign and the broadness of the measure, covering both physical and legal tax-payers.

### Box 5: The level and composition of government expenditure in Cyprus since 1998.

Over the period 1998-2004, Cyprus government expenditure has changed considerably in terms of both size and composition. In 1998, total government expenditure amounted to 37¼% of GDP, significantly below the euro area average (49¼%). From 1998 to 2004, the expenditure ratio increased 6¾ percentage points to reach above 44% (Figure 3), still below the euro area average of 48¼% of GDP.

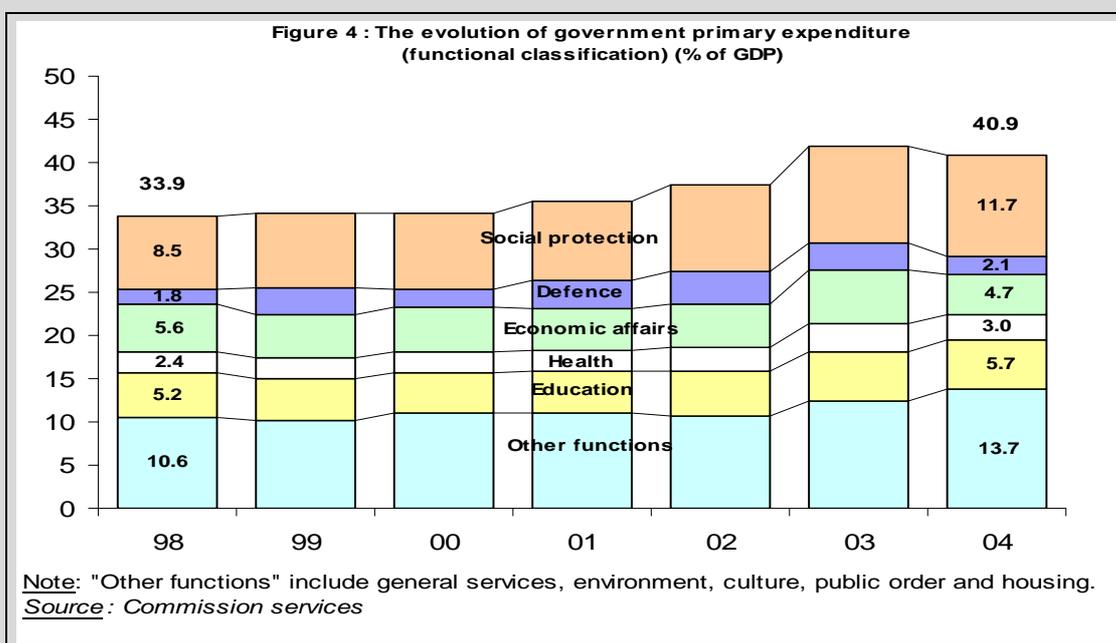


With interest expenditure practically unchanged over the period, the increase in government expenditure is the result of a nearly 7 percentage points rise in the ratio of primary expenditure to GDP, to almost 41% of GDP in 2004.

The bulk of this increase in primary expenditure was concentrated on the categories which were already the largest and that, being based on legal commitments, are usually difficult to restrain in periods of fiscal consolidation. In particular, social benefits to households increased by 3.5 percentage points and compensation of employees by 1.5 points. Investment increased by ¼ percentage points, taking the government investment ratio well above that in the euro area (4.1% of GDP vis-à-vis 2.5%).

The evolution of the government expenditure can also be considered by looking at the functional classification of spending. Data in Figure 4 reveal that the increase in primary expenditure stemmed mainly from a rise in welfare expenditure and from the increase of expenditure on “other functions”. Expenditure on social protection (which includes unemployment benefits, old-age and survivor pensions, family allowances and social assistance) increased by 3¼ percentage points to around 11¾% in 2004, still lower than in the euro area, where they are 19½% of GDP. The trend increase in social protection expenditure in the recent past, in conjunction with the ageing population should point to the need for reform to guarantee the long-term sustainability of public finances.

In parallel, other functions increased by 3½% of GDP, out of which general public services account for the bulk of this rise with a contribution of 2⅓ percentage points. Expenditure in health and education has recorded only a modest increase by ½%. For these two categories, the public spending ratio in Cyprus stands at 3% and 5¼% of GDP respectively, compared to above 6% of GDP and around 5¼% respectively, in euro area.



## 7. THE SUSTAINABILITY OF THE PUBLIC FINANCES

The assessment of the sustainability of Cyprus’s public finances is based on an overall judgement of the results of quantitative indicators and qualitative features. The debt projections and sustainability indicators are calculated according to two different scenarios, to take into account different budgetary developments over the medium term. The “programme” scenario assumes that the medium-term budgetary plans set up in the programme are actually achieved. The “2005” scenario assumes that the structural primary balance<sup>7</sup> remains unchanged at the 2005 level throughout the programme period.

On the basis of information in the programme, age-related expenditure is foreseen to increase by 9½ percentage points of GDP between 2008 and 2050, to which long-term care contributes the most, namely by 7¾ percentage points of GDP (see table A2 in

<sup>7</sup> The primary balance where the effect of the cycle and any one-off or temporary measures have been netted out.

Annex 6). The present analysis is based on the set of government expenditure items covered by the common projections carried out by the Economic Policy Committee (EPC)<sup>8</sup>. In addition to these expenditure items, the Cypriot programme includes a small projected decrease in the revenue-to-GDP ratio mainly due to a decrease in social contributions.

The gross debt-to-GDP ratio would remain above the 60% of GDP reference value throughout the projection period (i.e. until 2050) in the “2005” scenario<sup>9</sup>. If the consolidation path included in the programme materializes, the gross debt-to-GDP ratio would be significantly reduced and remain below the reference value over the next two decades. It would nevertheless be rapidly on an exponential path afterwards (see Table A4 in Annex 6).

