European Commission

Directorate-General for Economic and Financial Affairs

Public finances in EMU - 2008

ACKNOWLEDGEMENTS

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EDITORIAL

The annual *Public finances in EMU* report was launched in 2000, one year after the Stability and Growth Pact took full effect. The objective, then as now, was to bring together in a single publication a review of key developments in the area of public finances in the Member States of the euro area and the EU as a whole. Over the years, thanks to the professionalism and dedication of the staff of the Directorate-General for Economic and Financial Affairs, the report has established a prominent place in the debate on fiscal policy in the EU. Judging from the valuable feedback that we regularly receive the report has become an important reference for practitioners and academics involved in the analysis of fiscal policy making and surveillance in the EU.

The content of this year's report is based on the well-known and successful formula of past years, essentially consisting of three major elements. The first element is a detailed description and analysis of recent budgetary developments and an assessment of the outlook over the coming years. This covers both the aggregate level, i.e. the euro area and the EU as a whole, and the individual Member States. The focal point of this year's analysis is the fiscal position achieved in 2007 against the wide margins of uncertainty attached to the short-term prospects. In spite of the still significant differences across countries, last year the headline deficit in the euro area and the EU as a whole reached its lowest level in decades. However, an array of adverse developments such as the US slowdown, the turmoil in financial markets, and record-high oil and commodity prices could jeopardise the fiscal adjustment achieved so far. If more progress had been made towards sustainable fiscal positions over the past years of high economic growth it would certainly have diminished potential risks to public finances in the medium term.

The second element of the report is an examination of the EU's fiscal surveillance framework. It contains a comprehensive account and analysis of how the provisions of the Stability and Growth Pact are implemented in practice, including proposals for improvements. This year's report calls attention to two issues: it discusses ways to improve (i) the assessment of the structural budget balance, which together with the revised Stability and Growth Pact has become the key instrument in the toolbox of EU fiscal surveillance, and (ii) the measurement and coverage of the quality of public finances.

The quality of public finances is also the third element of the report. In the past, the scope of this issue was largely limited to examining the composition of expenditure with some attempts being made to assess the effectiveness of individual expenditure categories. In this year's report we try to establish a more comprehensive framework bringing together the different yet interlinked dimensions of the quality of public finances and to provide some initial empirical illustrations of this framework. This is an ambitious project and will be further developed in subsequent issues of the report.

As in the past the ultimate success of our report will depend on the comments, reactions and input that we receive from you, the readers.

Klaus Regling

Director-General

Economic and Financial Affairs

SUMMARY AND MAIN CONCLUSIONS

Recent budgetary development, prospects and risks

<div style="float:left">Fiscal positions improved in 2007 …</div>

On the back of favourable economic conditions and buoyant revenue developments, public finances continued to improve significantly in 2007. The general government deficit fell to 0.6% of GDP in the euro area and 1.0% of GDP in the EU. Structural fiscal deficits are estimated to be at their lowest levels since the early 1970s. The budgetary improvements were broad based as 17 Member States recorded stronger fiscal positions in 2007 than in 2006. As a result, public debt dropped below the 60% of GDP threshold in the EU and is approaching this reference value in the euro area (Section I.1).

… leading to the abrogation of several excessive deficit procedures.

At the same time, Member States subject to the dissuasive arm of the Stability and Growth Pact have made considerable advances toward correcting their excessive deficits. With the abrogations of excessive deficit procedures for the Czech Republic, Italy, Portugal and Slovakia (June 2008), procedures remain active only concerning two non-euro-area members, Hungary and Poland, with the latter expected to come soon to a close. However, the fiscal outlook for the United Kingdom has deteriorated and the government expects the deficit to exceed the 3% of GDP reference value in 2008/2009, resulting in the Commission initiating a new excessive deficit procedure vis-à-vis the United Kingdom.

Progress toward MTOs in many Member States could mitigate the sustainability challenge.

Progress under the preventive arm of the Pact has been somewhat more uneven. On the one hand, most Member States have reached or are close to reaching their medium-term budgetary objectives (MTOs). These budgetary improvements have helped to significantly lift the outlook for long-term debt sustainability (Section I.4). To cover their current level of debt and the future cost of ageing, on average Member States would need to undertake and maintain a fiscal effort of 2½% of GDP based on their 2007 fiscal positions (down by ½ percentage point from last year). However, the overall risk classification of the EU Member States remains broadly unchanged with Portugal having been upgraded to 'medium risk' largely because of the expected positive effects of the 2006/2007 pension reform.

But the stalling consolidation progress in France and Romania resulted in Commission policy advice.

On the other hand, in a number of countries little progress has been made toward medium-term budgetary objectives. In particular in France, disappointing macroeconomic performance is combined with a stalling structural budgetary consolidation and the Commission services' spring 2008 forecast projects a deficit of 2.9% of GDP in 2008 and 3% in 2009. In Romania, macroeconomic imbalances have been on the rise and, despite some recent budgetary measures, the Commission services' 2008 spring forecast projected the headline deficit to be just below the 3% of GDP threshold in 2008 and at 3.7% of GDP in 2009. Against this backdrop, on 28 May 2008 and 11 June 2008 respectively the Commission addressed a policy advice to France and Romania. In particular, it recommended both Member States to implement rigorously the policy invitations of the Council issued on 12 February 2008 on the 2007 update of their stability and convergence programmes. Further it encouraged France to pursue with determination the ongoing structural reform process and Romania to take urgent action to implement a binding

medium-term fiscal framework and to accelerate structural reforms (Section I.2). The Commission policy advice was used for the first time after this instrument had been introduced with the 2005 reform of the Stability and Growth Pact. In contrast to other instruments, such as the early policy warning, it can be issued directly by the Commission, i.e. without the involvement of the Council, and can be used in a wide range of circumstances not limited to a deviation from budgetary targets.

Risks for the short-term outlook have also loomed larger.

Looking forward, EU Member States face stiff challenges in safeguarding their fiscal consolidation gains. They derive from policy short-comings in 2007, and from the unusual uncertainties about the economic outlook (Section I.3).

First, in most Member States, revenue windfalls as well as the better-than-expected 2006 outcomes were at least partly used to cover expenditure slippages. This runs contrary to the policy advice in the Council opinions on the 2006 updated stability and convergence programmes (SCPs) and, for the euro-area countries, the commitments made in spring 2007, notably "*to implement their 2007 budget as planned, avoiding expenditure overruns and using unexpected extra revenues for deficit and debt reduction*" ([1]). While the jury is still out on the actual drivers of the tax buoyancy in 2006 and 2007, experience suggests that a significant part of it may be short-lived. Specifically, the favourable asset price cycle and the boom in corporate profits, which gave rise to extra revenues in the past two years, have come or are coming to a close.

And second, there is a distinct risk that assumptions on medium-term growth prospects that underpin the current assessment of structural fiscal deficits and budgetary plans turn out to be on the high side. European Commission analysis indicates that many business cycle indicators, such as the rate of capacity utilisation in the manufacturing industry, suggest that the EU was operating in 2007 significantly above potential (i.e. in 'good times') and may now have reached its peak. However, the output gap estimates used for determining Member States structural fiscal deficits, which are based on a production function approach, still indicated that the EU economy was operating at its potential level. A similar constellation occurred in spring 2000 when the output gap was estimated at -1¼% of GDP and later revised upwards to +2% of GDP, implying that the structural balance at the time was overestimated by about 1½% of GDP. While revisions of similar size are unlikely given methodological improvements in measuring output gaps, significant corrections may still occur.

The envisaged consolidation for 2008-2010 is insufficient.

Member States' budgetary plans for 2008 and beyond need to be viewed against the backdrop of these risks. The updated SCPs foresee largely unchanged structural deficits for 2008 for the EU and the euro area (about 1% and ¾% of GDP respectively) and small improvements for 2009-2010. Budgetary outcomes could be worse if windfall revenues unwind. Moreover, as in the past many fiscal plans in the SCPs envisage expenditure cuts to be coupled with declines in the revenue share which

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([1]) "Eurogroup spring orientation debate on budgetary policies: Orientations for fiscal policies in euro area Member States", 20 April 2007.

entails considerable risks when considering the track record of frequent expenditure overruns.

Room for automatic stabilisation differs across Member States.

In case downside risks to growth materialise, many Member States have considerable room to let automatic stabilisers play thanks to the recent structural improvements in their budgetary positions while others are in a more difficult situation because of their delayed consolidation efforts in the past. In the light of the daunting medium- and long-term challenges for fiscal policy, those Member States that have not yet achieved their medium-term budgetary objectives should therefore continue to adjust their structural balances and let automatic stabilisers only play around this adjustment path while also adhering to the 3% deficit limit.

Improving budgetary surveillance

Broader and better indicators are needed.

Overall, the corrective arm of the Pact has been working well but the functioning of the preventive arm could be further improved as highlighted in the Commission communication accompanying the *Public finances in EMU − 2007* report. ([1]) In particular, greater medium- and long-term orientation of fiscal policy needs to be supported by developing or strengthening indicators in three interlinked areas.

Work on quality of public finance indicators is underway ...

A comprehensive set of information and indicators on quality of public finances (QPF) would allow fiscal surveillance to be broadened. Based on the conceptual framework for QPF and empirical links between QPF and growth set out in Section III, Section II.1.2 highlights a range of useful indicators as well as options on how to structure and combine the needed variables. This reflects ongoing work by the Commission services, in cooperation with Member States, on assembling relevant data from a range of internal and external sources.

Given the complexity of QPF, it cannot be captured in a single number, such as the sustainability indicator, but a broader range is needed. Bearing in mind these and other caveats, the report gives an illustrative example for constructing composite indicators for five dimensions of QPF. The preliminary results reveal that differences in QPF are large among Member States with no country outperforming on all fronts.

... but also requires better reporting in SCPs.

QPF indicators should be supplemented by country-specific information that could be based on Member States' SCPs. Currently however, most countries fall short of the Code of Conduct's requirements as regards the form and content on reporting on QPF (Section II.1.3). For example, only a few Member States report on the budgetary impact of qualitative measures and changes in the fiscal framework.

Capturing public sector productivity in national accounts remains difficult.

The measurement of public sector productivity in national accounts is another useful approach for capturing QPF (Section II.1.4). The concept of productivity, like that of efficiency, requires information about outputs and inputs, but since no market prices exist for public sector output, output was in the past equated with input or costs. Today however, this method is only applied for collective public services (supplied

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([1]) See "Ensuring the effectiveness of the preventive arm of the SGP" (COM(2007) 316 final).

simultaneously to an entire community, e.g. defence and security). For individual public services (supplied to individual members or groups in a community, e.g. medical care and education), Eurostat invited Member States instead to define output measures by 2006. For instance, for education hours of teaching per pupil was adopted as a quantity (output) indicator for primary and secondary schools while for health the number of treatments is used as an output. Application of the output method, however, caused problems in some countries, for example in the United Kingdom, since without taking into account the quality of public services changes in productivity are not accurately captured. The influential 'Atkinson Report', commissioned by the British government, proposed ways to address these short-comings by measuring efficiency through outcome measures. Based on these findings, Eurostat defined the outcome methods as the most appropriate, but in practice it turned out that some countries have difficulties even to eliminate the input method. Consequently, outcome methods have not been incorporated in the core accounts of the system of national accounting but only in some 'satellite accounts'.

The structural deficit measure could be refined ...

In addition to developing QPF indicators, the core indicator for fiscal surveillance, the structural fiscal balance, could be further improved through some technical changes. As detailed in the *Public finances in EMU − 2007* report, the structural budget balance provides on average a reasonably accurate measure of the underlying budget balance, but the indicator sends misleading messages when the cycle is close to a turning point or when economic growth is significantly more tax rich than in 'normal' years. Section II.2.1 suggests approaches to improve on both points.

… by assessing alternative indicators for the cyclical position.

To better capture the first aspect, i.e. the real-time cyclical position, the proposed strategy would be to supplement the commonly agreed methodology for the calculation of potential output and the output gap with indicators that are less prone to revisions, such as survey-based indicators including proxies for the rate of capacity utilisation of production factors. The analysis compares the real-time output gap estimates using the current production function approach with two alternative econometric techniques: a purely statistical method making use of a broad set of indicators and an extended production function method integrating the rate of capacity utilisation. The results show that the two alternative methods and in particular the extended production function approach, improve notably the real-time output gap estimates, opening avenues for future improvement of the current methodology.

But dealing with tax elasticity fluctuations is not straight-forward.

The work aimed at dealing with the second measurement problem, short-term fluctuations in the tax content of GDP, turns out to be more complex. On the one hand, the results clearly suggest some key factors behind the varying tax elasticities, such as changes in the composition of GDP. On the other hand, to appropriately use them to cleanse the budget balance of cyclical fluctuations one would need to know, for example, the equilibrium levels of consumption, the wage share in GDP, or asset prices. Even if a clear and unique answer to this question could be given, it would involve a complex theoretical apparatus, which would weigh considerably on the operational side of an indicator. Section II.2.1

provides some quantification of the impact of composition effects which can help to understand part of the evolution of taxes in recent years.

Medium-term budgetary objectives should also account for implicit liabilities.

To fully capture the Member States sustainability challenges, the reformed SGP provides for medium-term budgetary objectives (MTOs) to be revised to also include implicit liabilities resulting from population ageing. On this basis, the Commission has, over the past two years, worked in consultation with the relevant Council committees on the criteria for updating the definition of the MTOs. Since last year's progress report that outlined alternative options, the Commission services have put forward a detailed proposal on defining the new MTOs that would ensure progress towards sustainability, convergence of outstanding government debt towards 'prudent levels' and a safety margin against breaching the 3% of GDP fiscal deficit reference value of the Treaty; the key outstanding issues are set out in Section II.2.2.

Analytical sections

Quality of public finances deserves more attention.

Improving the quality of public finances (QPF) has increasingly received greater attention by policy makers and provides a promising avenue to broaden and deepen fiscal and economic surveillance under the Stability and Growth Pact (SGP) and the Lisbon Strategy for Growth and Jobs − a key aspect of the Commission's three-pillar agenda for the second decade of EMU. ([1]) The new focus is largely a response to preparing the European economies for a dual challenge: (i) their ageing populations, which jeopardise the sustainability of public finances unless the consolidation process is continued and accompanied by structural reforms that reduce the budgetary cost of ageing and (ii) increasing exposure to global competition, which puts pressure on EU governments to lower the, on average, relatively high tax, administrative and regulatory burden and to improve the provision of public services and goods, so as to deliver the much-requested better value for money. Better QPF can help tackle both challenges: either directly through fiscal consolidation and pension reforms (as called for under the SGP) or indirectly by contributing to sufficient long-term growth as expenditure and revenue systems are becoming more efficient and less distortionary (as called for under the Lisbon Strategy).

The two analytical parts of the report provide a conceptual framework for QPF, review and assess the empirical links to economic growth and provide specific policy options in raising the efficiency of tax systems.

The quality of public finance: a conceptual framework

Quality of public finances has many facets ...

QPF can be viewed as a concept with many dimensions. In this analysis it encompasses all arrangements and operations of fiscal policy that support the macroeconomic goals of fiscal policy, in particular long-term economic growth. The impact on growth can run in principle through (i) the size of the government, (ii) the level and sustainability of fiscal positions, (iii) the composition and efficiency of expenditure and (iv) the

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([1]) See European Commission Communication "EMU@10: successes and challenges after 10 years of Economic and Monetary Union" (COM(2008) 238 final).

structure and efficiency of revenue systems. At the same time, (v) fiscal governance, i.e. the set-up of fiscal rules, institutions and procedures, can affect all of the above four dimensions. Moreover, there are many non-budgetary ways in which public finances can impact on the functioning of markets and the overall business environment, which can therefore be viewed as a sixth, though indirect, dimension of QPF.

… through which it can support economic growth.

Taking such a broad-based multi-dimensional approach to QPF has a number of advantages. It reflects the complex nature of the relationships between QPF and growth and attempts to avoid the 'omitted variables problem'. For example, focusing solely on the level of expenditure items that raise productivity would overlook the fact that such spending may be financed through a high and distortionary tax burden. Also, the multi-dimensional concept of QPF provides fiscal policy makers with a wide range of mixes of policy options that can explicitly account for country specificities and other-than-growth objectives. Growth has been chosen as the framework's benchmark since growth can be viewed as a precondition for achieving other goals, such as social cohesion, and is the identified objective under both the SGP and the Lisbon Strategy.

This provides a wide range of policy options.

Despite the complexity of QPF, a number of empirical regularities have emerged on the links to growth. The key findings of the literature, which often focus on only one or two specific QPF aspects, and the empirical analysis in this report can be summarised as follows:

First, sound overall public finances remain the linchpin of fiscal policy-making conducive to economic growth. High-debt countries are, for example, found to have significantly lower medium-term growth and capital accumulation plays a less significant role for GDP growth in these countries due to crowding-out effects.

Second, when public administrations become too large they tend to hinder economic growth in particular if they are associated with high tax burdens on labour and capital and inefficient use of public resources. Problems are compounded by large deficits and high levels of debt. On the other hand, when governments excel in these dimensions of QPF, large public sectors can go hand in hand with strong growth performances.

Third, whether certain types of public expenditure (such as public investment or spending on education and health) are growth-enhancing largely depends on their ability to address market failures and provide public goods. Thus, it is rather the outcomes (such as a public infrastructure or educational attainment) and the institutional settings (e.g. labour market flexibilities) than the level of inputs that matter for growth. For example, our analysis finds that economies with less flexible labour markets tend to have a lower contribution of skilled labour to economic growth, implying that even in the case of higher public spending on education the impact on economic growth may be held back by rigid labour market institutions.

Fourth, revenue structures that limit distortions and disincentives are typically associated with higher growth (see below).

And finally, achieving results on all of the above fronts of QPF can be facilitated by strong fiscal governance frameworks. They can contribute not only to improving budgetary performance and thereby strengthening fiscal sustainability but also to providing a more medium-term orientation with better focus on budgetary priorities and raising efficiency and effectiveness by better linking input and performance.

The efficiency of tax systems

While more efficient tax systems could support growth and employment, …

The size of the tax burden and the structure of taxes have a clear impact on the allocation of labour and capital and, in turn, on economic growth. Abstracting from significant cross-country differences, the EU as a whole is characterised by a relatively high tax burden, reflecting governments' needs to finance high expenditure levels. In particular, high taxes on labour have been identified as a key reason for low employment levels and slow employment growth. At the same time, closer economic integration and the greater factor mobility across countries impose limits on governments when choosing the sustainable level of taxation and hence expenditure.

The following elements can contribute to enhancing the efficiency of tax systems in Europe. Broad tax bases combined with low statutory tax rates help reduce distortions and increase tax revenues. As regards the labour market, a readjustment of the tax burden between different groups of workers and a better integration of tax and benefit systems would be conducive to raising employment levels. At the same time, a budget-neutral easing of the tax burden on labour while raising the tax rate on a broader tax base, such as consumption, could help reduce the economic distortions of taxation. And finally, taking into account practical and administrative considerations, it can also pay off to simplify the often complex tax systems.

… shifting from labour to consumption taxes is only one of many possible aspects.

One option to reduce the tax burden on labour that receives particular attention in the policy debate is the shift from labour income taxation or social security contribution to value added tax (VAT). In model simulations by the Commission services for the euro area, a 1% of GDP tax shift from labour taxation to consumption taxation is estimated to raise real GDP by about 0.1% in the first year and by about 0.2% in the long run. Employment is estimated to increase by about 0.14% in the first year and 0.25% in the long run. Such positive, but limited employment and growth effects depend on a number of factors, such as the adjustment of benefits and nominal rigidities in the economy. Compared to a situation in which an individual euro-area country unilaterally engages in the tax shift, a coordinated shift throughout the euro area results in larger positive effects for all countries. In principle, the employment and growth effects of the tax shift result from the broader tax base of the VAT. It falls on labour income, accumulated wealth and profit incomes rather than just labour income. This implies that the same tax revenue can be raised with lower tax rates and the negative effect on labour market outcomes is dampened.

In sum, tax reforms should continue to be designed so as to foster growth and minimise distortions through simplifying the rules and broadening the

tax bases, including eliminating loopholes and inefficient tax expenditures. Reducing the high tax burden on labour by shifting to other tax bases, including consumption, can be an element in this strategy, but is an inadequate long-run instrument to address underlying structural problems.

Part I

Current developments and prospects

SUMMARY

The current state of public finances is typified by sharp contrasts of light and shade. While the fiscal position of the euro area and the EU attained in 2007 is the best in decades, the short-term outlook is overshadowed by a number of downside risks which, if they materialise, could give rise to a setback on the way towards sustainable fiscal positions.

Starting with the bright side, in 2007 a combination of favourable economic conditions and fiscal efforts kept public finances on the virtuous path initiated at the time of the Stability and Growth Pact reform, three to four years ago. Abstracting cross-country differences, which remain large, the general government deficit in both the euro area and the EU as a whole fell below one percent of GDP, to 0.6% and 0.9%, respectively. The last time comparable levels were recorded was in the early 1970s shortly before the first oil shock pushed the European economies into a protracted recession and put considerable strain on public finances. In most of the EU countries the notified outcome for 2007 is somewhat better than the official targets laid down in the 2006 vintage of the stability and convergence programmes (SCPs).

The overall progress also reflects the fiscal corrections put in place by countries that were in excessive deficit. In January 2006, no less than twelve countries were subject to the procedure under the dissuasive arm of the Stability and Growth Pact (SGP). Two years on, the number is down to two, Hungary and Poland, with the procedure for the latter expected to come soon to a close. Since the last publication of this report, the Council abrogated the excessive deficit procedure for the United Kingdom (October 2007), the Czech Republic, Italy, Portugal and Slovakia (June 2008).

But fiscal improvements did not continue in all Member States. Therefore, the Commission used two of its policy instruments for three Member States, where the fiscal and economic outlook has deteriorated. It issued a policy advice to France and Romania and initiated a new excessive deficit procedure vis-à-vis the United Kingdom. The Commission policy advice was used for the first time since it was introduced with the 2005 reform of the Stability and Growth Pact. In contrast to other instruments, such as the early policy warning, it can be issued directly by the Commission, i.e. without the involvement of the Council, and can be used in a wide range of circumstances not limited to a deviation from budgetary targets.

To France, the Commission addressed a policy advice in light of disappointing macroeconomic performance that is combined with a stalling structural budgetary consolidation. The Commission services' spring 2008 forecast projects a deficit of 2.9% of GDP in 2008 and 3% in 2009. In light of this, on 28 May 2008 the Commission, in its policy advice to France, recommended to implement rigorously the policy invitations of the Council issued on 12 February 2008 on the 2007 update of the stability programme and pursue with determination the ongoing structural reform process.

In Romania, the economy has shown signs of overheating and large and rising external imbalances have emerged. At the same time, despite some recent budgetary measures, the Commission services' 2008 spring forecast projected the headline deficit to be just below the 3% of GDP threshold in 2008 and, under a no-policy-change assumption, well above it in 2009, at 3.7% of GDP. Against this backdrop, on 11 June 2008 the Commission addressed a policy advice to Romania recommending the authorities to implement rigorously the policy invitations of the Council issued on 12 February 2008 on the 2007 update of the convergence programme and to take urgent action to implement a binding medium-term fiscal framework and to accelerate structural reforms.

After the abrogation of its excessive deficit procedure in October 2007, the outlook for the UK's general government balances has deteriorated again. According to the EDP data notified by the UK authorities in March 2008 and also published in the United Kingdom's March 2008 budget, the general government deficit in the United Kingdom is planned to reach 3.2% of GDP in 2008/09. At the same time, a rising trend for the general government gross debt was projected, even though it was forecast to remain below 60% of GDP. In the light of this, on 11 June 2008 the Commission adopted a report under Article 104(3) of the Treaty on government finances in the UK, thereby

initiating a new excessive deficit procedure vis-à-vis the UK on the basis of a planned deficit exceeding the reference value.

Despite a weakening of fiscal performance in some individual Member States, a further facet of the overall improvements in budgetary positions in most others is its impact on the assessment of long-term sustainability of public finances. Assuming that current achievements are preserved, most Member States managed to narrow the budgetary gap to ensure sustainable public finances including the budgetary costs of ageing.

In the face of the clear progress made in 2007, the aggregate figures mask several areas of concern especially in view of the ongoing slowdown of economic activity, the extent of which is subject to considerable uncertainty. To start with, the favourable budgetary outcomes largely benefited from revenue windfalls which in many cases were partly used to cover expenditure overruns. If the extra revenues had been fully used to reduce the deficit, in line with the policy advice in the Council opinions on the 2006 updated SCPs and, for the euro area countries, the commitments made in spring 2007 in Berlin, more significant progress towards sustainable fiscal positions would have been achieved. The expenditure overruns confirm a discomforting pattern observed over many years. Considering that a significant part of the extra revenues recorded in 2006 and 2007 is likely to vanish as economic activity decelerates and that the cyclical position may have been underestimated, the tendency to overspend is liable to seriously limit the room for manoeuvre in the coming years. The experience of the late 1990s and early 2000s, which in many ways resembles the current juncture, was quite telling.

According to the Commission services' spring 2008 forecast, which is based on the customary no-policy-change assumption, public finances will reflect the projected slowdown of economic activity. In particular, the process of deficit reduction observed since 2004 is expected to grind to a halt.

Looking further ahead in time, assessment of the 2007 vintage of SCPs reveals another source of concern, which in combination with the recurrent

tendency to overspend compared to plans, bodes ill for the medium term. As in the past, the bulk of the fiscal adjustment planned over the next three to four years is back-loaded, i.e. projected to take place in the later years of the programme period, with little to no progress in underlying terms in 2008 and 2009. In an uncertain economic context as at present, this strategy is likely to revive a practice that had largely been shelved in recent years, namely transforming medium-term budgetary objectives into moving targets that get successively revised downward in the light of economic surprises instead of acting as an anchor for fiscal policy making.

Overall, the particularly large degree of uncertainty attached to short-term economic prospects and recurrent departures from expenditure plans create major challenges for public finance developments in the coming years. While many Member States have considerable room to let automatic stabilisers play thanks to the recent structural improvements in their budgetary positions, others are in a more difficult situation because of their delayed consolidation efforts in the past. To avoid the *déjà vu* of the early 2000s, when a number of Member States entered the economic slowdown after having spent sizeable revenue windfalls, it will be crucial for those countries who have not yet reached their medium-term budgetary objectives to continue to adjust their structural balances and let automatic stabilisers only play around this adjustment path while also adhering to the 3% deficit limit. Relying on cautious macroeconomic projections and better implementation of expenditure plans should be key ingredients for such a strategy.

1. BUDGETARY DEVELOPMENTS IN THE EURO AREA AND THE EU MEMBER STATES

1.1. SHORT-TERM DEVELOPMENTS AND PROSPECTS FOR THE BUDGET BALANCE AND PUBLIC DEBT

In 2007, the budgetary positions improved for the fourth year running, recording again a major progress in comparison to the previous year, with average budget deficits in the euro area and the EU reaching their lowest levels since 1973, before the first oil shock. The euro-area headline deficit reached 0.6% of GDP, down from 1.3% of GDP in 2006 (Table I.1.1). A slightly more moderate improvement took place in the EU as a whole, where the budget deficit declined by 0.5 percentage points reaching 0.9% of GDP in 2007 (Table I.1.2). In both the euro area and the EU the improvement in the headline deficit was matched by a broadly similar improvement of the structural budget balance, i.e. the budget balance net of cyclical factors and one-off and other temporary measures. Taken at face value this result would seem to suggest that the improvement in the headline deficit was fully structural or permanent. However, at the current juncture the estimates of the structural budget balance are still likely to be affected by the exceptional buoyancy of tax revenues ([1]).

In 2007, the improvement in the (nominal) budget balance was particularly sizeable in Germany where the deficit fell by 1.6 percentage points and a balanced budget was achieved. Italy and Portugal both succeeded in bringing the deficit below the 3% of GDP reference value of the Treaty. In Cyprus (following data corrections) the deficit was replaced by a large surplus. Conversely, in Greece the development of the headline deficit stagnated, and the 3% threshold was only just undercut. As to France, here the deficit slightly deteriorated to 2.7%. The budgetary developments in countries with fiscal surpluses varied. The surplus in the Netherlands remained approximately constant, while in Ireland it declined very considerably. Spain and Finland managed to even further increase their surpluses.

A positive impact was also felt outside the euro area in 2007, where relative to the previous year the budgetary position weakened in only few Member States. A very large improvement of almost four percentage points was recorded in Hungary. In Poland and Slovakia the deficit dropped well below the 3% threshold, while in the Czech Republic it remained there. However, in the United Kingdom the deficit deteriorated and came very close to the 3% of GDP reference value of the Treaty. As to the other Member States outside the euro area, they mostly reported surpluses which sometimes also increased.

Looking ahead to 2008 and 2009, the public finance situation is expected to slightly deteriorate in light of slowing economic growth. The Commission services' spring 2008 forecast projects euro area (EU) real GDP to expand by 1.7 (2.0)% in 2008, compared to 2.6 (2.8)% in 2007, and to slow further to 1.5 (1.8)% in 2009. Against this growth outlook, the aggregate deficit of the fifteen Member States which have adopted the single currency is expected to reach 1.0% of GDP in 2008, 0.4 percentage points higher than the year before. Based on the no-policy-change assumption a further small deterioration to 1.1% of GDP is projected in 2009. Broadly the same profile is expected for the EU as a whole. The deficit is forecast to rise to 1.2% of GDP in 2008, from 0.9% in 2007, and to continue to rise to 1.3% of GDP in 2009.

Outside the euro area, the development of budgetary positions is likely to be more diverse. The nominal deficit in Hungary is projected to continue to considerably improve over the forecast horizon, but to nevertheless remain above the 3% threshold by 2009. In the Czech Republic, and also in Poland and in Slovakia, the deficit is expected to stay well below the 3% of GDP reference value of the Treaty in both years. Conversely, the United Kingdom is forecast to breach the 3% threshold from 2008 onwards and Romania in 2009. For Estonia and Latvia a significant budgetary worsening is projected,

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([1]) Tax revenues were much higher than projected in the SCPs in 2005-2007. See Section I.3 below.

Table I.1.1:
Budget balances in EU Member States (% of GDP)

	Budget balance				**Structural balance**				**Structural primary balance**			
	2006	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**
BE	0.3	-0.2	-0.4	-0.6	-0.6	-0.3	-0.2	-0.1	3.4	3.6	3.4	3.4
DE	-1.6	0.0	-0.5	-0.2	-1.4	-0.3	-0.8	-0.8	1.3	2.5	1.8	1.8
IE	3.0	0.3	-1.4	-1.7	2.9	0.2	-0.8	-0.9	4.0	1.2	0.2	0.2
EL	-2.6	-2.8	-2.0	-2.0	-3.7	-3.3	-2.6	-2.3	0.4	0.8	1.4	1.6
ES	1.8	2.2	0.6	0.0	2.0	2.4	1.1	0.9	3.6	3.9	2.7	2.5
FR	-2.4	-2.7	-2.9	-3.0	-2.7	-2.7	-2.8	-2.6	-0.2	0.0	0.0	0.1
IT	-3.4	-1.9	-2.3	-2.4	-2.8	-1.5	-1.9	-1.6	1.8	3.5	3.1	3.3
LU	1.3	2.9	2.4	2.3	1.4	2.8	2.7	2.9	1.6	3.0	2.9	3.1
NL	0.5	0.4	1.4	1.8	1.1	0.3	1.0	1.3	3.3	2.6	3.0	3.2
AT	-1.5	-0.5	-0.7	-0.6	-1.4	-1.0	-1.2	-0.9	1.3	1.7	1.5	1.7
PT	-3.9	-2.6	-2.2	-2.6	-3.2	-2.2	-1.9	-2.2	-0.4	0.6	0.8	0.6
SI	-1.2	-0.1	-0.6	-0.6	-1.3	-0.7	-1.1	-0.7	0.1	0.6	0.1	0.4
FI	4.1	5.3	4.9	4.6	4.2	4.9	4.8	4.9	5.6	6.4	6.2	6.1
MT	-2.5	-1.8	-1.6	-1.0	-2.9	-2.4	-1.7	-1.0	0.7	0.9	1.5	2.1
CY	-1.2	3.3	1.7	1.8	-0.7	3.5	1.9	2.0	2.6	6.7	4.8	4.8
EA-15	**-1.3**	**-0.6**	**-1.0**	**-1.1**	**-1.2**	**-0.7**	**-1.0**	**-0.9**	**1.6**	**2.3**	**1.9**	**2.0**
BG	3.0	3.4	3.2	3.2	2.5	3.1	2.9	3.2	3.9	4.1	3.8	4.0
CZ	-2.7	-1.6	-1.4	-1.1	-2.9	-2.3	-1.9	-1.5	-1.8	-1.2	-0.8	-0.4
DK	4.8	4.4	3.9	2.9	4.1	3.9	4.6	3.7	5.7	5.4	6.0	4.9
EE	3.4	2.8	0.4	-0.7	1.0	1.3	0.4	0.6	1.2	1.4	0.5	0.8
LV	-0.2	0.0	-1.1	-2.1	-1.1	-1.4	-1.3	-1.1	-0.6	-0.8	-0.8	-0.6
LT	-0.5	-1.2	-1.7	-1.5	-1.0	-1.4	-2.0	-1.3	-0.2	-0.6	-1.3	-0.6
HU	-9.2	-5.5	-4.0	-3.6	-9.7	-4.7	-3.7	-3.3	-5.8	-0.6	0.5	0.8
PL	-3.8	-2.0	-2.5	-2.6	-4.0	-2.5	-2.7	-2.3	-1.3	0.1	0.0	0.3
RO	-2.2	-2.5	-2.9	-3.7	-2.7	-3.4	-3.7	-4.1	-1.9	-2.7	-2.9	-3.2
SK	-3.6	-2.2	-2.0	-2.3	-3.1	-2.6	-2.8	-3.1	-1.7	-1.2	-1.5	-1.7
SE	2.3	3.5	2.7	2.3	1.5	2.8	2.4	2.5	3.2	4.6	4.1	4.2
UK	-2.6	-2.9	-3.3	-3.3	-2.8	-3.0	-3.2	-2.8	-0.8	-0.8	-1.1	-0.7
EU-27	**-1.4**	**-0.9**	**-1.2**	**-1.3**	**-1.5**	**-1.0**	**-1.2**	**-1.1**	**1.1**	**1.7**	**1.4**	**1.5**

Note: The structural budget balance is calculated on the basis of the commonly agreed production function method (see European Commission (2004)).
Source: Commission services' spring 2008 forecast.

while the remaining Member States outside the euro area are often expected to maintain relatively comfortable surpluses.

In structural terms, i.e. net of cyclical factors and one-off and other temporary measures, the projected deterioration in both the euro area and the EU in 2008 is broadly similar to that of the nominal deficit. In particular, the structural balance is estimated to deteriorate by 0.3% of GDP in the euro area and by 0.2% of GDP in the EU as a whole, with only marginal improvements projected for 2009.

The group of euro-area countries that have already achieved their medium-term budgetary objective (MTO) is expected to remain almost unchanged over the projection horizon. Only Ireland and Slovenia are forecast to deviate from their MTOs, the latter only marginally so in 2008. In most euro-area Member States which have not yet attained their MTOs, progress will likely be only marginal or could be even negative. Thus, they fall far short of the 0.5% of

GDP benchmark structural fiscal adjustment required by the reformed Stability and Growth Pact. A significant improvement is only expected in Greece and Malta (which both are still relatively far away from their MTOs).

Outside the euro area, overall a similar picture emerges. The countries which have already reached their MTOs are expected to remain there. With regard to the Member States, which have not yet attained it, a sizeable improvement is only expected in Hungary and the Czech Republic (which both are also still relatively far away from their MTOs). For Romania and Slovakia even significant deteriorations are forecast.

Turning to government debt, in the euro area the debt-to-GDP ratio continues to be on the decline (Table I.1.3). In 2007 the ratio dropped by 2.1 percentage points to 66.4%. A further decline to

Table I.1.2:

Euro area - The General government budget balance (% of GDP)

	2004	2005	2006	2007	2008	2009
Total revenue (1)	44.6	44.9	45.7	45.6	45.2	45.2
Total expenditure (2)	47.5	47.4	47.3	46.3	46.2	46.2
Actual balance (3) = (1) - (2)	-2.9	-2.5	-1.3	-0.6	-1.0	-1.1
Interest (4)	3.1	2.9	2.9	3.0	2.9	2.8
Primary balance (5) = (3) + (4)	0.2	0.4	1.6	2.3	1.9	1.8
One-offs (6)	0.3	0.2	-0.1	-0.1	0.0	0.0
Cyclically adjusted balance (7)	-2.6	-2.0	-1.2	-0.7	-1.0	-0.8
Cyclically adj. prim. balance = (7) + (4)	0.5	0.9	1.7	2.3	1.9	2.0
Structural budget balance = (7) -(6)	-2.8	-2.0	-1.1	-0.8	-0.7	0.3
Change in actual balance:	0.2	0.4	1.2	0.7	-0.4	-0.1
- Cycle	-0.1	-0.3	0.3	0.2	0.1	0.1
- Interest	0.2	0.1	0.1	-0.1	0.1	0.1
- Cycl.adj.prim.balance	0.1	0.4	0.8	0.6	-0.4	0.1
- One-offs	-0.1	-0.1	-0.3	0.1	0.0	0.0
- Structural budget balance	0.3	0.8	0.9	0.3	0.1	0.1

Note: Differences between totals and sum of individual items are due to rounding.

Source: Commission services' spring 2008 forecast.

64.3% of GDP by 2009 is projected as primary surpluses coupled with a positive contribution from interest expenditure and economic growth are expected to more than offset the effect of debt-increasing stock-flow adjustment.

In the EU as a whole, the debt ratio has dropped below the 60% of GDP reference value of the Treaty in 2007 but progress will likely halt over the near term. From its level of 58.7% in 2007, the debt-to-GDP ratio is projected to decline only slightly (to 58.3%) in 2008, before rising again to 59.3% in 2009, not least because of a very significant increase in UK debt.

Aggregate figures tend to mask diverging developments at the country level. In 2007, Italy continued to have a debt ratio above 100% of GDP, a condition which is expected to continue throughout until 2009. In Belgium the government debt remained on a steady downward path. It fell below 90% of GDP in 2006 and is expected to be at just below 80% of GDP by 2009. Among the other countries with debt ratios above the 60% of GDP threshold, notably Germany, France, Portugal, Hungary and Malta, only Malta is forecast to reduce its debt ratio below the reference value of the Treaty by 2009 without additional measures. In Portugal the debt ratio is projected on a very moderately upward path over the forecast period.

1.2. GOVERNMENT REVENUE AND EXPENDITURE

In 2007, the observed improvement in budgetary positions was chiefly the result of a lower expenditure-to-GDP ratio (see Table I.1.4). The decline in that ratio was due to slightly lower social transfers other than in kind and to other expenditures. As to the revenue side, a major positive contribution came from taxes on income and wealth which increased by 0.4% of GDP in the euro area and by 0.2% in the EU, thanks to a buoyant inflow of corporate income taxes. However, section I.3. sheds a different light on the composition of the improvements in the budget balance. It shows that compared to the plans presented in the 2006 updates of the stability and convergence programmes, significant nominal expenditure overruns were compensated by large windfall revenues. Much higher than expected nominal growth masks these developments in the expenditure-to-GDP ratios.

According to the Commission services' spring 2008 forecast, it is insufficient progress on both the expenditure and revenue sides of the budget which prevents further adjustment in 2008-2009 in the Member States that have not yet achieved their medium-term budgetary objective. For the euro area as a whole, a projected decline in the revenue ratio of 0.4 percentage points of GDP is forecast to be only very partly offset by a

Table I.1.3:

Composition of changes in the government debt ratio in EU Member States (% of GDP)

	Gross debt				Change in gross debt	Change in 2007-09 due to	
	2006	2007	2008	2009	2007-09	Primary balance	Interest &growth contribution	Stock-flow adjustment
BE	88.2	84.9	81.9	79.9	-5.0	-6.2	0.8	0.5
DE	67.6	65.0	63.1	61.6	-3.5	-4.5	1.0	0.0
IE	25.1	25.4	26.9	28.8	3.4	0.9	-0.1	2.6
EL	95.3	94.5	92.4	90.2	-4.3	-3.8	-4.6	4.2
ES	39.7	36.2	35.3	35.2	-0.9	-3.8	0.1	2.7
FR	63.6	64.2	64.4	65.1	0.9	0.4	1.0	-0.5
IT	106.5	104.0	103.2	102.6	-1.4	-5.2	3.5	0.3
LU	6.6	6.8	7.4	7.6	0.7	-5.1	0.0	5.9
NL	47.9	45.4	42.4	39.0	-6.3	-7.1	-0.3	1.1
AT	61.8	59.1	57.7	56.8	-2.4	-3.9	0.4	1.1
PT	64.7	63.6	64.1	64.3	0.7	-0.7	0.7	0.7
SI	27.2	24.1	23.4	22.5	-1.6	-1.0	-1.0	0.5
FI	39.2	35.4	31.9	29.1	-6.3	-12.2	-0.9	6.8
MT	64.2	62.6	60.6	58.8	-3.8	-3.7	0.6	-0.7
CY	64.8	59.8	47.3	43.2	-16.6	-9.1	-1.4	-6.0
EA-15	**68.5**	**66.4**	**65.2**	**64.3**	**-2.1**	**-3.7**	**0.8**	**0.7**
BG	22.7	18.2	14.1	10.8	-7.4	-8.2	-2.2	2.9
CZ	29.4	28.7	28.1	27.2	-1.5	0.3	-2.0	0.2
DK	30.4	26.0	21.7	18.4	-7.6	-9.4	0.7	1.1
EE	4.2	3.4	3.4	3.5	0.1	0.0	-0.7	0.4
LV	10.7	9.7	10.0	11.2	1.5	2.1	-1.4	0.9
LT	18.2	17.3	17.0	16.8	-0.4	1.8	-2.7	0.5
HU	65.6	66.0	66.5	65.7	-0.3	-0.7	-0.1	0.6
PL	47.6	45.2	44.5	44.1	-1.2	-0.2	-2.2	1.3
RO	12.4	13.0	13.6	14.9	2.0	5.0	-1.8	-1.2
SK	30.4	29.4	29.2	29.7	0.3	1.6	-2.2	0.9
SE	45.9	40.6	35.5	31.9	-8.6	-8.4	0.8	-1.0
UK	43.1	43.8	45.6	48.2	4.4	2.3	1.2	0.9
EU-27	**61.3**	**58.7**	**58.3**	**59.3**	**0.6**	**-2.7**	**1.6**	**0.8**

Note: Differences between the sum and the total of individual items are due to rounding.
Source: Commission services' spring 2008 forecast.

reduction in the expenditure ratio of 0.1% of GDP.

At the level of the Member States, the patterns are generally similar. In Belgium, Luxembourg, Ireland, Portugal, Cyprus, and, outside the euro area, in Denmark, Estonia, Lithuania, Romania, and the UK, expenditure ratios are projected to increase in 2008-2009. Conversely, a large decline is only expected in Hungary.

The revenue ratios are set to increase in 2008-09 in Greece, the Netherlands, Portugal, Cyprus, and, outside the euro area in Lithuania, Hungary, Romania and the UK, whereas important reductions are foreseen in Slovenia, Denmark and Sweden.

Given that so far in the euro area, as well as in the EU, a decline in expenditure on collective consumption, social benefits in kind and transfers other than in kind is not scheduled to

happen, the scope for a budgetary neutral decrease in social contributions is actually limited. The projected budgetary adjustment in the euro area and the EU does not seem to weigh on growth enhancing spending items such as public investment, education and R&D. Gross fixed capital formation in the euro area is projected to remain broadly stable at around 2½% of GDP, while in the EU as a whole a marginal increase is expected. The reduction in the share of interest expenditure that has contributed to a better allocation of available resources in past years will very slowly continue.

1.3. THE FISCAL STANCE AND POLICY MIX IN THE EURO AREA

An appropriate policy mix can be defined as a combination of monetary and fiscal policies that ensures price stability and keeps economic activity close to its potential level. In the euro

Table I.1.4:

Euro area - Government revenue and expenditures (% of GDP)

	2006	**2007**	**2008**	**2009**
Total revenue	**45.7**	**45.6**	**45.2**	**45.2**
Taxes on imports and production (indirect)	13.6	13.5	13.4	13.4
Current taxes on income and wealth	12.1	12.5	12.4	12.3
Social contributions	15.4	15.2	15.1	15.1
of which actual social contributions	14.3	14.1	14.1	14.0
Other revenue	4.6	4.3	4.3	4.3
Total expenditure	**47.3**	**46.3**	**46.2**	**46.2**
Collective consumption	8.0	7.9	7.9	7.9
Social benefits in kind	12.3	12.2	12.3	12.4
Social transfers other than in kind	16.2	15.9	15.9	15.9
Interest	2.9	3.0	2.9	2.8
Subsidies	1.2	1.2	1.2	1.2
Gross fixed capital formation	2.5	2.6	2.6	2.6
Other expenditures	4.2	3.5	3.4	3.3

Note : Differences between the sum and the total of individual items are due to rounding.

Source : Commission services' spring 2008 forecast.

area, given that monetary policy is centralised and fiscal policies are decentralised, it is of a particular importance to assess both the aggregate fiscal stance at the euro-area level and the national fiscal stances. Namely, the aggregate fiscal stance affects the policy mix at the euro-area level and is, therefore, one of the elements to be considered by the monetary policy authority.

Graph I.1.1 displays the fiscal stance approximated by the change in the cyclically-adjusted primary budget balance (Δ CAPB) in relation to the change in the cyclical conditions estimated by the level of the output gap ([1]).