Indeed, according to the S1 indicator, there is a sustainability gap for Cyprus of almost 5¼ percentage points of GDP in the ‘2005’ scenario. This comes essentially from the increase of public expenditure due to ageing. In the programme scenario, the sustainability gap would be reduced due to the planned significant improvement of the structural primary balance during the programme period. However, S1 only takes into account changes in the primary balance up to 2050, which underestimates the budgetary cost of ageing.

A more demanding measure is the government’s inter-temporal budget constraint, captured by the S2 indicator, according to which a sustainability gap of about 9% of GDP emerges in the ‘2005’ scenario. In the ‘programme’ scenario, the sustainability gap is reduced somewhat, indicating that a part of the budgetary challenge posed by ageing populations can be dealt with by sticking to the medium-term budgetary plans as set down in the convergence programme. This sustainability gap translates into a required primary balance (RPB) of about 9% of GDP, much higher than the structural primary balance of about 1¾% of GDP of the last year of the programme period.

Moreover, the sustainability gap, as measured by the S1 indicator, would increase by around ½% GDP if the (budgetary or structural) adjustment was to be postponed by 5 years (see table A3 in Annex 6).

**Table 9: Sustainability indicators and the required primary balance**

	Sustainability indicators and RPB					
	2005 Scenario			Programme scenario		
	S1	S2	RPB	S1	S2	RPB
<b>Value (of which)</b>	<b>5,1</b>	<b>9,4</b>	<b>8,8</b>	<b>3,1</b>	<b>7,7</b>	<b>8,8</b>
<i>initial budgetary position</i>	-0,1	0,0		-1,8	-1,7	
<i>debt requirement in 2050</i>	0,1	:		-0,2	:	
<i>future changes in budgetary position</i>	5,1	9,4		5,1	9,4	

<sup>8</sup> Namely, government expenditure on pension, health-care, long-term care and education. No projections of unemployment benefit are provided in the programme. Other expenditure items and revenues are assumed to remain constant as a share of GDP over the projection period. The programme provides two long-term scenarios. The assessment is made on the non-reform scenario.

<sup>9</sup> It should be recalled that, being a mechanical, partial equilibrium analysis, projections are in some cases bound to show highly accentuated profiles. As a consequence, the projected evolution of debt levels should not be considered as a forecast.

Note: The S1 indicator measures the sustainability gap as the difference between the constant revenue ratio as a share of GDP required to reach a debt ratio in 2050 of 60% of GDP and the current revenue ratio. The S2 indicator measures the sustainability gap as the difference between the constant revenue ratio as a share of GDP that guarantees the respect of the inter-temporal budget constraint of the government, i.e. that equates the actualized flow of revenues and expenses over an infinite horizon, and the current revenue ratio<sup>10</sup>. The Required Primary Balance (RPB) measures the average primary balance over the first five years of the projection period that results from a permanent budgetary adjustment carried out to comply fully with the inter-temporal budget constraint. See European Commission (2005), European Economy, 'Public finances in EMU – 2005', Section II.3 for a further description.

In interpreting these results, several factors need to be taken into account.

Growth assumptions differ significantly from EPC commonly agreed assumptions. Employment growth is faster in EPC assumptions than in Cyprus' convergence programme up to 2030. On the other hand, labour productivity is supposed to converge towards 1¾% in 2050 in EPC commonly agreed assumptions while it stays around 3% in the Cypriot programme. Over the entire projection period, growth assumptions may therefore be considered as more optimistic in the programme than in the EPC projections.

The programme also includes a small reduction in social contributions (of slightly above ¼% of GDP over the projection period) which, if it materialises, would very slightly increase the risk to long-term sustainability.

The government recently increased (in July 2005) the retirement age of civil servants from 60 to 63 years. Some other substantial pension reforms are currently under discussion with social partners. These include a gradual increase of the normal retirement age from currently 63 to 65 years, the indexation of the lower-band pensions to a price index (instead of the wage index) and an increase in the number of years of contribution required for eligibility to the old age pension from 10 to 15. If these reforms were to be implemented, they would reduce the financing gap, as measured by S2, by around 5 percentage points of GDP.

Finally, the government has planned for some time to launch a national health reform (National Health Scheme) which is expected to lead to savings through, *inter alia*, increased competition pressure on public hospitals, efficiency gains. However, this reform, already announced in 2001, has been postponed to 2008 compared with 2006 in the December 2004 update.

### **Overall assessment.**

With regard to the sustainability of public finances, Cyprus appears to be at high risk on grounds of the projected budgetary costs of ageing populations. Gross debt is currently above the 60% of GDP reference value and the projected high increase in pension expenditure over the projection period until 2050 is expected to weigh considerably on public finances. Implementing rigorously the planned consolidation of public finances over the medium term will alleviate the risks to long-term sustainability and, as recognized in the programme, substantial pension reform measures will also be necessary to contain the future increase in public expenditure and to reduce the risk to long-term sustainability. A careful planning and timely adoption of the measures are key in this regard.

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<sup>10</sup> The sustainability gap indicators (S1, S2) do not necessarily suggest that taxes should be increased; strengthening the fiscal position by permanently reducing the level of non-age related primary spending could be preferable and has the same impact.

\* \* \*

## Annex 1: Summary tables from the convergence programme update

### Table 1a: Macroeconomic Prospects

	ESA Code	Year 2004	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
		level	rate of change					
<b>1. Real GDP</b>	B1*g	5616.2	3.8	4.1	4.2	4.2	4.2	4.3
<b>2. Nominal GDP</b>	B1*g	7292.1	6.7	6.9	7.1	6.6	6.7	6.8
<b>Components of real GDP</b>								
<b>3. Private consumption expenditure</b>	P.3	3761.2	6.3	4.5	4.2	3.9	3.8	3.8
<b>4. Government consumption expenditure</b>	P.3	920.0	-4.8	2.1	2.8	2.1	2.4	2.7
<b>5. Gross fixed capital formation</b>	P.51	1102.6	10.7	4.5	5.2	5.8	5.8	5.9
<b>6. Changes in inventories and net acquisition of valuables (% of GDP)</b>	P.52 + P.53	88.9	1.6	0.7	0.5	0.4	0.0	-0.1
<b>7. Exports of goods and services</b>	P.6	2817.1	4.5	5.2	5.8	6.2	6.2	6.3
<b>8. Imports of goods and services</b>	P.7	3073.6	11.1	3.6	5.2	5.5	4.8	5.7
<b>Contributions to real GDP growth</b>								
<b>9. Final domestic demand</b>			5.2	4.2	4.2	4.1	4.1	4.1
<b>10. Changes in inventories and net acquisition of valuables</b>	P.52 + P.53		2.0	-0.8	-0.2	-0.1	-0.5	-0.1
<b>11. External balance of goods and services</b>	B.11		-3.4	0.7	0.2	0.2	0.6	0.3

### Table 1b: Price Developments

	ESA Code	Year 2004	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
		Level	rate of change					
<b>1. GDP deflator</b>		129.8	2.8	2.7	2.8	2.3	2.4	2.5
2. Private consumption deflator		124.4	2.2	2.5	2.5	2.1	2.0	2.0
<b>3. HICP</b>		124.5	1.9	2.1	2.0	2.0	2.0	2.0
4. Public consumption deflator		145.2	3.4	2.9	4.1	2.8	2.7	2.8
5. Investment deflator		126.5	4.2	3.7	3.5	3.1	2.7	2.5
<b>6. Export price deflator (goods and services)</b>		122.3	2.3	2.3	2.3	2.3	2.3	2.3
<b>7. Import price deflator (goods and services)</b>		<b>119.4</b>	<b>2.1</b>	<b>4.0</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>	<b>2.0</b>

**Table 1c: Labour market developments**

	ESA Code	Year	Year	Year	Year	Year	Year	Year
		2004	2004	2005	2006	2007	2008	2009
		Level	rate of change					
<b>1. Employment, occupied population, domestic concept national accounts definition</b>		331.4	1.9	1.9	1.5	1.4	1.5	1.5
2. Employment, hours worked								
<b>3. Unemployment rate (%) - harmonised definition-Labour Force Survey</b>			4.7	5.3	5.2	5.0	4.9	4.7
<b>4. Labour productivity persons fulltime equivalent</b>			1.9	2.1	2.7	2.8	2.7	2.8
5. Labour productivity hours worked								
<b>6. Compensation of employees</b>	D1		3.6	4.8	4.2	4.0	4.0	4.0

**Table 1d: Sectoral Balances**

% of GDP	ESA Code	Year	Year	Year	Year	Year	Year
		2004	2005	2006	2007	2008	2009
<b>1. Net lending/borrowing vis-à-vis the rest of the world</b>	B.9	-4.8	-5.3	-4.7	-4.2	-3.2	-2.7
of which:							
- Balance on goods and services		-3.1	-3.1	-2.7	-2.3	-1.4	-1.0
- Balance of primary incomes and transfers		-2.5	-2.4	-2.2	-2.1	-1.9	-1.8
- Capital account		0.8	0.3	0.2	0.2	0.2	0.2
2. Net lending/borrowing of the private sector	B.9/EDP B.9	-0.7	-2.8	-2.8	-2.4	-2.0	-2.1
3. Net lending/borrowing of general government	B.9	-4.1	-2.5	-1.9	-1.8	-1.2	-0.6
<b>4. Statistical discrepancy</b>							

**Table 2: General government budgetary prospects**

	ESA code	Year	Year	Year	Year	Year	Year	Year
		2004	2004	2005	2006	2007	2008	2009
		level	% GDP					
<b>Net lending (B9) by sub-sector</b>								
<b>1. General government</b>	S.13	-298.8	-4.1	-2.5	-1.9	-1.8	-1.2	-0.6
<b>2. Central government</b>	S.1311	-520.2	-7.1	-5.6	-5.0	-4.7	-4.1	-3.3
<b>3. State government</b>	S.1312	-						
<b>4. Local government</b>	S.1313	-10.7	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
<b>5. Social security funds</b>	S.1314	232.1	3.2	3.2	3.1	3.0	2.9	2.8
<b>General government (S13)</b>								
<b>6. Total revenue</b>	TR	2882	39.5	41.2	40.0	40.0	39.6	39.1
<b>7. Total expenditure</b>	TE	3180.8	43.6	43.8	41.9	41.8	40.8	39.7
<b>8. Net lending/borrowing</b>	EDP B.9	-298.8	-4.1	-2.5	-1.9	-1.8	-1.2	-0.6
<b>9. Interest expenditure (incl. FISIM)</b>	EDP D.41 incl. FISIM	234	3.2	3.2	3.1	3.0	2.6	2.3
<b>pm. 9a FISIM</b>		0	0.0	0.0	0.0	0.0	0.0	0.0
<b>10. Primary balance</b>		-64.8	-0.9	0.7	1.2	1.2	1.4	1.7
<b>Selected components of revenue</b>								
<b>11. Total Taxes (11=11a+11b+11c)</b>		1906	26.1	26.9	26.9	27.0	26.9	26.7
<b>11a. Taxes on production and imports</b>	D.2	1261.3	17.3	17.3	17.4	17.4	17.3	17.2
<b>11b. Current taxes on income, wealth etc</b>	D.5	593.6	8.1	8.7	9.5	9.6	9.5	9.4
<b>11c. Capital taxes</b>	D.91	51.1	0.7	0.9	0.1	0.1	0.1	0.0
<b>12. Social contributions</b>	D.61	569.1	7.8	7.8	8.1	8.1	8.1	8.0
<b>13. Property income</b>	D.4	52.4	0.7	0.8	0.7	0.6	0.6	0.6
<b>14. Other (14=15-(11+12+13))</b>		354.5	4.9	5.7	4.3	4.2	4.0	3.8
<b>15=6. Total revenue</b>	TR	2882	39.5	41.2	40.0	40.0	39.6	39.1
<b>p.m.: Tax burden (D.2+D.5+D.61+D.91-D.995)</b>		2475.1	33.9	34.7	35.0	35.1	34.9	34.7
<b>Selected components of expenditure</b>								
<b>16. Collective consumption</b>	P.32	737.9	10.1	9.9	9.5	9.0	8.7	8.3
<b>17. Total social transfers</b>	D62+D63	1483.4	20.3	20.5	19.9	20.1	19.7	19.3
<b>17a. Social transfers in kind</b>	P.31=D.63	598	8.2	8.1	8.5	8.7	8.7	8.9
<b>17b. Social transfers other than in kind</b>	D.62	885.4	12.1	12.4	11.4	11.5	10.9	10.4
<b>18=9. Interest expenditure (incl. FISIM)</b>	EDP D.41 incl. FISIM	234	3.2	3.2	3.1	3.0	2.6	2.3
<b>19. Subsidies</b>	D.3	83	1.1	0.6	0.6	0.5	0.5	0.4
<b>20. Gross fixed capital formation</b>	P.51	297.4	4.1	4.0	4.0	4.0	4.0	3.9
<b>21. Other (21=22-(16+17+18+19+20))</b>		345.1	4.7	5.5	4.8	5.2	5.4	5.3
<b>22=7. Total expenditure</b>	TE	3180.8	43.6	43.8	41.9	41.8	40.8	39.7
<b>pm: compensation of employees</b>		1072.5	14.7	14.5	14.4	14.2	14.0	13.7