In this graph, fiscal behaviour in accordance with the SGP would be represented by movements along the horizontal axis. In other words, countries would achieve and maintain broadly balanced budgets over the economic cycle. However, as long as a Member State has not yet

Graph I.1.1: **Euro-area fiscal stance and output gap**

Source: Commission services' spring 2008 forecast.
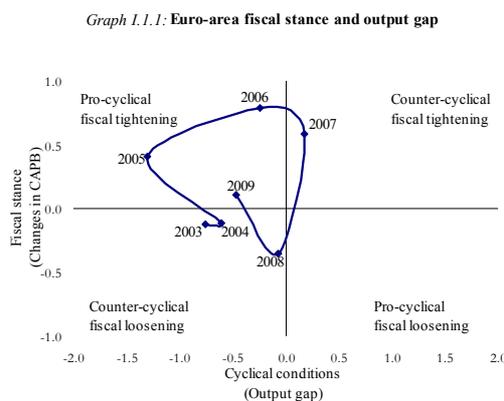
reached the medium-term budgetary objective in line with the provisions of the SGP, a restrictive fiscal stance – that is a positive change in the CAPB – would be needed.

On the face of it, in 2007 the fiscal stance in the euro area would seem to have been counter-cyclical as the budget balance net of cyclical factors and interest payments improved against a background of an output gap that is estimated to have turned positive. This conclusion is confirmed when cyclical conditions are

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([1]) It should be noted, however, that *changes* in the output gap are also relevant for the judgement of the stance in relation to cyclical conditions, especially considering often important ex-post revisions to output gap levels. In line with the Council agreement, the output gap in this section is computed with the Production Function method.

measured in terms of the change in the output gap (see Graph I.1.2)([1]).

Looking ahead, a slight fiscal loosening is expected in 2008 when cyclical conditions are expected to deteriorate.

Graph I.1.2: **Euro-area fiscal stance and output gap change**

Source: Commission services' spring 2008 forecast.

the horizontal axis. Against the background of brisk economic growth and fiscal tightening the monetary stance remained broadly neutral in 2007. In 2008, the only very gradual increases in interest rates (due to concerns related to rising food and energy prices) at the end of 2007 and at the beginning of this year plus those assumed in the Commission services' spring 2008 forecast are expected to give rise to a policy mix where both monetary and fiscal instruments enhance aggregate demand. This could be considered to constitute a counter-cyclical policy mix. The issue whether counter-cyclical fiscal policy is desirable will be taken up in more detail in box I.1.1 below.

In 2009, the no-policy-change assumption underlying the Commission services' forecast implies a neutral fiscal stance when actual output is estimated to remain below potential.

Graph I.1.3: **Policy-mix in the euro area**
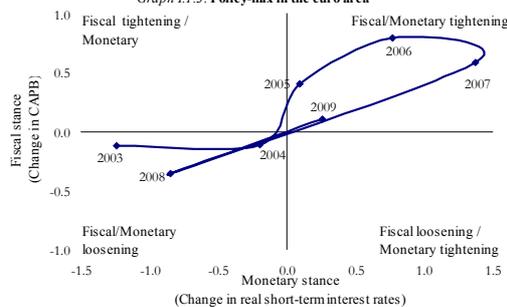
Source: Commission services' spring 2008 forecast.

Graph I.1.3 illustrates the euro-area policy mix, by plotting the fiscal stance on the vertical axis and the monetary stance (approximated by the change in the short-term real interest rates) on

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([1]) Complementing the level with the change of the output gap when assessing the fiscal stance is key in view of the relatively large uncertainty attached to real time estimates of the output gap. This is also acknowledged in the Code of Conduct on the Specifications on the implementation of the Stability and Growth Pact. For details see http://ec.europa.eu/economy_finance/about /activities/sgp/codeofconduct_en.pdf

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Box I.1.1: **Does discretionary fiscal stabilisation warrant a comeback in the EU?**

Where does the renewed interest in the issue stem from?

The rather unusual decision by the US Federal Reserve to cut its policy rate twice by a total of more than 100 basis points in less than ten days at the end of January 2008, coupled with the proposal for a large fiscal stimulus tabled by the Bush administration, was a patent sign of the ailing state of the world's largest economy. In view of the potential spill over to other regions, the policy choices in the US fuelled a discussion on both sides of the Atlantic about whether monetary policy would be effective enough to soften the downturn and whether there was scope for discretionary fiscal stabilisation. The concerns about the stabilising power of monetary policy at the current juncture are linked to the tightened credit constraints resulting from the financial distress after the collapse of the US sub-prime residential mortgage market. Under such circumstances, the narrative goes, discretionary fiscal policy could have a bigger impact on aggregate demand. This argument stands out against the hitherto prevailing view that discretionary fiscal policy has generally not contributed to smoothing cyclical fluctuation of output. This box briefly examines the potential role of discretionary fiscal stabilisation in the euro area and the EU from three different angles. It first reviews available evidence about the short-term impact of discretionary fiscal policy on economic activity. It then takes a look at the actual conduct of fiscal policy including two concrete examples of discretionary fiscal stabilisation, and finally draws conclusions from available evidence.

What is the effect of discretionary fiscal policy on economic activity?

A broad consensus prevails among economists that owing to rigidities in labour, goods and services markets fiscal policy can have an impact on real output in the short term. While there is uncertainty about the exact size and timing of the effect, a wide range of studies, applying different methods, suggests that fiscal multipliers tend to be positive (e.g. Hemming et al., 2002 and Perotti, 2005).

Table 1:

Discretionary fiscal policy and economic activity. Results from simulations with the QUEST-III model

Government purchases shock (temporary 1% of GDP increase in first year)				
	2007	2008	2009	2010
	(Domestic GDP as a % change from baseline level)			
Germany	0.58	0.14	-0.04	-0.10
Spain	0.71	0.16	-0.07	-0.13
The Netherlands	0.29	0.07	-0.01	-0.04
Ireland	0.20	0.05	-0.01	-0.03
VAT shock (temporary 1% of GDP decrease in first year)				
	(Domestic GDP as a % change from baseline level)			
Germany	0.17	0.12	0.09	0.08
Spain	0.23	0.15	0.10	0.08
The Netherlands	0.10	0.09	0.08	0.08
Ireland	0.07	0.08	0.08	0.07

Table 1 displays simulation results of the effects of two types of temporary fiscal expansions: a 1% of GDP increase in government purchases and a 1% of GDP decrease in VAT receipts. Both measures are reversed after one year (their effects can be shown to be even larger if they are permanent).

Box (continued)

The simulations ([1]) were carried out for four different countries, representing four different types of economies: Germany is large and open; Spain is medium-sized with relatively low degree of openness; Ireland is small and open; while The Netherlands are medium-sized and open. The figures in the table confirm the two mainstays of received wisdom: (i) the impact of higher expenditure on aggregate demand is larger than an equivalent reduction of taxes; and (ii) the size of the effect declines with the degree of openness of the economy. In essence, empirical evidence supports the conclusion that fiscal policy makers do have the power to influence aggregate demand in the short term and, consequently, could utilise expenditure and tax policies to stabilise temporary fluctuations of output.

Does discretionary fiscal policy actually smooth the cycle?

Despite the potential to smooth the cycle via fiscal discretion, the actual performance is rarely in line with the normative perspective of fiscal stabilisation (see for instance Taylor, 2000). The gap between what could be done and actual outcomes can by explained by two groups of factors: (i) implementation lags and (ii) the political economy of fiscal policy. The implementation lags or inside lags refer to the delay between the recognition of the need for a fiscal stimulus, the time it takes to the government or Parliament to take a decision of what type of measure to implement, and the time to effectively put measures into practice. As regards the political economy of fiscal policy, a well established and still growing body of literature argues and shows that there are goals other than the stabilisation of output, notably electoral considerations, shaping the behaviour of fiscal policy makers and in turn the actual results of discretionary fiscal policy (see for instance Alesina and Perotti, 1994 and Drazen, 2000).

One common approach to examine the behaviour of discretionary fiscal policy over the cycle is to link the fiscal policy stance, generally measured as the change in the cyclically adjusted primary balance, to the cyclical conditions as measured by the output gap. An examination covering the period from the mid-1990s shows that fiscal policy has on average been pro-cyclical in the euro area and the EU (see European Commission 2006a). In particular, year-on-year changes in the cyclically adjusted primary balance (CAPB) were generally positive (denoting a budgetary tightening) in periods of negative output gap, whilst in years when output was above potential, fiscal policy was loosened. In a similar vein, an econometric analysis carried out by Fatas and Mihov (2003) find that the (ab)use of fiscal discretion goes along with a higher volatility of output and lower economic growth.

The findings do not improve much when more detailed techniques are used to study the determinants of discretionary fiscal policy. Most studies estimating fiscal reaction functions, where the fiscal stance is modelled as a function of a number of economic and policy variables, including a measure of cyclical conditions, indicate that discretionary fiscal policy it at best a-cyclical and often pro-cyclical (see for instance Gali and Perotti, 2003 and OECD, 2003). Although the results differ to a certain degree depending on the data sample and the model specifications, a counter-cyclical response of discretionary fiscal policy seems to be the exception rather than the rule. This pattern seems to have weakened yet not disappeared with the introduction of the EU fiscal framework (see Gali and Perotti, 2003).

Among the main reasons for the non-stabilising effects of discretionary fiscal policy are the difficulty of forecasting and measuring the economic cycle in real time. Golinelli and Momigliano (2006) suggest that the pro-or a-cyclical effect of discretionary fiscal policy is not necessarily intentional; rather it seems to result from the fact that real-time estimates of the output gap generally signal a position in the cycle which is significantly different from the assessment with hindsight. Other studies find evidence for

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([1])   The simulations were carried out with the Quest-III model developed by Directorate-General for Economic and Financial Affairs. Quest III is a dynamic stochastic general equilibrium type of model. It assumes that a fraction of households are liquidity-constrained and that prices and wages adjust with lags. Monetary policy is described by a Taylor rule according to which the monetary authority changes the interest rates in response to divergences of real GDP from potential GDP and the divergence of actual rates of inflation from the target rate of inflation. In order to ensure long-term sustainability of public finances following a fiscal shock, debt is stabilized by means of a gradual adjustment in labour taxes. Model parameters are estimated on euro area data.

Box (continued)

the role played by elections (see for instance Buti and van den Noord, 2004) or the political setup of a country (see for instance Lane, 2003).

Are there successful cases of discretionary fiscal stabilisation and what can we learn from them?

In spite of the generally negative findings of econometric studies, one may still raise the question whether there are any *specific* and *significant* cases of successful discretionary fiscal stabilisation in the recent history of the EU and, if yes, what lessons can be drawn from them.

Two episodes are of particular interest, which are however very a-typical as deficits were also run in order to bail out financial institutions: Sweden and Finland in the early 1990s. At the time, the two countries went through a very steep recession, in the aftermath of the collapse of the Soviet Union coupled with a domestic crisis of the banking sector, and against the backdrop of an overvalued exchange rate and tight monetary policy. Both economies recorded negative growth over the three consecutive years 1991-1993, amounting to a cumulated loss of output of 4.3% of GDP in Sweden, and 10.8% in Finland.

In both countries, the crisis triggered a significant fiscal expansion, largely focused on the expenditure side. Starting from surpluses, the headline balance of the general government accounts moved deeply into negative territory posting in 1991 a deficit of 11.4% of GDP in Sweden and of 7.8% of GDP in Finland. Over the whole episode (1991-1993) the CAPB deteriorated by 9.9% in Sweden, while in Finland it deteriorated by 'only' 3.4%. However, the latter fact could also be interpreted as a successful switching strategy, with tightening taking place once the economy had been 'kick-started' again. Indeed, by then the Finnish authorities already increased taxation considerably and only reversed that policy stance from the mid-1990s onwards. The Swedes took longer to reverse their fiscal policy stance.

The economies soon returned to a relatively high growth path and the rate of unemployment declined. Fiscal policy remained tight in both countries after the counter-cyclical episode, with the result that within a few years they were both building up budgetary surpluses, Finland in particular some of the highest ones in the EU. So overall, and with the benefit of hindsight, both cases appear to have been a success.

On the face of their apparent success, however, much of the fiscal expansions recorded ex post in Sweden and Finland in the beginning of the 1990s was simply the working of automatic stabilisers or occurred un-intentionally; i.e. was about not adjusting discretionary expenditure in the event of a sharp decline of revenues during the recession. In fact at the time already fiscal contractions were actually intended (see Jonung, 2008), but did not materialise due notably to a mis-estimation of potential growth. Interestingly, in both countries the counter-cyclical fiscal stance of policy was accompanied by far-reaching measures to scale back public consumption, which in Finland started earlier than in Sweden. A major decline of the size of the public sector took place after the end of the recession period. Indeed, counter-cyclicality in the two Member States went hand-in-hand with fundamental structural and institutional reforms.

What are the lessons to be learned for the current situation?

Discretionary fiscal policy has the potential to smooth cyclical fluctuations. In practice, however, the potential effectiveness most of the time does not come to fruition. Available evidence shows that discretionary fiscal policy is at best a-cyclical largely because (i) policy makers do not have the necessarily information in real time to implement effective measures and (ii) stabilisation of output may not be the primary preoccupation of fiscal policy makers when implementing discretionary measures.

One of the key lessons to be drawn from this is that the stabilisation function of fiscal policy should chiefly be taken care of by automatic stabilisers. According to existing work, automatic stabilisers are comparatively effective in the EU reducing the volatility of output by around 25% and more (see for

Box (continued)

instance van den Noord, 2000 and Barrel and Pina, 2000). The size of automatic stabilisers in Europe also compares favourably with the US. In the group of countries adopting the single European currency the budgetary sensitivity, the parameter that measures the automatic reaction of the government budget to cyclical swings in output, averages 0.5, twice the size of what is estimated for the US.

To the extent that it does not conflict with the requirements of the SGP, the recourse to significant discretionary fiscal stabilisation could be instrumental in the wake of sharp and protracted economic slowdowns after other policy instruments have not produced the desired effect. These conditions are clearly not met at the current juncture. The EU economy exhibits signs of a slowdown, but no recession, and is more resilient than the US. Automatic stabilisers and the common monetary policy should take their part first, before any other measures are to be considered.

2. IMPLEMENTING THE STABILITY AND GROWTH PACT

2.1. INTRODUCTION

The EU fiscal framework aims at ensuring budgetary discipline through two main requirements: the Treaty requirement to avoid excessive deficit positions, measured against reference values for deficits and debt of 3% and 60% of GDP respectively, and the requirement for Member States to achieve and maintain their medium-term budgetary objective (MTO). Compliance with the MTO secures the sustainability of public finances and provides the necessary room for manoeuvre to allow the automatic stabilisers to play freely without breaching the 3% of GDP reference value of the Treaty. A brief description of the enforcement procedures of the rules-based framework of the Treaty and Stability and Growth Pact (SGP) is provided in Box I.2.1.

This section reviews the implementation of these mechanisms since spring 2007 focussing, in particular, on the excessive deficit procedure and on the Commission policy advice. The former mechanism refers to the dissuasive part of the Pact whereas the latter, which can be characterised as a policy guidance issued by the Commission to Member States, is related to the preventive part.

2.2. THE EXCESSIVE DEFICIT PROCEDURE

Since spring 2007, the Commission and the Council took action on seven Member States subject to an excessive deficit procedure (EDP).

Proceeding in a chronological order, in July 2007, the Council endorsed the Commission communication on action taken for Hungary stating that the measures adopted by this country were considered consistent with the Council recommendation under Article 104(7). As a consequence, no further steps were needed under the excessive deficit procedure.

Furthermore, in July 2007 the Council considered that the Czech Republic had not respected the recommendations formulated under Article 104(7) of the Treaty. As the Czech Republic is a Member State with a derogation,

the Council issued another recommendation based on Article 104(7) in October 2007 ([1]).

In September 2007, the Commission considered that the United Kingdom had corrected its excessive deficit. It recommended to the Council to decide to abrogate the excessive deficit procedure for the United Kingdom, which was adopted by the Council in October 2007.

In December 2007, the Council adopted the Commission communication on action taken for Poland stating that the measures implemented by the authorities were consistent with the Council recommendation under Article 104(7). As a consequence, no further steps were needed under the excessive deficit procedure.

Additionally, in May 2008, the Commission assessed that the Czech Republic, Italy, Portugal and Slovakia had corrected their excessive deficits and recommended to the Council the abrogation of the respective excessive deficit procedures. In June 2008, the Council decided accordingly.

In June 2008 the Commission considered that Poland had corrected its excessive deficit and recommended to the Council to abrogate the Polish excessive deficit procedure. The ECOFIN Council meets on 8 July 2008, after the cut-off date, of this report. If the Council decides to close the procedure for Poland, only Hungary will still be in excessive deficit. At the same time, however, it has to be noted that in June 2008 the Commission adopted a report under Article 104(3) of the Treaty initiating the excessive deficit procedure for the United Kingdom (see Table II.2.1) ([2]), which may lead to a formal decision that the country is in excessive deficit.

([1]) Recently acceded Member States went straight into Stage Three of EMU, with the status of 'Member State with a derogation' within the meaning of Article 122 EC. Currently, the Member States with a derogation are Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Sweden.

([2]) For documents concerning EDP procedures, see the fiscal surveillance section on DG ECFIN's website: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/excessive_deficit9109_en.htm

Box I.2.1: **EU budgetary surveillance**

This box describes the enforcement mechanisms of the EU budgetary surveillance framework. It outlines the *excessive deficit procedure,* the *early warning* mechanism and the Commission *policy advice*.

The excessive deficit procedure

Article 104 of the Treaty states that Member States shall avoid excessive government deficits. In particular Member States shall comply with budgetary discipline by respecting two criteria specified in the Protocol on the excessive deficit procedures annexed to the Treaty: a deficit ratio and a debt ratio not exceeding reference values of respectively 3% and 60% of GDP. Article 104 also sets out the procedure to be followed to identify and correct situations of excessive deficit, and voting modalities in the course of the procedure. The Regulation 1467/97 of the Stability and Growth Pact (SGP), as amended by Council Regulation 1056/05, clarifies the procedure.

The first four steps of the procedure, corresponding to provisions of paragraph 3 to 6 of Article 104, concern the identification of situations of excessive deficit. The excessive deficit procedure is triggered if the deficit of a Member State exceeds 3% of GDP ([1]). In such a situation, the Commission adopts a report, in accordance with Article 104(3), reviewing in detail the economic and budgetary situation the Member State considered. As foreseen in Article 104(4) and Regulation 1467/97, the Economic and Financial Committee formulates an opinion on this report within two weeks. The Commission takes this opinion into account and, if it considers that an excessive deficit exists, addresses an opinion under Article 104(5) to the Council. On the basis of the Commission opinion, the Council decides on the existence of an excessive deficit under Article 104(6).

The subsequent steps of the procedure are dedicated to the correction of excessive deficits. When it decides that an excessive deficit exists, the Council addresses a recommendation to the Member State concerned in accordance with Article 104(7). In this recommendation, the Council sets a deadline for the Member State to correct the excessive deficit and a fiscal effort to be achieved by the Member States concerned to this end (at least 0.5% of GDP as a benchmark). Regulation 1467(97) specifies that the deadline for the correction of the excessive deficit shall be set taking into account an overall assessment of the factors mentioned in the Article 104(3) of the Treaty.

In case action by the Member State concerned leads to the correction of the excessive deficit, the Council shall decide, in accordance with Article 104(12), to abrogate its decisions under the excessive deficit procedure. In other words, the procedure is closed. In the event the Council considers that effective action has not been taken, it may decide, as stated in Article 104(8) of the Treaty, to make public its recommendation according to 104(7). In case effective action has been taken but events outside the control of the government with large adverse consequences on the budget prevent the correction of the excessive deficit within the time limits set by the Council, the possibility exists to revise the deadline for the correction of the excessive deficit in a new 104(7) recommendation.

The steps described above apply to all EU countries. The further steps of the procedure depend on whether the Member State is a euro-area Member State. The excessive deficit procedure applies in full to euro-area Member States. For these countries, Article 104(9) stipulates that, provided the Council adopts a decision under article 104(8), it may decide to give notice to the Member State concerned to

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([1]) Article 104(2) of the Treaty states that a deficit of more than 3% of GDP that is only exceptional and temporary may not be considered excessive in case the deficit remains close to the reference value. A deficit above 3% of GDP may also not be considered excessive if it has declined substantially and reached a level that comes close to the reference value. The same Article provides an exception for countries having a debt ratio above 60%, if this ratio diminishes sufficiently and approaches the value of 60% of GDP at a satisfactory pace.

(Continued on the next page)

Box (continued)

take the necessary measures to reduce the deficit. The recommendations under article 104(9) of the Treaty shall include a deadline for the correction of the excessive deficit and a fiscal effort to be achieved by the Member States concerned to this end (at least 0.5% of GDP as a benchmark).

This step constitutes a move towards even closer surveillance, and is the ultimate step before the possible imposition of sanctions. If the Member State fails to comply with the recommendations, the Council may decide to impose sanctions no later than two months after notice has been given. In case of compliance with the recommendations formulated in the notice under article 104(9), the decisions taken under articles 104(6) to 104(9) are abrogated with a Council decision in accordance with article 104(12), and the procedure is closed. In case effective action has been taken but events outside the control of the government with large adverse consequences on the budget prevent the correction of the excessive deficit within the time limits set by the Council, the possibility exists to revise the deadline for the correction of the excessive deficit in a new 104(9) notice.

As mentioned above, non-euro-area Member States are not exempt from the obligation to avoid excessive deficits, but the later steps of the EDP do not apply for them. When a Member States outside the euro area in a situation of an excessive deficit fails to respect the recommendations addressed under Article 104(7), it cannot be submitted to the last two steps of the excessive deficit procedure, namely notice foreseen in Article 104(9) and the imposition of sanctions foreseen in Article 104(11). Non-compliance with a recommendation under 104(7) may lead to a renewed recommendation according to Article 104(7), following a decision according to Article 104(8).

The early warning mechanism

In its Article 99(4) the Treaty foresees the possibility for the Council to make recommendations to Member States in case their economic policies 'are not consistent with the broad guidelines or risk jeopardising the proper functioning of EMU'. Based on this Article, Regulation 1466/97 as amended by Council Regulation 1055/05, which codifies the preventive arm of the SGP, provides the Council with the possibility to issue 'early warnings' to Member States in order to prevent the occurrence of an excessive deficit ([1]). The reference to the early warning comes in the section related to the adjustment path to the medium-term budgetary objective (MTO).

The Commission policy advice

The 20 March 2005 ECOFIN Council report, which underpins the revised SGP, introduced the possibility for the Commission to issue direct, i.e. without involvement of the Council, policy advice to a Member State. The so-called Code of Conduct ([2]) further specifies that the policy advice shall be given in accordance with Article 211, second indent, of the Treaty and that it shall be made public. The Commission policy advice can be used in a wide range of circumstances not limited to a deviation from budgetary targets. This includes cases in which a Member State's economic policies are not consistent with broad guidelines, delay progress towards sustainability or risk jeopardising the proper functioning of economic and monetary union. Such a broad application allows blending messages of structural reform needs, quality and long-term sustainability of public finances, addressing macroeconomic imbalances and budgetary consolidation. In general, the Commission policy advice differs from the early warning in at least three respects. Firstly, the policy advice reflects only the views of the Commission. Secondly, for a policy advice there is not necessarily a need to have identified a divergence from the

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([1]) Once the new Lisbon Treaty on European Union has entered into force, the Commission will also have the option to issue early warnings directly, without having to involve the Council.

([2]) "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.

MTO or the adjustment path towards it and there is not necessarily a relation to the risk of an excessive deficit. Thirdly, even more than the early warnings, the policy advice is a forward-looking instrument.

2.2.1. The surveillance mechanism in the euro-area Member States

Italy

On 23 May 2005, Eurostat released revised figures on Italian government data, showing a general government deficit of 3.1% of GDP in both 2003 and 2004. Over the same two years, the debt-to-GDP ratio was reported to have remained broadly stable at around 106-107% of GDP. On 24 May, the Italian nstitute of statistics released new public finances data for the period 2000-2004. The deficit was reported at 3.2% of GDP in 2003 and 2004 and thus above 3% of GDP in both years. Although the deficit ratio remained close to the reference value the breach could not be considered temporary because the Commission projected, in its spring 2005 forecast, the deficit to exceed 3% in 2005 and 2006. Taking also into consideration the developments in the debt ratio, the Council decided on 28 July 2005, following a recommendation by the Commission, that Italy had an excessive deficit. At the same time, the Council addressed a recommendation under Article 104(7) specifying that the excessive deficit had to be corrected by 2007. In particular, Italy was recommended to implement with rigour the 2005 budget; reduce the structural deficit by a minimum 1.6 percentage points of GDP by 2007 relative to its level in 2005, with at least half of this correction taking place in 2006; and ensure that the debt-to-GDP ratio diminishes and approaches the reference value at a satisfactory pace.

On 22 February 2006, after the six-month deadline for the authorities to take action, the Commission adopted a communication concluding that the actions taken by Italy, if fully implemented and effective, would be consistent with the Council recommendation. The Commission communication highlighted,

however, that implementation uncertainties persisted, requiring continuous monitoring. On 14 March 2006, the Council agreed with this analysis, stressing the utmost importance of the execution of the 2006 budget and the likely need to identify and implement substantial additional corrective measures for 2007.

Data provided by the Commission (Eurostat) following the reporting by Italy before April 2008 showed that a significant budgetary adjustment took place in 2006 and in 2007, when the general government deficit reached 3.4% and 1.9% of GDP, respectively.

The structural deficit, i.e. the budget balance net of cyclical factors and one-off measures, improved by 1.7% of GDP in 2006 and by about 1¼ percentage point in 2007. This exceeded by a comfortable margin the at least 1.6% of GDP between 2005 and 2007 required by the July 2005 Council recommendation under Article 104(7). According to the Commission services' spring 2008 forecast, the general government deficit is projected to increase to 2.3% of GDP in 2008 and, under the usual no-policy change assumption, to 2.4% of GDP in 2009.

The government debt ratio, which increased by 2% of GDP in 2005 and by a further ½ percentage point in 2006, fell by 2½ percentage points in 2007, to a level of 104% of GDP. According to the Commission services' spring 2008 forecast, the debt ratio is projected to fall to 103.2% of GDP by 2008 and, under the assumption of unchanged policies, around 102½% by 2009.

Overall, the Commission and the Council concluded that the excessive deficit situation in Italy had been corrected. Accordingly, on the basis of Article 104(12) of the Treaty, the Council decided on 3 June 2008 to abrogate its

decision on the existence of an excessive deficit in Italy.

Portugal

The update of the stability programme submitted on 9 June 2005 by the Portuguese authorities planned a general government deficit in excess of the 3% of GDP reference value for the years from 2005 to 2007. After a reported deficit outturn of 2.9% of GDP in 2004, Portugal projected a significant slippage in the government deficit, reaching 6.2% of GDP in 2005, 4.8% in 2006 and 3.9% in 2007, before falling below 3.0% of GDP in 2008. Over the same years, the debt-to-GDP ratio was projected to increase from 61.9% in 2004 to a peak of 67.8% in 2007. On this basis and following a recommendation by the Commission, the Council decided on 20 September 2005 that Portugal had an excessive deficit.

On the same date, the Council addressed a recommendation under Article 104(7) specifying that the excessive deficit had to be corrected by 2008. Specifically, Portugal was recommended to limit the deterioration of the fiscal position in 2005 and to ensure an adjustment of the structural deficit of 1.5% of GDP between 2005 and 2006, followed by a further decrease of, at least, ¾ percentage points in each of the two subsequent years; to rapidly implement reforms to contain and reduce expenditure and to stand ready to adopt the additional measures which might be necessary to achieve the correction of the excessive deficit by 2008; to ensure that the government gross debt ratio was brought onto a downward path also by avoiding debt-increasing financial transactions, and by considering carefully the possible impact on debt of major public investment projects.

The Commission communication of 21 June 2006, adopted after the six-month deadline for the authorities to take action, considered that the action taken by Portugal in response to the Council recommendation represented adequate progress towards the correction of the excessive deficit. In particular, Portugal (i) achieved a 2005 deficit outturn as planned; (ii) adopted a comprehensive package of corrective measures which, provided the full and effective implementation, was in line with the required

structural adjustment in 2006; (iii) confirmed the deficit target for 2008 below 3% of GDP and a structural adjustment path in accordance with the Council recommendation; (iv) implemented or initiated expenditure-containing measures and kept fiscal targets in spite of a more cautious assessment of GDP growth prospects; (v) planned to bring government debt back on a declining path as from 2008; and (vi) took action to improve the quality of public finance statistics. On 11 July 2006, the Council agreed with this analysis.

Data provided by the Commission (Eurostat) following the reporting by Portugal before 1 April 2008 indicate that the general government deficit in 2007 was 2.6% of GDP, following government deficit outturns of 6.1% of GDP in 2005 and 3.9% of GDP in 2006. In all, a government deficit below the 3% of GDP reference value was achieved one year before the deadline set by the Council in its recommendation under Article 104(7).

These developments led to a significant reduction of the structural deficit (i.e., the cyclically-adjusted deficit net of one-off and other temporary measures) in 2006 and 2007. In the former year, a reduction of some 2% of GDP was achieved, followed by a further decline by about 1% of GDP in the latter. These results went well beyond the Council recommendation under Article 104(7) asking for a reduction of the structural balance by 1.5% of GDP in 2006 from 2005 and, at least, ¾% of GDP in 2007.

According to the Commission services' spring 2008 economic forecast the general government deficit is projected to decline to 2.2% of GDP in 2008 and, under the assumption of unchanged policies, to increase to 2.6% of GDP in 2009. The structural balance is expected to improve by a ¼% of GDP in 2008. At unchanged policies, a worsening by ¼% of GDP is projected for 2009. The government gross debt ratio rose above the 60% of GDP reference value in 2005. In 2006, the debt ratio went further up to 64.7% of GDP and fell back to 63.6% of GDP in 2007.

According to the Commission services' spring 2008 economic forecast, the government debt ratio is expected to rebound marginally to over 64% of GDP in 2008 and, on the basis of the no-

policy change assumption, to come at 64¼% of GDP in 2009.

Overall, the Commission and the Council concluded that the excessive deficit situation in Portugal had been corrected. Accordingly, on the basis of Article 104(12) of the Treaty, the Council decided on 3 June 2008 to abrogate its decision on the existence of an excessive deficit in Portugal.

2.2.2. The surveillance mechanism in the non-euro-area Member States

The Czech Republic

The Commission services' 2004 spring forecast revealed for the Czech Republic a deficit of 12.9% of GDP for 2003 (5.9% of GDP excluding a major one-off operation related to imputed state guarantees). On 5 July 2004, the Council decided, on the basis of a Commission recommendation, that the Czech Republic had an excessive deficit and issued a recommendation under Article 104(7) of the Treaty for its correction by 2008. The Czech authorities were recommended to implement with vigour the measures envisaged in the May 2004 convergence programme, in particular to cut the wage bill of central government and to reduce spending of individual ministries. Furthermore, they were invited to: (i) allocate higher-than-budgeted revenues to deficit reduction; (ii) introduce fiscal targeting based on medium-term expenditure ceilings; (iii) design effective rules to reduce the risk of increasing indebtedness of regions and municipalities; (iv) undertake the reform of the pension and healthcare systems so as to improve the long-term sustainability of the public finances; (v) minimise the negative budgetary impact of the operations of the Czech Consolidation Agency.

After the four-month deadline for the authorities to take action, the Commission concluded in its communication of 22 December 2004 that the measures envisaged to achieve the 2005 deficit target were consistent with the Article 104(7) Council recommendation and that no further steps were necessary under the excessive deficit procedure. On 18 January 2005, the Council agreed with this view.

In 2006, the deficit fell just below the reference value of the Treaty, to 2.9% of GDP, in spite of some deficit-increasing one-off measures. However, the Commission services' spring 2007 forecast projected the deficit to increase significantly in 2007, to almost 4% of GDP, on the back of higher social spending. Under the no-policy-change assumption, the deficit was projected to decline to 3.6% of GDP in 2008. The structural position was estimated to have widened in both 2005 and 2006 and projected to widen even more in 2007.

Following a recommendation by the Commission under Article 104(8), the Council decided on 10 July 2007 that the Czech Republic had not adopted adequate measures in response to its July 2004 recommendation.

In August 2007, the government approved a 'stabilisation package', subsequently endorsed by the Parliament, which had an estimated fiscal impact of 0.3% of GDP, leading to an annual deficit target only slightly above the 3% of GDP threshold in 2008.

Since the Czech Republic is a Member State with a derogation, the Council issued on 9 October 2007, based on a recommendation by the Commission, a new recommendation under Article 104(7), confirming the 2008 deadline for the correction. The Czech authorities were invited to limit the 2007 deficit deterioration and to ensure an improvement in the structural balance of at least ¾% of GDP in 2008 compared to 2007.

Based on data provided by the Commission (Eurostat), following the reporting by the Czech Republic before April 2008, the general government deficit stood at 1.6% of GDP in 2007, significantly below the target of 4% of GDP set in the March 2007 update of the convergence programme.

Compared to 2006, the headline deficit declined by 1.1% of GDP, of which about one half is due to measures taken and the other half is thanks to stronger growth. The improvement in 2007 represented an overachievement of the Council's recommendation under Article 104(7) issued in October 2007 which invited the Czech

authorities to "further contain the budgetary deterioration" expected at that time.

According to the Commission services' spring 2008 forecast, the general government deficit is projected to decline further, reaching 1.4% of GDP in 2008 and, under a no-policy change assumption, 1.1% of GDP in 2009.

The structural deficit (i.e., the cyclically-adjusted deficit net of one-off and other temporary measures) is expected to improve from 2¼% of GDP in 2007 to around 2% of GDP in 2008. The improvement is lower than recommended by the Council (at least ¾% of GDP) in light of the much better headline deficit in 2007, underpinned by a structural improvement in 2007 of about ½% of GDP, which was not anticipated at the time of the Article 104(7) Council recommendation.

Overall, the Commission and the Council concluded that the excessive deficit situation in the Czech Republic had been corrected. Accordingly, on the basis of Article 104(12) of the Treaty, the Council decided on 3 June 2008 to abrogate its decision on the existence of an excessive deficit in the Czech Republic.

Hungary

The spring 2004 fiscal notification of Hungary reported a general government deficit in 2003 above the reference value of 3% of GDP. On this basis and following a recommendation by the Commission, the Council decided on 5 July 2004 that an excessive deficit existed in Hungary. On the same day, the Council issued a recommendation under Article 104(7) recommending that the excessive deficit situation had to be corrected by 2008. Hungary was invited to implement the measures envisaged in the May 2004 convergence programme and to stand ready to introduce more measures to achieve the deficit targets for 2004 and 2005.

On 18 January 2005, following a recommendation by the Commission in accordance with Article 104(8), the Council considered that Hungary had not taken effective action in response to its recommendation. Since Hungary is a Member State with a derogation, the Council issued on 8 March 2005 another

recommendation based on Article 104(7), taking into account the information of Hungary's convergence programme update submitted in December 2004 ([1]). The Council confirmed the 2008 deadline for the correction of the excessive deficit and recommended Hungary to take action in a medium-term framework according to the path of deficit reduction spelled out in its opinion on the updated convergence programme adopted on the same day.

In the light of a substantial deterioration of the budgetary outlook in Hungary and based on a Commission recommendation, the Council decided on 8 November 2005, acting pursuant to Article 104(8), for the second time that Hungary did not comply with the new recommendations under Article 104(7).

Accordingly, the Council, following a preceding recommendation by the Commission, addressed a new recommendation under Article 104(7) to Hungary on 10 October 2006 postponing the deadline for the correction of the excessive deficit by one year, to 2009. Hungary was invited to limit the deterioration of the fiscal position in 2006, which was estimated as a deficit of 10% of GDP (including pension reform costs), ensure a frontloaded, sustained and substantial correction of the structural deficit and adopt and implement wide-ranging structural reforms aimed at containing public expenditure. Furthermore, Hungary was requested to improve expenditure control and to ensure that the gross debt ratio was brought onto a firm downward trajectory, preferably before 2009. The Council also welcomed the commitment of Hungary to report on a six-monthly basis to the Commission and the Council regarding the progress made in complying with the Council recommendation.

On the basis of the December 2006 update of the convergence programme, of the first progress report submitted by the government in April 2007 and of the Commission services' spring 2007 forecast, the Commission adopted on 13

([1]) Member States with a derogation are to avoid excessive deficits but in the event of inadequate action established under Article 104(8), further recommendations can be addressed only on the basis of Article 104(7) as Articles 104(9) and Article 104(11) do not apply to them.

June 2007 a communication to the Council on the action taken by Hungary.

Against the backdrop of revenue-enhancing as well as expenditure-containing measures, the general government deficit reached 9.2% of GDP in 2006, well above the reference value of 3% of GDP but almost 1 percentage point lower than expected in October 2006 at the time of the Council recommendation under Article 104(7). The spring 2007 Commission services' forecast projected a deficit of 6.8% of GDP for 2007, resulting from further measures on the revenue side as well as, to a lesser extent, from some expenditure retrenchment.

For 2008, on a no-policy change basis, the spring 2007 Commission services' forecast projected a further decline of the deficit to 4.9% of GDP. This figure was ½ percentage point above the target of 4.3% of GDP underlying the Article 104(7) Council recommendation of November 2005. According to the Commission, this inability in meeting the agreed targets called for: (i) further action on the enforcement of the expenditure cuts; (ii) a sudden implementation of a wide-ranging agenda of structural reforms including a reinforced system of budgetary rules.

Based on this analysis, the Commission communication concluded that Hungary had until then acted in a manner consistent with the Council recommendation of October 2006 and that no further steps were needed under the excessive deficit procedure. On 10 July 2007 the Council examined the Commission communication and agreed with this view.

Poland

The Commission services' spring 2004 forecast revealed for Poland a deficit of 4.1% of GDP in 2003. On 5 July 2004, the Council decided, based on a Commission recommendation, that Poland was in excessive deficit. At the same time, the Council addressed a recommendation under Article 104(7) specifying that the excessive deficit had to be corrected by 2007. In particular, Poland was recommended to implement with vigour the measures envisaged in the May 2004 convergence programme, specifically those contained in the so-called *Hausner plan*. This plan was proposed in 2003

and aimed at reducing public expenditure on social protection, public administration and state aid. In addition, the Council invited the Polish authorities to allocate possible extra revenues to decrease the general government deficit.

After the four-month deadline for the authorities to take action, the Commission concluded, in its Communication to the Council of 22 December 2004, that no further steps were necessary under the excessive deficit procedure for Poland as the government had taken effective action regarding the measures envisaged to achieve the 2005 deficit target. On 18 January 2005, the Council agreed with this view.

On 28 November 2006, the Council decided on the basis of a Commission recommendation under Article 104(8) that Poland had not taken adequate action in response to the July 2004 Council recommendation. Despite deficit outcomes for the years 2004-2006 lower than envisaged in the Council recommendation, the Commission services' autumn 2006 forecast projected the 2007 deficit to exceed the target.

Indeed, the draft budget for 2007 revised the deficit for the same year to 1.7% of GDP (excluding pension reform costs), 0.2 percentage points above the target of 1.5% of GDP foreseen in the recommendation. These figures were based on the classification of contributions to second-pillar funded pension schemes as government revenues, possible, by way of transitional arrangement, until end-March 2007. From April 2007, the inclusion of the pension reform cost led to a 2007 deficit target of 3.7 % of GDP.

Since Poland is a Member State with a derogation, the Council adopted on 27 February 2007 a new recommendation based on Article 104(7), which confirmed the 2007 deadline for the correction of the excessive deficit. Poland was recommended to ensure an improvement of the structural balance by at least 0.5% of GDP between 2006 and 2007.

On 20 November 2007, after the six-month deadline for the authorities to take action, the Commission adopted a communication to the Council on the action taken by Poland in response to the new Council recommendation.

Relying also on the autumn 2007 forecast, the Commission concluded that, on the basis of then available information, the consolidation measures approved by the Polish government were consistent with the Council recommendation as the deficit ratio in 2007 was expected to be below 3%. The structural improvement achieved by Poland in 2007 amounted to around 1 percentage point, clearly exceeding the structural adjustment requested by the Council. However, as the general government deficit was expected to rebound above 3% of GDP in 2008, the correction was considered to be subject to risks.

On 4 December 2007, the Council agreed with the assessment in the communication from the Commission and together with the Commission invited Poland to set out in a new convergence programme update a medium-term strategy consistent with a durable correction of the excessive deficit and further progress towards the medium-term budgetary objective. The new convergence programme was submitted by the Polish authorities at the end of March 2008.

On the basis of data provided by the Commission (Eurostat) following the reporting by Poland before April 2008, the general government deficit stood at 2.0% of GDP in 2007, significantly below the 3% of GDP reference value.

Compared to 2006, the headline deficit decreased by 1.8 percentage points mainly reflecting higher economic growth and expenditure restraint partly due to an incomplete execution of investment plans. The windfalls in revenues stemming from favourable economic conditions were offset by direct tax cuts and the underperformance in other revenue categories. Between 2006 and 2007, the structural balance, i.e. the cyclically-adjusted balance net of one-off and other temporary measures, improved by about 1½ percentage point of GDP, well above the fiscal effort of at least 0.5 percentage point recommended by the Council in its recommendations under Article 104(7) of the Treaty.

According to the Commission services' spring 2008 forecast, which also took into account the March 2008 update of the Polish convergence

programme, the headline deficit is expected to increase to 2.5% of GDP in 2008 and, on a no-policy change basis, to 2.6% in 2009. Similarly, the structural balance is projected to deteriorate by ¼ percentage points between 2007 and 2008 whereas in 2009, under the no-policy-change assumption, it is expected to decrease by almost ½ percentage points reaching 2.3% of GDP.

Overall, the Commission concluded that the excessive deficit situation in Poland had been corrected. Accordingly, on 11 June 2008, it adopted a recommendation to the Council to decide, on the basis of Article 104(12), to abrogate the excessive deficit procedure for Poland. The Council meets on 8 July 2008, after the cut-off date of this report.

Slovakia

The Commission services' spring 2004 forecast revealed that the general government deficit in Slovakia was at 3.6% of GDP in 2003. It was projected to increase further in 2004 and, under the no-policy-change assumption, to continue to exceed 3% of GDP in 2005. On 5 July 2004, the Council decided, based on a recommendation from the Commission, that an excessive deficit existed in Slovakia. At the same time, the Council addressed a recommendation under Article 104(7) specifying that the excessive deficit had to be corrected by 2007. Slovakia was recommended to achieve the 2005 deficit target and to implement with vigour the measures envisaged in the May 2004 programme, in particular those related to the proposed further health care reforms and further public sector rationalisation. Furthermore, Slovakia was invited to accelerate the fiscal adjustment if the implemented structural reforms resulted in higher growth than expected in the programme, in particular by dedicating any higher-than-budgeted revenues primarily to faster deficit reduction.

The Commission communication of 22 December 2004, adopted after the four-month deadline for the authorities to take action, stated that, based on then available information and the measures detailed in the 2005 budget, the measures decided by the Slovak government appeared to be consistent with the need to achieve the 2005 deficit target in response to the

Council recommendation under Article 104(7). The communication concluded that no further steps were necessary at that point under the excessive deficit procedure. On 18 January 2005, the Council agreed with this view.

According to the data provided by the Commission (Eurostat) following the reporting by Slovakia before April 2008 the general government deficit remained below 3% of GDP in the years 2003-2005 due to a subsequent data revision. The headline deficit increased to 3.6% of GDP in 2006, before falling to 2.2% of GDP in 2007.

The 2007 deficit outcome was below the official target of 2.9% of GDP set in the December 2006 update of the convergence programme. Nevertheless, the structural deficit (i.e., the cyclically-adjusted deficit net of one-off and other temporary measures) deteriorated from some 1½% of GDP in 2003 to around 3% of GDP in 2006 before improving to around 2½% of GDP by 2007. However, the creation of the second funded pension pillar in 2005 contributed to the structural deterioration.

According to the Commission services' spring 2008 forecast the headline deficit is expected to narrow further to 2.0% of GDP in 2008 before increasing to 2.3% of GDP in 2009 under the customary no-policy-change assumption against the background of markedly slowing but still robust GDP and decelerating employment growth.

The structural deficit is expected to deteriorate from around 2½% to some 2¾% of GDP between 2007 and 2008. In 2009, the structural deficit is foreseen to deteriorate further to some 3% of GDP.

Overall, the Commission and the Council concluded that the excessive deficit situation in Slovakia had been corrected. Accordingly, on the basis of Article 104(12) of the Treaty, the Council decided on 3 June 2008 to abrogate its decision on the existence of an excessive deficit in Slovakia.

United Kingdom

According to the data notified by the United Kingdom (UK) in August 2005, the general government deficit amounted to 3.2% of GDP in the 2004/05 financial year ([1]). The Commission services' autumn 2005 forecast projected that on the basis of unchanged policies the general government deficit would rise further in the financial year 2005/06 to 3.4% of GDP, before declining to 3.2% in 2006/07 and 3.0% in 2007/08. Output was projected to be strengthening from late 2005, approaching approximately the trend-level growth in 2006. Based on these projections, the excess over the reference value could not be considered exceptional or temporary within the meaning of the Treaty and the Pact although the deficit was close to the reference value.

After the Commission services' autumn 2005 forecast had been published, the UK announced policy decisions in the Pre-Budget Report presented to Parliament on 5 December. These measures represented an easing of fiscal policy by 0.1% of GDP in the financial year 2005/06 and a tightening by 0.1% of GDP in 2006/07. Compared to an unchanged policy scenario, the Pre-Budget Report foresaw a tightening of 0.2% of GDP in 2007/08. Taking into consideration these measures, the Commission's assessment remained that the deficit in 2005/06 and 2006/07 was expected to exceed 3% of GDP. On this basis and following a recommendation by the Commission, the Council decided on 24 January 2006 that the UK had an excessive deficit.

At the same time, the Council addressed a recommendation under Article 104(7) specifying that the UK had to correct the excessive deficit situation by the financial year 2006/07. The UK was recommended to ensure an improvement of the structural balance by at least 0.5 percentage points of GDP between the 2005/06 and 2006/07 financial years.

On 20 September 2006, after the six-month deadline for the authorities to take action, the Commission adopted a communication

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([1]) The EDP applies to the UK on a financial year basis. The UK financial year runs from April to March.

concluding that the UK was just on track to correct its excessive deficit by the financial year 2006/2007. According to the Commission, fiscal consolidation was supported by better GDP growth than originally envisaged and the tax base was strengthened by the good performance of the financial sector and rising oil prices. Nevertheless, the Commission communication noted that the deficit correction remained vulnerable to negative surprises, given the lack of a safety margin against exceeding the 3% of GDP reference value and the likely shortfall of the structural improvement recommended under Article 104(7). On 10 October 2006, the Council agreed with this view.

According to the Commission services' spring 2007 forecast, the general government deficit was expected to decrease from 3.2% of GDP in 2005/06 to 2.7% of GDP in 2006/07. The structural balance was estimated to improve by 0.7% of GDP, in line with the minimum 0.5% of GDP adjustment recommended by the Council. Based on the Commission services' forecast, the headline deficit was projected to narrow to 2.6% of GDP in 2007/08 and, on a no-policy-change basis, to 2.4% in 2008/09. This indicated that the deficit had been brought below the reference value in a credible and sustainable manner, although the projected path of future consolidation was modest relative to the expansionary economic condition expected for 2007/08 and 2008/09.

Data on the actual outturn in 2006/07 notified by the UK in July 2007 and subsequently validated by Eurostat confirmed the reduction of the deficit below 3% of GDP and pointed to a structural improvement in line with the Council recommendation.

Overall, the Commission and Council concluded that the excessive deficit situation in the UK had been corrected. Accordingly, on the basis of Article 104(12) of the Treaty, the Council decided on 9 October 2007 to abrogate its decision on the existence of an excessive deficit in the UK.

However, according to the data notified by the UK authorities in March 2008, the general government deficit in 2008/09 was expected to reach 3.2% of GDP (3.3% according to the

Commission services' spring 2008 forecast) and further deficit-increasing measures were announced by the government in May 2008. The planned figure for the 2008/09 deficit provided *prima facie* evidence on the existence of an excessive deficit in the UK. In the absence of new discretionary deficit-reducing measures, the Commission services' spring 2008 forecast projected a general government deficit of 3.3% of GDP in 2009/10.

The general government gross debt was projected to remain below the 60% of GDP threshold, although on a rising trend.

In the light of this, on 11 June 2008 the Commission adopted a report under Article 104(3) of the Treaty on the public finance situation in the United Kingdom, thereby initiating the excessive deficit procedure vis-à-vis the UK. On the basis of an in-depth assessment covering recent and current budgetary developments, the short- and medium-term economic prospects and the policy action taken by the government, the Commission concluded that the planned government deficit remains close to the reference value but that the excess over the reference value cannot be qualified as exceptional or temporary within the meaning of the Treaty and the Stability and Growth Pact. This implies that the deficit criterion in the Treaty is not fulfilled.

2.3. THE COMMISSION POLICY ADVICE

In the period under review, the Commission used for the very first time a new legal instrument: the policy advice (see Box I.2.1). It addressed this new instrument to France and Romania.

France

French GDP growth has fallen below the euro area average since 2006, with evidence of structural problems and a related deterioration in competitiveness and bottlenecks in the labour market. This weak macroeconomic performance is combined with a stalling budgetary consolidation. The Commission services' spring 2008 forecast projects a deficit of 2.9% of GDP in 2008 and 3% in 2009. Progress in structural adjustment appears to be very limited in the

period 2007-2009. In addition, despite steps taken to curb spending, notably in social security, France still has the highest expenditure-to-GDP ratio in the euro area at around 52½% of GDP and the debt ratio, at around 64% of GDP, remains relatively high.

In light of this, on 28 May 2008 the Commission addressed a policy advice to France recommending the authorities to implement rigorously the policy invitations of the Council issued on 12 February 2008 on the 2007 update of the stability programme (see Table I.3.3 in Part I.3). In addition, France was recommended to pursue with determination the ongoing structural reform process aimed at increasing its growth potential and competitiveness and to carry out the necessary consolidation of public finances in order to support the reform process.

Romania

Romania has experienced strong economic GDP growth averaging 6½% annually between 2003 and 2007. Recently the economy is showing signs of overheating with high and growing net external borrowing (from 10.4% of GDP in 2006 to 13.4% of GDP in 2007), rising labour shortages, strong wage growth affecting external competitiveness, rapid increases in household borrowing and increasing inflation.

For Romania to maintain its fast convergence process towards the average income level in the EU, it will be crucial to address the growing macroeconomic imbalances and to implement wide-ranging structural reforms especially in the labour market, education, business environment. In addition, fiscal policy would have an important role to play by cooling down internal demand but this requires further improvements in the budgetary planning and execution and the implementation of a binding medium-term fiscal framework.

Despite some recent budgetary measures, the Commission services' 2008 spring forecast projected the headline deficit to be just below the 3% of GDP threshold in 2008 and, under a no-policy-change assumption, well above it in 2009, at 3.7% of GDP. The structural deficit, i.e. the cyclically-adjusted deficit and net of one-off measures, is also expected to deteriorate going

from 3⅓% of GDP in 2007 to 3¾% of GDP in 2008 and some 4% of GDP in 2009.

In light of this, on 11 June 2008 the Commission addressed a policy advice to Romania recommending the authorities to implement rigorously the policy invitations of the Council issued on 12 February 2008 on the 2007 update convergence programme (see Table I.3.3 in Part I.3). In addition, Romania was recommended to take urgent action to implement a binding medium-term fiscal framework with a view also to improving the quality of public finances and to accelerate structural reforms in particular to implement an integrated approach to increasing employment, activity rates and productivity levels.

Table I.2.1:

Overview EDP-steps since spring 2007 – Euro-area Member States

Step in EDP procedure	Article of the Treaty	Country	
		IT	PT
Starting phase			
Commission adopts EDP-report = start of the procedure	104.3	7.6.2005	22.6.2005
Economic and Financial Committee adopts opinion	104.4	20.6.2005	4.7.2005
Commission adopts:			
- opinion on existence of excessive deficit	104.5	29.6.2005	20.7.2005
- recommendation for Council decision on existence of excessive deficit	104.6		
- recommendation for Council recommendation to end this situation	104.7		
Council adopts:			
- decision on existence of excessive deficit	104.6	28.7.2005	20.9.2005
- recommendation to end this situation	104.7		
- deadline for taking effective action		12.1.2006	19.3.2006
- deadline for correction of excessive deficit		**2007**	**2008**
Follow-up of the article 104.7 Council recommendation			
Commission adopts communication on action taken		22.2.2006	21.6.2006
Council adopts conclusions thereon		14.3.2006	11.7.2006
Commission adopts recommendations for:			
- Council decision establishing no effective action	104.8		
- Council decision to give notice	104.9		
Commission adopts communication on budgetary situation			
Council adopts conclusions thereon			
Council adopts:			
- decision establishing no effective action	104.8		
- decision to give notice	104.9		
- deadline for first report to be submitted			
- new deadline for correction of excessive deficit			
Commission adopts NEW recommendation for:			
- Council decision to give notice	104.9		
Council adopts:			
- decision to give notice	104.9		
- deadline for first report to be submitted			
- new deadline for correction of excessive deficit			
Follow-up of the Council notice			
Commission adopts communication on action taken			
Council adopts conclusions thereon			
Abrogation of the EDP			
Commission adopts recommendation for Council decision abrogating existence of excessive deficit	104.12	7.05.2008	7.05.2008
Council adopts decision abrogating existence of excessive deficit	104.12	3.06.2008	3.06.2008

Table I.2.2:

Overview EDP-steps since spring 2007 – Non-euro area Member States

Step in EDP procedure	Article of the Treaty	Country					
		CZ	HU	PL	SK	UK	
						(planned dates in italics)	
Starting phase							
Commission adopts EDP-report = start of the procedure	104.3	12.5.2004	12.5.2004	12.5.2004	12.5.2004	21.9.2005	11.6.2008
Economic and Financial Committee adopts opinion	104.4	24.5.2004	24.5.2004	24.5.2004	24.5.2004	30.9.2005	
Commission adopts:							
· opinion on existence of excessive deficit	104.5						
· recommendation for Council decision on existence of exc. deficit	104.6	24.6.2004	24.6.2004	24.6.2004	24.6.2004	11.1.2006	
· recommendation for Council recommendation to end this situation	104.7						
Council adopts:							
· decision on existence of excessive deficit	104.6	5.7.2004	5.7.2004	5.7.2004	5.7.2004	24.1.2006	
· recommendation to end this situation	104.7						
· **deadline for taking effective action**		5.11.2004	5.11.2004	5.11.2004	5.11.2004	24.7.2006	
· **deadline for correction of excessive deficit**		**2008**	**2008**	**2007**	**2007**	**financial yr 2006/07**	
Follow-up of the 104.7 Council recommendation							
Commission adopts communication on action taken		22.12.2004		22.12.2004	22.12.2004	20.9.2006	
Council adopts conclusions thereon		18.1.2005		18.1.2005	18.1.2005	10.10.2006	
Commission adopts recommendation for Council decision establishing no effective action	104.8	30.5.2007	22.12.2004	14.11.2006			
Council adopts decision establishing no effective action	104.8	10.7.2007	18.1.2005	28.11.2006			
Commission adopts recommendation for **new** Council recommendation to end excessive deficit situation	104.7	12.9.2007	16.2.2005	7.2.2007			
Council adopts **new** recommendation to end excessive deficit situation	104.7	9.10.2007	8.3.2005	27.2.2007			
· **deadline for taking effective action**		9.2.2008	8.7.2005	27.8.2007			
· **new deadline for correction of excessive deficit**		**2008**	**2008**	**2007**			
Follow-up of the NEW article 104.7 Council recommendation							
Commission adopts communication on action taken			13.7.2005	20.11.2007			
Council adopts conclusions thereon			-	4.12.2007			
Commission adopts recommendation for Council decision establishing inadequate action	104.8		20.10.2005				
Council adopts decision establishing inadequate action	104.8		8.11.2005				
Commission adopts recommendation for **new** Council recommendation to end excessive deficit situation (Art. 104.7)	104.7		26.9.2006				
Council adopts **new** recommendation to end excessive deficit situation (Art. 104.7)	104.7		10.10.2006				
· **deadline for taking effective action**			10.4.2007				
· **progress report submitted**			26.4.2007				
· **new deadline for correction of excessive deficit**			**2009**				
Follow-up of the NEW article 104.7 Council recommendation							
Commission adopts communication on action taken			13.6.2007				
Council adopts conclusions thereon			10.7.2007				
Abrogation of the EDP							
Commission adopts recommendation for Council decision abrogating existence of excessive deficit	104.12	7.05.2008		11.6.2008	7.05.2008	12.9.2007	
Council adopts decision abrogating existence of excessive deficit	104.12	3.06.2008		*8.07.2008*	3.06.2008	9.10.2007	

3. OVERVIEW OF THE 2007/08 UPDATES OF THE STABILITY AND CONVERGENCE PROGRAMMES

3.1. INTRODUCTION

This Section provides an overview of the 2007/2008 updates of stability and convergence programmes (SCPs). It first discusses the 2007 implementation of the plans presented in the 2006 updates, before turning to the budgetary plans for the period 2008-2010. At the end of this Section, table I.3.7. provides an overview of the key projections and budgetary plans in the SCP updates and table I.3.8. gives an overview of the summary assessments and policy invitations by country in the Council Opinions

As regards 2007, in most countries the budget balance turned out better than envisaged in the 2006 stability and convergence programme updates. However, this result masks pervasive expenditure overruns which were covered by sizable revenue windfalls. Progress towards sustainable fiscal position would have been larger in case Member States had stuck to the policy advice in the Council opinions, notably to implement expenditure plans and to use extra revenues to reduce the deficit and the debt.

Assessing the budgetary plans for 2008 and beyond in the context of the implementation track-record highlights risks to the consolidation of recent achievements. Unless there is an improvement in implementation relative to plans or positive revenue surprises continue to support budgetary consolidation, little improvement in the structural budgetary position over the next two years can be expected.

The experience of the past suggest that the current figures for structural balances may overestimate the strength of the underlying budgetary position, notably on account of recent favourable revenue surprises and a possible overestimation of potential output in the current juncture. This argues for additional prudence in setting the fiscal stance on an ex-ante basis and for a strict adherence to nominal expenditure plans. And if, following the years of buoyant tax revenues, revenue growth were to surprise on the downside, the relative lack of ambition in the ex-ante adjustment would likely result ex post in a

deterioration of structural balances and a moving away from the medium-term budgetary objectives (MTOs).

Table I.3.1:
Government balances in 2006 and 2007 (% of GDP)

	Debt SCP 2007	Structural balance SCP 2007		Structural primary balance SCP 2006	SCP 2007		
	2007	2007	MTO	2006	2007	end of prog.	last year of prog.
BE	84.9	-0.3	0.5	3.7	3.5	4.3	2011
BG	19.8	2.9	1.5	4.6	4.1	4.1	2010
CZ	30.4	-4.1	-1	-2.8	-3.0	-1.3	2010
DK	25.6	3.5	0.75 to 1.75	3.8	4.9	3.4	2010
DE	64.9	-0.3	0	0.8	2.5	3.4	2011
EE	2.7	1.2	0	1.6	1.3	1.2	2011
IE	25.1	0.5	0	3.7	1.4	0.3	2010
EL	93.4	-2.8	0	1.2	1.1	3.3	2010
ES	36.2	2.2	0	3.4	3.8	3.3	2010
FR	64.2	-2.0	0	0.1	0.6	2.5	2012
IT	105	-2.2	0	0.9	2.7	5.0	2011
CY	60	1.8	0	1.8	5.0	2.8	2011
LV	9.4	-0.5	-1	-0.3	-0.1	2.0	2010
LT	17.6	-1.2	-1	-1.0	-0.4	1.7	2010
LU	6.9	0.7	-0.8	-1.1	0.9	1.9	2010
HU	65.4	-4.8	-0.5	-5.9	-0.8	1.0	2011
MT	62.9	-2.1	0	0.8	1.2	3.0	2010
NL	46.8	-0.4	-0.5 to -1.0	2.7	1.8	2.9	2010
AT	59.9	-0.7	0	2.1	2.0	2.5	2010
PL	44.9	-2.4	-1	-1.3	-0.2	1.2	2010
PT	64.4	-2.1	-0.5	-0.5	0.8	2.3	2011
RO	11.9	-3.4	-0.9	-1.9	-2.5	-1.9	2010
SI	25.6	-0.8	-1	0.3	0.5	1.0	2010
SK	30.6	-3.0	<1.0	-1.7	-1.5	0.1	2010
FI	35.3	4.2	2	4.5	5.7	4.0	2011
SE	39.7	2.4	1	3.5	4.0	4.6	2010
UK	43.9	-3.0	na	-0.3	-0.8	0.6	2012

Source: 2007 updates of stability and convergence programmes, Commission services' calculations.

3.2. PLANS AND OUTCOMES IN 2007

3.2.1. THE STATE OF PLAY – CLOSING IN ON THE MTOs

On the back of benign economic circumstances and buoyant revenue developments, structural budget balances continued to improve in 2007. According to the stability and convergence programme updates, the euro-area average structural deficit reached 0.7% of GDP, the lowest level on record since the early 1970s, while the EU average structural balance improved from a deficit of 1.4% of GDP in 2006 to 1.1% of GDP in 2007. Echoing developments in 2006, the improvement of the EU and euro-area aggregates was almost entirely due to the significant improvements in Germany and countries in EDP. The Commission services' spring 2008 forecasts project an even lower structural deficit in 2007, reflecting in particular better-than-expected budgetary outcomes in

Graph I.3.1: **Budget balance in 2006 SCP plans for 2007 and outcomes: composition of differences (% of GDP)**
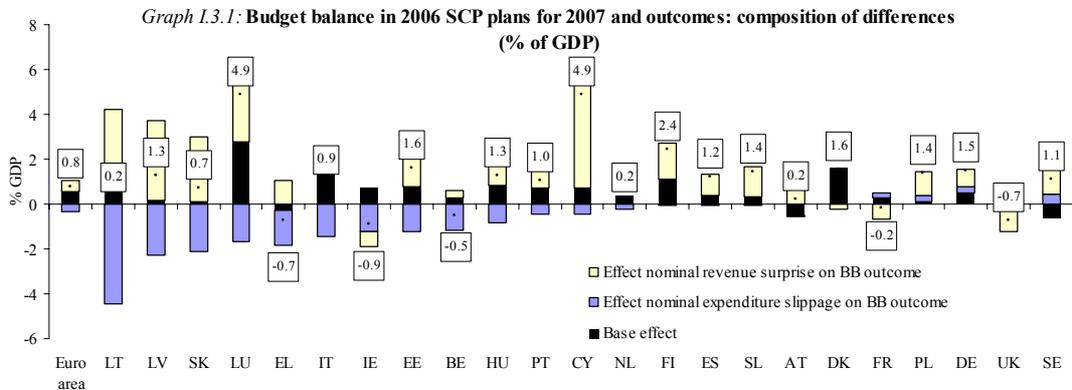
Note : BB = budget balance; the figure in the square gives the difference between the planned BB in the 2006 programme update and the 2007 outcome; the countries are ranked from left to right on the basis of the size of the expenditure slippage.

Source: 2007 stability and convergence programme updates and Commission services' spring 2008 forecast.

Italy, the Netherlands, the Czech Republic, Portugal, Poland and Slovenia (see Part I.1).

In 2007, 12 Member States strictly respected their MTO, of which 7 euro-area Member States ([1]).

3.2.2. THE CONSOLIDATION ACHIEVEMENTS IN PERSPECTIVE – REVENUE WINDFALLS AND EXPENDITURE SLIPPAGE

Only 5 out of 27 Member States (EL, IE, BE, FR and UK) realised a worse budget balance outcome in 2007 than planned in their 2006/07 update. However, an assessment of the composition of the budgetary improvements tells another story.

Council Opinions on the 2006/07 programme updates typically included policy invitations to make use of the benign economic outlook to consolidate fiscal positions. For the euro-area, the commitment to pursue sound policies was reiterated by the Eurogroup in April 2007. In particular, euro-area Finance Ministers agreed to "build on the better-than-expected 2006 outcomes to pursue more ambitious targets than in the 2006/07 updates " and to " implement the 2007 budgets as planned, avoiding expenditure overruns and using unexpected extra revenues for deficit and debt reduction ".

Comparing the 2007 outcomes with the original plans for 2007 shows that few countries avoided expenditure overruns. Graph I.3.1 shows the effect on the budget balance of the differences between expenditure and revenue plans in the stability programme updates and the budgetary outcomes in 2007. Rather than comparing the planned and realised expenditure- and revenue-to-GDP ratios, the nominal expenditure and revenue growth rates for 2007 as planned in the 2006 stability and convergence programmes are compared to the outcomes. This allows assessing policy implementation on the expenditure side, as nominal expenditures are largely directly under the control of the government, while the expenditure ratio is strongly affected by inflation and growth surprises.

In the majority of Member States, revenue windfalls as well as the better-than-expected 2006 outcomes were at least partly used to cover expenditure slippages including additional discretionary spending. In this context it is also noteworthy that employment growth was stronger than projected in a number of Member States, leading to a reduction of unemployment benefits freeing expenditure for other purposes.

In 2007, nominal expenditure overruns amounted to 0.3% of GDP in the euro-area Member States. Overruns were significantly larger in non-euro area Member States.

Although positive revenue surprises occurred in many countries, they were particularly evident in countries experiencing overheating pressures with rapid credit growth, increasing current

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([1]) In addition to the 12 countries that have strictly achieved their MTO, the Council Opinion considered Germany to have 'broadly reached the MTO in 2007.

account deficits, booming housing markets, increasing price and wage inflation. In a context where fiscal policy could play a role in dampening demand pressures and building-up of imbalances, general government expenditure overruns were particularly large. In Lithuania, Latvia and Estonia, in particular, general government expenditures increased 20 percent or more in 2007 as large revenue windfalls were almost fully spent and expenditure overruns amounted to several percent of GDP.

Fluctuations in tax-to-GDP elasticities have contributed to swings in revenues, implying changes in the structural balances (^{1}). Graph I.3.2 shows the apparent tax elasticity of the euro area and the EU as a whole. It is defined as the observed relative change of current taxes with respect to the observed change of nominal GDP. While it includes the effect of discretionary measures (tax cuts and increases), it provides a useful indication of the degree of volatility involved. The graph shows that – contrary to what could be expected on the basis of standard budgetary elasticities (^{2}) – the deviations of revenues from projected growth contributed significantly to the gap between budgetary plans and outcomes especially during the 2005-2007 upturn. Analysis in the report on *Public finances in EMU – 2007* indicates that asset price cycles, corporate profits and oil price developments were important drivers of the high tax elasticities in the 2005-2007 period. The situation in 2005-2007 has similarities with the situation in 1999 and 2000, when strong revenue inflows were used to reduce taxes or to increase expenditures on the assumption that they would be permanent. During the protracted slowdown that followed, revenue growth was particularly weak. Box I.3.1.

illustrates how expenditure slippage has been a recurrent theme in the EU.

Graph I.3.2: **Apparent tax elasticities in the EA-15 and the EU-27**
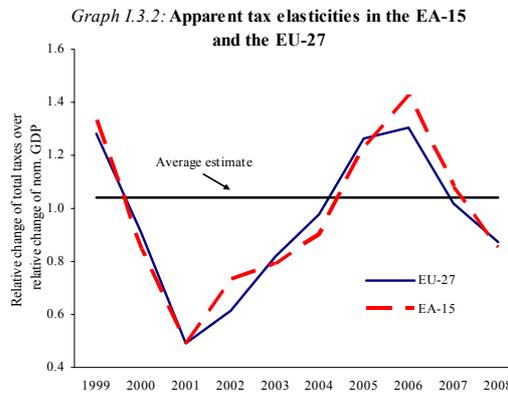
Note: Average estimate = estimate derived from commonly agreed method developed by the OECD
Source: Commission services' spring 2008 forecast.

(^{1}) In the commonly agreed method for the cyclical adjustment of the budget tax elasticities are taken to be constant over time. This approximation works reasonably well as long as the tax content of GDP growth does not change too much. In the event of large swings, the assumption of constant tax elasticities can provide a distorted picture of the underlying fiscal position; e.g. if tax elasticities increase above 'normal' levels the structural budget balance will be overestimated.

(^{2}) The standards elasticity of revenue to GDP growth is estimated to be around 1. This implies that revenues grow on average by 1% for each 1% of GDP growth. In percentage points of GDP, it implies that the revenue ratio does not change.

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Box I.3.1: **Expenditure slippage is a recurrent theme**

Slippage from both nominal and real expenditure plans that are set out in the annual updates of the stability and convergence programmes is a recurrent phenomenon. Nominal expenditure overruns have been consistently occurring both in good and bad times, with positive or negative inflation surprises. There are marked and consistent differences in performance between Member States pointing to the importance of adequate expenditure control frameworks and budgetary institutions ([1]).

Graph 1 shows that, on average, slippage from nominal expenditure plans amounted to ½ percent of GDP in the euro area Member States between 1999 and 2007 and were even larger in non-euro area Member States. Incidentally, this is equal to the benchmark for the required improvement of the structural balance for Member States that are not at their medium-term budgetary objective (MTO); i.e. the average expenditure overrun has completely wiped out the equivalent of the benchmark adjustment towards sustainable fiscal positions. The graph also highlights the marked differences between Member States. Austria, the UK and Germany performed rather well on expenditure control, while Malta, Slovenia, Sweden and Denmark had on average no expenditure slippage. Especially the latter three countries' performance is impressive, considering the significant revenue windfalls, which – in general – often puts pressure on governments for additional spending.

Graph 1: **Differences between nominal revenue and expenditure plans in the pogrammes at year t-1 and outcomes in year t (1999-2007, % GDP)**
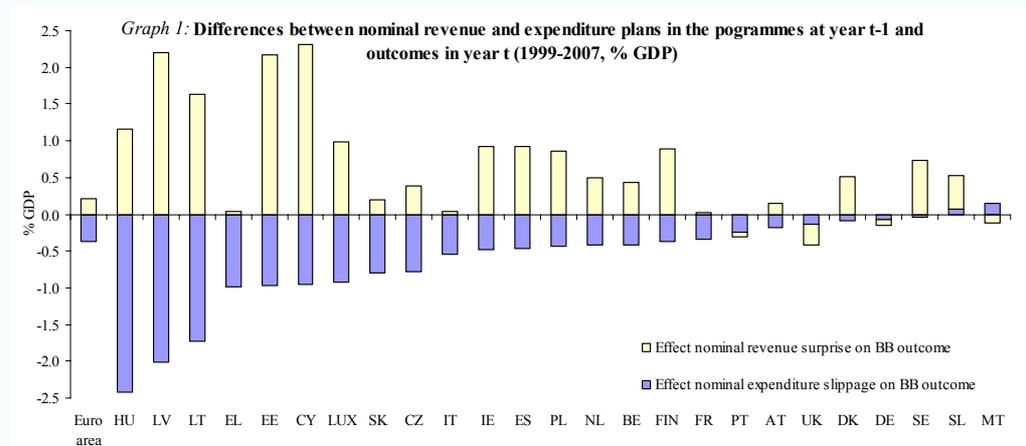
Note : BB = budget balance. The averages for recently acceded Member States and EU 15 Member States are not comparable as the period covered are respectively 2005-2007 and 1999-2007. This may give a biased view as these countries have not experienced yet a period with revenues and tax elasticities below expectations.
Source: 1999-2007 stability and convergence programme updates and Commission services' spring 2008 forecast

The graph may also give an indication of the degree of prudence in the revenue projection in the programme updates. Despite the fact that exceptionally high tax-to-GDP elasticities in most Member States in recent years inflated the period averages, Portugal, the UK and Germany – on average – had lower tax income than foreseen in the programme updates over the period 1999-2007. This may point to

([1]) See European Commission (2005), (2006a) and (2007a) for analysis of the effect of expenditure rules, budgetary procedures and national institutions on budgetary outcomes.

(Continued on the next page)
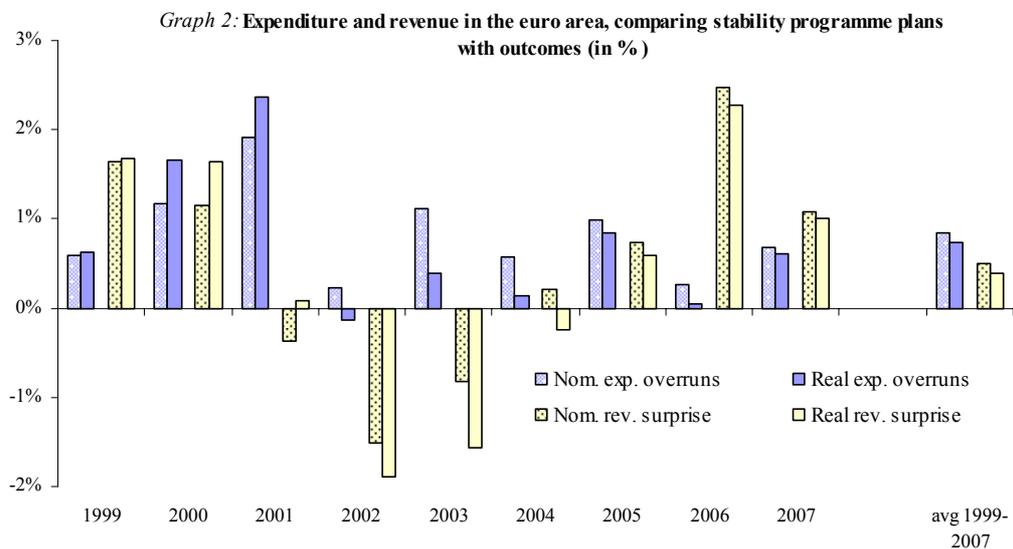
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Graph 2: **Expenditure and revenue in the euro area, comparing stability programme plans with outcomes (in %)**

Source: 1999-2007 stability and convergence programme updates and Commission services' spring 2008 forecast.

a lack of prudence in forecasting revenues (and GDP growth). Also in Greece and Italy, revenues have not exceeded expectations on average despite the very sizable windfall revenues in recent years. In some cases, like Germany, the lower than expected revenues over the period may also be linked to the unforeseen protracted nature of the growth slowdown and the growth composition. In other Member States systematically higher than planned revenues may point to a budget process with intentionally cautious macroeconomic forecasts and cautious budgeting of tax revenues. This is for instance the case in the Netherlands. The budgetary framework allows part of the revenue windfalls – which likely occur due to the cautious forecasting – to result in additional spending and part to be used for debt reduction. In the charts, this is reflected as expenditure overruns with windfall revenues. It is however not of the same nature as spending of revenue windfalls in countries which do not have such intentionally cautious budgeting as it does not lead to bias towards slippage from budget balance plans. A disadvantage of cautious budget planning with such an expenditure rule, is its procyclical nature in good times.

On average, a comparison of expenditure overruns with revenue overruns suggests a strong correlation in upturns, illustrating the tendency to spend revenue windfalls rather than letting automatic stabilisers play. But the correlation appears to break down in downturns, when revenue undershots are not matched by savings on expenditure. Graph 2 also illustrate that the picture is similar for real expenditure in the euro area and cannot be attributed to inflation surprises. The main difference is in the period 2002-2004 when real expenditure growth plans were met as inflation surprised to the upside.

There is no apparent structural improvement in the pattern of expenditure overruns since the 2005 reform of the SGP. This raises some concerns about the durability of the fiscal consolidation achievements when the revenue buoyancy of the past years ends, in particular considering that (nominal) expenditure growth is the budgetary factor most directly under control of the government.

3.3. PLANS FOR 2008 AND 2009 – SLOWING CONSOLIDATION

3.3.1. Backloaded and insufficient consolidation in 2008-10

In 2008, on the basis of the plans in the programme updates, the euro-area average structural balance is expected to deteriorate marginally to a deficit of 0.8% of GDP while the EU average deficit is expected to remain unchanged at 1.1% of GDP. Compared to the time the 2007/08 updates were drawn up economic prospects have further weakened. The situation is highly uncertain at this stage. Some countries are better positioned to cope with the deterioration in the international environment and financial turmoil than others. For many, however, there is a risk of worse budgetary outcomes resulting from the economic developments.

Graph I.3.3 presents the budgetary developments in different groups of Member States. The Member States are grouped according to their budgetary situation in the year preceding the plan, according to the 2007/08 programme updates. It shows that:

(i) Some deterioration in the structural balance is envisaged in 2008 in 'countries that are at the MTO'. This reflects developments in Cyprus, Ireland, Finland and to a lesser extent Spain and Estonia. In Spain and Finland the change is mainly related to tax cuts, while in Cyprus the deterioration is due to the assumed normalisation of exceptionally high tax revenue from a booming financial and real estate sector. In 2009, consolidation of a ¼% of GDP is planned.

(ii) Member States that have a deficit below 3% of GDP but have not reached their MTO plan on average a small structural improvement in 2008. This reflects mainly fiscal loosening in Germany on account of a corporate tax reform and an almost unchanged structural position in France. In 2009 the countries in this group of Member States are planning to improve their structural balance by on average ½% of GDP, with marked differences between Member States.

Graph I.3.3: **Planned change in the structural balance - Unweighted average per group**
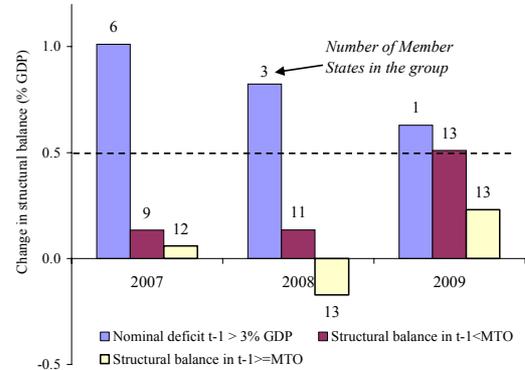
Source: 2007 stability and convergence programme updates.

(iii) Countries with nominal deficits above the 3% reference value all meet the required effort of 0.5% of GDP in their plans. However, when comparing projections to the Commission services' forecast, additional measures may be required in Hungary to meet the budgetary objectives. When looking at Member States which were subject to the EDP (Graph I.3.4) in 2007, a lack of ambition is apparent in 2008 in Italy, Poland and Slovakia, which estimate their 2007 nominal deficits to have dropped clearly below 3% of GDP but do not take advantage of this to accelerate progress towards the MTO and increase the safety margin vis-à-vis the reference value.

Graph I.3.4: **Planned change in the structural balance of Member States in EDP at the start of 2008 (% of GDP)**
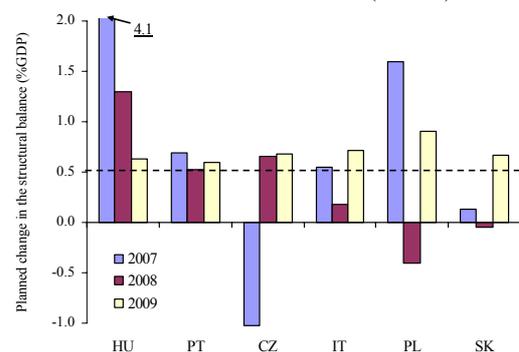
Source: 2007 stability and convergence programme updates.

3.3.2. Composition of planned adjustment - Expenditures and revenues

As in previous updates, planned consolidation efforts over the programme period are typically expenditure based (Graph I.3.5). Planned

Graph I.3.5: **Composition of the planned change in the budgetary position 2007-2010 (% of GDP)**
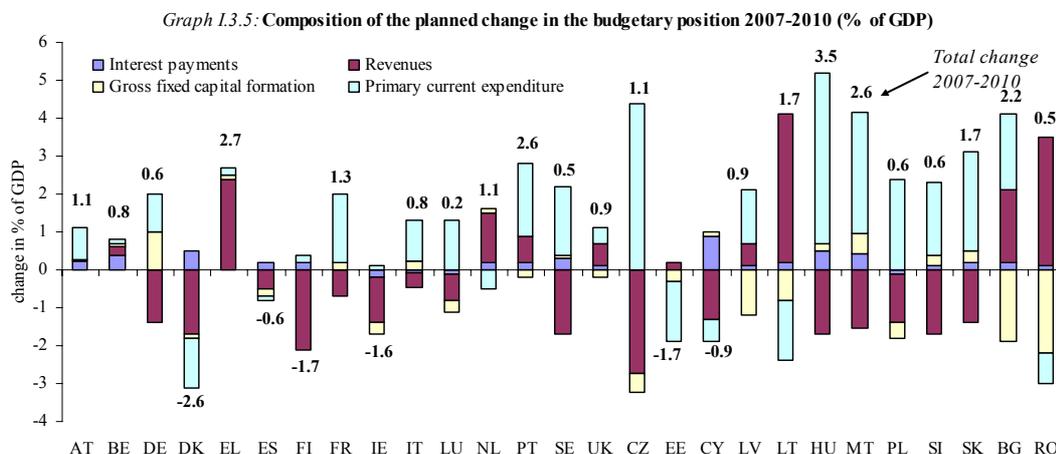
Note: A positive value indicates a positive contribution to the change in budgetary position. A positive total variation of the budgetary position implies an improvement of the balance (value is presented on top (+) or below (-) of the columns).
Source: Commission services on the basis of the 2007 updates of the stability and convergence programmes.

expenditure reductions are particularly large in the Czech Republic, Hungary, Malta, Poland and Slovakia, while increases in the expenditure-to-GDP ratio are foreseen in Estonia, Lithuania and Denmark. At the same time, the average revenue share is projected to fall. Whereas the tax burden is projected to be reduced in most countries, Greece, Lithuania, Romania, Bulgaria and the Netherlands expect a substantial increase in revenue ratio. In the past, while actual expenditures have been higher than planned, and partly substantially so, revenues have generally turned out closer to projections, also in the wake of revenue windfalls. Failure to improve implementation of the planned expenditure cuts would result in a worsening of the average budgetary balance, as compared to the planned budgetary consolidation.

The share of interest expenditures to GDP is expected to decline further, especially in Cyprus due to the significant debt reduction. As to public investment, a sharp reduction is planned in Romania and Bulgaria, while it is projected to increase by about one percent of GDP in Germany.

3.4. DEBT DEVELOPMENTS

According to the figures presented in the updated stability and convergence programmes, in 2007, debt-to-GDP ratio stood at 66.7 % in the euro area and at 59.4 % in the EU as a whole, down from respectively 68.6% and 61.3% the year before. Eight Member States (MT, FR, PT, DE, HU, BE, EL, IT) have a debt ratio above the 60% reference value The official public finance projections in the updated programmes imply significant acceleration of the pace of debt reduction in both the EU as a whole and in the euro area over the period covered by the programmes, mainly due to higher primary surpluses and favourable economic growth prospects. Should the downside risks to the current economic outlook materialise, debt dynamics would clearly be affected. Note that in Section I.1 which discusses the Commission services' spring 2008 forecast, the debt reduction is foreseen to slowdown on the basis of the no-policy-change scenario.

Based on the programme updates, in 2010, the debt-to-GDP ratio would be 61.3 % of GDP in the euro area, while the EU aggregate is planned to be reduced further below the reference value of 60% of GDP, at 55.1% of GDP. Further reductions in the debt ratio are projected in the programmes, such that Germany, Portugal and Malta would fall below the reference value and

the very-high debt countries would accomplish significant reductions.

3.5. RISKS TO THE ACHIEVEMENT OF PLANS

The experience of the past suggests that the current figures for structural balances may overestimate the strength of the underlying budgetary position, notably on account of temporary favourable revenue surprises and a possible underestimation of the output gap. Developments in asset prices and corporate profitability carry a particular risk for the revenue side of the budget.

As to the output gap, Graph I.3.6. illustrates the risk that the output gap estimates may be revised upwards, deteriorating the structural balances. The graph plots output gap estimates using the autumn 2007 and the spring 2008 forecast against the rate of capacity utilisation in the manufacturing industry and the autumn 2007 estimates integrating the rate of capacity utilisation for the euro-area countries. Looking back in time the rate of capacity utilisation has been a rather good predictor of cyclical conditions. The current evolution of this indicator and forecasts integrating the capacity utilisation in the production function currently used by the Commission services suggest that the output gap estimates may be revised upward.

Graph I.3.6: **Capacity utilisation and output gap in the euro area**
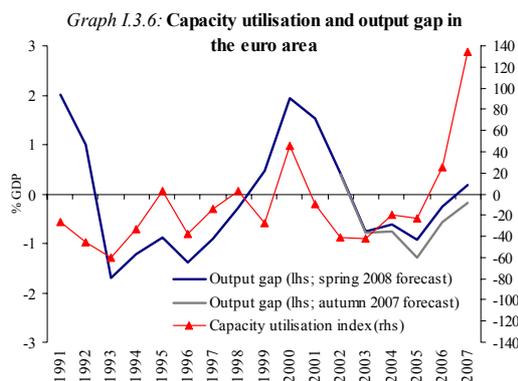
Note: Over the observation period (1991-2007), the index for capacity utilisation averages zero
Source: Commission services.

While the Commission autumn 2008 forecast estimated the output gap for the euro area in 2007 still being negative (based on the agreed common methodology), capacity utilisation in

the manufacturing industry was far above its long-term average. The spring 2008 forecast modifies the autumn 2007 forecast and shows a positive output gap (+0.2). The estimates from the extended production function integrating the rate of capacity utilisation suggest however that the output gap could be much larger (+0.7). Current output gap estimates without integrating the rate of capacity utilisation may therefore underestimate the true figures. The methodological developments with regard to the calculation of the output gap are discussed in detail in Section II.2.

This situation is similar to the situation in 2000, at the height of the previous upturn. At the time, output gap estimates where still negative as potential growth estimates were revised upwards in line with actual growth rates. In spring 2000, the euro area output gap for the year 2000 was estimated at -1.2% of GDP. Ex-post, as the slowdown materialised and potential growth rate estimates were gradually slashed, the output gap has been revised to +2% of GDP, implying that the structural balances at the time were overestimated by about 1½ % of GDP. While the real-time output gap estimates prepared in 2000 are not strictly comparable to the current ones given differences in the methodology used (HP filter in 2000 vs. production function currently), past experience may repeat itself.

From the viewpoint of fiscal policy the underestimation of the output gap can give rise to a distorted diagnosis and, in the present context, to an overestimation of the cyclically adjusted budget balance (and the structural balance). It cannot be excluded that the output gaps will be revised upward (and the structural balance be revised downward) again as growth decelerates, with implications for previous and future years. Especially in Member States that experience a pronounced growth deceleration (e.g. Ireland and Spain) potential output has already been the subject to sizeable revisions (½% of GDP or more) between the autumn 2007 forecast and the spring 2008 forecast.

Graph I.3.7: **Debt-to-GDP ratio 2007 and 2010 (% of GDP)**
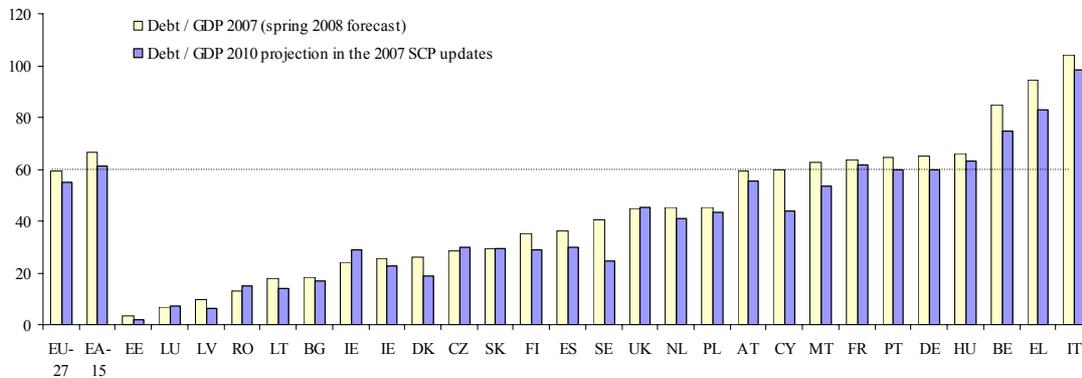
□ Debt / GDP 2007 (spring 2008 forecast)
■ Debt / GDP 2010 projection in the 2007 SCP updates

Source: 2007 stability and convergence programme updates and Commission services' spring 2008 forecast.

There is a risk that weak tax revenues as well as revisions of the output gap will deteriorate the structural balance in 2008 and 2009 and lead to failure to comply with the 0.5% of GDP benchmark improvement of the structural balance even in Member States where the plans seem adequate and implementation would be rigorous.

This risk comes on top of the usual risk of expenditure overruns. Should expenditure overruns occur (as they consistently have in the past), the budgetary stance would likely turn expansionary and there would be a move away from the MTOs or the path towards them in the period 2008-2010.

In addition, nominal balances are likely to deteriorate further as the growth prospects have worsened since the submission of the programme updates. This argues for a strict adherence to nominal expenditure plans in 2008 and a full carry-over of better-than-expected outcomes of 2007. It also calls for additional prudence in setting the fiscal stance on an ex-ante basis in 2009 and 2010. Only in this way the consolidation gains of recent years would not be lost. In addition, such prudent fiscal policies would also support monetary policy in the current juncture, as inflation continues to exceed its target values.

In this context, shifting surveillance and monitoring of the implementation of budgetary plans more to the adherence to aggregate expenditure plans would be useful. It would allow focusing on factors more directly under the

control of the government and a fair judgement of budgetary consolidation efforts. Disappointing revenues due to lower tax-to-GDP elasticities, which are likely to occur in 2008, should not lead to a negative assessment (ex post) as long as the 3% reference value is not breached and if disappointing revenues are not caused by unduly optimistic forecasts. As an aside, increased focus on monitoring of implementation of expenditure plans could in the future also contribute to increasing fiscal efforts in good times.

Of course when monitoring expenditure plans, the degree of ambition, as well as the assumptions on the revenue side, needs to be taken into account. Countries which consistently and deliberately produce cautious forecasts with a bias towards underestimating growth and revenues can be granted some more leeway on the expenditure side. Member States which have a track record of expenditure slippage, and which do not have a bias towards underestimating revenues, could be more ambitious in setting their targets for 2009 and 2010 or present convincing measures to ensure improved expenditure control in order to avoid a move away from sustainable budgetary positions.