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

% of GDP	COFOG Code	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
1. General public services	1	9.1	8.2	8.2	8.0	7.9	7.8	7.7
2. Defence	2	3.2	2.4	2.4	2.4	2.3	2.3	2.2
3. Public order and safety	3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
4. Economic affairs	4	6.2	6.2	6.0	5.8	5.6	5.4	5.2
5. Environmental protection	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. Housing and community amenities	6	4.1	4.1	4.1	4.1	4.0	4.0	4.0
7. Health	7	3.2	3.2	3.2	3.2	3.2	3.3	3.3
8. Recreation, culture and religion	8	0.5	0.5	0.5	0.4	0.4	0.4	0.4
9. Education	9	5.7	5.8	5.8	5.8	5.8	5.9	5.9
10. Social protection	10	11.3	11.2	11.6	10.2	10.6	9.7	9.0
<b>11. Total expenditure</b> (= item 7=26 in Table 2)	<b>TE</b>	<b>45.3</b>	<b>43.6</b>	<b>43.8</b>	<b>41.9</b>	<b>41.8</b>	<b>40.8</b>	<b>39.7</b>

**Table 4: General government debt developments**

% of GDP		Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
<b>1. Gross debt</b>		71.3	70.5	67.0	64.0	56.9	53.5
<b>2. Change in gross debt ratio</b>		1.9	-0.8	-3.5	-3.0	-7.1	-3.4
<b>Contributions to change in gross debt ratio</b>							
<b>3. Primary balance</b>		-0.9	0.7	1.2	1.2	1.4	1.7
<b>4. Interest expenditure (incl. FISIM)</b>		3.2	3.2	3.1	3.0	2.6	2.3
<b>5. Stock-flow adjustment</b>		<b>2.4</b>	<b>1.3</b>	<b>-0.8</b>	<b>-0.6</b>	<b>-4.3</b>	<b>-0.3</b>
of which:							
- Differences between cash and accruals		0.3	0.0	0.0	0.0	0.0	0.0
- Net accumulation of financial assets		2.0	1.5	-0.6	-0.4	-4.1	-0.2
- of which: privatisation proceeds		0.0	0.0	0.0	0.0	0.0	0.0
- Valuation effects and other		0.1	0.0	0.0	0.0	0.0	0.0
<b>p.m. implicit interest rate on debt</b>		<b>4.62</b>	<b>4.81</b>	<b>4.71</b>	<b>4.74</b>	<b>4.38</b>	<b>4.40</b>
<b>Other relevant variables</b>							
6. Liquid financial assets		9.0	10.3	9.5	8.9	4.6	4.3
of which: Sinking Fund Deposits		7.7	7.0	6.5	5.4	0.7	0.2
7. Net financial debt (7=1-6)		62.3	60.2	57.5	55.1	52.3	49.2

**Table 5: Cyclical developments**

% of GDP	ESA Code	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
1. Real GDP growth (%)		3.8	4.1	4.2	4.2	4.2	4.3
2. Net lending of general government	EDP B.9	-4.1	-2.5	-1.9	-1.8	-1.2	-0.6
3. Interest expenditure (incl. FISIM recorded as consumption)	EDPD.41+ FISIM	3.2	3.2	3.1	3.0	2.6	2.3
4. Potential GDP growth (%)		4.0	4.0	4.0	4.0	4.0	4.0
Contributions:		-	-	-	-	-	-
- labour		-	-	-	-	-	-
- capital		-	-	-	-	-	-
- total factor productivity		-	-	-	-	-	-
5. Output gap		2.0	2.0	1.9	1.7	1.5	1.1
6. Cyclical budgetary component		0.8	0.8	0.7	0.7	0.6	0.4
7. Cyclically-adjusted balance (2-6)		-3.3	-1.7	-1.2	-1.1	-0.6	-0.2
8. Cyclically-adjusted primary balance (7-3)		-0.1	1.5	1.9	1.9	2.0	2.1