Table I.3.2:

Budgetary developments in the Member States according to the 2007 stability and convergence programme updates

	Real GDP growth				Government balance				Structural balance				Government gross debt			
	2006	2007	2008	2009	2006	2007	2008	2009	2006	2007	2008	2009	2006	2007	2008	2009
BE	2.8	2.7	1.9	2.0	0.3	-0.2	0.0	0.3	-0.4	-0.3	0.0	0.5	88.2	84.9	81.5	78.1
DE	2.9	2.4	2.0	1.5	-1.6	0.0	-½	0.0	-1.6	0.0	-½	0.0	67.5	65.0	63.0	-61½
IE	5.7	4.8	3.0	3.5	2.9	0.5	-0.9	-1.1	2.9	0.5	-0.9	-1.1	25.1	25.1	25.9	27.6
EL	4.2	4.1	4.0	4.0	-2.5	-2.7	-1.6	-0.8	-2.5	-2.7	-1.6	-0.8	95.3	93.4	91.0	87.3
ES	3.9	3.8	3.1	3.0	1.8	1.8	1.2	1.2	1.8	1.8	1.2	1.2	39.7	36.2	34.0	32.0
FR (1)	2.0	2.0	2.3	2.5	n.a.	-2.4	-2.3	-1.7	n.a.	-2.4	-2.3	-1.7	n.a.	64.2	64.0	63.2
IT	1.9	1.9	1.5	1.6	-4.4	-2.4	-2.2	-1.5	-4.4	-2.4	-2.2	-1.5	106.8	105.0	103.5	101.5
CY	3.8	4.2	4.1	4.0	-1.2	1.5	0.5	0.5	-1.2	1.5	0.5	0.5	65.2	60.0	48.5	45.3
LU	6.1	6.0	4.5	5.0	0.7	1.0	0.8	1.0	0.7	1.0	0.8	1.0	6.6	6.9	7.1	7.2
MT	3.2	3.5	3.1	3.2	-2.5	-1.6	-1.2	-0.1	-2.5	-1.6	-1.2	-0.1	64.7	62.9	60.0	57.2
NL	3.0	2.8	2.5	1.8	0.6	-0.4	0.5	0.6	0.6	-0.4	0.5	0.6	47.9	46.8	45.0	43.0
AT	3.3	3.4	2.4	2.5	-1.4	-0.7	-0.6	-0.2	-1.4	-0.7	-0.6	-0.2	61.7	59.9	58.4	57.0
PT	1.3	1.8	2.2	2.8	-3.9	-3.0	-2.4	-1.5	-3.9	-3.0	-2.4	-1.5	64.8	64.4	64.1	62.5
SI	5.7	5.8	4.6	4.1	-1.2	-0.6	-0.9	-0.6	-1.2	-0.6	-0.9	-0.6	27.1	25.6	24.7	23.8
FI	5.0	4.4	3.3	3.0	3.8	4.5	3.7	3.6	3.8	4.5	3.7	3.6	39.2	35.3	32.8	30.4
EA-15	**2.8**	**2.6**	**2.3**	**2.2**	**-1.5**	**-0.8**	**-0.8**	**-0.4**	**-1.5**	**-0.8**	**-0.8**	**-0.4**	**68.6**	**66.7**	**65.0**	**63.3**
BG	6.1	6.4	6.4	6.8	3.2	3.1	3.0	3.0	2.9	2.9	3.0	3.1	22.8	19.8	18.3	17.4
CZ	6.4	5.9	5.0	5.1	-2.9	-3.4	-2.9	-2.6	-3.1	-4.1	-3.4	-2.8	30.1	30.4	30.3	30.2
DK	3.5	2.0	1.3	1.1	4.6	3.8	3.0	2.0	2.7	3.5	3.4	2.5	30.1	25.6	21.6	19.2
EE	11.2	7.4	5.2	6.1	3.6	2.6	1.3	1.0	1.8	1.2	0.8	1.4	4.0	2.7	2.3	2.0
LV	11.9	10.5	7.5	7.0	-0.3	0.3	0.7	1.0	-0.9	-0.5	0.4	1.1	10.6	9.4	8.3	7.2
LT	7.7	9.8	5.3	4.5	-0.6	-0.9	-0.5	0.2	-1.0	-1.2	-0.9	0.3	18.2	17.6	17.2	15.0
HU	3.9	1.7	2.8	4.0	-9.2	-6.2	-4.0	-3.2	-8.9	-4.8	-3.5	-2.8	65.6	65.4	65.8	64.4
PL	6.2	6.5	5.5	5.0	-3.8	-2.0	-2.5	-2.0	-4.0	-2.4	-2.8	-1.9	47.6	44.9	44.2	43.3
RO	7.7	6.1	6.5	6.1	-1.9	-2.9	-2.9	-2.9	-2.2	-3.4	-3.4	-3.4	12.4	11.9	13.6	14.2
SK	8.3	8.8	6.8	5.8	-3.7	-2.5	-2.3	-1.8	-3.1	-3.0	-3.1	-2.4	30.4	30.6	30.8	30.5
SE	4.2	3.2	3.2	2.5	2.5	3.0	2.8	3.1	1.7	2.4	2.1	2.8	47.0	39.7	34.8	29.8
UK (2)	3.0	3.0	2.0	2.8	-2.6	-3.0	-2.9	-2.4	-2.5	-3.0	-2.7	-2.3	43.4	43.9	44.8	45.1
EU-27	**3.1**	**2.9**	**2.4**	**2.5**	**-1.6**	**-1.1**	**-1.1**	**-0.7**	**-1.4**	**-1.1**	**-1.1**	**-0.7**	**61.3**	**59.4**	**58.2**	**56.7**

Notes:

(1) Data from the low-growth scenario in the stability programme.

(2) Financial years ending in following March.

Source: 2007 updates of the stability and convergence programmes

Table I.3.3:

Overview of the Council Opinions on the SCPs - Summary assessments and policy invitations

BG	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims at maintaining a sound budgetary position throughout the period, planning the continuation of high general government surpluses. The budgetary targets seem plausible. The programme proposes a significant upward revision of the MTO from a balanced structural position to a surplus of 1½% of GDP, which will be comfortably met throughout the programme period. Safeguarding macroeconomic stability and sustaining catching up in a context of rising external imbalances and high inflation requires the continuation of tight fiscal policies, further improvements in the quality of public spending, including healthcare, and fiscal institutions and a public sector wage policy that contributes to overall wage moderation in line with productivity gains. **POLICY INVITATIONS:** In view of the above assessment and also given the need to ensure sustainable convergence, Bulgaria is invited to: (i) continue avoiding a pro-cyclical fiscal stance with a view to help contain existing external imbalances, notably by saving any budgetary over-performance and containing expenditure growth; (ii) strengthen policies to contain inflationary pressures, including through prudent public sector wage policy contributing to wage moderation; (iii) further strengthen the efficiency of public spending, in particular through full implementation of programme budgeting, reinforced administrative capacity and reforms in the areas of labour market, education and healthcare.
CZ	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme is consistent with a correction of the excessive deficit in 2008, conditional on continuing expenditure restraint and close monitoring of the impact of the fiscal impact of the tax measures in the stabilisation package. Owing to the positive macroeconomic outlook and a likely better 2007 budgetary outturn than expected in the programme, there could be ample opportunity to bring the 2008 deficit below the 3% of GDP reference value by a larger margin, and to achieve stronger-than-targeted fiscal consolidation afterwards. The main risks are in the reliance on reductions to public sector employment, and relate to the fact that further consolidation measures remain to be spelled out after 2008. The Czech Republic remains at high risk with respect to the sustainability of public finances, while a tentative start has been made on health care reform. **POLICY INVITATIONS:** In view of the above assessment and also in the light of the recommendation under Article 104(7) of 10 October 2007, and given the need to achieve sustainable convergence, the Czech Republic is invited to: (i) exploit the better-than-expected 2007 budgetary outcome to bring the 2008 deficit below the 3% of GDP reference value by a larger margin by continuing to exercise expenditure restraint; (ii) exploit the high rate of growth in the economy by further strengthening the pace of adjustment so as to build a safety margin against breaching the reference value as soon as possible, and speed up the achievement of the MTO ; (iii) in view of the projected increase in age-related expenditures, improve the long-term sustainability of public finances through the necessary pension and health care reforms.
DK	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims at maintaining a sound budgetary position fully respecting the MTO throughout the period, consistent with the objective of long fiscal sustainability. Foreseeing high, albeit rapidly declining, surpluses over the programme period, the budgetary targets appear to be on the cautious side in view of the expected 2007 outcome and the most recent projections. The risk to long-term sustainability is assessed to be low. For the present, the most important policy challenge is to address labour shortages and looming cost pressures through a mix of structural and macroeconomic policies. Further measures need to be identified and implemented to stimulate labour supply. Meanwhile, the fiscal stance should be considered carefully so as to avoid pro-cyclicality. Therefore, containing public consumption expenditure growth, as foreseen in the programme, remains of high priority.
DE	**SUMMARY ASSESSMENT:** The overall conclusion is that, benefiting from continued strong growth, Germany has used unexpected revenues for deficit-reduction and therefore broadly achieved its medium-term objective in 2007, much earlier than envisaged in the previous programme, a result to be commended. In 2008, however, public finances could relapse into structural deficit. The budgetary strategy foresees a gradual return to the medium-term objective thereafter, based on sustained expenditure restraint. The risks attached to the budgetary projections are neutral; while the underlying macro-economic scenario after 2008 is prudent, the envisaged budgetary outcome requires continued commitment to maintain firm control over expenditure. Germany is at medium risk as regards the sustainability of public finances.

DE	**POLICY INVITATIONS:** In view of the above assessment and Germany is invited to: (i) preserve the positive results achieved in 2007 by maintaining firm control over expenditures in line with programme targets and by using unexpected extra revenues for debt reduction; (ii) improve the long-term sustainability of public finances, by continuing to implement the growth and employment promoting economic reforms enacted and by underpinning the achieved fiscal consolidation with a strengthening of budgetary institutions, in particular through the ongoing revision of federal fiscal relations. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
EE	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims at maintaining a sound budgetary position throughout the period with continued, albeit somewhat declining, surpluses above the MTO. The budgetary targets seem plausible. Macroeconomic imbalances that have accumulated in the economy during the years of high growth, notably wage growth exceeding that of productivity, price pressures and high net borrowing vis-à-vis the rest of the world, are expected to moderate only gradually and the deceleration path of the economy is clearly surrounded by downward risks. Setting budgetary strategy that aims at over-achieving the MTO is a step forward in addressing these macroeconomic challenges. Nevertheless, fiscal policy in 2007 appears to have been pro-cyclical and risks remaining so also in 2008 if Estonia continues to grow at high rates. It would be desirable to maintain a broadly neutral fiscal stance in 2008, as it would support adjustment in the current phase of the cycle when imbalances accumulated during the period of very high growth still persist. The long-term sustainability of public finances is assessed to be at low risk. **POLICY INVITATIONS:** In view of the above assessment and also given the need to ensure sustainable convergence and a smooth participation in ERM II, Estonia is invited to contribute to reducing risks to macroeconomic stability by: (i) aiming for a neutral fiscal stance in 2008 and beyond so as to contribute to an orderly adjustment towards a balanced convergence path; (ii) complementing the recommended fiscal stance with ensuring appropriate public wage policy and further labour market reforms as well as sustaining rapid productivity growth so as to contain inflationary pressures.
IE	**SUMMARY ASSESSMENT:** The overall conclusion is that Ireland is facing several macroeconomic challenges in its transition to a period of lower economic growth, mainly linked to a return to more sustainable activity in the housing sector. Slowing domestic demand has been accompanied by losses in recent years in export market shares, pointing to price competitiveness challenges. The fiscal position is expected to register a noticeable deterioration in 2007-2008, from a sound surplus in 2006. While Ireland is expected to continue to register a surplus in 2007, the programme foresees that the structural position will turn into a deficit in 2008 which will increase somewhat thereafter. The risks attached to the budgetary projections are broadly neutral in 2008, but from 2009, in the absence of adequate expenditure containment, outcomes could be worse than projected. While the MTO would be broadly reached in 2008, keeping to the MTO thereafter should be possible if the margins foreseen in the programme as contingency provisions remain unused. Furthermore, regarding the long-term sustainability of the public finances, while the public debt is low, Ireland is at medium risk because of the projected impact of population ageing on pension expenditure. The challenge for the authorities will be to deal with macroeconomic risks, while at the same time avoiding a deterioration of the fiscal situation **POLICY INVITATIONS** In view of the above assessment , Ireland is invited to: (i) keep to the MTO in 2008 and thereafter, by maintaining firm control over expenditures; (ii) in view of the significant projected increase in age-related expenditure, improve the long-term sustainability of public finances by implementing further pension reforms. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
EL	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme envisages speeding up the reduction of the budget deficit, in a context of strong growth, to achieve a nominal budget balance in 2010, although the MTO is not planned to be achieved in structural terms within the programme period. This consolidation, which relies on a prompt implementation of the 2008 budget and a significant increase in tax revenues throughout the programme horizon, is subject to risks as the underlying macroeconomic scenario is favourable and the revenue-enhancing measures are not fully spelled out after 2008.

EL	Moreover, there are uncertainties about sizeable projected stock-flow adjustments. Also, the reliance on results from the fight against tax evasion is significant and only partly backed up with reforms in tax collection. In addition, the planned cutbacks in some expenditure items (as a share of GDP) are not substantiated by specific measures and partly offset by plans to increase social payments. Ensuring a strong fiscal consolidation path would help address the imbalances of the Greek economy, notably persistent inflation, competitiveness losses and a large external deficit. The level of debt which remains among the highest in the euro area, coupled with the projected increase in age-related spending, will affect negatively the long term sustainability of public finances, which remains at high risk. **POLICY INVITATIONS:** In view of the above assessment, Greece is invited to: (i) carry-out the envisaged adjustment towards the MTO, reduce the debt-to-GDP ratio accordingly, and use any budgetary over-performance to speed up the consolidation process to reach the MTO within the programme period; (ii) pursue the ongoing reforms of tax administration and continue improving the budgetary process by further increasing its transparency, spelling out the medium-term budgetary framework and effectively implementing mechanisms to monitor, control and improve the efficiency of primary expenditure; (iii) in view of the level of debt and the projected increase in age-related expenditure, improve the long-term sustainability of public finances by achieving the MTO, continuing the ongoing reforms in the healthcare system and reforming the pension system; updated long-term projections for age-related expenditure should be produced as soon as possible. The Council also notes that such policy actions would be consistent with the April 2007 Eurogroup orientations for fiscal Greece is also invited to improve compliance with the submission deadline for stability and convergence programmes specified in the code of conduct
ES	**SUMMARY ASSESSMENT:** The overall conclusion is that the medium-term budgetary position is sound with high general government surpluses above the MTO and a relatively low debt ratio. However, given favourable economic growth assumptions and the end of the asset boom, the projected government revenue might turn out to be on the high side. In this context, a careful assessment of the impact on the general government balance of permanent tax cuts and/or expenditure increases will be crucial to maintain a strong budgetary position and to ensure the long-term sustainability of public finances, which is at medium risk. Fostering productivity-enhancing expenditure items, such as R&D, infrastructure and education, is important to underpin a smooth adjustment of the economy in the light of large external imbalances, the contraction of the housing sector and the existing inflation differential with the euro area. **POLICY INVITATIONS** In view of the above assessment, while maintaining a strong budgetary position, Spain is invited to further improve the long-term sustainability of public finances with additional measures to contain the future impact of ageing on spending programmes. Spain is also invited to improve compliance with the submission deadline for stability and convergence programmes specified in the code of conduct
FR	**SUMMARY ASSESSMENT:** The overall conclusion is that the pace of budgetary consolidation and debt reduction has slowed down in 2007 and is planned to be significantly less ambitious in the coming years than planned in the previous update of the stability programme, especially as concerns 2008. The envisaged consolidation is back-loaded and the achievement of the MTO through an expenditure-based adjustment is postponed from 2010 to 2012 under the more plausible of the two macroeconomic scenarios presented by the French authorities. Moreover, even this adjustment path is subject to important risks. While tax cuts adopted in summer 2007 are already impacting on public finances, the authorities have also adopted measures to curb public expenditure in 2008, notably in social security, broadened the coverage of expenditure rules for the state, and have embarked on structural reforms. Structural reforms will be crucial to increase potential growth, improve competitiveness and sustain the budgetary consolidation process. However, measures underlying the ambitious planned reduction in the expenditure ratio over the programme period still have to be further specified and implemented. The programme objectives are also subject to risks stemming from macroeconomic assumptions, which are favourable and the assumptions on the impact of structural reforms on growth. In view of the debt and deficit levels and the projected increase in age-related expenditure, France appears to be at medium risk with regard to the sustainability of public finances. **POLICY INVITATIONS:** In view of the above assessment, France is invited to: (i) strengthen the pace of budgetary consolidation and debt reduction, including through a rigorous implementation of the 2008 budget, so as to ensure that the safety margin against breaching the 3% deficit threshold is attained more rapidly and – cyclical conditions permitting- aim to reach the MTO by 2010 in order to decisively contribute to the improvement of the long-term sustainability of public finances.

FR	(ii) effectively enforce existing expenditure rules and take further steps in order to guarantee the respect of the ambitious multi-annual expenditure reduction targets of the general government by all sub-sectors thus leading to a reduction in the expenditure to GDP ratio (iii) continue and accelerate structural reforms, so as to increase potential growth and curb public expenditure. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
IT	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme is consistent with a correction of the excessive deficit in 2007, which should be achieved by a good margin. The 2007 budgetary outturn is likely to outperform expectations due to the favourable cyclical and budgetary developments. This result could have been even better in the absence of the additional expenditure approved during the year. In 2008, the structural balance risks deteriorating substantially, unless the better than projected 2007 starting position is carried through. The planned adjustment towards the MTO is back-loaded to the outer years of the programme. The programme provides no information on the composition of the fiscal consolidation strategy after 2008, which hinders its proper assessment. In particular, appropriate measures aimed at curbing expenditure developments remain to be spelled out. In the light of these risks, the MTO may not be achieved by 2011 as planned in the programme and the debt ratio may not be sufficiently diminishing towards the 60% of GDP reference value over the programme period. With regard to the sustainability of public finances, Italy is at medium risk but this assessment assumes the full implementation of the pension reforms. **POLICY INVITATIONS:** In view of the above assessment, and also in the light of the recommendation under Article 104(7) of 28 July 2005, Italy is invited to: (i) building on the positive results of 2007, strengthen the budgetary target for 2008, so as to secure an ambitious adjustment; and implement the planned fiscal consolidation thereafter with specified measures to ensure adequate progress towards the MTO, so as to achieve it within the programme period and thus accelerate the pace of debt reduction; (ii) in view of the very high level of government debt, fully implement the pension reforms, notably the planned periodical actuarial adjustment, so as to avoid significant increases in age-related spending; and (iii) spelling out the budgetary strategy within a medium time perspective in line with the SGP and its Code of Conduct, continue the effort to improve the quality of public finance by focussing on their composition, increasing the transparency of the budgetary process, and effectively implementing mechanisms to monitor and control expenditure. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
CY	**SUMMARY ASSESSMENT:** The overall conclusion is that the budgetary strategy in the programme should be sufficient to maintain a sound budgetary position and macroeconomic stability throughout the period. The programme puts forward a more ambitious MTO of a balanced position in structural terms (compared to a deficit of 0.5% of GDP previously), which has already been over-achieved in 2007. This is the result of an unexpected increase in total revenues by over 3 percentage points of GDP, largely explained by composition effects associated to the strong profitability of the financial sector and the buoyant investment in real estate, which are projected by the programme to return to historical trends in the coming years. The budgetary targets, which are significantly better than in the previous programme, could be overachieved in 2008 and 2009 given the better 2007 base. Thereafter, they could be worse given the favourable growth assumptions. Although the planned reduction of the budgetary surplus compared to 2007 reflects to a large extent an expected normalisation of tax revenues, there is a risk that the stance in 2008 may turn out to be procyclical. The level of debt is projected to decline significantly, especially in 2008. Given the projected increase in age-related spending, the reform of the pension system and a timely implementation of adopted reforms in health care, would have a positive effect on the long-term sustainability of public finances, which appears to be at high risk. **POLICY INVITATIONS** In view of the above assessment, Cyprus is invited to: (i) avoid pro-cyclical fiscal policies by further improving the control of current expenditures, while using revenue windfalls to further reduce debt; (ii) contain public expenditure, notably by reforming the pension system and timely implementing the adopted reforms in health care in order to improve the long-term sustainability of the public finances.

LV	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims to reduce economic imbalances and excessive demand pressure by setting slightly increasing but overall modest surplus target for 2008-2010, in excess of the MTO. However, the risks to the achievement of the budgetary targets are high primarily due to large macroeconomic uncertainty and a track record of slippages from expenditure plans. Moreover, a considerably tighter stance of fiscal policy is urgently needed to meet the programme's aims in a context of an economy subject to risks to stability - stemming from inflationary pressures, deteriorating cost competitiveness and sharply increasing net foreign liabilities. While medium-term expenditure ceilings have been introduced, they remain to be tested. As regards the long-term sustainability of public finances Latvia is assessed to be at low risk. **POLICY INVITATIONS:** In view of the above assessment and given the need to ensure sustainable convergence and a smooth participation in ERM II, Latvia is invited to contribute to reducing overheating pressures and risks to macroeconomic instability by: (i) aiming for significantly more ambitious budgetary targets in 2008 and beyond than foreseen in the programme, notably by fully saving any revenue over-performance and respecting the expenditure ceilings; (ii) within the overall public sector expenditure limits set within the medium-term budget planning framework, carefully prioritizing public expenditure and re-examining taxation instruments to avoid demand stimulus in sectors which do not significantly strengthen the economy's medium- and long-term supply potential; (iii) adopt further policies to contain inflationary pressures, including through a responsible public sector wage-setting, thus contributing to the sharp reduction in whole-economy wage growth necessary to break the current cost-price dynamics and rapidly worsening cost competitiveness.
LT	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims at tackling Lithuania's macroeconomic imbalances by tightening fiscal policy. However, the budgetary targets seem modest in the light of the current high economic growth. The programme envisages only a back-loaded adjustment effort so that the MTO is reached only in 2009. There are risks to the achievement of the budgetary targets as the consolidation is insufficiently backed by announced measures while there is a need to strengthen the medium-term framework. The revenue projections seem optimistic given the further planned direct tax cuts and a reliance on improved tax collection and the cautious macroeconomic scenario counterbalances them only partially. A significantly tighter fiscal policy than foreseen in the programme and further structural policy measures are needed to address mounting inflationary pressures, maintain competitiveness and tackle remaining bottlenecks in the labour market, crucial also for sustaining catching-up. As regards the long-term sustainability of public finances Lithuania remains at low risk. **POLICY INVITATIONS** In view of the above assessment and also given the need to ensure sustainable convergence and a smooth participation in ERM II, Lithuania is invited to contribute to reducing overheating pressures by: (i) aiming for significantly better budgetary outturns in 2008 and thereafter than foreseen in the programme, notably by restraining expenditure growth, saving windfall revenues and reinforcing the binding character of the medium-term expenditure ceilings; (ii) tackling inflationary pressures including by promoting wage setting in line with overall productivity gains and adopting structural measures to remove labour market bottlenecks. Lithuania is also invited to improve compliance with the submission deadline for stability and convergence programmes specified in the code of conduct
LU	**SUMMARY ASSESSMENT:** The overall conclusion is that public finances have gone back to surplus in a context of strong GDP and employment growth. Recently released revised data indicate that the deterioration in public finances has been significantly more limited than previously estimated. Consequently, Luxembourg has constantly achieved its MTO and the path for the general government balance in the programme is at least 1% of GDP better in each year than in the previous update. While tax cuts will result in a small decrease in the surplus in 2008, the programme aims at maintaining a surplus of 1% of GDP on average throughout the period. The macroeconomic scenario and budgetary targets of the programme seem plausible and budgetary outcomes might even be slightly better than planned. However, Luxembourg will have to support in the coming decades a particularly heavy burden resulting from population ageing and no corrective measures have been taken to date. This explains that the country is considered to be at medium risk as regards the long-term sustainability of its public finances, in spite of its currently sound budgetary position. **POLICY INVITATIONS:** In view of the above assessment and of the very strong increase in age-related expenditure forecast for the coming decades, Luxembourg is invited to improve the long-term sustainability of its public finances by implementing structural reform measures, in particular in the area of pensions.

HU	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme plans to continue the correction of high deficits of the past years through a necessary frontloaded adjustment effort and envisages modest progress towards the MTO after the planned correction of the excessive deficit in 2009. As a result of the consolidation measures and steps in structural reforms, Hungary is set to considerably outperform its deficit target for 2007 of 6.8% of GDP and also to increase progress towards convergence. It also improves somewhat the target for 2008 (to 4% of GDP) compared to the previous programme, and in view of the better-than-expected outcome in 2007 it should be feasible, and indeed desirable, to overachieve it. However, the lower deficit targets are combined with higher-than-previously-planned expenditures on the back of better-than-expected revenues, which cannot be counted on after 2008. Moreover, from 2009 the achievement of the budgetary targets is subject to larger risks, linked mainly to possible expenditure overruns in case the announced wide-ranging reform agenda is not fully carried out. Thus, the durability of the planned adjustment hinges on the reinforcement of fiscal governance as well as on completing the structural reforms which are key not only to attract foreign direct investment but also to improve the long-term sustainability of public finances, for which Hungary remains at high risk. Such achievements are also crucial in accelerating economic catching-up and ultimately moving towards lasting convergence. **POLICY INVITATIONS:** In view of the above assessment and also the recommendation under Article 104(7) of 10 October 2006 and given the need to ensure sustainable convergence, Hungary is invited to: (i) rigorously implement the 2008 budget, take adequate action to ensure the correction of the excessive deficit by 2009 as planned, where necessary through additional measures; and allocate the better-than-expected revenues to further deficit reduction also given the insufficient margin in 2009 in view of the risks, thereby also contributing to accelerating the pace of debt reduction towards the 60% of GDP threshold; (ii) ensure expenditure moderation in a permanent manner by continuing to enhance fiscal rules and institutions and through the adoption and swift implementation of the remaining streamlining measures as announced in the fields of public administration, healthcare, and education system; (iii) in view of the level of debt and the increase in age-related expenditure, improve the long-term sustainability of public finances by making rapid progress towards the MTO, and continue to reform the pension system as announced after the steps already taken in 2006-2007.
MT	**SUMMARY ASSESSMENT:** The overall conclusion is that the stability programme envisages continued progress towards reaching the MTO, which is planned to be achieved by 2010, brought about by expenditure restraint in a context of sustained economic growth. The reduction of the general government gross debt is planned to proceed at a satisfactory pace and is expected to fall below the 60% of GDP reference value by 2009. However, there are risks to the achievement of the budgetary targets linked to a reliance on volatile tax revenue items in 2008, the envisaged degree of spending restraint, the favourable macroeconomic outlook after 2008 and the lack of information of the underlying measures, in particular as regards the envisaged continued restraint in the public wage bill. These may hinder the achievement of the MTO by the target year 2010. In addition, Malta's competitiveness within the euro area may be at risk in the event of a departure from wage moderation in the public sector, which may spill over to the private sector. In terms of the long-term sustainability of public finances, Malta is at medium risk. **POLICY INVITATIONS** In view of the above assessment, Malta is invited to: (i) pursue further fiscal consolidation as envisaged in the programme so as to reach the MTO by 2010 and ensure that the debt-to-GDP ratio is reduced accordingly, by spelling out the measures supporting the planned consolidation, especially on the expenditure side; (ii) enhance the efficiency and flexibility of public spending, including by accelerating the design and implementation of a comprehensive healthcare reform.
NL	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme aims at achieving and maintaining a broadly stable surplus, thereby ensuring a sound budgetary position throughout the period. While fiscal policy was pro-cyclical in good economic times in 2007, the budgetary stance in the programme from 2008 onwards is in line with the Pact. The risks to the budgetary targets seem broadly balanced in 2008. From 2009 onwards, if economic growth turns out better than the cautious economic scenario envisaged in the programme, this should be reflected in a better budgetary outcome than planned. As regards the long-term sustainability of public finances, the Netherlands appears to be at medium risk. **POLICY INVITATIONS:** In view of the above assessment and in the light of the projected increase in age-related expenditure and the recent deterioration of the structural balance, the Netherlands is invited to improve the long-term sustainability of public finances by securing the budgetary consolidation as planned in the programme.

AT	**SUMMARY ASSESSMENT:** The overall conclusion is that in a context of growth remaining close to its potential, the programme envisages slow progress towards the MTO through a relatively back-loaded adjustment that is based on not-fully-specified expenditure restraint. There are risks to the achievement of the budgetary targets after 2008 and the MTO might not be reached by the end of the programme period. The update makes no provision for financing the tax cuts announced for 2010. Government debt is expected to have decreased to just below 60% of GDP reference value in 2007 and to continue to decline moderately in future years. In terms of long-term sustainability of public finances, Austria appears to be at low risk. **POLICY INVITATIONS:** In view of the above assessment, Austria is invited to take advantage of the slightly lower-than-targeted deficit outcome in 2007 to strengthen the adjustment effort in 2008 as well as to underpin the adjustment planned for the two final years of the programme with specific and sufficient measures, including financing of the envisaged tax reforms. In this way, the MTO should be achieved earlier than foreseen in the programme, in particular by more rigorously implementing expenditure restraint and by using any unexpected tax revenues for budgetary consolidation. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
PT	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme is consistent with a correction of the excessive deficit no later than 2008. If the better than expected budgetary execution is confirmed, the deficit outrun will be below 3% of GDP already in 2007 The programme aims at further fiscal consolidation over the medium term, including the achievement of the MTO by 2010, and foresees a declining path for the government debt ratio over the entire programme period. However, achieving these objectives is subject to an effective implementation of the measures announced in the programme and may require additional efforts, notably in the light of the risk of lower-than-projected economic growth. Further progress with fiscal consolidation, as planned, could also help to address the external imbalances and improve the prospect of the long-term sustainability of public finances, for which Portugal is considered to be at medium risk, after the significant reform of the pension system. Finally, envisaged improvements in the quality and efficiency of public expenditure, including the public administration and the budgetary framework, can have a favourable impact on potential GDP growth and thereby help resume the catching-up process. **POLICY INVITATIONS** In view of the above assessment, and also in the light of the recommendation under Article 104(7) of 20 September 2005 and, Portugal is invited to: (i) implement with determination the fiscal consolidation envisaged in the programme so as to secure the correction of the excessive deficit; (ii) carry out the planned adjustment towards the MTO, backing it up with reinforced measures if necessary; and, also in view of the risks to the sustainability of public finances, ensure a rapid reduction in the debt-to-GDP ratio, notably by continuing to allocate any better-than-expected budgetary results to deficit reduction; (iii) maintain expenditure moderation in a permanent way and enhance the quality of public expenditure, also by pursuing the ongoing reform of public administration and further improving the budgetary framework as outlined in the programme. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
RO	**SUMMARY ASSESSMENT:** The overall conclusion is that the budgetary strategy outlined in the programme is not in line with a prudent fiscal policy, necessary to contain the growing external deficit and inflationary pressures which put at risk macroeconomic and financial stability and the convergence process. The programme does not envisage a reduction of the deficits, entailing a risk of an excessive deficit. Progress towards the MTO is insufficient and fully back-loaded despite strong growth prospects. In view of the risks to the budgetary targets and the significant adjustment that would be necessary after the programme period, the MTO is unlikely to be achieved by 2011 as planned. **POLICY INVITATIONS** In view of the above assessment and the need to ensure sustainable convergence, Romania is invited to: (i) significantly strengthen the pace of adjustment towards the MTO by aiming for substantially more demanding budgetary targets in 2008 and subsequent years in order to contain the risk of an excessive deficit, foster macroeconomic stability and rein in widening external imbalances and address the risks to the long-term sustainability of public finances; (ii) restrain the envisaged high increase in public spending, improve its expenditure composition so as to enhance the economy's growth potential and improve the planning and execution of expenditure within a binding medium-term framework; (iii) pursue policies to contain inflationary pressures, complementing the recommended tighter fiscal stance, with appropriate public wage policy and further structural reforms.

SI	**SUMMARY ASSESSMENT:** The overall conclusion is that Slovenia met its MTO in 2007, two years ahead of previous plans, and that the programme aims at respecting the MTO by a growing margin over the programme period. For 2007, the most recent available information points to a better-than-planned budgetary outturn, possibly a slight surplus. However, for 2008, a slight deterioration of the structural balance is envisaged despite the continuing strong growth prospects. The risks to the budgetary projections are broadly balanced in 2008. In the outer years, budgetary outcomes might be slightly worse than targeted, mainly due to risks associated with the envisaged reliance on expenditure restraint. The fiscal stance in 2008 may turn out to be pro-cyclical. A tighter fiscal stance than presently envisaged for 2008 appears to be warranted also given the current strong inflationary pressures. The high projected increase in public sector wage settlements is also a concern for the inflation outlook. In spite of the current low debt level, Slovenia is assessed to be at high risk with regard to the long-term sustainability of public finances due to the significant projected budgetary impact of ageing. **POLICY INVITATIONS** In view of the above assessment, Slovenia is invited to: (i) building on a likely better-than-expected outturn in 2007, aim for stronger budgetary positions in 2008 and beyond than planned in the programme, thereby avoiding pro-cyclical policies, (ii) stand ready to adopt further measures to tame inflationary pressures, complementing the recommended fiscal stance with appropriate wage, labour market and competition policies; (iii) in view of the projected increase in age related expenditure, improve the long-term sustainability of public finances, in particular by further reforming the pension system. The Council also notes that such actions would be consistent with the April 2007 Eurogroup orientations for fiscal policies.
SK	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme is consistent with a correction of the excessive deficit by 2007. Thereafter, it envisages back-loaded progress towards the MTO in a context of strong growth prospects; in 2008, the envisaged structural improvement is not in line with the pact and should be more ambitious . Given risks to the budgetary targets from 2009, the MTO may not be achieved by 2010 as planned in the programme therefore additional efforts may be required. Moreover, should inflationary pressures emerge a tighter fiscal stance than foreseen in the programme would be required along with further structural reforms to improve the labour market performance . As regards the long-term sustainability of public finances, Slovakia appears to be at medium risk. With respect to medium-term challenges, the programme does not envisage any progress in reallocating expenditure towards R&D and innovation while it states that education spending should increasingly rely on EU funds. **POLICY INVITATIONS:** In view of the above assessment and the recommendation under Article 104(7) of 5 July 2004 and also given the need to ensure sustainable convergence and a smooth participation in ERM II, Slovakia is invited to: (i) exploit the strong growth conditions to strengthen the pace of structural adjustment towards the MTO in 2008 and strictly implement the envisaged structural consolidation thereafter backed up, if necessary, by additional measures as well as more binding medium-term expenditure ceilings and (ii) introduce further structural reforms to improve the labour market performance and stand ready to adopt a tighter fiscal stance, in particular in order to contain possible inflationary pressures, especially after the disinflationary effect of past substantial exchange rate appreciation fades out.
FI	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme envisages continued high surpluses, albeit declining over the programme period. While the risks attached to the budgetary targets are balanced overall, the programme's fiscal projections appear somewhat cautious for 2008. The medium-term budgetary position is sound and should limit the risks to long-term sustainability. Continuing with expenditure restraint will remain crucial to stem the risk of a pro-cyclical fiscal policy stance in 2008 and to adjust to the lower growth path and the implied slower growth of tax revenue over the programme period.
SE	**SUMMARY ASSESSMENT:** The overall conclusion is that the medium-term budgetary position is sound with high general government surpluses and Sweden is at low risk with regard to the sustainability of public finances. With GDP growth in 2008 possibly turning out lower than foreseen, the risk of pro-cyclical fiscal policy would be very limited. Moreover, the weakening of the structural budgetary position in 2008 goes along with continued structural reforms aimed at encouraging labour force participation and thus increasing growth potential and is not envisaged to spill over into subsequent years.

UK	**SUMMARY ASSESSMENT:** The overall conclusion is that the programme confirms a significant deterioration in the United Kingdom's budgetary position that, coupled with a probably weaker macroeconomic context than envisaged, carries a clear risk that general government deficit will breach the 3% of GDP deficit reference value in the near term. While the programme envisages some fiscal tightening from 2008/09 through a progressive increase in the tax revenue and a reduction in previously rapid growth in current expenditure, there are risks to the achievement of this consolidation. These primarily stem from the deterioration in macroeconomic prospects and risks to the achievements of spending targets The projected speed of consolidation is itself unambitious. The debt ratio remains significantly below the 60 percent of GDP reference value, increasing slightly before falling from 2010/11 onwards only. The long-term sustainability of UK public finances has deteriorated when compared to the previous programme, mainly due to the deterioration of the budgetary position in 2007, although the United Kingdom remains at medium risk. **POLICY INVITATIONS:** In view of the above assessment, the United Kingdom is invited to: (i) implement measures necessary for the deficit not to exceed the reference value of 3% of GDP; (ii) strengthen the pace of fiscal improvements overthe programme period, which would also address the increased risks to the long-term sustainability of the public finances. The United Kingdom is again invited to improve compliance with the data requirements of the code of conduct.

Note: The Belgian stability programme update and the Polish convergence programme update have not yet been discussed by the Council at the time of printing this report.

4. THE LONG-TERM SUSTAINABILITY OF PUBLIC FINANCES BASED ON THE 2007/08 UPDATES OF THE STABILITY AND CONVERGENCE PROGRAMMES

4.1. INTRODUCTION

The assessment of the long-term sustainability of public finances based on the 2007/08 updates of the stability and convergence programmes (SCPs) represents an update of the comprehensive appraisal laid out in the first Sustainability Report, published by the Commission in October 2006 and endorsed by the Council in November 2006 [1]. The Sustainability Report provides a detailed description of the quantitative indicators and qualitative information used to assess long-term sustainability of public finances in the EU fiscal surveillance framework.

This section summarises the main points of the updated assessment of the long-term sustainability of public finances. The presentation is in three stages. The first stage briefly discusses the data underlying the analysis, namely the long-term budgetary impact of ageing, updated by the inclusion of property income and taking into account the effects of recent pension reforms reviewed by the Economic Policy Committee (EPC). On this basis, and following established practice, the second stage presents the standard sustainability indicators for (i) a scenario based on current policies and (ii) for one based on the budgetary plans laid down in the 2007/08 vintage of the SCPs. The section concludes with a classification of countries into low/medium/high risk with regard to the sustainability of public finances [2].

4.2. PROJECTIONS OF THE BUDGETARY IMPACT OF AGEING POPULATIONS

4.2.1. The long-term budgetary cost of ageing

The assessment of long-term sustainability of public finances carried out in the EU fiscal surveillance framework builds on long-term budgetary projections prepared jointly by the Commission and the EPC and released in February 2006 ("Ageing Report") [3]. Compared with last year's appraisal exercise, two developments impact on the quantitative analysis. First, recently enacted pension reforms can lead to a revision of the long-term budgetary projections following a peer review and endorsement by the EPC. Second, property income received by general government has been incorporated in the calculations of the sustainability indicators.

Table I.4.1 summarises the projected changes in age-related expenditure as a share of GDP over the long term, including the results of the three peer reviews that have taken place so far (Denmark, Hungary and Portugal, see Section I.4.2.2.). Member States used the common projection in the SCPs; however, in case Member States recurred to assumptions and/or methods that departed from the common projections or if pension reforms were mentioned, which were not subject to an EPC peer review, this was considered among the qualitative factors (see Section I.4.5.).

Table I.4.1 shows that the peer-reviewed reforms are of considerable size for the countries concerned. Their effect on the EU and euro-area averages amounts to a cost reduction of about 0.1% of GDP. The inclusion of property income into the projections results in less favourable long-term projections compared with previous assumptions (see Section I.4.2.3.).

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[1] European Commission (2006b). ECOFIN Council, Press Release 14681/06, 7 November 2006.

[2] A detailed assessment of the long-term sustainability of public finances carried out by the Commission services for each Member States as well as the relevant policy invitations in the Council Opinions on the SCPs can be found at:
http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

[3] Economic Policy Committee and European Commission (2006).

Table I.4.1:

Projected changes in gross total age-related public expenditure and property income between 2010 and 2030/50 (% of GDP)

	Total age/related expenditure		Cost reduction from pension reform		Property income	
	Change from 2010 to:		*Change from 2010 to:*		*Change from 2010 to:*	
	2030	**2050**	**2030**	**2050**	**2030**	**2050**
BE	4.8	**6.6**			-0.1	**-0.2**
BG (²)	-1.8	**0.1**			0.0	**0.0**
CZ	2.3	**7.7**			-0.2	**-0.3**
DK	1.5	**1.2**	-2.3	-3.3	-0.5	**-1.0**
DE	2.2	**4.0**			-0.1	**-0.3**
EE	-1.6	**-1.8**			-0.1	**-0.2**
IE	3.4	**7.8**			-0.1	**-0.1**
EL (¹)	0.4	**1.4**			-0.1	**-0.2**
ES	3.6	**8.9**			-0.1	**-0.2**
FR	2.0	**3.2**			-0.1	**-0.2**
IT	1.6	**2.3**			-0.1	**-0.2**
CY	4.0	**11.7**			-0.2	**-0.3**
LV	1.4	**1.6**			0.0	**0.0**
LT	1.0	**2.1**			-0.1	**-0.1**
LU	5.5	**8.4**			-0.1	**-0.7**
HU	2.3	**6.9**	-0.4	-0.3	-0.2	**-0.3**
MT	0.9	**-0.6**			-0.1	**-0.2**
NL	4.0	**5.2**			-0.5	**-0.9**
AT	1.8	**1.1**			-0.2	**-0.4**
PL	-2.6	**-3.2**			-0.6	**-0.7**
PT	1.3	**4.9**	-2.6	-4.8	-0.1	**-0.2**
RO (²)	-0.3	**-1.1**			n.a.	**n.a.**
SI	4.6	**9.9**			-0.1	**-0.2**
SK	1.1	**3.7**			-0.2	**-0.3**
FI	4.5	**5.0**			-0.5	**-1.0**
SE	2.2	**2.4**			-0.4	**-0.6**
UK	2.4	**4.2**			-0.1	**-0.1**
EU	2.2	**4.0**	-0.1	-0.1	-0.1	**-0.3**
Euro area	2.5	**4.4**	-0.1	-0.1	-0.1	**-0.2**

Notes : Cost reduction from EPC peer-reviewed pension reforms in column 2.

(¹) EL: No pension projections. CY, EL: no long-term care projections.

(²) No EPC projections for BG and RO; the figures taken from convergence programmes. EU average excludes BG, EL and RO; euro area average excludes EL.

Source: Economic Policy Committee and European Commission (2006), Commission services.

4.2.2. EPC-reviewed pension reforms

The long-term budgetary projections are carried out by the Member States, using a common method and assumptions agreed in the EPC. In order to ensure that the common method is respected, projection updates after a pension reform are subject to a peer review in the EPC.

Denmark implemented a pension reform in June 2006 (the *Welfare Agreement*). The main measures in the public pension system were an increase in the minimum voluntary early retirement age from 60 to 62 years between 2019 and 2022 and in the statutory retirement age between 2024 and 2027. Furthermore, these age thresholds will be indexed to the mean life expectancy of 60-year olds. Against this background, new projections of age-related

expenditure were endorsed by the EPC in January 2008.

The 2006 pension reform adopted in **Hungary** also aims at increasing the effective retirement age. The main budgetary impact will come from a shortened duration of early retirement schemes and a tightening of eligibility conditions. Furthermore, pension recipients, who are working, will have to set off some of their pension against the income from work. Finally, the contribution base that is used for determining individual pension payments will be reduced from 2008 until 2013. From 2013 on, taxation will be shifted from pension contributions to pension benefits ([1]). In addition, the disability pension system was reformed, but this was not quantified. On the basis of this reform, new projections of age-related gross expenditure were endorsed by the EPC in November 2007.

The 2006 pension reform in **Portugal** brought forward the already implemented increase in the contribution period over which benefits are defined. The main budgetary impact over the long term will arise from indexing all pensions broadly to inflation. In addition, statutory pensions will decline when life expectancy at the time of retirement will be higher than that at the age of 65 in 2006. Finally, the discount to early retirement has been raised. Against this background, new projections of age-related expenditure were endorsed by the EPC in October 2008.

4.2.3. Property income

For the calculation of the sustainability indicators, in previous assessment rounds it was assumed that the non-age-related part of the budget be kept constant throughout the projection period, i.e. at the GDP ratio of the starting year. This was inconsistent with the assumption that the evolution of gross debt over time is entirely driven by the deficit, thus assuming no stock-flow-adjustments. Therefore, changes in property income are now explicitly included in the long-term projections.

Property income received consists mainly of interest, dividends and rents on land and on sub-soil assets. First, consider interest-paying assets. With its face value fixed, the value of any bond expressed as a percentage of GDP will decline along the projected path for nominal GDP growth. For all bonds the government holds in the starting year of the long-term projection, the assumption of no stock-flow-adjustment implies that the accruing interest is fully used for debt reduction. Therefore, the stock of all interest-paying assets will decline over time in proportion to GDP and, with interest calculated as a fixed proportion of the stock, also the revenue stream from it. Second, consider dividend income. The value of an asset will remain fixed in nominal terms over time if all returns are distributed to shareholders as dividends. As above, the assumption of no stock-flow-adjustment implies that the returns would be used by the government fully for debt reduction. If, however, returns are not distributed but reinvested in the asset, the asset will gain in value, implying that the returns would effectively not be used for debt reduction (but without a stock-flow adjustment). For the purpose of the projection, it is assumed that the valuation effects are such that the dividend-to-GDP ratio remains constant over time. Finally, rents from sub-soil assets are of significant size only in Denmark and the Netherlands. Revenue from natural sources is assumed to linearly decrease as a percentage of GDP until 2050.

4.3. SUSTAINABILITY GAPS

This section presents the sustainability gaps, calculated on the basis of the information provided in the SCPs according to the commonly agreed methodology and the projected change in age-related expenditure in the period to 2050.

4.3.1. Background

The S2 indicator is defined as the change in the current level of the structural primary balance required to make sure that the discounted value of future structural primary balances (including the path of property income) covers the current level of debt. It is decomposed into two elements. The first is termed 'initial budgetary position' (IBP). The IBP would take the value zero if the structural primary balance in the

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([1]) However, changes in direct taxes on pension are not taken into account in the calculation of the sustainability indicators, but in the "qualitative factors".

starting year – and maintained at this level over time – would be just sufficient to keep the debt-to-GDP ratio at its level of the starting year over the long term. It is assumed that at current policies non-age-related revenues and primary expenditure are to remain unchanged. Therefore, a positive value of the IBP indicates by how much the structural primary balance would have to rise from its current level and with immediate effect so as to keep the debt ratio unchanged. The second element of the S2 indicator is the 'long-term cost of ageing' (LTC). LTC measures by how much the primary balance would have to further rise (fall) to finance the projected increase (reduction) in age-related expenditure. The S1 indicator is defined similarly, with the difference that it does not require the debt ratio to remain unchanged but to reach 60% of GDP by 2050 instead.

Therefore, in comparison with S2, a third element, the 'debt requirement' (DR) enters the decomposition, which increases the gap vis-à-vis the current level of the structural primary balance if the initial level of debt is above 60% of GDP and decreases it otherwise. If the budgetary impact of ageing is increasing over time, the discounted budgetary cost of ageing (LTC) will be less for S1 than for S2, since S2 is defined over an infinite horizon and therefore gives relatively more weight than S1 to ageing costs arising in the later part of the 2010-2050 period.

Countries may therefore decide to address population ageing by reducing its long-term budgetary impact (low LTC) and/or by 'frontloading' this cost through a negative IBP.

4.3.2. The current policy scenario

Table reveals that in the EU and in the euro area, the sustainability gap is about 1% of GDP according to the S1 indicator and up to 2½% of GDP according to the S2 indicator. Compared with the previous round of SCP assessments, this is a remarkable improvement; the sustainability position has improved by about ½ to 1% of GDP, reflecting the improved structural fiscal positions in 2007.

Table I.3.1 in Section I.3 provides an overview over the 2007 debt-to-GDP ratio and the structural (primary) budget balances based on the

information provided in the 2006/07 and 2007/08 vintages of the SCPs. In general, most countries improved their underlying fiscal position in 2007.

Section I.3.5 highlights two risks regarding the achieved structural consolidation. The first concerns the possible overestimation of current structural balances. A slowdown in real GDP growth for this and next year (compared with the projections made in the SCPs) might result in a downward revision of potential growth estimates also for the recent past. This would imply that the recent budgetary consolidation would have a cyclical component than currently estimated.

The second risk relates to the crucial assumption underlying the sustainability gaps, namely that current policies are to be maintained *ad infinitum*, in order to reflect a no-policy-change scenario. Over the long term, changes in the structural primary balance are supposed to be the consequence of discretionary policy choices. However, in the short term, this may not be the case. Especially in 2006 and 2007, in many Member States tax revenues have exceeded what would have been normally expected on the basis of the agreed common method used to calculate the cyclical adjustment of the budget balance. Countries with such unexpected buoyant tax revenues that have carried out their expenditure larger plans, i.e. that did not change their expenditure policy, therefore experienced an improvement in their structural budget balance. It cannot be excluded that such unexpected positive tax developments could reverse if GDP growth slows down. In order to maintain the structural position reached after a positive revenue surprise, the government might in that case need discretionary action to consolidate.

While respecting their medium-term budgetary objective (MTO), the structural primary balance deteriorated particularly steeply in Ireland and

Table I.4.2:

Results of the sustainability gap calculations in the '2007 scenario' (% of GDP)

	S1 Total	IBP (^{1})	DR (^{1})	LTC (^{1})	S1 in 2006 Total	S2 Total	IBP (^{1})	LTC (^{1})	S2 in 2006 Total
BE	1.6	-2.5	0.3	3.8	*1.3*	3.0	-2.4	5.4	*2.7*
BG (^{2})	*-6.0*	*-4.0*	*-0.8*	*-1.2*	*-6.5*	*-4.5*	*-3.9*	*-0.7*	*-5.2*
CZ	5.6	3.5	-0.5	2.6	*5.2*	8.5	3.7	4.8	*8.0*
DK	-3.7	-4.3	-0.9	1.4	*-1.4*	-2.6	-3.9	1.3	*0.3*
DE	0.5	-1.4	0.0	2.0	*2.2*	1.8	-1.3	3.1	*3.3*
EE	-3.6	-1.2	-1.1	-1.3	*-4.2*	-2.6	-1.1	-1.4	*-3.2*
IE	1.3	-1.2	-0.9	3.5	*-1.2*	4.9	-1.1	6.0	*2.4*
EL (^{2})	*1.2*	*0.4*	*0.5*	*0.4*	*1.2*	*1.4*	*0.5*	*0.9*	*1.3*
ES	-0.3	-3.3	-0.5	3.5	*-0.2*	2.7	-3.2	5.9	*2.8*
FR	2.2	0.3	0.0	1.9	*2.3*	3.0	0.4	2.6	*3.2*
IT	1.3	-0.9	0.7	1.5	*3.4*	1.1	-0.8	2.0	*3.0*
CY	-0.9	-4.7	-0.6	4.4	*2.3*	4.1	-4.4	8.5	*7.0*
LV	0.2	0.2	-0.9	0.9	*-0.1*	1.5	0.3	1.2	*1.2*
LT	0.5	0.6	-0.8	0.7	*1.0*	2.0	0.7	1.3	*2.4*
LU	3.1	-0.5	-1.6	5.2	*4.3*	8.1	-0.2	8.3	*9.3*
HU	4.7	1.7	0.2	2.8	*10.5*	6.9	2.0	4.9	*12.3*
MT	-0.2	-0.8	-0.1	0.6	*0.4*	-0.6	-0.5	-0.1	*-0.1*
NL	2.2	-0.8	-0.3	3.3	*0.8*	3.9	-0.5	4.4	*2.4*
AT	-0.1	-1.0	-0.1	1.0	*-0.2*	0.3	-0.8	1.1	*-0.1*
PL	-1.7	1.1	-0.3	-2.5	*-1.6*	-1.3	1.5	-2.8	*-1.4*
PT	1.9	0.2	0.0	1.7	*5.6*	3.6	0.4	3.2	*8.3*
RO (^{2})	*1.5*	*2.7*	*-0.8*	*-0.5*	*1.7*	*1.9*	*2.7*	*-0.8*	*1.9*
SI	3.5	-0.2	-0.7	4.4	*3.6*	7.0	0.0	7.1	*7.0*
SK	2.6	2.0	-0.5	1.1	*2.4*	4.4	2.2	2.1	*4.1*
FI	-3.1	-4.9	-1.5	3.3	*-3.1*	-0.5	-4.6	4.2	*-0.7*
SE	-3.1	-3.5	-1.0	1.5	*-3.1*	-1.2	-3.2	2.0	*-1.5*
UK	3.3	1.5	-0.2	2.0	*2.6*	4.8	1.6	3.2	*4.2*
Euro area (^{2})	1.0	-1.2	0.0	2.3	*1.9*	2.3	-1.1	3.4	*3.0*
EU (^{2})	1.2	-0.7	-0.1	2.1	*1.8*	2.5	-0.6	3.1	*3.0*

Notes:

(^{1}) IBP = the initial budgetary position, DR = the debt requirement in 2050 (if the current debt/GDP ratio is below 60% of GDP debt is allowed to rise and this component reduces the sustainability gap as measured by the S1 indicator, and vice versa.), LTC = the long-term changes in the primary balance.

(^{2}) No commonly agreed pension projections were available for Greece and the rise in age-related expenditure is therefore underestimated. Pension expenditure was projected to rise between 2005 and 2050 by 10.2% in the 2002 update of the Greek stability programme. The aggregate results for the euro area exclude Greece and for the European Union additionally exclude Bulgaria and Romania, for which also no commonly agreed projections exist.

Source: Commission services.

the Netherlands (^{1}). According to the SCPs, somewhat smaller deteriorations occurred in Bulgaria, the Czech Republic, Estonia, Romania and the UK (^{2}).

In spite of the improvements in the underlying budgetary positions in most countries, the long-term budgetary impact of ageing remains the main factor behind the sustainability gaps. The EU aggregate however masks considerable variety across Member States.

A majority of Member States presents sustainability gaps: 16 according to the S1 indicator and 19 according to the S2 indicator (same numbers as in 2006). This implies that based on the current budgetary position and with no changes in policies, further fiscal adjustment

(^{1}) However, actual data released after the assessment of the Dutch programme indicate that the budgetary outcome in 2007 was 0.8% of GDP better than projected in the programme. The structural balance deteriorated in 2007 nonetheless.

(^{2}) Except for Romania, this was not confirmed by the Commission services' spring 2008 forecast.

remains necessary so as to render public finances sustainable over the long term for most Member States. In more than half of the Member States, a sizeable adjustment, of more than 2% of GDP, would be required, with the gaps reaching about 7% of GDP in the case of Hungary and Slovenia and even exceeding 8% of GDP for the Czech Republic and Luxemburg.

According to data in the updated SCPs, 12 Member States strictly respected their MTOs in 2007 ([1]). Of these, Bulgaria, Denmark, Estonia, Finland and Sweden have a sustainability gap smaller than zero for both indicators, suggesting that based on the commonly agreed projections the current budgetary position, if maintained, would be more than sufficient to ensure sustainability as defined by the indicators ([2]). Thanks to reformed pension systems, the budgetary cost of ageing in these countries is below the EU average, except for Finland, where the budgetary impact of ageing is around the EU-average but the degree of frontloading relatively high. Denmark, Finland and Sweden's budgetary positions in 2007 had considerably improved compared with 2006.

Furthermore, among the countries at the MTO, Cyprus, Latvia and Spain would have a sustainability gap below or close to zero according to S1. Except for Cyprus, these countries have a low or even very low current debt ratio. According to S1, such low current debt would allow for some budgetary leeway (negative DR) to finance some of the cost of ageing permanently by additional debt. For Latvia, the cost of ageing is also far below the EU-average. By contrast, in Cyprus, Ireland and Spain, the cost of ageing is relatively high, implying that, while the projected rise in age-related expenditure is relatively distant in time, a pension reform would be needed at some point. Cyprus is a special case. With debt at 60% of GDP in 2007, the high budgetary impact of ageing becomes more significant in the second half of the 2010-2050 period. However, Cyprus

considerably improved its budgetary position in 2007 on the year before. The exceptionally strong structural primary balance achieved in 2007, if maintained, would allow more than offsetting the impact of ageing for some time before the debt ratio returns to 60% of GDP.

The remaining three countries strictly at the MTO, Luxemburg, the Netherlands and Slovenia, have sustainability gaps according to both definitions. If kept permanently, the budgetary position in the starting year (before population ageing will impact on the budget) is more than sufficient to stabilise the current debt ratio for these countries. However, the budgetary cost of ageing is among the highest in the EU in Luxemburg and Slovenia, and above the EU average in the Netherlands.

On the back of the budgetary consolidation achieved in 2007, Germany has broadly reached its MTO. The primary surplus would be sufficient to stabilise the debt ratio, but still not enough to cover the long-term cost of ageing, which is around the EU average.

Although being somewhat away from its MTO, the sustainability indicators for Austria are smaller than zero, since the initial budgetary position would be more than sufficient to cover initial debt and the cost of ageing below the EU average. Also not far from its MTO, Lithuania has a small sustainability gap, but a very low debt ratio, which would call for a slightly higher primary surplus than the current one for it to remain constant over time. However, the future cost of ageing is also far below the EU average.

Belgium, the Czech Republic, Greece, France, Italy, Hungary, Portugal, Romania and Slovakia are quite away from their MTOs. For Belgium and Italy, the structural primary balance in 2007 would be, if maintained, more than sufficient to stabilise the debt ratio at its 2007 level, but not to offset the additional cost of ageing.

For France and Portugal, and even more so for Slovakia, the initial budgetary position is not quite sufficient to stabilise the current debt ratio, while the budgetary impact of ageing is below or about the EU average. For Poland, the initial budgetary position is also not sufficient to stabilise the current debt ratio. However, the

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[1] This is confirmed by the Commission services' spring 2008 forecast with the exception of Latvia, whose structural balance amounted to -1.4% of GDP in 2007 (contrary to -0.5% according to the SCP).
[2] For Bulgaria on the basis of national projections; commonly agreed long-term projections do not yet exist.

Table I.4.3:

Results of the sustainability gap calculations in the 'programme scenario' (% of GDP)

	S1				S1 in 2006	S2			S2 in 2006
	Total	IBP ([1])	DR ([1])	LTC ([1])	Total	Total	IBP ([1])	LTC ([1])	*Total*
BE	0.4	-3.7	0.2	3.8	**1.0**	**1.8**	-3.6	5.4	*2.4*
BG ([2])	*-6.0*	*-4.0*	*-0.8*	*-1.2*	*-4.6*	*-4.5*	*-3.9*	*-0.7*	*-3.5*
CZ	3.8	1.8	-0.5	2.6	**4.3**	**6.8**	2.0	4.8	*7.1*
DK	-2.1	-2.7	-0.8	1.4	**-0.9**	**-1.1**	-2.4	1.3	*0.8*
DE	-0.4	-2.3	0.0	2.0	**0.7**	**0.9**	-2.2	3.1	*1.8*
EE	-3.5	-1.1	-1.1	-1.3	**-4.4**	**-2.5**	-1.0	-1.4	*-3.4*
IE	2.5	-0.1	-0.9	3.5	**0.0**	**6.1**	0.1	6.0	*3.6*
EL ([2])	*-1.1*	*-1.9*	*0.4*	*0.4*	*0.1*	*-0.9*	*-1.7*	*0.9*	*0.1*
ES	0.2	-2.8	-0.5	3.5	**0.4**	**3.3**	-2.7	5.9	*3.3*
FR	0.1	-1.7	-0.1	1.9	**-0.5**	**1.1**	-1.6	2.6	*0.6*
IT	-1.2	-.3.3	0.6	1.5	**-1.4**	**-1.3**	-3.2	2.0	*-1.5*
CY	1.5	-2.5	-0.4	4.4	**1.5**	**6.3**	-2.1	8.5	*6.2*
LV	-2.0	-1.9	-1.0	0.9	**-1.1**	**-0.7**	-1.9	1.2	*0.2*
LT	-1.7	-1.5	-0.8	0.7	**-1.4**	**-0.1**	-1.4	1.3	*0.1*
LU	2.0	-1.5	-1.7	5.2	**2.0**	**7.1**	-1.2	8.3	*7.1*
HU	2.7	-0.2	0.0	2.8	**3.0**	**5.0**	0.1	4.9	*5.2*
MT	-2.1	-2.6	-0.1	0.6	**-1.6**	**-2.4**	-2.3	-0.1	*-2.0*
NL	1.0	-1.9	-0.4	3.3	**1.2**	**2.8**	-1.7	4.4	*2.7*
AT	-0.6	-1.5	-0.1	1.0	**-1.3**	**-0.3**	-1.3	1.1	*-1.1*
PL	-3.2	-0.4	-0.3	-2.5	**-2.8**	**-2.8**	0.0	-2.8	*-2.6*
PT	0.2	-1.4	-0.1	1.7	**2.5**	**2.0**	-1.2	3.2	*5.3*
RO ([2])	*0.8*	*2.1*	*-0.8*	*-0.5*	*0.9*	*1.3*	*2.1*	*-0.8*	*1.3*
SI	3.0	-0.7	-0.7	4.4	**3.7**	**6.5**	-0.5	7.1	*7.2*
SK	0.9	0.4	-0.5	1.1	**1.5**	**2.7**	0.6	2.1	*3.2*
FI	-1.3	-3.2	-1.4	3.3	**-2.6**	**1.3**	-2.8	4.2	*-0.2*
SE	-3.7	-4.1	-1.1	1.5	**-3.0**	**-1.8**	-3.8	2.0	*-1.4*
UK	1.7	0.0	-0.3	2.0	**1.4**	**3.4**	0.1	3.2	*3.0*
Euro area ([2])	-0.2	-2.3	-0.1	2.3	**0.0**	**1.1**	-2.2	3.4	*1.2*
EU ([2])	0.0	-1.9	-0.2	2.1	**0.1**	**1.4**	-1.7	3.1	*1.4*

Notes:

([1]) IBP = the initial budgetary position, DR = the debt requirement in 2050 (if the current debt/GDP ratio is below 60% of GDP debt is allowed to rise and this component reduces the sustainability gap as measured by the S1 indicator, and vice versa.), LTC = the long-term changes in the primary balance.

([2]) No commonly agreed pension projections were available for Greece and the rise in age-related expenditure is therefore underestimated. Pension expenditure was projected to rise between 2005 and 2050 by 10.2% in the 2002 update of the Greek stability programme. The aggregate results for the euro area exclude Greece and for the European Union additionally exclude Bulgaria and Romania, for which also no commonly agreed projections exist.

Source: Commission services.

pension reform implemented should gradually provide budgetary relief.

The Czech Republic and Hungary are projected to experience ageing cost above average, while current policies would not stabilise the debt ratio. The same applies for Greece. Since commonly agreed pension and long-term projections do not exist, the above indicators are based on the commonly agreed other age-related budgetary items (health care, education, unemployment). National projections, as quoted in the recent updated stability programme and dating from 2002, point to an increase of pension expenditure of more than 10 pp of GDP up to 2050. For illustration, the sustainability indicators can be recalculated taking the national projections at

face value: a considerable sustainability gap would emerge (S2 at 8.7% of GDP).

4.3.3. Achieving the plans in the programmes

The sustainability gap according to S2 for the EU would be halved if Member States reached the budgetary targets planned in the 2007 updates of the stability and convergence programmes. The gap according to S1 would even be eliminated. The impact on the sustainability indicators of implementing the updated programmes' plans are given in Table . The planned consolidation in Cyprus, France, Italy and Lithuania would result in a reduction of the respective S2 sustainability gaps by 2% of GDP or more.

Table I.4.4:

Projected debt developments in the EU Member States (% of GDP)

	Gross debt	'2007' scenario			Programme' scenario		
	2007	2010	2030	2050	2010	2030	2050
BE	84.9	76	60	145	75	31	80
BG (¹)	19.8	*17*	*-97*	*-269*	*17*	*-97*	*-269*
CZ	30.4	34	116	386	30	76	282
DK	25.6	15	-64	-131	19	-26	-49
DE	64.9	59	43	89	60	22	38
EE	2.7	2	-43	-129	2	-41	-123
IE	25.1	26	33	139	29	58	198
EL (¹)	93.4	*87*	*90*	*136*	*83*	*33*	*-7*
ES	36.2	29	-27	41	30	-14	75
FR	64.2	64	88	173	62	43	70
IT	105.0	101	86	133	99	28	-9
CY	60.0	39	-31	20	44	18	130
LV	9.4	10	18	69	6	-29	-52
LT	17.6	18	27	88	14	-20	-32
LU	6.9	8	47	197	7	26	155
HU	65.4	68	113	312	63	70	205
MT	62.9	57	57	49	53	17	-41
NL	46.8	44	63	173	41	34	112
AT	59.9	56	37	57	55	24	25
PL	44.9	44	10	-36	42	-20	-117
PT	64.4	63	70	168	60	33	74
RO (¹)	11.9	*15*	*72*	*139*	*15*	*58*	*105*
SI	25.6	23	56	255	23	45	227
SK	30.6	31	66	212	30	32	116
FI	35.3	26	-45	-61	29	-2	36
SE	39.7	25	-43	-75	25	-57	-105
UK	43.9	47	92	223	45	59	147
Euro area (²)	65.9	62	52	116	61	25	52
EU (²)	59.3	56	54	125	55	27	61

Notes:

(¹) No commonly agreed pension projections were available for Greece and the rise in age-related expenditure is therefore underestimated. Pension expenditure was projected to rise between 2005 and 2050 by 10.2% in the 2002 update of the Greek stability programme. No commonly agreed long-term projections for Bulgaria and Romania exist.

(²) The aggregate results for the euro area exclude Greece and for the European Union additionally exclude Bulgaria and Romania.

Source: Stability and convergence programmes, Commission services.

However, compared with previous year's assessment, the sustainability gap according to the programme scenario remains unchanged, despite the more favourable structural position in 2007. The recent updates of SCPs display a relative lack of ambition in the ex ante adjustment. Moreover, the achieved consolidation was helped by buoyant tax revenues. As discussed earlier, the observed narrowing of the sustainability gaps in the last

two SCP assessments compared with the Sustainability Report may therefore not be permanent.

4.3.4. Debt developments

Given the improved structural budgetary position in 2007, the debt-to-GDP ratio in the EU has fallen below the 60 % reference value in 2007. In the '2007' scenario it is projected to exceed 60%

after 2030, rising to almost 130% by 2050. If the plans in the updated SCPs were achieved, the debt ratio would remain below 60% for almost the entire projection period (see Table).

4.4. THE REQUIRED PRIMARY BALANCE

A further indicator to illustrate the budgetary consequences of ageing is the required primary balance (RPB), which is derived under the assumption that the intertemporal budget constraint of the government is respected over an infinite horizon (i.e. by eliminating the S2 sustainability gap indicator). It is defined as the primary balance that is sufficient to stabilise debt and to finance the increase in age-related expenditure. It is a more stable indicator than the corresponding S2 gap indicator. The RPB as well as the structural primary balances are shown in Table I.4.5.

The RPB varies widely across Member States, ranging from almost 10% of GDP to below zero, which mainly reflects the large dispersion of the projected changes in age-related expenditure.

4.5. QUALITATIVE CONSIDERATIONS

In order to arrive at a comprehensive assessment of the long-term sustainability of public finances, additional factors are taken into account in order to better qualify the quantitative assessment. Adding qualitative factors may lead to a different overall assessment than the one that would result from the sustainability indicators only.

The *current level of the debt-to-GDP ratio* is arguably the most important additional factor. While the sustainability indicators already include information on the current level of debt, [1] they do not incorporate all the specific risks faced by countries with a large initial level of debt. First, high-debt countries are more sensitive to short to medium-term shocks to

economic growth and interest rates. Second, a high level of debt may lead to higher interest

Table I.4.5:
Required primary balance (% of GDP)

	Structural primary balance 2007	Increase in age-related expenditure between 2010 and 2050	Required primary balance
BE	3.5	6.6	6.3
BG (²)	4.1	0.1	0.1
CZ	-3.0	7.7	5.7
DK	4.9	1.2	1.7
DE	2.5	4.0	4.4
EE	1.3	-1.8	-0.7
IE	1.4	7.8	5.9
EL (¹)	1.1	1.4	2.6
ES	3.8	8.9	6.6
FR	0.6	3.2	3.4
IT	2.7	2.3	3.8
CY	5.0	11.7	8.9
LV	-0.1	1.6	1.8
LT	-0.4	2.1	2.0
LU	0.9	8.4	8.5
HU	-0.8	6.9	6.3
MT	1.2	-0.6	0.2
NL	1.8	5.2	5.2
AT	2.0	1.1	2.5
PL	-0.2	-3.2	-0.2
PT	0.8	4.9	4.2
RO (²)	-2.5	-1.1	-0.5
SI	0.5	9.9	7.3
SK	-1.5	3.7	3.2
FI	5.7	5.0	4.8
SE	4.0	2.4	2.9
UK	-0.8	4.2	3.9

Notes: The required primary balance is given as an average over the period covering the first five years after the last year covered by the programme.

(¹) No pension projections were available for Greece and the rise in age-related expenditure is therefore underestimated. Pension expenditure was projected to rise between 2005 and 2050 by 10.2% in the 2002 update of the Greek stability programme.

(²) No commonly agreed long-term projections available.
Source: Commission services.

than assumed in the projections and increase further the risks to sustainability. Third, when calculating the sustainability indicators, it is assumed that all countries can keep their current primary balance constant as a share of GDP. High-debt countries need to maintain large primary surpluses for a prolonged period of time in order to reduce the level of debt. This may prove difficult. This factor is used symmetrically as a risk-increasing factor for very high-debt countries, such as Belgium, Greece and Italy and a risk-decreasing factor for very low-debt countries or countries with large financial assets in reserves for the payment of future public

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(¹) The contribution of the debt to the S2 sustainability indicator for a country with a debt/GDP ratio of 100% and an interest/growth rate differential of 1.5% is in fact 1.5% of GDP (debt times the interest/growth rate differential).

pension, such as Finland, Ireland, Luxemburg and Sweden ([1]).

The sustainability indicator in the '2007 scenario' is based on the budgetary projection for 2007 in the SCPs, corrected by the effects of the business cycle and possible one-off and temporary measures so as to capture the underlying *structural budgetary position*, which is then assumed constant in a 'no-policy-change' scenario. The budgetary position may nonetheless change significantly in the short term, e.g. because some already enacted measures will gradually impact on the budget. The Commission services' forecasts are made under the assumption of unchanged policies and can indicate such short-term trends. If significant, such trends may nuance the assessment that could be inferred from the '2007 scenario'. In the cases of Ireland and Spain, the decline in the structural budget balance until 2009 as planned by the latest programme updates is also projected by the Commission services' autumn 2007 forecast (available at the time of the assessment), which would give additional plausibility to the less favourable sustainability projection in the 'programme scenario' ([2]).

As the sustainability indicators are calculated on the basis of the projections of the Ageing Report (2006), unless a peer review in the EPC has taken place, *pension reforms* (or reform plans) are therefore considered as additional factors. The influence on the assessment of a pension reform depends on a number of factors: specifically whether the reform has been enacted or not, whether the reform is deficit-increasing or deficit-decreasing and whether the budgetary impact of the reform is available or not. Enacted reforms are taken into account in the risk assessment. However, a certain degree of caution is necessary as the information provided on the reform and its budgetary impact may not correspond to the methods agreed by the EPC. Implemented, deficit-decreasing reforms were taken into account for Germany and Hungary (in addition to the EPC-peer review). By contrast, deficit-increasing reform plans, as well as failure to implement a previously enacted reform, may be considered as an additional risk factor. Austria, Estonia, Latvia, Malta, Poland and the United Kingdom have introduced reforms (or plan to do so) to their public pension systems aiming at ensuring adequate pensions in the future. Cyprus, the Czech Republic, Finland, France, Italy, Lithuania and Spain have enacted or are considering reforms, where the progress of implementation or the information given in the SCPs was not sufficient to arrive at a qualitative assessment.

Further aspects of the pension system that are not captured by the sustainability indicators are also taken into account. In particular, the calculation of the sustainability indicators is based on gross pension expenditure. For Denmark, Hungary and the Netherlands rising revenues from the taxation of public but also private pension schemes would reduce the sustainability gaps ([3]). In Hungary, however, the future tax treatment of pensions is not fully fixed yet, and further changes to the pension formula may become necessary.

The *reliability of projections* may play a role, particularly when long-term assumptions/projections are considerably different from the common budgetary projections in the Ageing Report, suggesting that the indicators may be over- or underestimated. This applies to Bulgaria and Romania, for which in view of their recent accession long-term projections were not included in the Ageing Report. In fact, the lack of comparable and comprehensive long-term projections for these countries prevents the Commission from reaching an overall assessment for these countries. Nonetheless, a significant impact of ageing on government expenditure cannot be

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([1]) The assets considered in the analysis are financial assets on a consolidated basis (i.e. holdings of government debt are netted out). They exclude: (1) assets of mandatory funded schemes and occupational schemes, which are classified outside the general government sector; (2) non-financial assets.

([2]) In the updated programme of Ireland, the budgetary projections for 2009 and 2010 explicitly incorporate unallocated contingency provisions of, respectively, 0.4% and 0.8% of GDP.

([3]) In Hungary, new pensions awarded from 2013 onwards will be subject to income tax, instead of being tax exempt. According to the Hungarian authorities, direct taxes paid by pensioners will amount to 3.6% of GDP in 2050. This reduces the S2 sustainability indicator by 2.8% of GDP, reaching 4.1% of GDP in the '2007' scenario'.

excluded given the current and projected demographic structure. Moreover, missing projections, in particular for Greece (pension and long-term care), result in a clear underestimation of the long-term budgetary impact of ageing. Greece was in fact invited by the Council to produce pension projections as soon as possible. Projections for long-term care are also missing for Cyprus.

The SCPs may provide *alternative projections* to those of the Ageing Report (2006), even in absence of (pension) reforms, for example by updating demographic trends. The existence of alternative projections is mentioned in the additional factors. However, for the sake of comparability between countries and for the transparency of the assessment, the overall assessment is made on the basis of the methodology and assumptions of the Ageing Report.

Furthermore, decreases in the *benefit ratio* larger than 20% over the next 50 years are included in the qualitative assessment ([1]). This is based on the analysis of the Commission's Sustainability Report (2006). The general framework for assessing the 'sustainability' of the change in the benefit ratio is theoretically well understood: a decrease in the (public) benefit ratio may not raise pressure to increase public spending if current savings in private supplementary pensions are sufficient, if the financial incentives to work longer are large enough and if there is no obstacle to the work of older workers. Yet those factors are difficult to assess in a cross-country analysis. Therefore, the benefit ratio is taken to inform about possible additional risks. Examples where the benefit ratio entered the qualitative assessment are Austria, France, Germany, Italy, Poland, Portugal, Slovakia and Sweden.

The *tax ratio* could also play a role. Indeed, it may be more difficult for high tax-ratio countries to increase taxes further, limiting the possibilities to deal with the budgetary impact of an ageing population. This could be the case for high-tax countries such as Belgium, Sweden and Denmark, should the need arise.

Measures with large intertemporal effects on the budget are mentioned in the sustainability assessment, whether or not they are treated as one-offs for the purposes of calculating the structural balance that is relevant for the SGP procedure. An example of this is the severance pay (TFR) in Italy.

4.6. OVERALL ASSESSMENT OF THE SUSTAINABILITY CHALLENGE IN THE MEMBER STATES

Compared with the 2006 exercise, countries have retained their overall risk classification, except for the Netherlands (from low to medium risk) and Portugal (from high to medium risk). For Bulgaria and Romania, no overall risk assessments were made. Graph I.4.1 provides an overview (using the '2007 scenario'). The assessments in the Council Opinion's confirmed the assessments made by the Commission ([2]).

The reasons for the challenges to public finance sustainability are different across the Member States.

The *high-risk group of countries* (the Czech Republic, Greece, Cyprus, Hungary, and Slovenia) is characterised by a very significant rise in age-related expenditure over the long-term, underlining that measures aimed at curbing them will prove necessary. Moreover, the Czech Republic, Greece and Hungary have not reached their MTO and in some cases there is also a high level of debt, in particular in Greece. Budgetary consolidation is therefore necessary and urgent in order to reduce risks to public finance sustainability.

The *intermediate group of countries* (Belgium, Germany, Ireland, Spain, France, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia and the UK) consists of countries with different characteristics. Ireland, Spain, Luxemburg and the Netherlands are at their MTO and Germany close to it. Ireland, Spain, Luxemburg and, to a lesser extent, the

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([1]) Ratio between the average pension and the GDP per worker.

([2]) Commission and Council documents can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

Graph I.4.1: **Overall risk classification and the sustainability gap**
(S2 in the 2007 scenario)
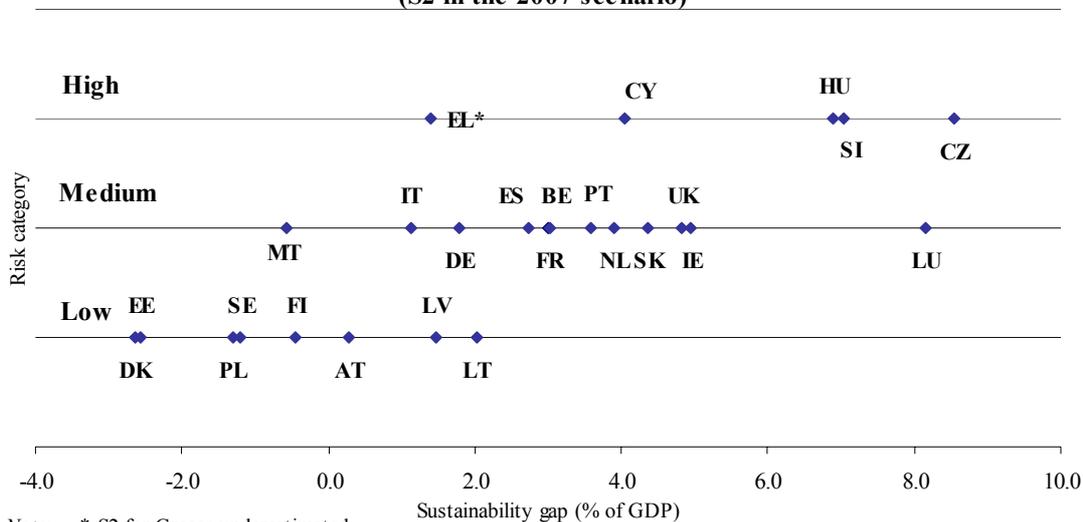
Note: * S2 for Greece underestimated.
Source: Commission services.

Netherlands face a significant cost of ageing and need measures to curb these costs. Portugal's risk classification benefitted from the reduction in age-related costs from the EPC-reviewed pension reform. The Netherlands were downgraded to medium risk on the basis of the data provided in the stability programme, which projected a strong deterioration in the structural budget balance in 2007. However, statistical results for 2007 indicate a significantly better budgetary outcome in 2007, which would be likely to result in the classification as low risk. Germany is a borderline case of low risk. After having implemented reforms it faces moderate costs of ageing (one reform not yet EPC-peer reviewed). Conversely, Spain and Ireland are planning a deterioration in their structural balance until the end of the programme period. However, Spain would still be at its MTO. Ireland may move away from the MTO after 2008, unless the margins foreseen in the programme as contingency provisions are not used. Malta and the UK have implemented pension reforms, which are not yet EPC-peer reviewed but tend to increase the future budgetary cost of ageing.

In the remaining countries, the future rise in the budgetary costs of ageing is not exceeding the EU average. However, their initial budgetary

position, at least in the 2007-scenario, falls significantly short of compensating this rise.

The *low-risk countries* (Denmark, Estonia, Latvia, Lithuania, Austria, Poland, Finland and Sweden) have in general gone furthest in coping with the budgetary impact of ageing, implying either a strong fiscal position (running large surpluses, reducing debt and/or accumulating assets) and/or comprehensive pension reforms, sometimes including a shift towards private pension schemes. This does not mean that in these countries there are no risks regarding the long-term sustainability of public finances. In fact, their situation (assessment) relies on the successful implementation of the far-reaching reforms, which have reduced significantly the long-term budgetary impact of ageing (Estonia, Latvia, Lithuania, Austria, Poland and Sweden) and maintaining the budgetary position. In contrast, the future budgetary costs of ageing are projected to increase above the EU average. However, Finland has the largest share of assets in pension fund reserves. It should be noted that, when considering the estimated impact of the reform package in Denmark, including effects from taxation, the long-term impact of ageing would be even smaller.

Part II

Evolving budgetary surveillance

SUMMARY

In retrospect, implementation of the EU fiscal surveillance framework has witnessed a succession of distinct phases with shifting emphasis reflecting the necessities of the moment. The smooth beginnings of the Stability and Growth Pact (SGP) in 1998-2000, gave rapidly way to a period where first the occurrence and then the correction of excessive deficits were the main concerns. More recently, the spotlight has moved again towards the preventive arm of the Pact; that is on Member States' progress, or lack of it, towards sustainable budgetary positions in the medium term.

While the public finance situation still varies considerably across countries, demanding application of the full range of instruments envisaged by the Pact, the debate on the EU fiscal surveillance framework has been giving increasing prominence to issues of quality of public finances (QPF). This needs to be seen against the background of a number of key developments. Firstly, as Member States make progress towards achieving their medium-term objectives the scope for 'easy' adjustment narrows, choices about where to make cuts or which revenues to increase get tougher and further improvements become increasingly interlinked with issues of quality. Secondly, accommodation of the impending budgetary impact of ageing populations without jeopardising the long-term sustainability of public finances carries the risks of crowding out other expenditure items in the budget. More effective use of government resources becomes essential. Thirdly, there is also an increasing amount of pressure from various national constituencies on governments to deliver value for money, especially but not exclusively in Member States where the size of government has reached high levels. Lastly, the closer integration of markets and the accompanying increase in global competition creates the need for a fiscal policy geared towards enhancing the adaptability of economies to shocks.

Reflecting this recent shift in attention, Part II of *Public finances in EMU − 2008* discusses a number of operational issues related to QPF which have a direct or indirect bearing on the implementation of EU fiscal surveillance.

As with fiscal policy in general, the assessment of QPF is to be based on a number of informative measurements and indicators. It is therefore imperative to first take a closer look at available data, instruments and tools. Our stock-taking exercise proceeds in two separate steps. We first plough through existing work and databases with a view to defining the available information for all key areas such as expenditure, taxation, fiscal governance and structural reforms which can be used to describe, analyse and assess QPF. The second step in our stock-taking exercise consists in exploring ways to organise and present the mass of information in a meaningful and concise way so as to draw solid conclusions about QPF across both countries and time.

There are two important conclusions emerging from our review of data and indicators. First, in spite of the wide range of available information, one of the main obstacles is that sources vary considerably in terms of country and time coverage. This imposes constraints on the scope of the analysis and calls for further efforts to close existing gaps. The second, and probably more important, conclusion refers to the question of how to best organise the available information. The relevant literature is relatively young and no standard tools have emerged so far. For purely illustrative purposes we present a simple aggregate indicator of QPF which comprises a sufficiently broad number of dimensions and ensures an acceptable degree of comparability across countries. The country ranking implied by this tentative synthetic indicator is broadly in line with current preconceptions about QPF in the EU Member States. Further work, including notably sensitivity tests, is required to establish a robust set of indicators.

QPF is not a completely new concept in the implementation of the EU fiscal surveillance framework. The March 2005 report of the Council underpinning the reform of the SGP implicitly and explicitly acknowledges the relevance of a number of dimensions of QPF, such as the composition of expenditure, national fiscal governance and structural reforms aimed at enhancing the sustainability of public finances.

The provisions of the revised Pact, notably the Code of Conduct*,* requires Member States to

provide annually information related to the specific issue of QPF ([1]). In particular, Member States should provide information on measures aimed at improving the quality of public finances on both the revenue and expenditure side, on structural reforms and on fiscal governance.

Complete and consistent reporting of this information is a pre-condition for giving more space to QPF in the assessment of medium-term budgetary plans and, more generally, for giving more prominence to QPF in implementation of the EU fiscal surveillance framework as a whole.

In a bid to assess the scope and substance of the current reporting on QPF, we examined in detail the last vintage of stability and convergence programmes (2007/08). This examination reveals two main areas for improvement. Firstly, compliance with the reporting indications of the Code of Conduct relating to QPF is fairly low in terms of both structure and content. Secondly, the information provided does not lend itself to systematic and cross-country comparable analysis of QPF. Both points underline the need to put in place a more comprehensive and detailed reporting.

A key dimension of quality of public finances is the efficiency of the government sector, which on an aggregate level should be gauged by its productivity. However, because most public services and goods are not traded at market prices, the measurement of output and, in turn, productivity is more complicated than for private sector activities. Part II presents an overview of measurement of government sector productivity in national accounts. The way national accountants first approached the issue was to approximate output by the total costs incurred in the production of public goods and services. However, this approach effectively results in attributing zero productivity growth to the public sector. Subsequently, attempts therefore have been made to identify appropriate output indicators for different areas of government activity, such as the number of treatments in

health care or the number of hours of teaching in education. More recently, the attention has shifted to ways to take into account outcomes and hence the quality dimension, in the measurement of the output of the government sector.

The increasing prominence of QPF-issues in the EU fiscal surveillance framework does not detract from the importance of its more elementary references. One such reference is the structural budget balance, i.e. the budget balance net of cyclical, one-off and other temporary factors. The adjustment requirements of the revised SGP, in both its dissuasive and preventive arm, are expressed in terms of structural balances.

Two main shortcomings of the structural budget balance − errors in measurement of the output gap in real time and year-to-year fluctuations in tax elasticities − were examined in last year's edition of the *Public finances in EMU* report. This year we present the results of our attempts to tackle the weaknesses of the indicator so as to improve its diagnostic accuracy.

As regards the measurement of the output gap in real time the presented approach makes use of information from supplementary economic variables, where supplementary is to be understood compared to the commonly agreed method for estimating the output gap. The findings of our work indicate that an improvement on the current methodology can be achieved especially thanks to the information encapsulated in the rate of capacity utilisation of the manufacturing industry. Hence, inclusion of this variable in the current method for estimating output gaps in real time could be envisaged.

The challenge inherent in year-to-year changes in tax elasticities is approached at two different levels. At the first level, we isolate the changes in the economic system that give rise to higher or lower than normal tax content of growth. This gives us the possibility to understand why in certain years and certain countries the tax content of GDP went up or down compared to its average. At the second and more difficult level, we seek to determine whether and what part of higher or lower than normal tax elasticities can be taken to be structural or temporary in nature.

([1]) "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.

Overall, the lessons from our recent work teach us to moderate our expectations. As for any other synthetic fiscal indicator, the structural budget balance does not provide a perfect picture of the underlying fiscal situation in each and every year. While the degree of inaccuracy can be trimmed somewhat by adding additional pieces of information, there is an ultimately ineliminable uncertainty inherent in the fact that key inputs in the assessment of structural balances are forecasts.

In conclusion, the shortcomings of the structural budget balance have long been known to practitioners and academics. Unsurprisingly, questions about the shortcomings of this indicator have increased in line with its visibility in EU fiscal policy prescriptions. The main reason why in spite of these shortcomings the structural budget balance has survived and is still anchored in the minds of the majority of economists, is the convincing intuition behind it and its methodological simplicity which are key for a consistent application across countries in an economic policy framework such as the SGP.

The other elementary reference of the EU fiscal surveillance framework that is covered in Part II is the so-called no-policy-change assumption in budgetary projections. No-policy-change projections are key because, coupled with the country-specific budgetary targets that are established at the same time, they determine the size of the required fiscal adjustment. An underestimation of expenditure trends (or an overestimation of revenue trends) will give rise to inadequate budget plans and, ultimately failure to meet targets. Past experience in EU fiscal surveillance has repeatedly brought to light such biased applications which hamper progress towards sustainable fiscal positions.

While it is quite clear what is meant by no-policy-change projections in conceptual terms, their implementation and assessment in practice are not straightforward, the main reasons being that (i) there is no commonly accepted operational definition of no-policy-change projections and (ii) linked to the first point, national budgets in the Member States feature many idiosyncrasies that are difficult to capture in a common framework. Nevertheless, there are a number of principles that are relevant to the

budget of all Member States. The objectives of the presentation are twofold: to take stock of a number of common principles that have emerged from the implementation of the SGP over time and to provide a basis for discussion with the Member States with the ultimate aim of improving the consistency and transparency of budgetary projections.

1. THE QUALITY OF PUBLIC FINANCES: DATA, INDICATORS AND MORE

1.1. INTRODUCTION

As quality of public finances (QPF) is gaining greater importance in policy making, there is also a need to upgrade the practices of fiscal surveillance in this area. The motivation for fiscal policies to go beyond maintaining sound fiscal positions derives largely from the emerging challenges of ageing populations and globalisation. In response, as explained in Section III, the EU economic and fiscal frameworks (the Strategy for Growth and Jobs and the Stability and Growth Pact) foresee to better gear fiscal policy toward achieving long-term sustainability and creating conditions in support of economic growth, including through strong fiscal governance.

While surveillance procedures have already been established for assessing the sustainability objective, the practices for a broader analysis of QPF and its links to macroeconomic goals, especially economic growth are less developed. In the ensuing three sections, we therefore take stock of available data sources and outline the type of indicators that would be needed for such analysis and propose ways forward on how this could feed into a surveillance mechanism. We also review how countries currently report on QPF in their stability and convergence programmes (SCPs) and identify areas for improvement. Finally, we take a look at how output and productivity are measured in the government sector. This point is of considerable importance as the specificity of public goods and services - they are not traded at market prices – precludes the use of a standard approach and requires special methods of measurement.

1.2. INDICATORS OF QUALITY OF PUBLIC FINANCES: WHERE WE ARE AND WHERE WE GO

Developing a conceptual framework and indicators should be the corner stones for improving the assessment of QPF. Section III provides the needed conceptual background by defining QPF as a multi-dimensional concept comprising all fiscal policy arrangements and operations that support one of the main macroeconomic goals of government policies notably long-term economic growth. In particular these interrelated dimensions include: (i) the size of government, (ii) the level and sustainability of fiscal positions, (iii) the composition and efficiency of expenditure, (iv) the structure and efficiency of revenue systems, (v) fiscal governance arrangements that impact the former four dimensions and (vi) public finances decisions that impact the functioning of markets and the overall business environment. Economic theory and empirical studies allow drawing tentative conclusions on how these dimensions, individually or in combination with others, affect the channels to growth and the overall growth performance. These key findings are summarised in Section III, which also highlights that more research is needed in particular on the interplay of the various dimensions of QPF and growth and the transmission channels. Arriving at a comparison of where Member States stand today and what policy options they have at hand would then require a broad set of comparable indicators combined with country-specific knowledge. Below we describe the data and information requirements, outline the various caveats and weigh them against practical considerations and provide an illustrative example for the use of composite indicators.

1.2.1. Choosing indicators: some issues

Policy and performance indicators are needed for analysing QPF. Policy indicators are directly controlled by policy makers reflecting choices in each public finance dimension (e.g. the level of education and health spending or tax rates on labour and capital) ([1]). Performance indicators link the policy choices with outcomes. Thus, they measure policy effectiveness (e.g. linking education spending with education attainment or the labour income tax rate with labour market participation).

([1]) It should be noted however, that these policy decisions reflect many more policy objectives than merely economic growth, which is the benchmark against which QPF will be assessed here.

But defining appropriate performance indicators is problematic. Outcomes are often hard to measure and therefore need to be proxied by output indicators. For example, education attainment can be measured by the OECD PISA indicators (standardised test of competence of secondary-school students) but the score may not adequately reflect the employability of human capital. Or the number of roads financed by public spending can be used to reflect the public infrastructure outcome needed to encourage investment but they may not capture the extent to which relevant market failures are eliminated by public spending. Moreover, how policy choices impact outcomes depends on a number of other factors. Some of these other factors are also policy variables. For example the effectiveness of education spending may be linked to institutional choices such as the freedom of schools to decide on the use of funds; or the impact of lower labour income tax rates on labour participation rates may also depend on the availability of child care facilities that can affect women's decision to enter the labour market. Also, and some factors that shape outcomes are not under the control of fiscal policy, e.g. the effectiveness of health spending also depends on eating habits and life-style choices.

Due to these difficulties, a wide range of indicators should be used and cross-checked with country-specific information. While a simplification is often needed to make measuring QPF practical, one should be cautious in interpreting the results. Using a range of complementary indicators would be useful and serve as a robustness test (e.g. when assessing the efficiency of certain spending categories different input-output ratios can be calculated and parametric and non-parametric techniques used to estimate efficiency scores; see Section III.3 for more details). Also, since country-specificities can never be fully captured in the data, the interpretation of results needs to be complemented by such additional information (e.g. the number of university graduates in Germany is rather low compared to the EU average as it reflects Germany's dual education system with some of those in vocational training receiving an education similar to a college education in other countries).

Policy and performance indicators should also fulfil some minimum statistical standards ([1]). First, the economic rationale of the indicator should be straightforward and unambiguous so as to promote public understanding and debate on policy issues. Second, indicators should be available and comparable across most EU Member States. Third, indicators need to be statistically reliable (e.g. applying a sound and comparable methodology to all countries with few changes in methodologies). And fourth, indicators should be regularly updated without too great a time lag. A long time coverage (25 years or more) would also be desirable but only needed for areas in which additional empirical analysis on the link between QPF and growth needs to be conducted. To assess the status quo, a shorter time span (several years to avoid cyclical effects) would be sufficient.