**Table 6: Divergence from previous update**

	ESA Code	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
<b>Real GDP growth (%)</b>							
Previous update		3.6	4.0	4.4	4.5	4.5	n.a.
Current update		3.8	4.1	4.2	4.2	4.2	4.3
Difference		0.2	0.1	-0.2	-0.3	-0.3	
<b>General government net lending (% of GDP)</b>	EDP B.9						
Previous update		-4.8	-2.9	-1.7	-1.5	-0.9	n.a.
Current update		-4.1	-2.5	-1.9	-1.8	-1.2	-0.6
Difference		0.7	0.4	-0.2	-0.3	-0.3	
<b>General government gross debt (% of GDP)</b>							
Previous update		74.9	71.9	69.2	65.7	58.1	n.a.
Current update		71.3	70.5	67.0	64.0	56.9	53.5
Difference		-3.6	-1.4	-2.2	-1.7	-1.2	

**Table 7: Long-term sustainability of public finances**  
**(Reform Scenario - Based on the actuarial exercise)**

<b>% of GDP</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>	<b>2050</b>
Total expenditure	<b>36.6</b>	<b>43.8</b>	<b>40.0</b>	<b>40.0</b>	<b>42.9</b>	<b>44.8</b>
Of which: age-related expenditures	13.4	16.1	14.6	15.8	18.1	20.7
Pension expenditure	6.8	7.1	6.4	7.3	8.9	10.6
Social security pension	4.3	4.2	4.0	5.1	6.5	8.0
Old-age and early pensions	3.9	3.8	3.6	4.6	5.8	7.1
Other pensions (disability, survivors) <sup>11</sup>	0.8	0.8	0.8	0.8	1.0	1.2
Occupational pensions (if in general government)	2.1	2.5	2.0	1.9	2.1	2.3
Health care	2.3	3.2	3.3	3.3	3.3	4.3
Long-term care						
Education expenditure	4.3	5.8	5.9	6.0	5.9	5.8
Other age-related expenditures	-	-	-	-	-	-
Interest expenditure	3.3	3.2	2.7	1.8	1.8	3.4
Total revenue	<b>33.8</b>	<b>41.2</b>	<b>39.1</b>	<b>39.0</b>	<b>38.8</b>	<b>38.6</b>
Of which: property income	0.9	0.8	0.6	0.6	0.6	0.6
<i>of which: from pensions contributions (or social contributions if appropriate)</i>	5.8	5.6	5.3	5.2	5.1	5.0
Pension reserve fund assets	37.0	37.7	39.1	39.2	28.4	-16.2
Of which: consolidated public pension fund assets (assets other than government liabilities)	1.0	1.0	1.0	1.0	1.0	1.0
<b>Assumptions</b>						
Labour productivity growth	2.7	2.1	3.2	3.0	3.0	3.0
Real GDP growth	5.0	4.1	4.0	3.2	3.0	3.0
Participation rate males (aged 15-64)	78.9	81.0	81.5	81.1	81.5	85.1
Participation rates females (aged 15-64)	52.5	56.0	56.4	56.0	57.7	67.5
Total participation rates (aged 15-64)	65.5	69.0	69.4	69.0	69.7	76.6
Unemployment rate	3.3	3.8	3.4	3.5	3.5	3.5
Population aged 65+ over total population	11.3	12.2	13.2	16.5	20.8	28.1

<sup>11</sup> Includes social pensions amounting to 0.4% of GDP in 2004.

**Table 7a: Long-term sustainability of public finances  
(non-reform scenario)<sup>12</sup>**

<b>% of GDP</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>	<b>2050</b>
Total expenditure	<b>36.6</b>	<b>43.8</b>	<b>43.0</b>	<b>45.5</b>	<b>50.0</b>	<b>68.0</b>
Of which: age-related expenditures	13.4	16.2	17.3	19.6	22.5	26.6
Pension expenditure	6.8	7.2	7.9	9.6	12.1	15.5
Social security pension	4.3	4.2	5.1	6.8	8.9	11.5
Old-age and early pensions	3.9	3.8	4.6	6.0	8.0	10.3
Other pensions (disability, survivors) <sup>13</sup>	0.8	0.8	0.9	1.1	1.2	1.5
Occupational pensions (if in general government)	2.1	2.6	2.4	2.5	2.9	3.7
Health care	2.3	3.2	3.5	4.0	4.5	5.3
Long-term care						
Education expenditure	4.3	5.8	5.9	6.0	5.9	5.8
Other age-related expenditures	-	-	-	-	-	-
Interest expenditure	3.3	3.2	2.8	3.0	4.5	18.5
Total revenue	<b>33.8</b>	<b>41.2</b>	<b>39.1</b>	<b>39.0</b>	<b>38.8</b>	<b>38.6</b>
Of which: property income	0.9	0.8	0.6	0.6	0.6	0.6
<i>of which: from pensions contributions (or social contributions if appropriate)</i>	5.8	5.6	5.3	5.2	5.1	5.0
Pension reserve fund assets	37.0	37.7	35.2	20.4	-10.8	-108.2
Of which: consolidated public pension fund assets (assets other than government liabilities)	1.0	1.0	1.0	1.0	1.0	1.0
<b>Assumptions</b>						
Labour productivity growth	2.7	2.1	3.2	3.0	3.0	3.0
Real GDP growth	5.0	4.1	4.0	3.2	3.0	3.0
Participation rate males (aged 15-64)	78.9	81.0	81.5	81.1	81.5	85.1
Participation rates females (aged 15-64)	52.5	56.0	56.4	56.0	57.7	67.5
Total participation rates (aged 15-64)	65.5	69.0	69.4	69.0	69.7	76.6
Unemployment rate	3.3	3.8	3.4	3.5	3.5	3.5
Population aged 65+ over total population	11.3	12.2	13.2	16.5	20.8	28.1

<sup>12</sup> Based on national assumptions and projections.