For each dimension of QPF a number of existing policy and performance indicators can be identified. Tables II.1.1 and II.1.2 outline a broad structure for such indicators for each of the six QPF dimensions broken down further into various areas. Clearly, the level of detail should vary with the relevance of each area and the availability of data. Both aspects cannot be fully captured in this stylised presentation. Given the wide range of issues, the data would need to be drawn from a large set of sources including not only Eurostat and the Commission services, but also other international organisations, such as the OECD, IMF and the World Bank, and private organisations (e.g. the World Economic Forum, and the Heritage Foundation).

1.2.2. How to use QPF indicators?

Three key questions arise on how to use indicators for assessing QPF. First, against what benchmark should indicators be compared? Second, should all QPF areas be assessed

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([1]) The four statistical criteria mentioned below are very close to those chosen as part of the ongoing development of the Lisbon Assessment Framework which aims to assess progress under the Lisbon strategy (the details are described in a set of notes by the European Commission to the Economic Policy Committee-Working Group on Methodology to Assess Lisbon-related Structural Reforms; LIME group). For a broad overview on the work of the LIME group see European Commission (2007b).

Table II.1.1:

Examples of potential indicators for assessing the quality of public finances and to construct composite indicators (Part I)

Indicators and data sources	Type of indicator
1. Size of government	
Expenditure-to-GDP ratio (Commission services)	Policy
…	
2. Fiscal position and sustainability	
Deviation of structural balance from MTO (Commission services)	Policy, performance
Variability (standard deviation) of fiscal position (Commission services)	Policy, performance
Debt-to-GDP ratio (Commission services)	Performance
Sustainability indicator S2 (Commission services)	Performance
…	
3. Composition and efficiency of expenditure	
3.1 Composition of public expenditure	
Share of "productive" spending (e.g. education, R&D, public transportation) in total primary spending (Commission services)	Policy
"Productive" spending (e.g. education, R&D, public transportation) (Commission services)	Policy
Share of public consumption in total primary spending (Commission services)	Policy
Share of public investment in total primary spending (Commission services)	Policy
Public consumption-to-GDP ratio (Commission services)	Policy
Public investment-to-GDP ratio (Commission services)	Policy
…	
3.2 Efficiency of public expenditure	
3.2.1 Education spending	
Estimated input and output efficiency (e.g. Afonso and St. Aubyn, 2006a, Sutherland et al., 2006, Verhoeven, 2007)	Performance
Indicators on the institutional and policy characteristics of educational systems (Gonand et al., 2007, OECD WP 543)	Policy
Output-input ratios using the following variables:	Performance
PISA scores, reading, mathematics and science (OECD)	Performance
School drop-out-rates	Performance
Average years of secondary and higher education in schooling	Performance
Share of tertiary-educated employment in total employment	Performance
Higher education and training index (World Economic Forum)	Performance
Public expenditure on primary and secondary education (OECD)	Policy
Public expenditure on tertiary education	Policy
Total public education expenditure, COFOG classification (Commission services)	Policy
Cumulated education expenditure (OECD)	Policy
Student-teacher ratio (OECD)	Policy
…	
3.2.2 Health spending	
Estimated input and output efficiency (from literature see e.g. Afonso and St. Aubyn, 2006b and Verhoeven, 2007)	Performance
Output-input ratios using the following variables:	Performance
Number of health personnel per 1000 inhabitants (OECD)	Performance
Number of hospital beds per 1000 inhabitants (OECD)	Performance
Life expectancy at birth, at 65 years (Eurostat)	Performance
Healthy life years expectancy at birth, at 65 years (Eurostat)	Performance
Potential years of life lost (OECD)	Performance
Total public health expenditure, COFOG classification (Commission services)	Policy
Total public health expenditure (ESSPROS)	Policy
Composition of health expenditure (e.g. share of general government, social securities, out-of-pockets etc.)	Policy
…	
3.2.3 Public infrastructure spending	
…	
3.2.4 R&D spending	
…	
3.2.5 Other areas of public spending	
…	

Table II.1.2:

Examples of potential indicators for assessing the quality of public finances and to construct composite indicators (Part II)

Indicators and data sources	Type of indicator
4. Composition and efficiency of revenue systems	
Direct taxation-to-GDP ratio (Commission services)	Policy
Indirect taxation-to-GDP ratio (Commission services)	Policy
Corporate income tax-to-GDP (Eurostat)	Policy
Personal income tax-to-GDP (Eurostat)	Policy
Share of direct taxation in total taxation, incl. social securities contributions (Commission services)	Policy
Marginal tax wedge of an low income earner (OECD)	Policy, performance
Marginal tax wedge of an average income earner (OECD)	Policy, performance
Average tax wedge of an low income earner (OECD)	Policy, performance
Average tax wedge of an average income earner (OECD)	Policy, performance
Implicit average tax rate (incl. social security contributions) on employed labour (OECD)	Policy, performance
Implicit marginal tax rate (incl. social security contributions) on employed labour (OECD)	Policy, performance
Effective average tax rate on capital	Policy, performance
Effective marginal tax rate on capital	Policy, performance
Tax administration burden, hours per month to prepare tax statements (World Bank)	Performance
Tax administration burden, number of payments (World Bank)	Performance
…	
5. Fiscal governance	
Fiscal rules index, strength and coverage (European Commission)	Policy, performance
Expenditure rules index, strength and coverage (European Commission)	Policy, performance
Medium-term budgetary farmework index (European Commission)	Policy, performance
Performance-based budgeting index (European Commission)	Policy, performance
Budgetary procedures index (European Commission)	Policy, performance
Government effectiveness (World Bank)	Performance
…	
6. Market efficiency and overall business environment	
Index on active labour market policies (European Commission, LIME group)	Policy, performance
Index on wage bargaining and wage-setting policies (European Commission, LIME group)	Policy, performance
Job availability requirement index (Hasselpflug, 2005)	Policy, performance
Unemployment trap (low wage-earner): Marginal effective tax rate for an unemployed person	Policy, performance
Unemployment trap (average wage-earner): Marginal effective tax rate for an unemployed person	Policy, performance
Inactivity trap (low wage-earner): Marginal effective tax rate when moving from social assistance to work	Policy, performance
Inactivity trap (average wage-earner): Marginal effective tax rate when moving from social assistance to work	Policy, performance
Index competition-friendly policy (European Commission, LIME group)	Policy, performance
Index on business environment-regulatory barriers to entrepreneurship (European Commission, LIME group)	Policy, performance
Index on market integration - openness to trade and investment (European Commission, LIME group)	Policy, performance
Product market regulation index (OECD)	Policy, performance
Service sector regulation index (OECD)	Policy, performance
Doing business indicator (World Bank)	Policy, performance
Business freedom index (The Heritage Foundation)	Policy, performance
Business envionment quality index (World Economic Forum)	Policy, performance
Economic freedom of the world index (The Faser Institute)	Policy, performance
Corruption perception index (Transparency International)	Policy, performance
…	

individually (thus, a large number of indicators be used) or can the information be bundled and if yes, how best to do so? And third, how can the indicators feed into an overall assessment on QPF, which also needs to account for interlinkages of areas and country-specific circumstances?

Benchmarks help to position countries against their peers and facilitate to identify strengths and weaknesses in QPF. They are not meant to rank a country on its policy choices or performance, but they are systematic tool to detect policy successes and challenges. Different benchmarks may be useful for different countries. Of particular interest should be comparisons with the EU and EU-15, the highest and lowest

quartile of countries and comparisons with non-EU Member States. In Section III these type of benchmarks are used when reviewing the various QPF dimensions.

While a large number of indicators may better reflect the complexity of the QPF, composite indicators would facilitate capturing and communicating the main issues. For a thorough analysis of the many areas through which public finances can support economic growth, a large set of indicators is needed as reflected in Tables II.1.1 and II.1.2 [1]. However, working with thirty or more indicators for the specific issue of QPF would become impractical for deriving and presenting the core messages. For that purpose composite indicators, which summarise the key information are better-suited. For example, one composite indicator for each of the six QPF dimensions could ideally be constructed. Or, since at least the two dimensions 'composition and efficiency of expenditure and revenue' are very complex a greater number could be chosen. Any choice involves a trade-off between economic rationale and practicality. Another option are statistical methods, such as for instance the principal components approach, which collapses the information contained in the wide range of potential variables into a limited number of factors.

Constructing composite indicators is not without problems though. In addition to the obvious selection of the underlying variables, the weighting scheme is crucial. It should reflect the relevance of the individual components (while this can be to some extent based on economic theory it will also always include a subjective element). At the same time a composite indicator should be sufficiently robust when applying alternative weights and considering outliers. One option is to use random weights and show the

indicators standard deviation to reflect the uncertainty range [2].

An overall assessment of Member States QPF should not rest on an indicator-based approach alone. Given the difficulties to capture the complex links between QPF and growth in a few numbers, it will be key to cross-check the main messages that one can derive from indicators with more detailed country-specific information. A combination of both pillars would provide for a systematic transparent assessment based on a strong analytical framework, equal treatment across Member States while accounting for country-specificities.

1.2.3. A stylised example

As a purely illustrative example, which does not prejudge further work in this area, composite indicators have been constructed for the key five QPF dimensions, excluding the indirect 'market efficiency and business environment dimension'. Since the composite indicators are based on a small set of 11 underlying variables, they abstract from a number of issues. For example, expenditure efficiency is proxied simply by an indicator on education expenditure efficiency. The index for each dimension ranges from 0 to 2 with equal weights for each sub-indicator. A higher index is associated with QPF providing stronger support for economic growth based on priors from economic theory and empirical findings (as discussed in Section III) [3]. The benchmark is the unweighted average of the EU-15 countries. Countries with an indicator that outperformed the EU-15 average by one standard deviation or more were assigned a 2; countries that underperformed the EU-15 average by one standard deviation or more were assigned a 0; all others were assigned a 1. Data represent in most cases the latest three-year average or the latest available year. The details on how the five

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[1] This is in line with the approach of the assessment framework for the Strategy for Growth and Jobs which aims to assess progress on structural reforms for fostering growth and employment and has identified a narrow list of currently 135 policy and performance areas and a wider list of 279 indicators areas to capture the many transmission channels.

[2] This method has for example been used when constructing the Commission services' index on the quality of medium-term budgetary frameworks and fiscal rules presented in the 2007 issue of the *Public finance in EMU* report. See European Commission (2007a), pp. 131-167.

[3] Since this index is not a metric measure, one should be cautious in interpreting differences (e.g. a value of "2" versus "1" does not imply a twice as good performance).

Table II.1.3:

A stylised example: elements of quality of public finance composite indicators

Dimensions	Indicators	Scores	Data sources
Size of government	Expenditure-to-GDP ratio (average 2005-2007)	0 if > 52.0% 1 if between 40.7% and 52.0% 2 if < 40.7%	Commission services
Fiscal position and sustainability	Deviation of structural balance from MTO (2007)	0 if 0.5% lower than MTO 1 if between +/- 0.5% of MTO 2 if at or above MTO	Commission services
	Debt-to-GDP ratio (average 2005-2007)	0 if > 60.0% 1 if between 28.2% and 60.0% 2 if below 28.2%	Commission services
	Sustainability indicator S2 (2007)	0 = high risk 1 = medium risk 2 = low risk	Commission services
Composition and efficiency of expenditure	Share of "productive" (education, R&D and public transportation) spending in total primary spending (2006)	0 if below 12.5% 1 if between 12.5% and 18.4% 2 if above 18.4%	Commission services, Eurostat (GERD) and OECD
	Education spending efficiency	0 if in lowest quartile 1 if in middle two quartiles 2 if in upper quartile	Based on several education efficiency studies that correct scores for environmental factors (Afonso and St. Aubyn, 2006a, Sutherland et al. 2007 and Verhoeven et al., 2007; see Table III.3.4)
Structure and efficiency of revenue systems	Marginal tax wedge of an average income earner (2006)	0 if above 61.7% 1 if between 43.7% and 61.7% 2 if below 43.7%	OECD
	Share of direct taxation in total taxation (incl. social securities contributions)	0 if above 69.3% 1 if between 62.2% and 69.3% 2 if below 62.2%	Commission services
	Tax administration burden (hours per month to prepare tax statements)	0 if above 23.6 1 if between 8.1 and 23.6 2 if below 8.1	World Bank
Fiscal governance	Fiscal rules index	0 if below 0.06 1 if between 0.06 and 1.63 2 if above 1.63	Commission services
	Medium-term budgetary framework index	0 if below 0.85 1 if between 0.85 and 1.67 2 if above 1.67	Commission services

composite indicators were constructed are described in Table II.1.3.

The composite indicators reveal that in the EU the mix of strengths and weaknesses in QPF varies strongly. In Graph II.1.1, Member States have been placed into three groups (top quartile, the two middle quartiles and lower quartile) based on their overall average QPF index across all five dimensions ([1]).

([1]) In this example, the top quartile of countries include Bulgaria, Estonia, Finland, Ireland, Latvia, Lithuania, Luxembourg, Slovenia and Spain, the middle two quartiles include Austria, Cyprus, Denmark, Malta, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Sweden and the United Kingdom, and the lower quartile is comprised of Belgium, the Czech Republic, France, Germany, Greece, Hungary and Italy. The top quartile includes more than seven countries, since the 7th to 9th best have an identical index.

Even though each group is a very mixed bag, countries in the top quartile are typically those with below-average-size governments, low debt levels and sustainable and sound public finances. The diversity in the top quartile of Member States across the other dimensions is greater with some countries allocating a rather high share of public spending to 'productive' items and using public spending relatively efficiently. Several others keep the tax wedge rather low and their tax administrations work very efficiently. All of these public finances characteristics put these countries in a promising position as regards support for economic growth. However, a number of them exhibit weaknesses in fiscal governance, which could put the sustainability of the current success into question. Thus, from this illustrative indicator-based analysis one could derive that for several countries in the top

Graph II.1.1: **A stylised example: reviewing the QPF in EU Member States with simple composite indicators**
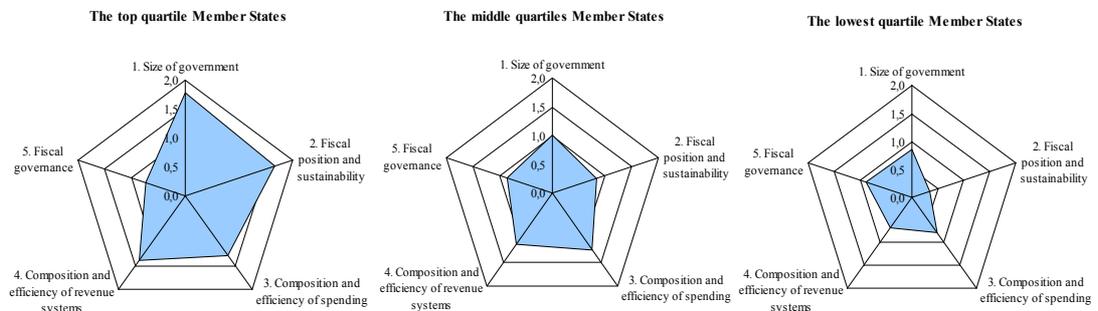
Notes: Composite indicators are based on variables described in Table II.1.2 with equal weights for each sub-indicator. A higher index is associated with a stronger support for economic growth. The benchmark is the unweighted average of the EU-15 countries. Countries with an indicator that outperforms the EU-15 average by one standard deviation or more were assigned a 2; countries that underperform the EU-15 average by one standard deviation or more were assigned a 0; all others were assigned a 1. Data gaps for a few countries (on fiscal governance and education spending efficiency) were filled with averages of comparable country groups. The countries have been grouped by quartiles based on the average overall index.
Source: Commission service calculations.

quartile further strengthening of fiscal frameworks should be a policy priority ([1]).

The lower quartile of countries are those with significant room for improvement in QPF to address future challenges. Again the variation across countries is large, but many of them exhibit a problematic combination of high debt and high sustainability risks, large tax burdens, especially on labour, inefficient tax administrations and rather low efficiency of public spending. Of particular concern is also the deterioration in this respect in some countries ([2]). In general, this country group is faced with the challenge to improve the QPF on a number of fronts. In cases where it may be difficult to garner political support for such a wide reform agenda, a promising avenue could again be to strengthen fiscal governance, including through expenditure rules and a more medium-term orientation of fiscal policy, even if the fiscal frameworks of this country group are close to the EU average (although there are large differences within the group). It should also be noted that advances in one policy area, such as pension reforms or higher spending efficiency, could bring rewards also in other areas, such as a better budgetary positions and lower tax burdens.

1.2.4. Summing up

Fiscal surveillance should be upgraded to systematically account for the quality of public finances (QPF). The multi-dimensional conceptual framework presented in Section III would provide an analytical and structured setting to address this challenge. It is based on findings from the literature on the key links between the various dimensions of QPF and growth, but it also highlights that more analytical work is needed to better understand the transmission channels and their interlinkages.

Despite these gaps, one could advance by drawing on the conventional wisdom to identify a broad set of indicators with which Member States' strengths and weaknesses of QPF could be reviewed. While the indicator-based approach would help ensure a well-structured, transparent and equal review across Member States, it would need to be accompanied by country-specific information to overcome the indicator shortcomings.

1.3. REPORTING ON QUALITY OF PUBLIC FINANCES IN STABILITY AND CONVERGENCE PROGRAMMES: TAKING STOCK AND LOOKING FORWARD

The annual updates of the stability and convergence programmes (SCPs), where Member States lay down their medium-term

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([1]) Obviously, when looking at countries individually the assessment and recommendation would be more nuanced.
([2]) While this is not reflected Graph II.1.1 it follows from analysing the country specific data over time.

fiscal plans, are a cornerstone of the EU fiscal surveillance framework. They form the basis of the assessment of national fiscal policies by EU peers in the Council. On top of presenting the projected path of a range of key economic and public finance variables, SCPs are also expected to include information on a number of elements which, in line with the conceptual framework discussed in Part III of this report, fall in the area of quality of public finances (QPF); e.g. information on tax reforms, value for money initiatives and changes in national fiscal governance. Traditionally and unsurprisingly, the main focus of SCPs has been on the key public finance variables related to the numerical thresholds of the Pact. The coverage of other aspects of public finances has been less detailed and varied greatly across countries.

Based on the last two vintages of SCPs - 2006/07 and 2007/08 - this section provides an overview of the current reporting on the QPF. The main aim of the exercise is to take stock of the type and amount of information provided by EU Member States and to assess whether there is scope for improving the reporting.

1.3.1. The guidelines for reporting

The revised *Code of Conduct* lays out detailed specifications about the format and content of the SCPs ([1]). As regards the QPF, the guidelines cut across a number of areas reflecting the large extension of the topic. In terms of the model structure of the programmes included in the Code of Conduct there are at least two chapters where QPF plays a prominent role: *Chapter 5* dealing with *Quality of public finance* and *Chapter 7* on *Institutional features of public finances*. Chapter 5 should present the main budgetary measures with a breakdown into expenditures and revenues, while Chapter 7 is expected to report on changes in the national fiscal governance.

The revised Code of Conduct also prescribes a broad range of quantitative information to be presented in standard tables. The tables most relevant for the QPF are *General government budgetary prospects* (Table 2) and *General government expenditure by function* (Table 3 – COFOG data).

To substantiate the model structure and the standard tables, the Code of Conduct includes a broader set of indications on the content, some of which are again tightly linked to the QPF. From the relevant section of the Code of Conduct, the following points indicate what to cover in the programmes:

- Budgetary and other economic policy measures being taken and, in case of the main budgetary measures, their quantitative effects on the general government balance. Budgetary targets should be backed by an indication of the broad measures necessary to achieve them. The further out the year of the programme, the less detailed the information is expected to be provided.

- Measures aimed at improving the QPF on both the revenue and expenditure side (e.g. tax reform, value-for-money initiatives, measures to improve tax collection efficiency and expenditure control).

- All budgetary measures having significant 'one-off' effects.

- Structural reforms (with special attention to pension reform), especially when they are envisaged to contribute to achieving the objectives of the programme. Comprehensive information on the budgetary and economic effects should be communicated, including a detailed quantitative cost-benefit analysis of the short-term costs – if any – and of the long-term benefits of the structural reforms from the budgetary point of view.

- Information on the implementation of existing national budgetary rules as well as on other institutional features of public finances, in particular budgetary procedures and public finance statistical governance.

The first four points would fit under the heading of Chapter 5 *Quality of public finance,* while the

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([1]) The revised 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) was endorsed by the ECOFIN Council on 11 October 2005.

last point should be covered in Chapter 7 *Institutional features of public finances* of the SCPs.

1.3.2. Findings

Examining the 2007/08 vintage of the SCPs on how and what type of information is reported on QPF uncovers large differences across the EU Member States and a number of discrepancies vis-à-vis the indications of the Code of Conduct. In particular, few Member States follow the model structure laid out in the Code of Conduct and compliance with the guidelines on the content is rather low. The 'compliance scores' that have been calculated in that respect and which are summarised below and in Table II.1.4 are based on the assessment of the 2007/08 SCPs. Moreover, to highlight some of the key recent developments it has also been compared with the previous SCPs vintage.

The structure of the reporting

On average, EU Member States score close to 60% on the model structure ([1]). The chapter on '*Quality of public finances*' (Chapter 5) is included in most programmes (23 of 26 countries), while a version of '*Institutional features of public finances*' (Chapter 7) appears only in around two thirds of the programmes. However, in both chapters the breakdown into the sections foreseen in the Code of Conduct is often overlooked (across all the SCPs of the Member States only 45% of the required sections are included).

When it comes to the standard tables listed in Annex 2 of the Code of Conduct, all programmes include Table 2 *General government budgetary prospects*, even though a few countries have made some slight changes to the set up. On the other hand, Table 3 *General government expenditure by function* is presented only by 15 Member States and six of these tables do not cover the required time period ([2]). Nevertheless,

more countries included Table 3 *General government expenditure by function* in the 2007/08 vintage than the year before.

The cross-country variation in the reporting structure in the 2007/08 SCPs is huge; some Member States follow the proposed structure to the letter while others totally disregard it. Among the latter category are mostly 'old' Member States, which give preference to a format that is rooted in national standards. Recently Acceded Member States, which have been reporting for fewer years, tend to stick to the structure prescribed in the Code of Conduct to a much larger degree (a total score of 75% vs. 47% for the EU15).

Another noteworthy result is that small countries tend to follow the structure laid out in the Code of Conduct more closely, scoring somewhat better than the five biggest Member States (64% vs. 43%) ([3]).

The content of the reporting

Assessing the actual content of the SCPs is difficult since countries follow very different approaches. Using the guidance of the Code of Conduct and the best practices ([4]) as the starting point, the average score of the Member States on the content side is only slightly above 30% (Table II.1.4).

Recently acceded Member States score slightly better than 'old' Member States on the content side as well, although the difference is not large. The same applies to the five biggest Member States, which on the content outperform the smaller Member States somewhat.

([1]) If a country includes all the requirements from the Code of Conduct, it would score 100%. Similarly, if none of the recommendations was followed the score would be 0%. The score of all EU Member States is an unweighted average of all the country scores.

([2]) Note that provision of COFOG data is not compulsory.

([3]) The five biggest countries both in terms of population and GDP are Germany, France, United Kingdom, Italy and Spain.

([4]) As the Code of Conduct is not very specific on what should be included under the heading of QPF, the requirements from the Code of Conduct are supplemented with other important aspects of QPF that some of the Member States have included.

Table II.1.4:
Reporting on quality of public finances in the stability and convergence programmes

	Included in the SCPs	
Structure of the reporting	*No. of incidents*	*% of incidents*
Chapter 5 (as stand-alone chapter)	23 of 26	88.5
Information as required in Chapter 5 but presented in different format	50 of 78	64.1
Chapter 7 (as stand-alone chapter)	18 of 26	69.2
Information as required in Chapter 7 but presented in different format	20 of 78	25.6
Table 2 included (with required time period)	52 of 52	100
Table 3 included (with required time period)	24 of 52	46.2
Total score for the structure	187	59.9
Content of the reporting	*No. of incidents*	*% of incidents*
Quantitative effects of main budgetary measures		
- first year	22 of 26	84.6
- medium term	11 of 26	42.3
- all budgetary measures	6 of 26	23.1
Measures aimed at improving QPF	12 of 26	46.2
- tax reforms (budgetary effects)	8 of 26	30.8
Analysis of one-off budgetary measures	4 of 26	15.4
Structural reforms (in Chapter 5)	9 of 26	34.6
- pension reforms	8 of 26	30.8
Growth-enhancing budgetary measures	5 of 26	19.2
Multi-annual budget for the gov. sector	5 of 26	19.2
Fiscal rules	11 of 26	42.3
Performance budgeting	7 of 26	26.9
Tax collection efficiency	5 of 26	19.2
Total score for the content	113	33.4

Notes: This table summarises to what extent Member States fulfill the requirements to report on quality of public finances spelled out in the Code of Conduct. The table lists for each criterion how many countries provide the required information. In some instances, several criteria have been summarised. Therefore, the total is a multiple of the number of Member States in those cases. The total scores for the structure and content of reporting on quality of public finances are the unweighted sums of the criteria assessment. Belgium had not submitted its stability programme for 2007/08 at the time this report was written and is therefore not included.

Source: EU Member States' stability and convergence programmes of 2007/08.

Most programmes present to a certain degree a description of the policy measures that have been taken, with an overview, usually a table, of the overall projected expenditure and revenue changes for the first year and sometimes for the two following ones. As regards the quantitative effects on the general government balance of main budgetary measures, which are presented either as a percentage of GDP or in absolute terms, these are included in 22 of 26 programmes. In general there is a stronger attention on the budgetary implications of the measures on the expenditure than on the revenue side, with some notable exceptions ([1]).

Nevertheless, the budgetary effects of the individual measures often refer only to the first year of the programme, without going deeply into the medium-term prospects. Only 11 of the 22 programmes previously mentioned include an assessment of the projected budgetary effects up to 2010.

Another aspect examined is the attention to the total direct budgetary effect. In fact, the sum of the direct budgetary effects of the individual measures should add up to the difference between the trend revenue and trend expenditure and the targeted ones. But only six of the programmes include all effects of the main measures, neatly presented in a table. Countries like Italy, Austria and United Kingdom would fulfil the role of best practices in this area.

([1]) Especially the Baltic States do distinguish themselves by covering the revenue side more extensively than other Member States.

Still, none of the SCPs include a detailed no-policy-change scenario as discussed in Section II.2.4; it is only given implicitly in some SCPs as the difference between the budget measures and the target scenario.

Concerning the measures aimed at improving the QPF, on both the revenue and expenditure sides, the SCPs usually provide some information. In particular, tax reforms, measures to improve tax collection and expenditure control are widely presented in many of the programmes. Nonetheless, the information provided deals mainly with the qualitative aspects of the reforms, without going into much detail on their costs and future benefits.

For what concerns the one-off measures, only four programmes present a detailed analysis of their budgetary implications. Good benchmarks would be the programmes of Estonia and Denmark, which make the presentation of these measures clearer by using tables.

Regarding the fourth point that should be covered in Chapter 5, notably major structural reforms, many of the countries that are implementing these types of reforms include a detailed presentation in their programmes. However, the budgetary implications and an analysis of the costs and the benefits of these reforms are not always included.

Around one third of the programmes contain information on the progression of pension reforms. The SCPs usually present a general evaluation of the long-term benefits, but do not go into much detail on the short-term costs of introducing a new pension system. In some cases figures for the receipt of newly introduced second pillar pension schemes are also presented.

Some countries are currently implementing tax reforms, usually towards flat rate systems for corporate sector or lower labour taxation to enhance employment. Most of them present the budgetary effects, also for the medium term. The programme of Lithuania devotes particular attention to the issue of how to find resources to finance the tax reform during the first years of implementation, which is an aspect highlighted in the Code of Conduct.

In general, those countries that include Chapter 7 *Institutional features of public finances* give a description of the institutional reforms to be implemented and the institutions to achieve certain policy goals, dealing in particular with the problem of the independence of statistical institutions.

Eleven Member States present information on their fiscal rules, although not always within the context of Chapter 7. The Member States (EU25) have earlier filled out the questionnaires on fiscal rules and institutions sent out by the Commission services, so the information should be easily accessible by other means.

A handful of countries mention the introduction of multi-annual budgets for the government sector. Around the same number of countries (20-25%) disclose their efforts on the areas of performance budgeting and tax collection efficiency.

When Chapter 7 is included in the SCPs, it mostly consists of 1-3 pages. Both in the 2006/07 and the 2007/08 vintage of the SCPs, the stability programme of Ireland has the most comprehensive chapter regarding institutional features (although the structure do not follow the recommendations of the Code of Conduct).

One last aspect examined is the attention that programmes give to growth-enhancing budgetary measures. This issue is of particular importance in relation to the priorities of the Lisbon strategy and the link between SCPs and NRPs. In general, when this issue is taken into consideration, it is usually included in Chapter 5 of the programmes.

The comparison shows that most Member States usually consider as priorities growth-enhancing policy measures. Generally, the focus in the programmes is on measures on the expenditure side (e.g. a frequent measure is moving expenditures towards more productive allocations through a reduction and a rationalisation of current expenditures). But a detailed analysis of the expected growth contribution from each measure is quite rare.

As regards the budgetary implications of this type of measures, although most programmes do not provide detailed quantitative information,

they are usually included within the total projected expenditures under the heading 'growth-enhancing measures'.

A good benchmark for the presentation of growth-enhancing measures would be the programmes of Malta or Slovenia.

1.3.3. Main conclusions and suggestions

The information provided under the heading 'Quality of public finances' presents a high degree of heterogeneity *inter alia* because the concept has not been clearly and comprehensively defined yet. Usually there is a detailed description of the policy measures to be implemented during the first year of the programme period, but the expected budgetary effects are not presented for all individual measures and, in some cases, not even for the main ones. As regards the medium-term implications, most programmes tend to present only the global projections of revenues and expenditures for the medium term, without going into much detail on the budgetary effects of individual measures.

The functional classification of expenditure (COFOG – Table 3) is fully included only in a one third of the programmes, while it would serve as a useful instrument for the overview of the allocation of resources over the programme's horizon and of the policy priorities that have been targeted. The tables to be included in the SCPs might be relevant for several chapters; a good approach would be to include the tables in an appendix as well as in the text for more easy access.

In order to have a user-friendly reporting on and effective assessment of QPF and the possibility to quickly compare the information provided by the Member States, the countries should stick more closely to the model structure as well as the elements of content indicated in the Code of Conduct. However, the Code of Conduct in its present form might not be a sufficient guidance for this purpose. Therefore, the conclusions from this assessment would be twofold:

- The Code of Conduct could provide further details on the model structure of the programme, but, above all, be more specific on what should be included in Chapter 5 *Quality of public finances*, particularly regarding the budgetary implications of structural reforms. It should also clarify what should be presented in Chapter 7 *Institutional features of public finances*.

- A better compliance by the Member States with the provisions of the Code of Conduct would greatly facilitate and improve the comparability and the assessment of information. The recourse to best practice on the basis of the annual update could help establish a more systematic reporting across Member States.

1.4. GAUGING PRODUCTIVITY IN THE GOVERNMENT SECTOR: CURRENT PRACTICE AND SCOPE FOR IMPROVEMENT

In defining the original Lisbon Strategy, with its central objective of making the European Union the most competitive economy in the world by 2010, the European Council of March 2000 made productivity the focal point of the economic policies of its Member States. The dual aims of competitiveness and productivity concerned the economy as a whole, that is, public services as well as the business sector. Measuring the productivity of public services, however, requires appropriate tools, and this is not without certain practical and theoretical difficulties.

One important idiosyncrasy of the government sector compared to other areas of the economy is the absence of market mechanisms. Services and goods produced by different levels of government are generally not priced following the interplay of demand and supply. The allocation is regulated through mechanisms that make a valuation of its output more difficult or require different methods as compared to non-government sectors.

This section takes a closer look at how the output and productivity of the government sector is currently measured in the framework of the system of national accounts, i.e. the statistics for the measurement of aggregate economic activity. The objective is to explain the main principles underlying current figures, to identify the main

difficulties and to sketch out future developments.

Clearly, better measurement is not an aim in itself. It is expected to be conducive to a better assessment of government activity and in turn form a better basis for economic policy decisions, especially when it comes to the allocation of government resources and the assessment of the quality of public finances.

1.4.1. What would we like to measure? A brief refresher of business sector productivity

In order to better understand the difficulties with the measurement of productivity in the government sector it is worthwhile to first review the standard concepts and methods applied in non-government sectors.

Before embarking on an explanation of the difficulties involved in measuring the productivity of public services, it might be useful to consider how productivity is measured in the business sector. Productivity is a measure of the efficiency of production, and in general terms it is calculated as the ratio of the volume of production (or added value) to the volume of a factor of production (like labour or capital) used during the production process. It is also possible to calculate a multifactor productivity as the ratio of production volume to an index representing the combined volume of all production factors. For the sake of simplicity we shall be referring only to the productivity of labour, which is the factor most commonly used to measure productivity.

If an economy produced only a single product, for example wheat, measuring productivity would be a relatively simple matter: all one would have to do would be to divide the quantity of wheat produced by the number of hours of labour needed to produce it. Unfortunately for the national accountant, however, a real economy encompasses thousands of different products; this means that production cannot be calculated directly on the basis of quantities, since aggregating quantities of dissimilar products is meaningless. National accountants resolve this initial difficulty by introducing the notion of volume. The idea is simple: in a market economy

the problem of aggregation is resolved by assigning prices to the products to make them comparable, so that global production can be expressed by its monetary value. This value changes over time under the combined influence of variations in both the quantities produced and their prices. One simple method for preserving the advantage of monetary valuation while eliminating the effect of price variance, so as to retain only the effect of changes in quantities, is to calculate the value of production by freezing prices. National accountants thus expanded the notion of quantity by introducing that of production volume, which they define as production at constant prices. In practical terms, while it is not feasible – given the vast number of products involved – to measure all prices and quantities, as a strict application of the method would require, it is nonetheless generally possible to calculate the value of global production at current prices from the aggregate of company turnover. In practice, then, volume is commonly calculated by dividing the value of production at current prices by a price index, which is obtained by grouping products into categories as homogenous as possible and calculating price changes for each category on the basis of a limited sample of items. This method presupposes that prices within each group will move in a broadly similar fashion, so that there would be no advantage, in terms of additional accuracy, in monitoring each product separately.

The same measurement difficulties exist with regard to labour, since it is not a uniform quantity but has qualifying factors, e.g. training and experience, that have to be taken into account. The methods used to calculate the volume of hours worked are similar to those described for calculating production volume.

1.4.2. Why is it so difficult to measure productivity in the government sector?

Public services differ from other products in that they are made available to the user either free of charge or at a price that bears no relation to the cost of production and is thus meaningless. This being the case, either it is simply not possible to attach a price to public services, or the price does not reflect the conditions of supply and demand. The method described above for calculating

production volume thus cannot be applied directly, since it presupposes the existence of meaningful prices.

An alternative to the business sector method of calculating production volume by weighting quantity by price might be to use a different weighting factor. Here, however, another and even more fundamental difficulty arises: that of defining units of quantity for public services. How, for example, can one fix quantity indices for national defence services? The number of men under arms might be one possibility, but the importance of military equipment makes this fairly meaningless as an index.

National accountants thus had to look for other solutions. The conventional method has been to define the production value of non-market services, which have no real price, by the sum of their costs. There is certain logic to this. Just as the price of a commercial product represents the amount that the consumer is willing to pay in order to acquire it, so the cost of public services, which are addressed to users rather than consumers in the true sense, represents the financial commitment that the public is prepared to make in order to secure them, for the citizens collectively (via their representatives) determine the budget allocated to these services. In other words, the citizens play the same role in the non-market economy as consumers in the market economy. In these terms, when quantities can be defined, the notion of unit cost equates, in public services, to that of price in the business sector. This ought to mean that, as long as it is possible to measure quantities, it is possible to determine prices for public services and thus to apply the constant price method for calculating production volume.

Since, however, it is not possible to assign quantities to all public services, national accountants had to seek some other way to calculate production volume. Applying the system used in the business sector, where production volume is calculated by dividing the value of production by a price index, price indices can be assigned to public services, where production is the sum of costs (intermediate consumption, compensation of employees, consumption of fixed capital, other taxes – less subsidies – on production). The initial idea was

thus to calculate the production volume of non-market services by dividing each element of production cost by a corresponding price index. This is known as the input method, and for years it has been the only system used by national accountants.

The input method does, however, have one major drawback, in that it does not reflect changes in productivity, especially when productivity is measured on the basis of added value rather than production. In public services, added value consists almost entirely of payroll costs, which means that changes in added value more or less parallel changes in pay levels; this is true both for constant prices and for current prices. This means that while adoption of the input method made it possible to calculate production volume for public services, it was useless for measuring productivity. Furthermore, by assuming zero productivity gain for public services, it also tends to underestimate the productivity gains for the national economy as a whole.

1.4.3. The introduction of 'output methods'

The impossibility of measuring productivity using the input method generated increasing pressure for the adoption of new methods. Since the use of the input method was explained by the lack of quantity indices for public services, the initial focus was on looking for areas in which it would be possible to define units of quantity for these services. A distinction was thus made between two types of public services: collective services and individual services. Collective services, which include for example defence, police and justice services, are those supplied simultaneously to all members of the community or one of its sub-groups. Their primary characteristic is that the quantity available to the collectivity is not reduced by the amount supplied to an individual. Individual services, on the other hand, are those intended to satisfy the needs of members of individual households, and once acquired are no longer available to others. For collective services it was decided to continue, at least initially, to apply the input method, since defining quantity indices for these services would raise too many problems. One of the principal difficulties, cited in the UN's Handbook of National Accounting (SEC 1993), lies in the preventive character of collective

national services (the aim of the police is to prevent crime, that of the army to prevent war), which makes it difficult to assign quantities to them.

With regard to individual services, the UN's System of National Accounting (SNA 1993) recommends defining quantity units for education and health services, noting that "there is no mystique about non-market health or education services which make changes in their volume more difficult to measure than volume changes for other types of output". The European Union follows these recommendations and prohibits the use of the input method for non-market health and education services. Eurostat's 2001 handbook on price and volume measures in national accounts specified the quantity indices to be used: in education services, for example, the number of pupil hours was adopted as a quantity index for primary and secondary education. Once quantity units had been defined for these services, it became possible to calculate their production volume by weighting, in each case, the quantities produced by their costs.

1.4.4. The issue of quality

Application of the output method did, however, cause problems in some countries. In the United Kingdom, for example, increases in national health spending were not accompanied by an increase in production volume as measured by the output method, which translated into a decline in the productivity of the public health service. The question was therefore raised as to whether this apparent deterioration was in fact real or whether it was the result of the inadequacy of the measuring instrument. In the field of hospital care, for example, the quantity index used by Eurostat is the number of treatments provided. If the unit cost of treatments increases, this is not necessarily because the public health service has become less efficient; it may simply be that a greater number of costly treatments were dispensed. If these costly treatments were also more effective, that is, of better quality, the increase in average treatment cost is not necessarily a sign of a decrease in the productivity of the health service. This is where the problem of quality comes in: it is not enough to define quantity indices for public services; the quality of these services must also be taken into

account if changes in productivity are to be calculated accurately. The problem was, then, to find a way of measuring output that took quality into account; and the British Government commissioned Sir Tony Atkinson to resolve this problem.

The notion of quality was in fact already present in national accounting. It was linked to the need to define the homogenous product categories required to utilise the concepts of price and volume. Quality as defined in the official UN (SNA 1993) and Eurostat (SEC 1995) handbooks is directly associated with the notion of homogeneity, a category of products being homogenous if constituted by units of the same quality. In these terms, taking account of quality in calculating volume means defining classes of products narrow enough that all the products in any given class can be considered as homogenous from the point of view of their physical characteristics, place of delivery, time of delivery, and conditions of sale. Quality in this sense implies no value judgement, no ranking; at most, using prices as weights in calculating volume amounts to considering an expensive product as of better quality than a cheap one. In the case of public services, this approach consists in grouping services in categories narrow enough to be considered homogenous and using basic costs as weights.

This approach was rejected by Atkinson, largely because defining narrow categories means multiplying their number, which rapidly leads to practical difficulties in collecting quantity data and estimating unit costs.

1.4.5. The notion of outcomes

In essence, Atkinson returned to the basic aim of measuring productivity: measuring productivity means measuring the efficiency of production. In considering public services Atkinson reversed the proposition: since there is no satisfactory way of directly measuring their productivity, let us measure their efficiency and deduce their productivity from the result. The advantage of this approach was that use could be made of the numerous studies on the efficiency of the public services. To measure their efficiency, Atkinson proposed to use the notion of outcome. For example, the aim of the education services is to

improve the population's level of education, and that of the health services to increase life expectancy and improve health. But levels of education and life expectancy depend on numerous factors, and not solely on the action of the public services. And so Atkinson defined outcome as the variation in the level of education or life expectancy that could be explained by the action of the public services alone. If it is possible to define representative quantitative indices for, e.g., the level of education of the population, it is also possible, using econometric methods, to measure the impact of the public services on these indices and hence to deduce an evolution in their production volume. Following the publication of the Atkinson Report, numerous efforts were made by individual European countries and by the OECD to implement its recommendations. Eurostat followed this lead and defined three types of price and volume measures, distinguishing between A methods, considered as the most appropriate, B methods, regarded as still acceptable; and C methods, which are not acceptable. In the case of non-commercial health and education services, the methods based on Atkinson's recommendations were classed as A methods, simple output methods were classed as B methods, and input methods as C methods, that is, not acceptable.

1.4.6. The implementing new methods in the EU Member States

With a few exceptions, Eurostat gave the older Member States until the end of 2006 to eliminate non-acceptable methods (C methods), in particular input methods in the fields of health and education. To monitor and support the application of this regulation, Eurostat:

- Asked the Member States to list the methods they used to measure prices and volumes.

- Checked these lists and reported to the countries on the conformity of their methods with the new rules.

- Sent the Member States a list of questions (in 2006) to monitor the extent of compliance with the regulation.

- Conducted information missions in 7 countries (Netherlands, Belgium, Spain, Czech Republic, Finland, Germany, United Kingdom) to determine the best methods.

- Held a workshop on measuring quality in public services in November 2007, to try to harmonise the methods used across Europe.

- Organised a workshop on measuring prices and volumes in public services in March 2008 as a preliminary to drafting the new European accounting system handbook.

By 2006 it had become obvious that the use of A methods was still the exception in the field of non-commercial health and education services and that some Member States were even having difficulties in eliminating their C methods (input methods), especially in the health sector.

The information missions and the workshop on measuring quality in public services revealed that national accountants in many countries opposed the introduction of outcome-based methods for measuring production volume, for reasons both practical and theoretical.

First of all, there can be no denying that outcome methods diverge substantially from the methods used in the field of commercial goods and services. Outcome methods suppose that that the public institutions have definite objectives and seek to measure the extent to which these objectives are reached. In the business sector, national accounting never tries to determine the objectives of the various economic agents, but simply measures prices and volumes that are objectively observable by the statisticians. The need to specify the objectives pursued by the public services is weakest point of the outcome method. What, for example, is the objective of the health service? To prolong life? To fight disease? It is clearly difficult, if not impossible, to define a single objective; and once one accepts multiple objectives the problem arises, for the national accountant, of how to weight them. Should, for example, one year of good health count for more than two years of ill health? Who can legitimately answer this question? The experience of the European countries involved has shown that it is practically impossible to

reach a consensus on the question of objectives. More than that, even when it was possible to agree on an objective it was still very difficult to define a numerical indicator to measure it. Finally, outcome methods place a burden of responsibility on national accountants, because their estimates can influence important decisions even though the data on which they are based are extremely flimsy.

Nor are outcome methods the only ones that cause problems. Indeed, the chief accountants of several Member States have proposed a return to input methods. One problem with the simple output method, besides the fact that it does not always allow quality to be properly taken into account, is that of comparability on the European level, since its results depend largely on the level of aggregation of the sets of goods and services to which it is applied. This point was a particular focus of attention at the November 12-13 2007 workshop on measuring quality in non-commercial services, which found that output methods tend to converge with the input method when they are applied to increasingly narrow categories (see box).

There are two obvious conclusions to be drawn from this finding. The first is that applying the output method at a detailed level, although this is in perfect compliance with European legislation, precludes any possibility of tracing meaningful changes in the productivity of public services. The second is that, *a contrario*, the only way to trace changes in productivity using an output method is to use it at a sufficiently aggregated level. But there are two problems with this, the first having to do with the choice of aggregation criteria. Defining aggregation criteria means defining homogenous classes, that is, classes within which all basic services are equivalent. Taking the education system as an example, if we divide education into three categories, primary, secondary and tertiary, then considering primary education as a homogenous category means considering all primary schools as equivalent, whatever their costs, which means that all those with higher unit costs, such as the special schools for handicapped children, must be judged less productive than the others. But the national accountant has no objective means of deciding whether the additional resources allocated to the education of handicapped children are legitimate or not and thus whether it is acceptable to work on the basis of such a broad aggregate as primary education. The second difficulty concerns outcomes. The output method applied at an aggregated level does not show an increase in productivity when the government decides to allocate additional resources to public services to improve their quality: on the contrary, it mechanically traces a downturn.

1.4.7. Future developments

These considerations were debated at the workshop on measuring prices and volumes organised by Eurostat on 13-14 March 2008 to decide which methods should be retained in the revised European accounting system handbook. The recommendation of the representatives of the Member States was to include, on an optional basis, output methods based on outcome in the satellite accounts.

In the fields of health and education, output methods applied in sufficient detail are becoming the norm. In the health field, with its characteristically marked diversity and volatility, input methods are also accepted when output methods do not give satisfactory results. These decisions are entirely in line with the recommendations in the revised UN national accounting handbook, which stands as the reference for European accounting standards. Of course, insofar as the methods recommended converge with input methods with regard to outcome, they cannot trace meaningful changes in the productivity of the public services. But national accountants thought it was preferable to stick with tried and true methods based on sound estimates at the expense of concealing meaningful changes in productivity rather than adopt methods based on controversial conventions and shaky statistical foundations. In their view it is essential to avoid the risk of suggesting changes in productivity whose meaning is unclear, which could lead policy-makers and decision-takers astray.

The fact that outcome methods have been excluded from the heart of national accounting does not, however, mean that they have been entirely abandoned. On the contrary, the search for public service performance indicators can continue, since accepting their use in the satellite

accounts equates to removing the principal constraint on their development, namely their integration into a single composite index. The satellite accounts can accommodate non-monetary data and thus multi-dimensional performance indicators, which means that it is possible to define indicators that are capable of reflecting the different objectives of the public health and education services and therefore of giving a truer picture of a particularly complex reality.

Box II.1.1: **Convergence between output and input methods**

Theoretically, in national accounting, a given product can have only one price. In the context of non-commercial services, this implies that two services with different unit costs must be considered as different and classed in two different categories of the nomenclature used to calculate volume by the output method. Thus, all the services grouped in any single category must have the same unit cost. This can be taken a step farther, so that all non-commercial services in any given category should have the same unit input quantities, since otherwise diverging input prices would lead to different unit costs and thus to classification in different nomenclature categories.

This means that, in strict compliance with national accounting rules, a non-commercial service is categorised by the quantity structure of its inputs, and if this structure changes over time one must consider that a new product has appeared.

Assuming, for simplicity's sake, that production is the sum of intermediate consumptions and salaries, the hypothesis of the stability over time of the quantities structure of inputs implies that the value of production at current prices for all products i can be written as:

$$\sum_i IC_i^1 + \sum_i S_i^1 = \sum_i IC_i^0 . \frac{q_i^1}{q_i^0} . p_{IC} + \sum_i S_i^0 . \frac{q_i^1}{q_i^0} . p_S$$

where the exponent 0 refers to the base period and the exponent 1 to the current period, p_{IC} is the intermediate consumption index for the current period and p_S the salaries index. The input method divides intermediate consumptions and salaries by their respective price indices.

This gives a volume equal to:

$$V = \sum_i IC_i^0 . \frac{q_i^1}{q_i^0} + \sum_i S_i^0 . \frac{q_i^1}{q_i^0}$$

$$V = \sum_i (IC_i^0 + S_i^0) . \frac{q_i^1}{q_i^0} = \sum_i \frac{IC_i^0 + S_i^0}{q_i^0} . q_i^1$$

which is also the formula for calculating volume by the output method. In other words, when the output method is applied to the theoretically narrowest possible level of product nomenclature, it gives the same outcome as the input method.

This outcome can be illustrated using an example from the education sector. Let us suppose that the teachers' salaries are the only cost and that there are only two types of classes, classes of 20 pupils and classes of 25 pupils. The table below describes the situation at the base period, the quantity index being the number of pupils:

Table 1:

	Classes of 20 pupils	Classes of 25 pupils	Total
Number of classes	4	5	9
Number of pupils	80	125	205
Cost of one teacher	100	100	100
Total cost = production	400	500	900
Unit cost of one pupil	5	4	4.4

(Continued on the next page)

Box (continued)

Table 2:

	Classes of 20 pupils	Classes of 25 pupils	Total
Number of classes	5	4	9
Number of pupils	100	100	200
Cost of one teacher	110	110	110
Production at current prices	550	440	990
Production at constant prices	500	400	900
Volume growth rate	25%	-20%	0%

2. MEASURING AND ASSESSING FISCAL DEVELOPMENTS

2.1. FISCAL INDICATORS: IMPROVING THE ESTIMATION OF THE STRUCTURAL BUDGET BALANCE

With the 2005 reform of the Stability and Growth Pact (SGP) the structural budget balance has taken centre stage in the EU fiscal surveillance. All key requirements of the revised Pact are now expressed net of cyclical factors and one-off and other temporary measures ([1]).

Because of its increased prominence in the assessment of countries' fiscal positions, the structural budget balances is subject to a particularly intense scrutiny both in academic and policy circles. This increased attention has laid bare a number of limitations and methodological issues with tangible policy implications. Magnified by recent developments, two issues have received particular attention: (i) the uncertainty attached to the assessment of cyclical conditions in real time and (ii) significant short-term fluctuations in the tax content of economic growth. A detailed review of the recent experience with the use of the structural budget balance in the EU fiscal framework was included in the 2007 edition of the Public Finances in EMU report.

Following up on this, the present section outlines ways to better cope with the two limitations of the structural budget balances mentioned above. The first subsection takes a closer look on how to reduce the degree of uncertainty attached to real-time estimates of the output gap by making use of additional economic indicators which are less prone to revisions. The second subsection explores a method for tracking and explaining year-on-year changes in the yield of the tax system ([2]).

The overall aim of this discussion is to eventually adapt the current method for the calculation of the structural budget balance, after consultation and agreement with the MS, so as to improve its effectiveness in the EU fiscal framework.

2.1.1. Improving the assessment of the output gap in real time

In the EU fiscal surveillance framework, the cyclical component of the budget is obtained by applying an aggregate budgetary sensitivity to estimates of the output gap (see Box II.2.1 for the details of the method). This approach is well established in the literature and puts into practice the understanding that output fluctuations affect the budget balance and may obscure the view on what is generally called the underlying budget balance, i.e. the budget balance that would prevail if output was at its potential level.

The main downside of output gap estimates is their considerable degree of uncertainty. This uncertainty has direct implications regarding the assessment of the cyclically adjusted balance (CAB) in real time . In practice, measures of the output gap available in real time may differ significantly from those constructed with the same method on the basis of data published years later. Such revisions mainly reflect the uncertainty inherent to forecasts: in order to assess the current position in the cycle one inevitably has to make an assumption of where the economy is expected to be in the future. As forecasts are revised, they also affect the current assessment of the cyclical position.

From the viewpoint of fiscal policy making and surveillance, the uncertainty surrounding output gap estimates is a serious issue ([3]). It can give rise to a distorted diagnosis and, in turn, to an inappropriate policy response. A relatively recent and particularly evident case in point, reviewed in more detail in the 2007 issue of this report, were the late 1990s, when available data and

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([1]) This is the case for the Member States' medium-term budgetary objective (MTO), the annual required budgetary adjustment for countries that have not reached their MTO yet as well as the fiscal adjustment required to correct an excessive deficit. A detailed review of the revised Pact and the role played therein by the structural budget balance can be found in European Commission (2006a).

([2]) The options sketched out in both subsections are currently being discussed and assessed in the competent

working group of the Economic Policy Committee, the Output Gap Working Group.

([3]) See Langedijk and Larch (2007) for an assessment of the sensitivity of the EU fiscal framework to variations in output gap estimates.

prevailing forecasts led to believe that the economies of most euro area countries were operating slightly below potential. With the benefit of hindsight, the output gap in the years 1999-2000 turned out to be abundantly positive and the fiscal stance too lax.

The way forward

A way forward to address the uncertainty attached to real-time output gap estimates is to broaden the assessment of cyclical conditions with a battery of complementary real-time indicators that can reflect cyclical developments. This would be in line with the provisions of the Code of Conduct according to which "*the identification of periods of economic 'good' times should be made after an overall economic assessment*" ([1]). The number of potential candidates for complementary indicators is very large. In principle, all macroeconomic variables and survey indicators that are expected to reflect or mimic cyclical developments can be of use, for instance the rate of inflation, changes in the rate of unemployment, interest rates, real exchange rates, the current account balance or the rate of capacity utilisation. A first attempt to bring on board complementary indicators was made in the 2006/07 assessment round of the stability and convergence programmes. The approach was purely descriptive and judgemental in nature ([2]).

With a view to making the assessment more systematic two different quantitative methods have been tried out. The first method applies a forecast approach recently developed by Stock and Watson (2002) and makes use of a battery of indicators to forecast the output gap using principal components analysis. This approach is purely agnostic from an economic viewpoint in

the sense that it does not require any *a priori* as regards the link between the indicators selected and the cyclical conditions ([3]). It is organised in two steps: The principal components are first calculated using the battery of complementary indicators and selected using statistical criteria; these components are then used to forecast the output gap using an ordinary least square regression.

The second approach to take into account complementary indicators is an extension of the current version of the commonly agreed production function method for calculating potential output and the output gap currently used in the EU fiscal surveillance framework, in order to incorporate the degree of utilization capacity of labour and capital.

One of the major difficulties in the commonly agreed method is to correctly identify total factor productivity (TFP), which generally represents the largest part of GDP growth. Currently, this is achieved by resorting to the simplifying assumption that the existing stocks of capital and labour are always fully utilised across different phases of the cycle. The price paid for the simplification is straightforward. To the extent that the degree of capacity utilisation increases during upswings and decreases in downswings, TFP may be over- or underestimated, which in turn may affect the accuracy of the output gap estimate in real time.

One way to overcome the problem is to relax the simplifying assumption about the constant degree of utilisation of capital and labour and to make use of available survey data on the rate of capacity utilisation and to embed it into the commonly agreed model, so as to track the

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([1]) The revised 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) was endorsed by the Council in September 2005.

([2]) Commission services' economic assessment of the 2006/07 vintage include short paragraphs comparing output gap estimates with the indications emerging from complementary indicators. The assessments can be found at:
http://ec.europa.eu/economy_finance/netstartsearch/pdfsearch/pdf.cfm?mode=_m2

([3]) The technical details of how forecasts are made based on Stock and Watson (2002) approach are explained in Annex II. The properties of this forecasting procedure are based on the fact that the information potentially available in a large number of variables over long time spans provides valuable statistical information that can be exploited for forecasting purposes without imposing any *a priori* restriction on the links among these variables and the variable to be forecast.

In the framework of the EU budgetary surveillance the cyclically-adjusted budget balance (CAB) is derived by subtracting the temporary component of the budget balance from the overall nominal figure:

$$CAB_t = b_t - \varepsilon \cdot OG_t \qquad (1)$$

where b_t is the nominal budget balance-to-GDP ratio in year t, ε the budgetary sensitivity parameter and OG_t the output gap in year t. The output gap is derived from a production function method endorsed by the Council in July 2002. A detailed description of the method can be found in Denis et al. (2006). The overall sensitivity parameter ε is obtained by aggregating the elasticities of individual budgetary items estimated on the basis of the methodology developed by the OECD and agreed by the Output Gap Working Group of the Economic Policy Committee (OGWG) [1]. The individual revenue elasticities, $\eta_{R,i}$, are aggregated to an overall revenue elasticity η_R using the share of each in the total current taxes (R_i / R) as weight: [2]

$$\eta_R = \sum_{i=1}^{4} \eta_{R,i} \frac{R_i}{R}. \qquad (2)$$

As for the expenditure elasticity, η_G, it can be expressed as

$$\eta_G = \eta_{G,U} \frac{G_U}{G} \qquad (3)$$

where $\eta_{G,U}$ is the elasticity of unemployment-related expenditures, again estimated on the basis of the agreed OECD methodology, and G_U / G is the share of unemployment related expenditure in total current primary expenditure [3].

The empirical estimates of the individual tax and expenditure elasticities for all EU Member States are reported in Table 1 together with the overall tax and expenditure elasticities. The weights used to aggregate the elasticities of the individual tax categories are shown in Table 3.

As budgetary variables are generally expressed in percent of GDP, the revenue and expenditure elasticities η_R and η_G (which measure the change in the *level* of a budgetary item with respect to the output gap) are transformed into sensitivity parameters as follows:

$$\varepsilon_R = \eta_R \frac{R}{Y}, \quad \varepsilon_G = \eta_G \frac{G}{Y}, \qquad (4)$$

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[1] The OECD method for estimating budgetary elasticities is described in detail in Girouard, N. and C. André (2005).

[2] The weights are computed by the Commission services as an average over recent years. The period over which the average is computed for the new and updated values of the budgetary elasticities is 1995-2004 (or 1995-2003 in case 2004 was not available)

[3] The share is computed by the Commission services using OECD data or data from national source for non-OECD countries. The reference year is 2003 (2002 if not available).

where *R/Y* is the share of current taxes in GDP and *G/Y* is the share of primary current expenditure on GDP. ([1]) The difference $\varepsilon_R - \varepsilon_G$ yields the sensitivity parameter of the overall budget balance ε used in equation (1).

([1]) Both weights are computed by the Commission services using 2003 as the reference year.

variations in the use of the existing capital stock during up- and downswings periods ([1]).

Both methods − the principal components approach and the extended production function − have their pros and cons. The clear advantage of the extended production function method is that it stays within the commonly agreed method for calculating potential output and the output gap in the EU fiscal framework. The inclusion of the rate of capacity utilisation does not alter the overall philosophy of the agreed approach, which, due to its formal status, plays a pivotal role in the implementation of the SGP ([2]). The downside of the extended production function approach is equally clear. On top of the rate of capacity utilisation there may be other data available in real time (e.g. current account balance, asset price developments) that encapsulate useful information about the economy's position in the cycle. Such additional variables do not fit into the commonly agreed method, however. By contrast, they can be included in the principal components approach. Indeed, the agnostic feature of the principal components analysis does not set any limits to the type and number of variable to be used. But the potentially all-embracing nature of this latter approach comes at a price: the results of the principal components are rather opaque in the sense that it is difficult to pull out an economic story of which variables actually account for the predicted position in the cycle. This method also

relies on the availability of a large number of complementary indicators over long time spans which, for instance in the case of the recently acceded Member States, poses a problem.

A numerical simulation

In order to evaluate the relative merits of the two approaches in practice, a simulation for twelve EU countries was carried out covering the years 2000-2006 ([3]). The objective of the simulation is to find out whether the two methods described above improve the assessment of the cycle in real time compared to the commonly agreed method currently applied in the EU fiscal surveillance framework. To this end the simulation replicates a typical assessment situation in the EU surveillance framework; i.e. only data available at the moment of the Commission services' assessment of the stability and convergence programmes are used ([4]). The latter is ensured by using successive vintages of the Commission services' autumn forecasts available at a given year *t*. The benchmark for the 'true' output gap is the one estimated with the production function approach on the basis of the latest available information (i.e. at the time the present report was written), the Commission services' 2008 spring forecasts − henceforth *ex-post* output gap. The accuracy is assessed by means of graphs comparing the alternative real-time estimates and a basic statistical analysis. In view of the limited

([1]) The technical details of the augmented production function approach are provided in Annex II.
([2]) In July 2002 the Council endorsed the production function approach as the reference method for the calculation of potential output and the output gap in the EU fiscal surveillance framework.

([3]) The twelve countries are BE, DE, DK, GR, ES, FI, FR, IE, IT, NL, PT, UK were selected on the basis of the data availability of the rate of capacity utilisation variable. The first year available is 2000 since this year also corresponds to the oldest vintage of real-time estimates based on the commonly agreed production function approach.
([4]) The simulation design is detailed in Annex II.

Table II.2.1

Accuracy statistics of real time output gap estimates for 2000-2006. Benchmark: Commission services' spring 2008 forecast

	Commonly agreed production function approach		Commonly agreed production function approach incorporating the capacity utilisation		Complementary indicators, principal component	
	MAE	*ME*	*MAE*	*ME*	*MAE*	*ME*
Belgium	0.67	-0.67	0.85	0.85	**0.55**	**-0.47**
Germany	0.87	-0.47	**0.69**	**0.21**	1.01	-0.53
Denmark	0.86	**-0.35**	**0.81**	-0.73	0.83	-0.37
Greece	0.93	0.93	1.42	0.94	**0.79**	**0.74**
Spain	1.17	-1.00	1.49	-1.49	**1.03**	**-0.86**
Finland	**0.46**	**0.19**	**0.46**	**0.19**	0.88	0.59
France	0.86	-0.86	**0.23**	**0.08**	0.70	-0.70
Ireland	**1.48**	-0.95	4.17	-4.17	1.48	**-0.74**
Italy	1.43	-1.43	**0.76**	**0.57**	1.27	-1.27
Netherlands	**0.71**	-0.66	**0.71**	**-0.15**	0.79	-0.76
Portugal	**1.52**	**-1.52**	1.63	-1.60	1.71	-1.71
UK	**0.76**	**-0.76**	1.62	-1.62	0.84	-0.84

Notes: ME=Mean error; MAE = Mean absolute error. The benchmark output gap series is the one based on the Commission services' spring 2008 forecast. Figures in bold correspond to the best performing forecast.
Source: Commission services.

sample length the statistical quality of the accuracy analysis is likely to be relatively poor. Nevertheless, the comparison of alternative estimates provides useful insights, especially for years when the commonly agreed method proved to be wide off the mark, for instance in the year 2000 and 2001. Table II.2.1 provides two measures of the accuracy of the real-time output gap forecasts, namely the Mean Error (ME) and Mean Absolute Error (MAE) for the three alternative methods: the commonly agreed production function approach, the commonly agreed production function approach incorporating the capacity utilisation and the method based on the principal components approach ([1]).

Table II.2.1 shows that using methods other than the commonly agreed production function provides additional useful information, although it must be said that no method clearly outperforms. On average, the extended production function approach including the capacity utilisation gets the best scores, while the principal components tends to do a better job in certain cases although this depends on the statistical criteria used. Generally speaking, the use of complementary indicators tends to

improve the forecast of the output gap for a number of countries. When using the MAE criteria, the incorporation of the capacity utilisation improves the real-time estimates for Germany, Denmark, France, Italy, the Netherlands and Finland. For the latter two countries, however, the current production function is equally performant. In addition, the current production function approach yields the best results for Portugal, Ireland and the UK. The use of the principal components approach improves the real-time estimates for Belgium, Greece and Spain. The same proportions roughly applies when using the ME criteria instead, although the countries' grouping changes slightly.

The values of the ME statistic show that in a majority of cases the production function approach incorporating the rate of capacity utilisation yields real-time output gap estimates which are larger than the real-time estimates based both on the commonly agreed method and the principal components approach over the period considered (2000-2006). For the EU fiscal surveillance, this would imply an additional margin of caution in order to take into account the uncertainty attached to the assessment of the cyclical component of the cyclically-adjusted balance.

The relative merits of each method may vary depending on the country considered. As mentioned above, the real-time output gap estimates differed substantially from the ex-post

[1] The ME measures the mean of the difference between the output gap estimates using the three different approaches and the ex-post estimates taken from the Commission services' spring 2008 forecasts for the period 2000-2006. The MAE takes the mean of the absolute values of the differences instead.

values observed in the early 2000s. A comparison of the three methods for countries where forecast errors during these years turned out to be particularly large can be particularly useful. Three countries, namely the Netherlands, Italy and Greece were selected on the basis of the average forecast errors for the years 2000 and 2001. Results are reported in Graph II.2.1 to Graph II.2.3.

Graph II.2.1: **Assessment of cyclical conditions using alternative methods: Netherlands, 2000-2006**

Output gap, expost
Principal components, realtime
Poduction function approach, realtime
Extended production function approach, realtime

Source: Commission services
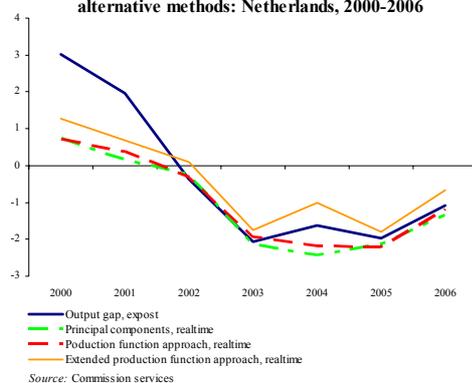
Graph II.2.1 shows that, in the case of the Netherlands, the extension of the production function approach to account for the capacity utilisation overall provides better predictions compared to the two other methods. This result is in line with the general comparison made in Table II.2.1.

Graph II.2.2 shows that in the case of Italy the most accurate method is always the extended production function approach although the degree of this accuracy depends on the year considered. At the beginning of the period, when the real-time estimates derived from the production function approach appeared to differ greatly from the ex-post output gap, the extended production function approach using the capacity utilisation yielded clearly better predictions. However, from 2003 on, the predictions using the three alternative methods tend to depart from the ex-post figures. The extended production function approach also provides larger output gap prediction compared to the two other alternative prediction methods. The larger gap at the end of the sample period may simply be an indication that estimates for recent years obtained from the 'traditional' production

function approach may underestimate the output gap.

Graph II.2.2: **Assessment of cyclical conditions using alternative methods: Italy, 2000-2006**

Output gap, expost
Principal components, realtime
Poduction function approach, realtime
Extended production function approach, realtime

Source: Commission services.
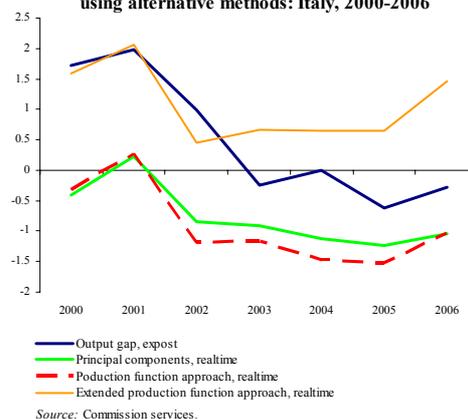
Graph II.2.3 concerning Greece provides an alternative case. Here the use of the principal components approach seems overall to provide a better fit for the output gap estimate although, as for the case previously considered, at the end of the period, the predictions obtained with the extended production function approach tend to diverge from the ex-post figures.

Graph II.2.3: **Assessment of cyclical conditions using alternative methods: Greece, 2000-2006**

Output gap, expost
Principal components, realtime
Poduction function approach, realtime
Extended production function approach, realtime

Source: Commission services
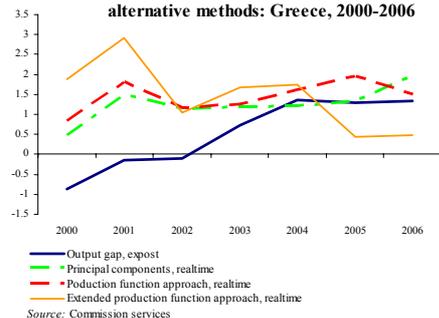
Overall, while some caution should be applied when assessing output gap estimates in real time, past experience has overall proved their usefulness for assessing the underlying fiscal positions of EU Member States. The inherent uncertainty attached to real-time output gap estimates can be reduced by broadening the set of indicators used to assess cyclical conditions although the main analytical tool remains the production function approach. The evidence provided here shows that the extended

production function approach accounting for the rate of capacity utilisation provides interesting and potentially useful results. The consistency of these results will need to be checked as more data become available.

Further caution is warranted as for the most recent years in our simulation, 2005 and 2006, the ex-post output gap estimates may not be a particularly good point of reference for assessing alternative estimates as they may still be subject to revisions once actual data become available.

Finally, alternative methods such as the principal components approach making use of a broader battery of business cycle indicators provide useful alternative that, in some cases, can improve the assessment of the business cycle conditions and, by the same token, usefully complement the production function approach. Additional tests and the inclusion of more variables may also help further improve the use of complementary indicators for the assessment of cyclical conditions in real time.

2.1.2. Tracking short-term tax elasticities

The other weakness of the cyclical adjustment method used in the EU fiscal surveillance framework is the assumption of constant tax elasticities. As explained in Box II.2.1 the link between the cyclical component of GDP and the budget is taken to be invariant over time. This simplification can be justified by the forward-looking nature of the EU fiscal surveillance exercise: the best predictor for tax elasticities in future years is the average of the past.

Constant tax elasticities are an acceptable approximation as long as short-term variations in the tax content of economic growth remain small. In that case, the advantages in terms of methodological simplicity clearly outweigh the costs of additional precision. However, past experience has shown that in some years tax elasticities can depart quit substantially from their 'normal values' and produce unwelcome effects on the making and surveillance of fiscal policy. For instance, the economic boom at the end of the 1990s went along with considerable revenue windfalls, which lead fiscal policy markers to believe that there was room for tax cuts and/or expenditure increases. The

implications of such an assessment became clear during the economic slowdown after the bursting of the ITC bubble in 2001 when tax elasticities bounced back from the high levels reached in the preceding boom. Tax cuts and expenditure increases turned out to be unsustainable and heavily weighed on the possibility to stabilise output through fiscal policy. A number of euro area countries, such as the Netherlands and France, were obliged to tighten their fiscal regimes during the slowdown.

As mentioned in Section I.1, current developments carry a resemblance to those in the previous cycle. In 2006-07, tax elasticities again surged above 'normal levels' especially thanks to the buoyancy of corporate taxes. These additional revenues were at least in part used to finance higher expenditure or tax cuts.

To improve the measurement of tax elasticities in the EU fiscal framework and in turn to enhance the appraisal of the structural budget balance, two separate questions need to be addressed. Firstly, what drives the year-to-year fluctuations of tax elasticities. Secondly, how big or important are changes in the tax content of growth for the assessment of the underlying budget balance?

Identifying the sources of year-to-year variations in the elasticity of total current taxes

The assessment of tax elasticities proceeds in two steps. The first is to estimate models that describe the behaviour of taxes as a function of a number of economic factors. The second step is to explain past and current behaviour of tax revenues on the basis of the estimated models.

As regards the modelling, we build upon an approach established in the literature. Tax elasticities are derived from econometric regressions where annual tax data is linked to measures of economic activity and a series of other variables that are expected to affect the level of taxation (see for instance Wolswijk, 2007).

Graph II.2.4: **Sources of variations in tax elasticities:**
Germany

Scale for slope-dummies | Scale for elasticities

Consumption (lhs) — Acceleration (lhs) — Residential (lhs)
Inflation (lhs) — simulated (rhs) — effective (rhs)
OECD (rhs)
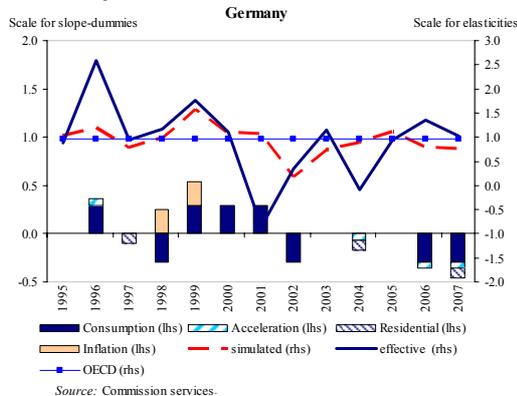
Source: Commission services.

Graph II.2.6: **Sources of variations in tax elasticities:**
Italy

Scale for slope-dummies | Scale for elasticities

Wage(-1) (lhs) — Consumption (lhs) — Acceleration (lhs)
Reer (lhs) — Equity(-1) (lhs) — Inflation (lhs)
simulated (rhs) — effective (rhs) — OECD (rhs)
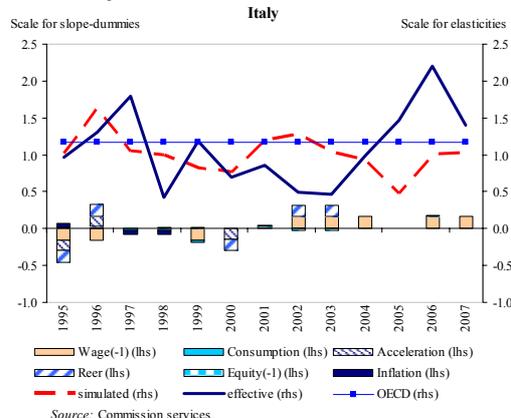
Source: Commission services.

Graph II.2.5: **Sources of variations in tax elasticities:**
France

Scale for slope-dummies | Scale for elasticities

Wage(-1) (lhs) — Consumption (lhs) — Acceleration (lhs)
Tradebalance (lhs) — Equity (lhs) — simulated (rhs)
effective (rhs) — corrected (rhs) — OECD (rhs)
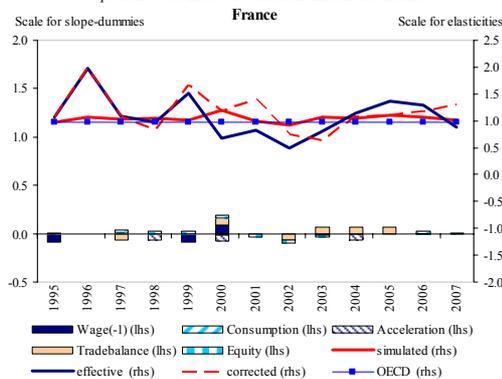
Source: Commission services.

To stay within space limits the presentation is restricted to four particularly interesting cases: Germany, France, Italy and the United Kingdom. The intention is not to single out specific countries; rather we want to discuss particularly illustrative examples of how our approach works in practice.

The specificity of the model is that it explicitly allows for composition effects which lead to a higher or lower-than-normal tax-to-GDP ratio, including changes in asset prices ([1]). A detailed presentation of the approach followed is provided in Annex II. The attention is focused on the main results which are condensed in Graph II.2.4 to Graph II.2.7 ([2]).

Graph II.2.7: **Sources of variations in tax elasticities:**
United Kingdom

Scale for dummies | Scale for elasticities

Wage (lhs) — Consumption (lhs) — Residential(-1) (lhs)
Acceleration (lhs) — Oil price (lhs) — simulated (rhs)
effective (rhs) — OECD (rhs)

Source: Commission services.

Each of the four graphs has two parts. The upper part sets out the constant tax-to-GDP elasticity utilised in the EU fiscal surveillance framework (derived from the commonly agreed OECD methodology) against the time-varying elasticity obtained from our regression analysis. For comparison, it also shows the apparent elasticity obtained as the relative change of total taxes over the relative change of nominal GDP ([3]). The bars

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([1]) The asset price data used in our analysis was kindly made available by the Bank of International Settlements. A detailed description of the data can be found in Borio et al. (1994).

([2]) As indicated in Annex II, the analysis is limited to the EU-15 countries, excluding Luxembourg, given the short-time series available for this country.

([3]) The difference between the tax elasticities derived from our model and the observed one can be quite big and can reflect at least three different elements: (i) the effect of discretionary fiscal policy; (i) other explanatory factors

shown in the lower part of the graph indicate the sources of the year-to-year variations of the simulated tax-to-GDP elasticity.

The story encapsulated in the graphs is best understood by looking at specific episodes of large fluctuations. A recent episode deserving close attention regards the late 1990s when a number of EU countries benefited from significant revenue windfalls. Prominent cases in point are Germany, France and the United Kingdom. As can be seen from the respective figures, the simulated tax elasticity went significantly above the average estimate derived from the commonly agreed OECD method.

- In *Germany*, the model attributes the temporary rise in the yield of the tax system mainly to a higher-than-normal consumption content of economic growth. For three consecutive years − 1999, 2000 and 2001 − private consumption grew at a rate of well above 3% per year, 1 percentage point more than nominal GDP. The respective windfalls were largely spent by cutting taxes in 2001, when the simulated elasticity had returned to 'normal levels'. In 2002, private consumption weakened significantly vis-à-vis GDP and heightened the shortfall of government revenues during the downturn following the burst of the ITC bubble in 2001.

- In *France*, the revenues windfall recorded at the end of the 1990s and the beginning of the 2000s is the combined effect of a number of factors. According to our model, a part is explained by a significant deterioration of the trade balance. This shift towards more imports has boosted revenues. The other driver of revenue windfall was an increase in the labour share in income. Equity prices also contributed to the higher-than-normal tax-to-GDP elasticity but to a lesser extent. As in Germany, the revenue windfalls were used to cut taxes in 2000 and 2001 right at the peak

of the ITC boom. Since France is one of the few countries that provide estimates of discretionary measures, we were in the position to calculate the elasticity net of such interventions. The corresponding result is given by the dashed line in Graph II.2.5. It shows that the decision to spend the extra revenues gave rise to a significant decline in the tax content of GDP when the cycle started to deteriorate. It shows the substantial role of discretionary measures in the evolution of the apparent aggregate elasticity.

- Turning to the *United Kingdom*, the temporary rise in the yield of the tax system was the combined effect of a higher-than-normal wage share and the strong increase in oil prices. Both factors pushed the elasticity of current taxes with respect to GDP well above normal levels around 2000. The elasticity dropped in the early 2000s as the difference between wage and GDP growth narrowed again, oil prices stabilised or declined from previous highs and consumption declined significantly in percent of GDP.

- The second episode of interest relates to recent years (in particular 2005-2006), when tax-elasticities once more overshot 'normal' levels producing sizeable revenue windfalls, though the model fails to fully explain why this is the case (except in Italy where it is partly attributed to higher wage share).

This type of econometric analysis is *per se* useful as it can provide an explanation of the variations in short-term tax elasticities. It notably underlines the role played by composition effects and by tax bases not traditionally considered in the analysis, such as assets prices. It however suffers from several drawbacks.

The absence of tax series netted of discretionary measures, the size of which can be large, limits the reliability of the estimations ([1]). Moreover, an econometric approach on relatively short time

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not included in the tax model; (iii) the time-varying elements are modelled as dummies and hence capture only the average effect of the explanatory variables on total taxes. Among the three elements (i) is the generally the dominant one. In theory, the effects of discretionary fiscal policy should be netted out. This option is not available in practice because of the lack of data.

([1]) For example, econometric analysis would fail to identify the causes of 'natural' variations in tax elasticity in a country where tax windfalls/shortfalls are systematically compensated by discretionary tax cuts/hikes.

series (a few decades of yearly data) is unable to identify in a robust way all the drivers that can affect taxes. More crucially, while the approach can provide an explanation for the change in the aggregate tax elasticity, it cannot say anything about the temporary or structural nature of tax windfalls/shortfalls. For example, rises in assets prices, shifts in the wage share or the deterioration of the trade balance may explain the buoyancy of tax revenues but, in absence of a model of the equilibrium level of asset prices, the wage share or the trade balance, it cannot be determined whether the increase in the revenue share is purely temporary or permanent.

Gauging the size of composition effects

In order to gauge more precisely the importance of composition effects on tax revenue as well as to estimate whether those effects are of a temporary nature or not, it is necessary to analyse the behaviour of individual tax bases. A more disaggregated approach takes into account the fact that individual tax bases, such as household consumption, wages and profits follow a different pattern compared to overall GDP. If all tax bases were fully synchronised with the aggregate level of economic activity, composition effects would not play any role. Two methods are used to assess the size of the composition effects.

Method 1: To this end, we apply first a variant of the disaggregated approach developed and used by the European System of Central Banks (ESCB), on the revenue side of the general government ([1]). Tax revenues are broken down into four categories (indirect taxes, personal income taxes, corporate income taxes and social security contributions) and linked to their corresponding tax bases or approximations of them (household consumption, gross operating surplus and wages). The temporary component of tax revenues is calculated on the basis of the standard elasticity of each tax category vis-à-vis its tax base and the deviation of the tax base relative to its trend ([2]). In absence of a theory of

the structural level of the wage share and the consumption share in GDP consistent with the production function, the trend for each tax base is extracted by means of the Hodrick-Prescott (HP) filter (see Box II.2.2 for more details).

This approach allows calculating directly an alternative cyclically-adjusted balance in levels by subtracting the temporary component from the actual yield of each tax category. The difference between the traditional CAB and this alternative calculation provides a proxy of the impact of composition effects. Yet, the equilibrium level of the tax bases is determined statistically and independently from the equilibrium level of GDP measured in the production function ([3]).

Method 2: To circumvent the issue of the link between the appropriate equilibrium level of GDP and of tax bases, we also calculate the change in tax revenues that would result if the tax intensity (i.e., the ratio of the tax revenues to the tax bases) of each tax base presented the same values as in the previous year and if the only change related to the composition of GDP.

This provides directly a measure of the composition effect of the change in the CAB, which does not require a measure of the equilibrium level of the tax bases. Since there is no estimated structural level of the tax bases, this approach cannot discriminate between a structural and a temporary decrease in the wage share or in the consumption-to-GDP ratio. Therefore, the second method can provide an estimation of the composition effect on the *fiscal stance* (y-o-y difference in the CAB) but not on the cyclically-adjusted balance *in level*.

Graphs II.2.8 to II.2.12 show the size of the composition effects on the fiscal stance, according to the two methods, for five EU countries: DE, FR, IT, UK and the NL over the period 1996-2007. A positive (negative) difference indicates that composition effects tend to improve (deteriorate) tax revenue and the

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([1]) For a detailed description of the method see Bouthevillan et al. (2001).
([2]) To limit the differences with the traditional approach, we use the same decomposition of taxes, the same tax bases and the same elasticity of taxes vis-à-vis the tax base

used in the commonly agreed methodology to calculate the CAB. The only difference relates to the different tax bases which are no longer synchronized with GDP.
([3]) Note this would also be the case if the equilibrium level of GDP was determined by a HP filter.

budget balance. Despite the difference in the two approaches, the estimated composition effects points have the same sign in 80% of the cases. Both simulations show that composition effects may be significant: on average ¼ pp of GDP every year in absolute terms over the considered sample ([1]). Moreover, composition effects also tend to be of the same sign over several years in a row; the cumulative impact over a few years may therefore be even more significant.

In most countries, composition effects contributed strongly and positively at the turn of the century (1999-2001). This was in particular due to the increase in the wage share, as productivity usually slows down after a peak in activity and wages do not follow immediately change in productivity (wage rigidity). Conversely, composition effects tended to be rather negative over the period 2002-2006, reflecting a decline in the wage share and a corresponding rise of the gross operating surplus. The qualitative results are somewhat different in Italy than in the other four countries, reflecting a different pattern in the wage share, which tended to peak in 2005 and 2006.

Graph II.2.9: **Impact of composition effects on the change in the budget balance in Italy, 1996-2007**
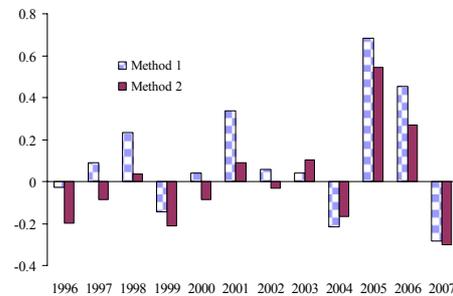
Source : Commission services.

The practical lesson to be learned from this exercise is quite evident. In the late 1990s and early 2000s, taking into account composition effects would have shown significantly lower improvements in the structural budget balances and in turn given rise to more cautious policy conclusions than the traditional CAB.

Graph II.2.8: **Impact of composition effects on the change in the budget balance in Germany, 1996-2007**

Source: Commission services.

([1]) The estimation of the composition effects relies crucially on the tax intensity of the different tax bases (i.e. ratio of taxes to the tax base). The definition of the tax base therefore plays an important role. For example personal income tax is assumed, in the commonly agreed methodology, to be fully paid on wages, which probably underestimate the tax base and therefore overestimate the average tax rate paid on wages. Therefore the two methods may over-estimate the budgetary impact of shifts in the wage share. The same assumption was retained here, however, in order to limit the source of differences with the commonly agreed methodology.

Graph II.2.10: **Impact of composition effects on the change in the budget balance in France, 1996-2007**
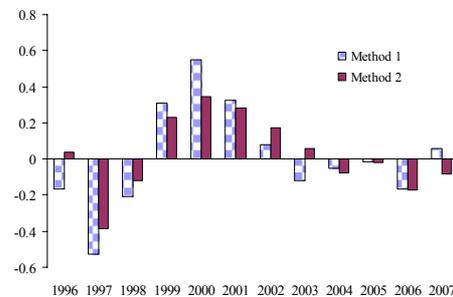
Source: Commission services.

Graph II.2.11: **Impact of composition effects on the change in the budget balance in the Netherlands, 1996-2007**
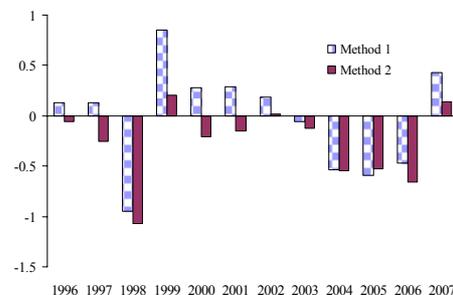
Source: Commission services.

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Box II.2.2: Gauging the size of composition effects

The commonly agreed methodology for the calculation of the cyclically-adjusted budget balance assumes that the fluctuations of the different tax bases (wages, gross operating surplus and consumption) around their structural level follow the same cycle as output. The amplitude of the fluctuations is different across tax bases as it depends on the variation of the tax base vis-à-vis GDP (e.g. wages are more stable than the gross operating surplus) but the fluctuations of the tax bases are assumed to be fully synchronised. The amount of 'cyclical' taxes is therefore directly proportional to the output gap:

$$\frac{Taxes-Taxes^*}{GDP} = \sum_{i=1}^{4} \frac{Tax_i}{GDP} \times \underbrace{\eta_{tax_i / taxbase_i}}_{(A)} \times \underbrace{\eta_{taxbase_i / gdp_i}}_{(B)} \times OG \qquad (1)$$

Where the asterisk denotes the structural level of taxes, OG stands for the output gap and η is an elasticity.

Table 1:
Commonly agreed assumptions to calculate CABs

	Tax	Tax base	Elasticity of taxes vis-à-vis the tax base (A)	Elasticity of the tax base vis-à-vis the output gap (B)
1	Indirect taxes	Consumption	1	1
2	Corporate income taxes	Gross operating surplus	1	
3	Personal income taxes	Wages	Tax code	Estimated econometrically
4	Social security contributions	Wages	Tax code	

Source: OECD 2005

In practice, however, the different tax bases are not fully synchronised. Composition effects will have a budgetary impact as soon as the tax intensities of the various tax bases in GDP are different. In order to gauge the effect of the composition of tax bases, two alternative simulations are made.

Method 1: The elasticity of the tax vis-à-vis the tax base (A) is the same as in the commonly agreed methodology but the traditional cycle derived from the output gap and the elasticity of the tax base vis-à-vis the output gap is replaced by a 'tax base gap' determined with a HP filter for each tax.

$$\frac{Taxes-Taxes^*}{GDP} = \sum_{i=1}^{4} \frac{Tax_i}{GDP} \times \underbrace{\eta_{tax_i / taxbase_i}}_{(A)} \times \frac{TaxBase_i - TaxBase_i^{HP}}{TaxBase_i^{HP}} \qquad (2)$$

This enables to calculate an alternative CAB; the difference of this alternative CAB and the usual CAB approximates the impact of changes in the composition of GDP. Importantly, the three different tax bases are deflated by the same price (GDP deflator), so as to take into account different price dynamics across GDP components. For example, in case of a deterioration of the terms of trade, consumption prices will increase more than GDP prices, leading to an increase in indirect taxes as a share of GDP, if the share of consumption in GDP remains unaffected by the shock.

Method 2: The change in the tax-to-GDP ratio under the assumption that the ratio of every tax to its tax base had remained constant at the level observed the year before, is a direct measure of composition effects: $\sum_{i=1}^{4} \left(\frac{\Delta Taxbase_i}{Taxbase_i} - \frac{\Delta GDP}{GDP} \right) \times \frac{Tax_i(-1)}{GDP(-1)}$.

The first simulation calculates directly a CAB in levels as there is an estimation of the structural level of each tax base. Yet, in absence of a theory of the structural level of the wage share and the consumption share in GDP that is consistent with the production function approach, the first simulation uses a HP filter to estimate the structural level of the tax base. The second simulation avoids the issue of determining the structural level of the tax bases but it cannot discriminate between a structural and a temporary decrease in the wage share or in the consumption-to-GDP ratio. Therefore, the second simulation can only provide an estimation of the composition effect on the change in the CABs but not on the cyclically-adjusted balance *in levels*.

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Graph II.2.12: **Impact of composition effects on the change in the budget balance in the United Kingdom, 1996-2007**
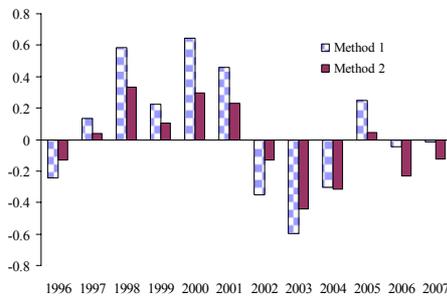
Source: Commission services.

Conclusions

Composition effects turn out be of non-negligible size in the EU. Tracking composition effects may therefore help understanding the evolution of overall taxes on a yearly basis.

Yet, in the budgetary surveillance process, the cyclically-adjusted balance is used not only in terms of change, e.g. in relation to the 0.5% of GDP benchmark for the annual progress towards the MTO, but also directly in terms of level to assess the structural budgetary position vis-à-vis the MTO or to project the budget balance over the long term in the sustainability analysis. To account for composition effects in budgetary surveillance, an estimate of the structural level of each of the relevant tax bases would be needed, consistent with the estimate of the structural level of output.

The approach to estimating structural revenues presented above is purely statistical and therefore does not (cannot) incorporate the relevant information contained in the production function, such as the trends in productivity gains, the evolution of the NAWRU or of the labour supply. Complementing the production function with a structural wage share or the structural GDP share of consumption is beyond the scope of the present exercise. For instance, several factors play a priori a role in determining the wage share such as the evolution of energy prices, the competition level in products markets, the interest rate or the capital intensity of the

different sectors of the economy ([1]). It implies not only identifying the drivers of the wage share and but also modifying accordingly the production function used to estimate potential GDP given that the Cobb-Douglas function explicitly assumes a constant wage share. Substantial changes would be needed to go towards a more disaggregated approach; yet, it is not clear that the identification of structural breaks in the wage share or the consumption share to GDP would be any easier or less controversial than identifying structural breaks in the yield of the tax systems, notably in real times.

2.2. MEDIUM-TERM BUDGETARY OBJECTIVES AND IMPLICIT LIABILITIES: A NEW SYNTHESIS

2.2.1. Background

The Stability and Growth Pact (SGP), enacted in 1997, enjoined Member States to respect the medium-term budgetary objective of positions close to balance or in surplus. The reform of the SGP in 2005 foresaw that this uniform objective should become country-specific, so as to account for the diversity of economic and budgetary positions and developments as well as the diversity of risks to the sustainability of public finances. In the revised SGP, ([2]) Member States are required to achieve medium-term budgetary objectives (MTOs) that pursue a triple aim: (i) provide a safety margin with respect to the 3%-of-GDP deficit limit of the Treaty; (ii) ensure rapid progress towards sustainability; and (iii) given the above, allow room for budgetary manoeuvre. The MTOs are defined in structural

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([1]) An increase in energy prices increases the wage share if producers do not fully compensate increase in production costs. This is expected to be the case at least over the short term. An increase in the competition in products markets decrease the mark-up and therefore increase the wage share. An increase in interest rate increases the cost of capital and therefore reduces the wage share.