<sup>13</sup> Includes social pensions amounting to 0.4% of GDP in 2004.

**Table 8: Basic assumptions**

	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009
<b>Short - term interest rate (annual average euro area)</b>	2.1	2.1	2.5	3.0	3.4	3.5
<b>Long-term interest rate ( annual average euro area)</b>	4.1	3.3	3.5	3.8	4.2	4.5
<b>USD/€ exchange rate (annual average (euro area and ERM II countries))</b>	1.24	1.25	1.21	1.22	1.22	1.22
<b>Nominal effective exchange rate of the Cyprus pound (% change) /1</b>	1.0	0.5	-1.7	0.4	0.0	0.0
<b>World excluding EU, GDP growth</b>	5.6	5.1	4.9	4.6	4.5	4.5
<b>EU GDP growth</b>	2.5	1.5	2.1	2.4	2.4	2.5
<b>Growth of relevant foreign markets /2</b>	2.5	1.5	2.1	2.4	2.4	2.5
<b>World import volumes, excluding EU</b>	10.8	8.6	8.7	8.4	8.0	8.0
<b>Oil prices, (Brent, USD/barrel)</b>	37.8	58.0	60.0	60.0	55.0	55.0

1/ Technical assumption based on a fixed bilateral exchange rate vis-à-vis the euro, and allowing for small changes in the other major currencies as indicated in the table.

2/ Proxied by growth in the EU25.

## Annex 2: 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 new 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. In the main text, points (ii) and (iii) are grouped into the “format” requirements of the code, whereas point (iv) refers to its “content” requirements.

Guidelines in the new code of conduct	Yes	No	Comments
<b>1. Submission of the programme</b>			
Programme was submitted not earlier than mid-October and not later than 1 December <sup>1</sup> .		X	The update was received on 14 December 2005.
<b>2. Model structure</b>			
The model structure for the programmes in Annex 1 of the code of conduct has been followed.	X		
<b>3. Model tables (so-called data requirements)</b>			
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	–In Table (1.c) “Labour market developments” items 2 (Employment, hours worked) and 5 (Labour productivity, hours worked) are missing. –In Table (5) “Cyclical Developments”, the contributions to Potential GDP Growth are missing.
The concepts used are in line with the European system of accounts (ESA).	X		
<b>4. Other information requirements</b>			
<b>a. Involvement of parliament</b>			
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>b. Economic outlook</b>			
Euro area and ERM II Member States uses the “common external assumptions” on the main extra-EU variables.	X		

<b>Guidelines in the new code of conduct</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Significant divergences between the national and the Commission services' economic forecasts are explained <sup>2</sup> .		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		
<b>c. Monetary/exchange rate policy</b>			
The convergence programme presents the medium-term monetary policy objectives and their relationship to price and exchange rate stability.	X		
<b>d. Budgetary strategy</b>			
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.			<i>not applicable</i>
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.	X		
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		
The state of implementation of the measures (enacted versus planned) presented in the programme is specified.	X		
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.			<i>not applicable</i>
<b>e. "Major structural reforms"</b>			
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.			<i>not applicable</i>
The programme includes a quantitative cost-benefit analysis of the short-term costs and long-term benefits of such reforms.			<i>not applicable</i>
<b>f. Sensitivity analysis</b>			
The programme includes comprehensive sensitivity analyses and/or develops alternative scenarios showing the effect on the budgetary and debt position of: a) changes in the main economic assumptions b) different interest rate assumptions c) for non-participating Member States, different exchange rate assumptions d) if the common external assumptions are not used, changes in assumptions for the main extra-EU variables.	X		
In case of such "major structural reforms", the programme provides an analysis of how changes in the assumptions would affect the effects on the budget and potential growth.			<i>not applicable</i>
<b>g. Broad economic policy guidelines</b>			
The programme provides information on the consistency with	X		

<b>Guidelines in the new code of conduct</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
the broad economic policy guidelines of the budgetary objectives and the measures to achieve them.			
<b><i>h. Quality of public finances</i></b>			
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		
<b><i>i. Long-term sustainability</i></b>			
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	The programme though includes all the necessary additional information. Common budgetary projections by the AWG were not included in the programme. They were sent separately at a later stage.
<b><i>j. Other information (optional)</i></b>			
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.	X		
<p>Notes:</p> <p><sup>1</sup>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.</p> <p><sup>2</sup>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.</p>			

### **Annex 3: Consistency with the broad economic policy guidelines**

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.

<b>Integrated guidelines</b>	<b>Yes</b>	<b>No</b>	<b>Not applicable</b>
<b>1. To secure economic stability</b>			
– 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 <sup>1</sup> .	X		
– Member States should avoid pro-cyclical fiscal policies <sup>2</sup> .			X
– Member States in excessive deficit should take effective action in order to ensure a prompt correction of excessive deficits <sup>3</sup> .	X		
– Member States posting current account deficits that risk being unsustainable should work towards (...), where appropriate, contributing to their correction via fiscal policies.	X		
<b>2. To safeguard economic and fiscal sustainability</b>			
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		
<b>3. To promote a growth- and employment-orientated and efficient allocation of resources</b>			
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: <sup>1</sup> As further specified in the Stability and Growth Pact and the new 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. <sup>2</sup> As further specified in the Stability and Growth Pact and the new code of conduct, i.e. Member States that have already achieved the medium-term objective should avoid pro-cyclical fiscal policies in “good times”. <sup>3</sup> As further specified in the country-specific Council recommendations and decisions under the excessive deficit procedure.			

#### **Annex 4: Assessment of tax projections**

Table 6 compares the tax projections of the programme with those of the Commission services' autumn 2005 forecast and Table 7 those of the Commission services' autumn forecast with tax projections obtained by using standard ex-ante elasticities, as estimated by the OECD. The tables summarise the results for the total tax-to-GDP ratio. The underlying analysis is carried out exploiting information for the four major tax categories, i.e. indirect taxes, corporate and private income taxes and social contributions (see tables below)<sup>14</sup>. 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<sup>15</sup>. 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:

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

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

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<sup>14</sup>Private and corporate income taxes are generally not provided, neither in the programme nor in the Commission services' autumn 2005 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.

<sup>15</sup>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:  $\frac{\Delta T_i}{T_i} = \varepsilon_{T_i, B_i, ex\,ante} \frac{dB_i}{B_i} + \frac{OF_i}{T_i} = \varepsilon_{T_i, B_i, ex\,post} \frac{dB_i}{B_i}$ .

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

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

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

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  $\varepsilon = \sum_i w_i \varepsilon_{T_i, B_i} \varepsilon_{B_i, Y}$  with  $w_i$  the share of the *i-th* tax in the overall tax burden.

The tables below report the results of the assessment of the tax projections presented in the programme by major tax category, which, as mentioned above, are the basis for the aggregated results reported in Tables 6 and 7.

## Assessment of tax projections by major tax category

	2006		2007		2008	2009	p.m.:
	COM	CP	COM <sup>2</sup>	CP	CP	CP	OECD <sup>1</sup>
<b>Taxes on production and imports:</b>							
Change in tax-to-GDP ratio	0.1	0.1	-0.1	0.0	-0.1	-0.1	/
<i>Difference</i>	0.0		0.1		/	/	/
<i>of which</i> <sup>3</sup> : - elasticity component	0.1		0.1		/	/	/
- composition component	-0.1		-0.1		/	/	/
p.m.: Observed elasticity:							
- of taxes to tax base <sup>4</sup>	1.1	1.2	1.0	1.1	1.0	1.1	1.0
- of tax base <sup>4</sup> to GDP	1.0	0.9	1.0	0.9	0.9	0.9	1.0
<b>Social contributions:</b>							
Change in tax-to-GDP ratio	0.1	0.3	0.0	0.0	0.0	-0.1	/
<i>Difference</i>	0.2		0.0		/	/	/
<i>of which</i> <sup>3</sup> : - elasticity component	0.5		0.2		/	/	/
- composition component	-0.2		-0.1		/	/	/
p.m.: Observed elasticity:							
- of taxes to tax base <sup>5</sup>	1.5	2.7	1.2	1.7	1.7	1.4	1.0
- of tax base <sup>5</sup> to GDP	0.9	0.6	0.9	0.6	0.6	0.6	0.7
<b>Personal income tax<sup>6</sup>:</b>							
Change in tax-to-GDP ratio	0.6	0.6	0.0	0.1	-0.1	-0.1	/
<i>Difference</i>	0.0		0.1		/	/	/
<i>of which</i> <sup>3</sup> : - elasticity component	0.4		0.3		/	/	/
- composition component	-0.3		-0.1		/	/	/
p.m.: Observed elasticity:							
- of taxes to tax base <sup>5</sup>	2.9	4.0	1.2	1.9	1.4	1.4	4.5
- of tax base <sup>5</sup> to GDP	0.9	0.6	0.9	0.6	0.6	0.6	0.7
<b>Corporate income tax<sup>6</sup>:</b>							
Change in tax-to-GDP ratio	0.2	0.2	0.0	0.0	0.0	0.0	/
<i>Difference</i>	0.0		0.0		/	/	/
<i>of which</i> <sup>3</sup> : - elasticity component	-0.1		0.0		/	/	/
- composition component	0.1		0.0		/	/	/
p.m.: Observed elasticity:							
- of taxes to tax base <sup>7</sup>	2.3	1.8	0.9	0.9	0.6	0.6	1.0
- of tax base <sup>7</sup> to GDP	1.1	1.3	1.1	1.3	1.3	1.3	1.5
<b>Notes:</b>							
<sup>1</sup> OECD ex-ante elasticities							
<sup>2</sup> On a no-policy change basis							
<sup>3</sup> The decomposition is explained in the text above							
<sup>4</sup> Tax base = private consumption expenditure							
<sup>5</sup> Tax base = compensation of employees							
<sup>6</sup> 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							
<sup>7</sup> Tax base = gross operating surplus							
<b>Source:</b>							
Commission services' autumn 2005 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)							

## Assessment of tax elasticities by major tax category

	2006		2007	
	COM (observed)	ex-ante <sup>1</sup>	COM <sup>2</sup> (observed)	ex-ante <sup>1</sup>
<b>Taxes on production and imports:</b>				
Change in tax-to-GDP ratio	0.1	0.0	-0.1	0.0
<i>Difference</i>	0.1		-0.1	
<i>of which<sup>3</sup>: - elasticity component</i>	0.1		0.0	
<i>- composition component</i>	0.0		0.0	
p.m.: Observed elasticity:				
- of taxes to tax base <sup>4</sup>	1.1	1.0	1.0	1.0
- of tax base <sup>4</sup> to GDP	1.0	1.0	1.0	1.0
<b>Social contributions:</b>				
Change in tax-to-GDP ratio	0.1	-0.2	0.0	-0.2
<i>Difference</i>	0.3		0.2	
<i>of which<sup>3</sup>: - elasticity component</i>	0.2		0.1	
<i>- composition component</i>	0.1		0.1	
p.m.: Observed elasticity:				
- of taxes to tax base <sup>5</sup>	1.5	1.0	1.2	1.0
- of tax base <sup>5</sup> to GDP	0.9	0.7	0.9	0.7
<b>Personal income tax<sup>6</sup>:</b>				
Change in tax-to-GDP ratio	0.6	0.5	0.0	0.5
<i>Difference</i>	0.1		-0.5	
<i>of which<sup>3</sup>: - elasticity component</i>	-0.4		-1.0	
<i>- composition component</i>	0.3		0.3	
p.m.: Observed elasticity:				
- of taxes to tax base <sup>5</sup>	2.9	4.5	1.2	4.5
- of tax base <sup>5</sup> to GDP	0.9	0.7	0.9	0.7
<b>Corporate income tax<sup>6</sup>:</b>				
Change in tax-to-GDP ratio	0.2	0.1	0.0	0.1
<i>Difference</i>	0.1		-0.1	
<i>of which<sup>3</sup>: - elasticity component</i>	0.3		0.0	
<i>- composition component</i>	-0.1		-0.1	
p.m.: Observed elasticity:				
- of taxes to tax base <sup>7</sup>	2.3	1.0	0.9	1.0
- of tax base <sup>7</sup> to GDP	1.1	1.5	1.1	1.5
<b>Notes:</b>	<sup>1</sup> Tax projections obtained by applying ex-ante standard tax elasticities estimated by the OECD <sup>2</sup> On a no-policy change basis <sup>3</sup> The decomposition is explained in the text above <sup>4</sup> Tax base = private consumption expenditure <sup>5</sup> Tax base = compensation of employees <sup>6</sup> 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 <sup>7</sup> Tax base = gross operating surplus			
<b>Source:</b>	<i>Commission services' autumn 2005 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)</i>			

## Annex 5: The rolling debt reduction benchmark

The rolling debt reduction benchmark discussed in Box 3 is calculated for successive five-year periods through a recursive application of the formula:

$$\left(\frac{D_t}{Y_t}\right)_{\text{benchmark}} = 0.05 * \left[ 60 - \left(\frac{D_{t-1}}{Y_{t-1}}\right)_{\text{benchmark}} \right] + \left(\frac{D_{t-1}}{Y_{t-1}}\right)_{\text{benchmark}}$$

where  $t$  is a time subscript and  $D$  and  $Y$  are the stock of government debt and nominal GDP, respectively (note that, in the first year of the five-year period, the debt ratio in the previous year is the actual debt ratio).

The change in the debt ratio can be decomposed as follows (assuming that the stock-flow adjustment is equal to zero):

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

where  $DEF$  is the government deficit and  $y$  represents nominal GDP growth.

Noting that  $0.05 * 60 = 3$ , the formula for 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%. For nominal GDP growth rates higher than 5%, the benchmark can be respected with deficits in excess of 3% of GDP; for nominal GDP growth rates lower than 5%, respect of the benchmark necessitates deficits lower than 3% of GDP.

## Annex 6: Indicators of long-term sustainability

**Table A1: Underlying assumptions compared**

% of GDP	2010		2020		2030		2050	
	EPC	SCP	EPC	SCP	EPC	SCP	EPC	SCP
Labour productivity growth	2,9	3,2	2,9	3,0	2,7	3,0	1,7	3,0
Real GDP growth	4,5	4,0	3,4	3,2	2,8	3,0	1,2	3,0
Participation rate males (aged 15-64)	83,8	81,5	87,2	81,1	87,0	81,5	86,1	85,1
Participation rates females (aged 15-64)	70,1	56,4	75,4	56,0	76,2	57,7	75,3	67,5
Total participation rates (aged 15-64)	76,8	69,4	81,2	69,0	81,6	69,7	80,7	76,6
Unemployment rate	4,2	3,4	4,2	3,5	4,2	3,5	4,2	3,5
Population aged 65+ over total population	13,4	13,2	17,2	16,5	21,0	20,8	26,1	28,1

**Table A2: Long-term projections**

Main assumptions - programme scenario (as % GDP)	2009	2010	2020	2030	2040	2050	changes	Impact on S2
<i>Total age-related spending</i>	17,1	17,3	19,6	22,5	24,6	26,6	9,5	9,4
Pensions	7,8	7,9	9,6	12,1	13,8	15,5	7,7	7,7
Health care and long-term care	3,4	3,5	4,0	4,5	4,9	5,3	1,9	1,8
Education	5,9	5,9	6,0	5,9	5,9	5,8	-0,1	-0,1
Unemployment benefits	:	:	:	:	:	:	:	:
<i>Total primary non age-related spending</i>	20,3	20,3	20,3	20,3	20,3	20,3	0,0	0,0
<i>Total revenues</i>	39,1	39,1	39,1	39,1	39,1	39,1	0,0	0,0

**Table A3: The cost of a five-year delay in adjusting the budgetary position according to the S1 and S2**

	S1	S2
<b>2005 scenario</b>	<b>0.7</b>	<b>0.0</b>
<b>Programme scenario</b>	<b>0.4</b>	<b>0.0</b>

Note: the cost of a delay shows the increase of the S1 and S2 indicators if they were calculated five years later.

**Table A4: Debt development**

Results (as % GDP)	2009	2010	2020	2030	2040	2050	changes
<i>Programme scenario</i>							
Gross debt	53,5	51,5	46,7	70,6	119,6	189,5	136,0
<i>Gross debt, i + 1*</i>	53,5	52,0	51,8	81,7	140,9	227,8	174,3
<i>Gross debt, i - 1*</i>	53,5	51,0	42,1	61,4	102,9	160,4	106,9
Adjusted gross debt	52,5	50,5	45,8	69,7	118,7	188,6	136,1
<i>2005 Scenario</i>							
Gross debt	64,8	64,3	75,5	116,3	182,7	269,9	205,2
<i>Gross debt, i + 1*</i>	64,8	65,0	82,7	133,2	215,7	328,3	263,6
<i>Gross debt, i - 1*</i>	64,8	63,7	69,0	102,1	156,4	225,7	160,9
Adjusted gross debt	63,8	63,4	74,7	115,5	181,8	269,1	205,2

\*  $i + 1$  and  $i - 1$  represents the evolution of debt under the assumption of the nominal interest rate being 100 basis points higher or lower throughout the projection period.