([2]) Council Regulation (EC) N°1466/97 of 7 July 1997, as amended by Council Regulation (EC) N°1055/05 of 27 June 2005.

terms, i.e. net of cyclical and one-off and other temporary factors ([1]).

As regards the second aim of the MTOs, the country-specific structural budget balance that ensure rapid progress towards the long-run sustainability of public finances should be based on a comprehensive assessment of liabilities, both explicit (current debt level) and implicit (expenditure increases arising from population ageing). Since such an assessment requires the clarification of a number of conceptual and methodological issues, the Council concluded that until criteria and modalities for taking into account implicit liabilities are appropriately established and agreed by the Council, the country-specific MTOs be set on the basis of the current government debt ratio and potential growth, while preserving a sufficient safety margin against the risk of breaching the 3% of GDP reference value. Moreover, the Council Regulation 1466/97 as amended by Council Regulation 1055/05, which codifies the preventive arm of the reformed SGP, stipulates that the country-specific MTOs of euro area and ERM II Member States shall be within a defined range between -1% of GDP and balance or surplus, in cyclically adjusted terms, net of one-off and temporary measures.

According to the ECOFIN Council Conclusions of 9 October 2007, the criteria and modalities for taking into account the resulting implicit government liabilities in the definition of MTOs should be established and agreed in the course of 2008, so that Member States can present MTOs in accordance with the new arrangements in the 2009 updates of their SCPs ([2]).

2.2.2. Ongoing work

The incorporation of implicit government liabilities into the definition of MTOs will benefit from the updated long-term projections of the budgetary cost of ageing. These projections are carried out by the Commission and the Member States in the Economic Policy Committee (EPC) according to a common methodology and will be available in the course of 2009, in time for the periodic revision of the MTOs as stipulated by the SGP.

Following the Progress Report submitted by the Commission in 2007, which sketched out broad options on how to incorporate implicit liabilities into the MTOs, an operational definition of MTOs based on work by the Commission's services is currently discussed by the Ageing Working Group of the Economic Policy Committee and by the Economic and Financial Committee. The key outstanding issues are summarized below.

Degree of front-loading and national ownership

There are only three ways to preserve sustainability of public finances in the face of budgetary costs from demographic ageing. The first is to reduce the implicit liabilities, i.e. reforming the public social security system so as to reduce the claims of future benefit recipients. The second is to reduce public spending in areas other than social security to fund the increasing social security cost. The third is to increase tax rates. The choice of the mix and timing of those policies depends eventually on intergenerational equity considerations.

In this context, current fiscal policies can contribute to pre-finance the budgetary impact of ageing population by reaching over the medium term higher primary surpluses than required to stabilize the debt ratio. This strategy enables, in a first phase, to reduce debt or to accumulate financial assets in a public fund. In a second phase, when the budgetary impact of ageing starts to materialize, additional age-related expenditure can be financed not only by these savings but also by the reduction in interest payments or the returns on the financial assets accumulated in the first phase. *Full front-loading* would pre-fund all future ageing costs over an infinite horizon. A degree of front-loading lower than 100% is an implicit promise to bridge the remaining gap towards a fully sustainable fiscal position at a later point in time through (further) structural reform of age-related spending programmes, an increase in the tax burden or a

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[1] See Council of the European Union, Presidency Conclusions, 7615/1/05 REV 1, ANNEX II, 23 March 2005.
[2] http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ecofin/96375.pdf

decrease in the scope of goods and services publicly provided.

There is general agreement that the required balance, i.e. the budget balance that fully frontloads the cost of ageing, provides the correct starting point for incorporating implicit liabilities. Yet views diverge on how much freedom should be allowed in determining the degree of front-loading of the cost of ageing. It can be argued that Member States should retain the right to decide on the degree of pre-funding of the cost of ageing, since the design of social policy would be in their responsibility. It is clear that by choosing their MTO, Member States would equivalently choose their degree of front-loading and, therefore, make public what remains to be done through future budgetary adjustment or pension reforms after the end of the programme.

However, leaving governments completely free to determine the degree of front-loading could come into conflict with the aim of the MTO of ensuring sustainability. The conflict may arise in particular in the case of a country where the current budgetary position appears sound, but falls short of providing sufficient margin against the projected increase in age-related expenditure. According to this view, a minimum degree of front-loading is necessary to satisfy the objective of ensuring progress towards sustainability. Moreover, allowing full freedom in the choice of the degree of front-loading would weaken the link between MTOs and implicit liabilities, providing little reward for countries actually implementing a pension reform or incentives for countries to maintain already enacted pension reforms.

High-debt countries: the relative importance of implicit and explicit liabilities

The incorporation of implicit liabilities in the MTO should not cause losing sight of the role of outstanding debt in defining a prudent budgetary strategy. Full pre-funding of the cost of ageing can be consistent with stabilisation at or a slow reduction from very high levels of explicit debt. For example, a high-debt country, with no cost of ageing to front-load, could target a deficit that stabilizes debt at its current level, i.e. a significant deficit. Such a strategy is fully consistent with the intertemporal budget constraint under the assumption of no uncertainty. Yet, in case of a prolonged period of low growth or high interest rates, a high-debt country may be forced to adjust its policies more rapidly and more dramatically than a low-debt country: taking into account a more uncertain world, such a budgetary strategy can be hardly considered as a sustainable (or even safe) budgetary strategy. Moreover, maintaining high debt levels is not consistent with the limit set by the Pact. There should therefore be specific safeguards that ensure that MTOs lead to a steady reduction of the debt ratio for high-debt countries.

The strictness of the debt-reduction requirement has to be defined. This depends essentially on the relative weights given to two objectives of the MTO: debt reduction (explicit liabilities) and pre-financing future rises in social security spending (implicit liabilities). Either stricter MTOs could be set for high-debt countries until debt is effectively reduced below the reference value ([1]) or an additional fiscal adjustment for high-debt countries could be added on top of the requirement to pre-fund part of the ageing costs. The first option gives clear priority to debt reduction with the argument that implicit debt, being based on long-term projections, may carry some margin of error; moreover explicit debt is more likely to have detrimental cross-borders spill-overs than implicit debt, which can always be dealt with through social security reforms. However, a strict dominance of explicit debt may lead to identical MTOs for high-debt countries with different cost of ageing, thus reducing the incentives to make ambitious pension reforms or to resist pressures to reverse already implemented reforms. The second option would give less priority to debt reduction and more weight to implicit liabilities. This way, pension reforms (or reversal thereof) are reflected in the medium term objective for all countries.

Low-debt countries

Low-debt countries do not pose an immediate threat in an economic and monetary union. Yet,

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([1]) In practice, this means that the MTO is subject to a minimum that depends exclusively on the level of debt.

requiring to pre-fund, even partially, the cost of ageing may result in an unnecessarily tight constraint on fiscal policies. Countries with a very low debt ratio may wish to raise it, for example by increasing public investment. In particular, while a policy of delaying budgetary adjustment to deal with demographic ageing may be suboptimal for the country concerned, it can be argued that there is no risk of detrimental cross-border spill-overs as long as the debt remains relatively low. This argument finds support in the Treaty, which sets a reference value of 60% of GDP for the identification of "gross errors" when it comes to the stock of debt, and in the SGP itself, where one of the aims of the MTO to ensure the convergence of outstanding government debt towards "prudent levels". There is a consensus that specific consideration should be given to low debt countries, e.g. by allowing a budgetary room of manoeuvre consistent with their low debt level. Yet, the right balance between this budgetary room of manoeuvre and the need to pre-finance the cost of ageing, still has to be found.

Conclusions

MTOs are guiding the conduct of fiscal policy of EU Member States over the medium-term and play a central role in the reformed Pact. The MTOs have to be credible and attainable to appropriately guide the conduct of fiscal policy over the period covered by the programme (3 or 4 years) while fulfilling the –ambitious- objective to ensure progress towards sustainable public finances.

The determination of MTOs should also be flexible enough to accommodate for the diversity of strategies that countries can follow in view of financing the budgetary cost of ageing but should provide at the same time a sufficient degree of coordination of budgetary policy. The choice of the MTOs should finally be transparent and easily communicated to the public to ensure national ownership. At the same time, the framework should be rich and complex enough to take into account the large diversity of budgetary situations in the EU. Progress on those issues has been made but no final agreement has been reached and the exact modalities have yet to be agreed.

2.3. NO-POLICY-CHANGE SCENARIOS OF FISCAL POLICY: BRINGING TOGETHER KEY PRINCIPLES

Stripped down to their essentials, budgetary targets are expected to incorporate two crucial elements: (i) a scenario of how public finances are expected to develop under the current set of rules and policies; and (ii) a set of discretionary measures which, if necessary, would close the gap between the target and the no-policy-change path.

This basic concept is straightforward, but its implementation and assessment in practice is less so. In particular, there is no commonly accepted understanding of how to build a no-policy-change scenario. On the one hand, this has to do with the complexity and idiosyncrasy of national budgets, underpinned by a multitude of rules and policies the mechanics of which may give rise to peculiar dynamics even in the absence of policy decisions. On the other hand, little work has been done so far to achieve such a common understanding. Existing studies generally cover fiscal forecasting as a whole, where the no-policy-change assumption is dealt with only marginally. Good examples are Don (2001) and Carnot et al. (2005) ([1]).

The importance of a better understanding of no-policy-change scenarios for the EU fiscal surveillance framework is evident. An underestimation of expenditure trends (or an overestimation of revenue trends) may generate a favourable fiscal outlook and, in turn, give rise to the conclusion that a smaller than actually required fiscal adjustment is necessary to achieve or safeguard the medium-term budgetary objective (MTO). Past experience in the EU

([1]) Formally, the most coherent way of making the no-policy-change assumption operational would be to rely on (i) a large scale macro-econometric model with a detailed fiscal block or (ii) a more narrative but equivalent set of instruction. Such a model or instructions would explicitly define the link between public finances variables and their macro-econometric drivers, taking into account feedback mechanisms. The clear downside of macro-models confirmed by practical experience is that they do not allow for the many idiosyncrasies (both across countries and across time) that projections need to allow for. This is why in practice, macro-models are mostly used for simulations rather than for country-specific projections.

fiscal surveillance has repeatedly brought to light such biased applications which hamper progress towards sustainable fiscal positions.

A further complication is given by the asymmetry of information between the Member States and any third party, including the Commission services, producing forecasts and assessing fiscal developments. In spite of the comprehensive reporting of fiscal data and regular exchange of information, the Commission services, which carry out the technical assessment of the budgetary projections laid out in the annual updates of the stability and convergence programmes, do not know or do not have full access to the detailed mechanics driving government revenues and expenditure.

Against this backdrop, the Commission Communication accompanying the 2007 issue of the Public finance in EMU report encouraged Member States to better spell out the difference between fiscal trends at unchanged policies and the budgetary targets ([1]). This encouragement is echoed in the Council Conclusions of 9 October 2007 according to which "[…] *Stability and Convergence Programmes should specify how medium-term budgetary objectives will be met, including the extent to which further measures are required to fill the gap between the medium-term targets and fiscal trends under existing and already implemented policies*."

While the prudent and informed appreciation of the expert will always remain a fundamental ingredient of any forecast that links fiscal variables with macroeconomic projections, it is worthwhile discussing existing practice at least

for two reasons: (i) to improve upon the current approach and (ii) to possibly agree on a set of commonly shared guidelines.

Keeping this in mind, the following considerations should not be taken as a set of rules that are strictly applied in the EU fiscal surveillance framework and which should also be followed by the Member States. The objective is more modest and twofold. Firstly, to try to synthesise the basic elements underpinning an approach that has emerged since the inception of the SGP in the preparation of the Commission services' forecasts ([2]). Such basic elements guarantee a certain degree of coherence and transparency of public finance projections and eventually, allow for a better assessment of fiscal policy in the EU. Secondly, the principles and guidelines laid out should provide a basis for discussion with the Member States with the ultimate goal of improving the consistency and transparency of budgetary projections

2.3.1. A definition of the no-policy-change assumption

Twice a year − in spring and in autumn − the Directorate-General for Economic and Financial Affairs (DG ECFIN) releases fully-fledged macro-economic forecasts for all 27 Member States, including projections for key fiscal variables. These forecasts are generally used as reference in the EU fiscal surveillance framework when assessing the Member States'

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[1] Proposal 5 of the Commission Communication (2007)316 final accompanying the *Public finances in EMU – 2007* report reads: "To enhance the reliability and credibility of their medium-term budgetary targets, Member States could make clearer in their stability and convergence programmes (SCPs) whether the medium-term budgetary targets are attainable under unchanged policies, or whether they will require the implementation of additional policy measures. In the latter case, it would be important that the SCPs specify the gap between the main budgetary targets (government balance, government expenditure) and developments in government finances under unchanged policies, and provide the most detailed description of the measures envisaged to bridge the gap between budgetary trends and objectives."

[2] The role of public finance forecasts has been acknowledged and enhanced by the revised SGP. The March 2005 Council Report underpinning the reform explicitly recognises "*the important contribution that Commission forecasts can provide for the coordination of economic and fiscal policies*". In turn, the provisions of the revised Pact make references to the role of forecasts in the framework of the excessive deficit procedure in relation to (i), whether a deficit in excess of the reference value should be considered temporary in the sense of the Treaty and (ii) whether "*unexpected adverse economic events with major unfavourable consequences for government finances*" could take place. While the Pact provisions relating to stability and convergence programmes do not contain specific references to the role of forecasts other than the projections provided by Member States, the Code of Conduct specifies that "*significant divergences between the national and the Commission services' forecasts should be explained*", thereby recognising the role of the forecast as a benchmark against which the programmes are assessed.

fiscal developments against the provisions of the SGP.

In line with the practice followed by most macroeconomic forecasters, DG ECFIN's forecast publication typically draws attention on a number of important methodological aspects of its projections. As regards public finances, the following text, taken from the Commission services' spring 2008 forecasts, is relevant: "*For 2008, budgets adopted or presented to parliaments and all other measures known in sufficient detail are taken into consideration. For 2009, the "no-policy change" assumption used in the forecasts implies the extrapolation of revenue and expenditure trends and the inclusion of measures that are known in sufficient detail [at the time of the completion of the forecast]"*.

Although very succinct, this clarification underscores an important point, namely that the no-policy-change assumption is not the same as a projection 'under current legislation'. An illustrative example is the regular, most often annual, inflation-adjustment of the tax and social welfare systems, which in some Member States happens automatically (i.e. without government intervention) and in others requires a government decision or legislation. For the latter group of countries, the no-policy-change projections for the year(s) not covered by the budget should include a degree of indexation that reflects the government's past behaviour in order to avoid a bias (upward for revenues given fiscal drag and downward for expenditure) and to enhance cross-country consistency with the countries with automatic indexation. Another case in point, highlighting the difference between 'no-policy-change' and 'under current legislation', are public wages. Like in the private sector, the dynamics of wages and salaries paid by the government are mostly fixed by bi- or multiannual agreements. When such wage agreements expire shortly before budgetary projections are made or shortly after, Member States following the 'current legislation principle' typically present expenditure projections where government wages remain unchanged at the levels determined by the previous agreement. By contrast, a no-policy-change projection would allow for increases reflecting past trends or other reference mechanisms.

These examples also reveal another important feature of the no-policy-change assumption. Its implementation involves different concepts and different underlying models for different items of the budget. While on the revenue side it is fair and appropriate to assume that most items are linked to specific tax or revenue bases, such as personal income or private consumption, very few stable or automatic relationships are likely to govern the expenditure side of the budget. A meaningful approach to the no-policy-change assumption needs to take account of these elemental disparities. This is reflected in the discussion below, which is conducted separately for revenues and expenditures.

A further point, which may seem evident and implicitly already included in the previous points, is the importance of internal coherence of the forecast as a whole. The no-policy change assumption for fiscal policy needs to be linked to projections of the relevant macroeconomic projections and the assumed path of the exogenous variables.

Before entering the specifics of the projections, one should note that the no-policy-change assumption, in particular for the year(s) *not* covered by the budget presented to or adopted by parliament, does not necessarily, or even normally, imply a zero-change in the structural balance (i.e. the cyclically-adjusted balance net of one-off and other temporary measures). This would only be the case if structural revenues and expenditure, including measures that are already known, can be expected to increase at the same rate vis-à-vis GDP. However, such a constellation cannot be taken to be the rule (see for instance Larch and Salto, 2005).

2.3.2. The no-policy-change assumption for revenues

On the revenue side of the budget the no-policy-change assumption generally includes two elements: (i) a stable relationship between tax revenue and the corresponding tax base and (ii) the carry-over effects of discretionary measures taken in past years.

The carry-over effects are generally assessed on the basis of the country economists' detailed knowledge of national fiscal policy. In most

cases, the assessment will start from the official estimates provided in the budget or other legislative acts affecting governments revenues and will be complemented by information made available by independent institutions and/or the judgment of the country economist.

The assumption of a stable relationship between tax revenues and tax base is underpinned by national tax codes. They define in a legally binding way how much of a given tax base generated within a given year has to be paid to the Ministry of Finance. There is a relatively large and consolidated body of empirical literature examining these relationships, which are typically captured by an elasticity parameter. This elasticity parameter measures the relative change of a specific revenue item with respect to a relative change of the corresponding tax base. For a varying degree of disaggregation, such elasticities are typically estimated by the fiscal authorities of Member States, the Commission, the OECD and the ECB ([1]). Clearly, these estimates are not perfect mirrors of the complexity of national tax codes, but generally provide a sufficiently accurate approximation for projecting tax revenues.

Table II.2.2 summarises how the link between tax revenues and their macroeconomic drivers is typically modelled in the Commission services' bi-annual forecast exercise. As the availability of data differs from country to country, the breakdown of total revenues used in the table mainly serves illustrative purposes. In some cases the available breakdown can be more detailed than in others.

2.3.3. The no-policy change assumption for expenditures

Unlike revenues, the largest part of public expenditure is not anchored to well-defined bases or macroeconomic variables. Except for unemployment benefits, which are linked to labour market developments, there are few general rules to determine the course of

government outlays under the no-policy-change assumption.

In empirical terms, the past several decades have seen a gradual and consistent increase in government spending alongside the long-term upward movement in economic activity: this upward trend visibly flattened in the 1980s and even reverted to some extent in the 1990s. There is a significant body of literature that examines the link between expenditure and economic growth over time. Some work aims at describing long-term tendencies in history (Tanzi and Schuknecht, 1995). Other studies provide a formal test of the so-called 'Wagner law', according to which the income elasticity of government expenditure is taken to exceed unity. The empirical evidence for Wagner's law is mixed ([2]).

Although it is difficult to identify general rules linking government expenditures to aggregate economic activity or components thereof, government outlays are of course underpinned by legislation, which, while generally involving a certain degree of discretion, lays out a possibly complex set of rules mapping outlays with specific events. For instance child benefits paid are linked to the number of people in a certain age group; subsidies or grants will be correlated with the volume of a specific activity of private households or firms. Evidently, the detailed knowledge and understanding of such rules is concentrated in the competent departments of the Ministries of Finance and used for the official budgetary projections ([3]). Barring a complete

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[1] See for instance Girouard and André (2005) and Bouthevillain et al. (2001). The elasticities used in the EU fiscal surveillance framework were published in European Commission (2006a).

[2] The Wagner law has been tested in different ways (see also Section III.3.1.1).

[3] Some Member States do publish no-policy-change projections or projections under current legislation, which can be a useful reference, although adjustments are likely to be needed depending on how and when these trend projections are made. Adjustments may in particular be required (i) if national 'trend' projections embody a rate of increase of certain expenditure items that looks implausibly low in the light of historical experience or (ii) if expenditure trends are based on projections of exogenous variables for instance interest rates or population growth, which are not in line with the consensus view. More generally, it has to be born in mind that projections of Member States are also used strategically. A number of recent papers assess the accuracy of official economic and budgetary forecasts in the EU concluding their information content is limited (see, for example, Strauch et al., 2004, Jonung and

duplication of work or a plain replica of the official projections, an external forecaster is not in the position to collect and process the amount of information available to national authorities. He or she will typically have to be more selective and rely on more stylised methods. The most common solutions or shortcuts are:

- Keeping the ratio to GDP constant compared to the previous year or compared to the average of the past five years or so.

- Applying the same nominal growth rate as in the previous year or the average growth rate of an appropriate reference period.

- Focus on expenditure growth in real terms and combined it with an assumption on the deflator.

- Extrapolating an observed trend of increasing or decreasing (nominal or real) growth rates or of the ratio to GDP.

Which of these methods is the most appropriate will depend on the variable under consideration and on the features of the economy. For some expenditure categories, a more sophisticated forecast can often be made, which typically also links to other parts of the macroeconomic forecast or to the external assumptions, thereby enhancing the consistency of the forecast as a whole.

Regardless of the method eventually chosen to implement the no-policy-change assumption for government expenditure, consideration has to be given on how to reconcile them with domestic expenditure rules. The institutional arrangements of many Member States include an expenditure norm (in nominal or real terms) or expenditure envelopes for total or individual items of general government expenditure. Whether the no-policy-change forecast can actually embody respect of these norms and ceilings essentially depends on their credibility, which in turn is to be judged on the basis of (i) the past track record of the framework and (ii) the design of the enforcement mechanisms.

2.3.4. More specific issues

In addition to the basic elements of the no-policy-change assumption related to revenue and expenditure projections, there are a number of somewhat more specific points that deserve attention too.

A first issue is how to deal with carried-over savings on expenditure and the possibility of drawing down on them. The most appropriate way of taking this into account will depend on historical experience and institutional features (e.g. is whether such draw downs require prior approval by the ministry of finance, parliament, etc.; if so, by the ministry of finance, by parliament etc.).

Historical experience will also indicate whether the forecast should include, for selected expenditure items, notably public investment, an electoral cycle. In particular, in case the past highlights a recurring pattern of expenditure increases ahead of elections it would be in line with the no-policy-change concept to take it into account this feature in the projection.

In the recent past, public finances in the EU Member States have increasingly been characterised by the recourse to so-called one-offs, i.e. "*measures having a transitory budgetary effect that does not lead to a sustained change in the inter-temporal budgetary position*" ([1]). Because of their transitory nature they need to be specifically identified when preparing no-policy-change forecasts in order to present a 'clean' trend.

A final element that has attracted attention more recently and which plays a role for a no-policy-change projections are contingency reserves. Such reserves are to be found in a number of EU Member States and constitute allocations for expenditure the occurrence of which depends on some events that cannot be foreseen with certainty. As for carried over-savings, historical

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Larch, 2006, and Pina and Venes, 2007, von Hagen, 2008, for the European countries).

([1]) This definition is taken from the Code of Conduct, i.e. "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.

experience is also key in deciding how much of the contingency reserve can be expected to translate in actual government expenditure.

2.3.5. Conclusions

A clear understanding of the no-policy-change assumption is a condition for an effective implementation of fiscal surveillance in the EU. Reflecting the more general difficulty in making the no-policy-change assumption operational, current practice in the EU fiscal surveillance framework has not been 'codified'. Nevertheless, over the past years a number of guidelines have emerged which serve as a reference for the bi-annual Commission services' forecasts. These guidelines are applied with judgement taking into account the idiosyncrasies of Member States. On the side of the Member States, stability and convergence programmes generally provide little insight into how budgetary aggregates are expected to develop in the absence of policy changes. However, such scenarios are key to assess the degree of ambition and, hence, attainability of budgetary targets. Following up on the Council conclusion of October 2007, the assessment of fiscal plans in the context of the EU surveillance framework would benefit from more systematic information about both the expected impact of discretionary measures and how revenues and expenditure are expected to develop without such measures. Such information could also help compare alternative approaches and establish best practice.

A more specific conclusion that draws on practice in some Member States relates to the assessment of policy measures. When presenting policy proposals to national parliaments most governments are required to produce an accompanying technical 'fiche' which explains the detailed mechanics of the proposed intervention. The scope and feasibility of such a process linked to the stability and convergence programmes could be discussed.

Implementation of the no-policy-change assumption: government revenues

Item	ESA95 code	% of total government revenues (EU average 2005)	Proxied tax base	Notes
Indirect taxes (taxes on production and imports) of which	D.2	30.0		
Taxes on products	D.21	25.0		
Value added tax	D.211	15.0	Household final consumption; household investment(when residential investment is subject to VAT); intermediate consumption by government and social transfers in kind related to expenditure on products supplied to households via market produces.	0.1% of GDP of VAT goes to the EU budget. This does not appear as government revenues, as they are booked as if enterprises paid directly to the EU. However, taxes paid to the EU appear in the tax burden.
Other (mainly excises)	D.212+D.214	10.0	Household final consumption.	0.2% of GDP other indirect taxes goes to the EU budget. This does not appear as government revenues, as they are booked as if enterprises paid directly to the EU. However, taxes paid to the Eu appear in the tax burden.
Other taxes on production	D.29	5.0	Taxes on production are more heterogeneous across countries than taxes on products, hence the proxied tax base may vary (i.e. nominal GDP or gross value added, compensation of employees tec.).	
Direct taxes (current taxes on income and wealth) of which	D.5	28.0		
Taxes on income	D.51	26.0		
Household income tax	mainly D.51a+D.51c1		Wages and salaries received by households, non-wage income (property income received) and some social benefits other than in kind.	Household income taxes also include taxes on holding gains, which are not necessariliy (or very imperfectly reflected in the proxied tax base. In most countries, this tax is paid and recorded in the year the taxable income is earned, but some positive or negative adjustement in the subsequent years are possible.
Corporate income tax	mainly D.51b+D.51c2		Gross operating surplus of the corporate sector. Depending on the country, this tax is likely to be paid and recorded with a lag in relation to the generation of taxable profit. Due to the leeway foreseen by national tax codes such lags are not likely to be constant over time. When feasible, it is useful to split taxes paid by non-financial corporations (S.11) from those paid by financial corporations (S.13).	Coproate taxes also include taxes on holding gains, which are not necessarily (or very imperfectly) reflected in the suggested proxied tax base.
Other current income taxes			Residual.	
Other current taxes	D.59	1.8	If available, stock of finacial and non-fincial wealth.	E.g. taxes on wealth and real estate ownership
Social contributions of which	D.61	31.7		
Actual social contributions	D.611	29.4	Wages and salaries paid; depending on the specificity of each country it may be appropriate to excluded wages and salaries paid by the government or by some government units.	
Imputed social contributions	D.612	2.3	This is an imputed transaction and there is no income subject to this contribution. However, wages and salaries paid by the government sector are probably the best proxy for the tax base.	Imputed social contributions also appear on the expenditure side under compensations of employees.
Other current revenue of which		7.6		
Sales	P.11+P.12+P.131	3.9	No readily available proxy. Keeping a stable ratio to GDP is probably the best strategy in most cases.	
Property income received	D.4	2.0	Property income depends on government financial assets and land and their remuneration. It does not include realised or unrealised capital gains. It also does not include rentals received from government owned real estate, which is recorded as sales.	
Other	D.7+D.39	1.7	Other current transfers and subsidies on production paid to government units.	
Capital transfers received of which	D.9	1.6		
Capital taxes	D.91	0.6	No readily available proxy. Keeping a stable ratio to GDP is probably the best strategy in most cases.	E.g. inheritance tax. Taxes on capital gains are recorded under current taxeson income and wealth and not under capital taxes.
Investment grants and other capital transfers	D.92+D.99	1.0	No readily available proxy. Keeping a stable ratio to GDP is probably the best strategy in most cases.	Some structural funds from the EU budget, financing government-owned projects are booked here.

Source: Commission services

ANNEX II

Measuring and assessing fiscal developments

AII.1. ASSESSING ALTERNATIVE REAL-TIME OUTPUT GAP ESTIMATES

This annex presents the details of the simulation underlying the results presented in Section II.2.2.1. In a bid to replicate a typical assessment situation in the framework of the EU fiscal surveillance framework, the simulation exclusively draws on information available at the time the Commission services evaluate the annual updates of the stability and convergence programmes. This is ensured by using successive vintages of the Commission services' autumn forecasts, which are the benchmark in the assessment of Member States' fiscal projections.

AII.1.1. Simulation design

The simulation covers the period 2000-2006. This choice is dictated by the availability of data. Real-time output gap estimates calculated with the commonly agreed production function methodology are not available before the year 2000.

The simulation is articulated in two distinct steps:

- *Estimating alternative output gaps in real time*: For each year *t* of the 2000-2006 period, real-time output gap estimates are produced with two different methods on the basis of successive vintages of the Commission services' autumn forecasts. The first method is based on the principal component-based approach developed by Stock and Watson (2002). It is purely statistical in nature, yet gives the possibility to extract information about cyclical developments from a very large set of economic indicators. The second method is a modification of the commonly agreed production function approach that relaxes the assumption of a constant degree of capacity utilisation. Both methods as described in detail in separate sections below.

- *Evaluating alternative real-time output gap estimates*: The real-time output gap estimates obtained in the first step are set out against the real-time output gap estimates that were actually used in the EU fiscal surveillance

framework, i.e. those based on the commonly agreed production function method with and without incorporating the rate of capacity utilisation ([1]). The benchmark for assessing the accuracy of the real-time estimates is the ex-post output gap, i.e. the estimate derived on the basis of the latest available information, i.e., at the time the present report was written, the Commission services' spring 2008 forecast.

AII.1.2. Forecasting using principal components

The forecasting based on principal components is implemented following the methodology described in Stock and Watson (2002) and is built upon two steps. In the first step, principal components are estimated from the multiple indicators which are expected to contain information on cyclical conditions. In the second step, cyclical conditions, as measured by the ex-post output gap, are regressed on the principal components. The regression equation can then be used to produce forecasts of the cyclical conditions using the information contained in the range of real-time indicators and condensed into the principal components.

Formally, the approach can be represented as:

$$X_t = \Lambda F_t + e_t \qquad (1)$$

$$y_t = \beta_F' F_t + \beta_\omega' \omega_t + \varepsilon_t \qquad (2)$$

where X is the vector of predictors, F are the common factors and y the variable to be predicted and e is a $N \times 1$ vector of idiosyncratic disturbances, ω is a $m \times 1$ vector of observed variables including, in the present case, lags of y_t. The variable y_t stands for the ex-post output gap estimates derived from the commonly agreed production function approach; i.e. based the Commission services' spring 2008 forecast. It is assumed that (X_t, y_t) admits a factor model representation with common latent factors F_t. The forecast horizon is t, which is also the period during which y_t is observed. While longer time

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([1]) For a detailed description of the commonly agreed method (see Denis et al., 2006).

horizons (i.e., beyond t) could be considered as well using the same approach, only the forecast of year t is performed here given that the objective of the present exercise is to assess the forecasting performance of the principal component approach for real-time forecast. Under general conditions on the errors, Stock and Watson (2002) show that the estimator derived using the principal component approach is consistent and asymptotically efficient as both N, the number of factors and T, the time horizons, tend to infinity. The selection of factors derived from (1) and used the estimation of (2) is made using the Bayesian Information Criterion (BIC).

An important improvement of this approach compared to existing methods implementing factor analysis to forecasting purposes such as, for instance, Ding and Hwang (1999), is that the Stock and Watson (2002) approach is suited in the case where the error terms et in (1) are both serially and (weakly) cross-sectionally correlated which is likely to be the case when considering macroeconomic variables. For the simulation carried out here, the following variables were used in order to calculate the principal components used in the second stage of the forecast: (^{1})Total unemployment in percentage of labour force; Employment (in persons); Private final consumption expenditure, Consumer price index; Gross fixed capital formation; Gross fixed capital formation in construction, Gross fixed capital formation in equipment; Change in inventories and net acquisition of valuables, Domestic demand excluding change in inventories; Final demand; Gross domestic product; nominal compensation per employee; Net capital stock at constant prices, Export of goods and services, Import of goods and services, Gross saving, Net saving, Net lending with the rest of the world, Assessment of current production capacity*, Economic sentiment indicator*, Industrial confidence indicator*, Judgement about present economic situation in overall economy*; Judgement about present

economic situation: private consumption*; New orders in recent months*.

AII.1.3. Augmented production function approach

The following Cobb-Douglas production function is at the core of the commonly agreed method for the calculation of potential output and the output gap in the framework of the EU fiscal surveillance:

$$Y = TFP\,(L)^a\,(K)^{1-a} \qquad (3)$$

where the level of output Y is obtained as a combination of the two factor inputs − K the capital stock and L labour − and a residual – total factor productivity TFP. The latter captures both pure efficiency improvements or trend TFP (TFPT) and variations in the degree of capital and labour utilisation. Taking this into account the production function can be rewritten as:

$$Y = TFPT(UL{\cdot}L)^a\,(UK{\cdot}K)^{1-a} \qquad (4)$$

Where UK and UL denote the rate of capital and labour utilisation respectively. Combining both equations and taking logarithms we have:

$$tfp = tfpt + \alpha{\cdot}ul + (1-\alpha){\cdot}uk \qquad (5)$$

where lower case letters indicate logarithms. The two rates of capacity utilisation uk and ul cannot be observed directly and hence need to be approximated by survey measures of capacity utilisation, which we denote as $ucap$. By construction, indicators of the rate of capacity utilisation are good proxies for uk. Whether ul fluctuates significantly over the cycle is not clear since the labour input series used for the commonly agreed methodology already contains fluctuations in average hours worked per employees. In case there are residual fluctuations in the degree of labour utilisation they are likely to be correlated with the rate of capacity utilisation of capital. Thus, it is reasonable to assume that

$$ul = \chi\,uk + \varepsilon \qquad (6)$$

(^{1}) All variables were transformed into annual growth rates and taken from Ameco (Annual macro economic database, DG ECFIN), variables with an * were taken in level and from the Webfame database (Business and Consumer Surveys, DG ECFIN).

where ε captures random factors. Under the assumption that the relative change in the indicator of capacity utilisation derived from surveys ($ucap$) is equal to the relative change of uk, tfp can be approximated as:

$$tfp = tfpt + (\alpha\chi + (1-\alpha)) \cdot ucap + \upsilon \quad (7)$$

Estimating $tfpt$ becomes a standard unobserved-component problem, where a measured times series tfp is broken down into a cycle and a trend component and some information is available on the cyclical component.

AII.2. MODELLING TIME-VARYING TAX ELASTICITIES

This annex provides the technical details of the time varying tax-to-GDP elasticities discussed in Section II.2.2.2.

AII.2.1.The model

The starting point is the following error-correction model that explicitly distinguishes between short-term and long-term tax elasticities to GDP and allows for year-to-year changes:

$$d \ln T_t = \alpha + \beta_0 d \ln Y_t + \sum_i \beta_i D_i d \ln Y_t + \lambda Z_{t-1} + \varepsilon_t \quad (8)$$

where T denotes tax burden and Y nominal GDP. Z represents the error correction term and is obtained estimating the following equation:

$$\ln T_t = \alpha + \ln Y_t + \sum_j \theta_j R_t + Z_t \quad (9)$$

where the long-run elasticity of taxes with respect to nominal GDP is exogenously set equal to 1 ([1]). R_t stands for a time trend which a priori

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([1]) This choice can be defended on the ground that except for discretionary shifts in the size of government, the ratio between taxes and GDP should remain constant in the long run. A long-run elasticity higher (lower) than one would have the rather unintuitive implication that the tax ratio would consistently keep on increasing (decreasing) as a share of GDP. There may be arguments such as those underlying the Wagner's law suggesting that the size of government in the total economy tends to increase. However, it is difficult to determine *a priori*

is not linked to the intrinsic features of the tax system but is expected to capture policy decisions to change the size of government. Time breaks in the trend capture such shifts.

D_i in equation (9) stands for a series of slope dummies linked to variables that may determine variations in the 'normal' short-term tax-to-GDP elasticity represented by β_0. The determinants included in the baseline specification of our model are: the share of consumption, the share of wages in GDP, property and equity prices. We choose these four variables for the baseline for the following reason. The first two are expected to capture the main composition effects, i.e. of aggregate demand and the primary distribution of income. As regards the asset price variables there is a strong presumption that they may have a significant impact on taxes and hence on fiscal policy making, especially boom-bust cycles of asset prices. The data for the two asset price variables were provided by the Bank of International Settlements (see Borio et al., 1994). Depending on the country, additional variables were added that are also expected to affect total taxes but which may be rather country specific, such as oil prices or real exchange rates.

The slope dummies take the value -1, 0 and -1 to capture three different stylised states of the determinants: 1 and -1 are supposed to denote significant deviations of tax determinants from their 'normal' configuration indicated by the value 0. The exact definition of the three states for each of the variables concerned is described in Table II.AII.1.

The use of slope dummies, instead of the untransformed variables to capture composition effects serves two purposes. Firstly, the use of slope dummies facilitates the interpretation of the results in the sense that the time varying tax-to-GDP elasticity is simply given by the sum of β_0, the individual β_i's and the error correction term. Secondly, slope dummies turned out to give statistically more robust results compared to

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whether such a trend is the result of automatic mechanisms or the reflection of discretionary fiscal policy decisions. In view of this 'indeterminacy' the long-run elasticity for total taxes is set equal to one.

Table II.AII.1:

Definition of GDP slope dummies used in regression analysis

The base line specification includes the following slope dummies

	Variable X	Value of slope-dummy		
		-1	0	1
Variables in baseline specification	(wages, consumption, equity prices, residential housing prices)	dlog(X)-dlog(GDP) < 25% quantile	25% quantile <dlog(X)-dlog(GDP) < 75% quantile	dlog(X)-dlog(GDP) > 75% quantile
	real effective exchange rate, oil prices	dlog(X) < 25% quantile	25% quantile < dlog(X) < 75% quantile	dlog(X) > 75% quantile
	trade balance	d(X/GDP)< 25% quantile	25% quantile < d(X/GDP) < 75% quantile	d(X/GDP) > 75% quantile
	inflation	X - HP(X) < 25% quantile*	25% quantile <X-HP(X) < 75% quantile*	X - HP(X) > 75% quantile*
	nominal GDP growth	d(dlog(X)) < 25% quantile	25% quantile < d(dlog(X)) < 75% quantile	d(dlog(X))> 75% quantile

The slope dummies take the value 1, 0, -1 depending on whether the change of the corresponding variable in the upper quartile, the two intermediate quartiles or the lower quartile respectively.

Notes: * HP(X) stands for the cyclical component of X obtained using the Hodrick-Prescott filter.
Source: Commission services.

specifications where the untransformed variables are used. The use of slope-dummies also comes at a price: the link between total taxes and their potential determinants is not continuous. Rather, it reveals the average impact of a given explanatory variable. This caveat is acceptable as the purpose of the exercise is to identify the source of observed variations in total taxes with respect to GDP.

As is evident from equation (8), changes in tax revenues with respect to GDP may come from different channels. The first channel is via changes in nominal GDP and refers to the rate of economic growth. The second channel is via the set of other variables captured by the slope dummies D_i which are expected to measure changes in the composition of GDP growth. The third and last channel works via the error-correction term which pushed tax revenues back to the equilibrium level with an annual rate equal to λ, independently of the rate and the composition of growth.

The simulated time-varying elasticity and its drivers of a given year t are obtained by dividing the fitted values of equation (8) by the relative change of nominal GDP:

$$\frac{d\ln\hat{T}_t}{d\ln Y_t} = \frac{\hat{\alpha}+\hat{\beta}_0 d\ln Y_t + \sum_i \hat{\beta}_i D_i d\ln Y_t + \hat{\lambda}\hat{Z}_{t-1}}{d\ln Y_t} \quad (10)$$

An important issue with estimating tax elasticities is the impact of discretionary measures. Tax revenue data typically includes the effect of both changes in the economic environment and the impact of deliberate policy decisions on the side of national fiscal authorities. Conceptually, tax elasticities should solely gauge the effect of the first and abstract from the latter. Possible ways to circumvent the problem are (i) to derive tax elasticities on the basis of institutional information, especially the tax code, or (ii) to simply assign a specific value, for instance 1 for the elasticity of indirect taxes to private consumption (see for instance Girouard and Andre, 2005). Another possibility, which however stands or falls with the availability of data, is to remove the estimated effects of discretionary measures on tax revenues (see for instance Wolswijk, 2007). Since the impact of discretionary measures is not available over a long period for all Member States, this route can not be followed for our purposes, namely to find a method for all Member States. Our models were implemented with 'raw' tax

Table II.AII.2:

Total current taxes - Detailed estimation results of error correction models

		BE	DK	DE	IE	EL	ES	FR	IT	NL	AT	PT	FI	SE	UK
Long term	trend 1	0.023	0.010	0.001	0.017	0.018	0.034	0.017	0.021	0.005	0.006	0.020	0.015	0.010	0.000
	trend 2	-0.021	-0.008		-0.030		-0.032	-0.015	-0.025	-0.021			-0.022	-0.018	
	break	1982	1990	none	1989	none	1991	1985	1995	1993	none	none	1995	1991	none
Short term	Error correction term	-0.13	-0.32 ***	-0.47 **	-0.17	-0.24	-0.52 ***	-0.27 **	-0.46 ***	-0.19	-0.24 *	-0.24 **	-0.37 *	-0.13	-0.14
	dln gdp	1.21 ***	1.06 ***	1.16 ***	0.99 ***	0.93 ***	1.37 ***	1.11 ***	1.13 ***	1.04 ***	1.16 ***	1.18 ***	1.11 ***	1.35 ***	1.03 ***
	Consumption share in GDP	0.02	-0.09 **	0.29 ***	0.09	-0.04	0.00	-0.01	-0.03	0.12	-0.07	0.04	0.10	-0.05	0.05
Slope dummies [1]	Wage share in GDP		-0.14 *	0.00			-0.04			0.18 **	0.04		0.19	0.17 *	0.17 **
	Wage share in GDP (t-1)	0.21 *			0.16 **	0.16 ***		0.09	0.14 ***			0.13 *			
	Prices of residential housing	0.02		0.10		na					na	na	0.01	0.09	
	Prices of residential housing(t-1)		0.21 ***			na					na	na			0.01
	Equity prices	0.13		0.00	0.02	na	0.09 **	0.03			na	na	-0.04	0.19 ***	
	Equity prices (t-1)					na			0.02		na	na			
	Trade balance in % of GDP							-0.07 *							
	Inflation			-0.25 ***	0.10				0.05 *						
	Oil price														0.12 *
	Real effective exchange rate								0.16						
	Acceleration of GDP	-0.16 **	-0.23 ***	-0.07	-0.17	-0.08	-0.10 **	-0.07	-0.14 ***	-0.07	-0.37 ***	-0.01	-0.08	-0.22 **	-0.06
	Acceleration of GDP(t-1)										-0.13 *				
	Sample	1972 2005	1972 2005	1976 2005	1972 2005	1972 2005	1972 2005	1972 2005	1972 2005	1972 2005	1973 2005	1972 2005	1972 2005	1972 2005	1972 2005

Notes: (1) The slope dummies are defined in Table II.A.II.1. *, **, *** statistically significant at 10%, 5% and 1% respectively.
Source: Commission services.

revenue data keeping in mind that this could affect the quality of our estimates.

AII.2.2. Estimation results

The error correction specification given by equation (8) and (9) is estimated for each country individually. The estimation results are reported in Table A.II.2. The upper part refers to the equilibrium relationship, the lower part to the short-term adjustment mechanism.

The size of the coefficient of the first trend component in the long-term relationship varies considerably across countries but is consistently positive. The positive sign reflects the rise in the taxes-to-GDP ratio in the 1970s and 1980s which, in that period, went along with an expansion of the government sector. In a number of cases, especially those that saw a strong increase in the size of government in the early part of our sample, a break in the trend was included to capture either a levelling off or a reversal of the upward trend in the later period. The coefficient of the error-correction term, which measures the strength of the adjustment towards the long-term equilibrium, has the expected negative sign and is usually significant.

As regards the short-term elasticity with respect to GDP, the estimated $(\hat{\beta}_0)$ coefficients are mostly in the expected vicinity of 1. This means that for a 'normal' configuration of the other variables (when the slope-dummies take the value zero) total taxes are broadly proportional to GDP. Notable exceptions are Spain and Sweden, where the estimate is at around 1.3, *prima facie* indicating measurable degrees of progression in the tax code.

Our main interest lies in the estimated coefficients of the slope-dummies $(\hat{\beta}_i)$, which are expected to capture the short-term variations of the tax elasticity with respect to GDP.

Unsurprisingly, results differ significantly across the fourteen countries considered. Shifts in the consumption-to-GDP ratio, which would typically impact on the VAT content of GDP, turn out to have the expected positive sign and to be statistically significant in one country: in Germany the effect of a large increase is estimated to add on average 0.3 to the standard elasticity. With the exception of Denmark, where the coefficient is negative and statistically significant, the impact of consumption in GDP turns out to be rather small and statistically weak. The counter-intuitive result for Denmark needs further investigation.

- Shifts in the labour share in total income turn out to be important in a large number of countries. In particular, in eight out of the fourteen Member States included in the sample the coefficients of either the contemporaneous or the lagged dummy variable or both have the expected positive sign and are statistically significant.

- The other two slope-dummies included in the baseline specification capture asset price movements, specifically movements in housing and equity prices. The corresponding estimation results do not confirm the sometimes strong *a priori* view according to which asset prices are a direct driver of temporary revenue windfalls. Among the eleven countries for which asset price data are available, there are only three cases where the slope-dummies capturing asset price movements turn out statistically significant. In Denmark large swings of prices for residential housing are estimated to increase/decrease the elasticity by on average 0.2. A similar impact is estimated for Sweden for what concerns equity prices. A smaller but still statistically significant effect is recorded in the case of Spain. The main impact of asset prices on tax revenues can be expected to work via the wealth effect and hence should be captured by the coefficient related to the share of private consumption expenditure in GDP. A measurable direct impact is likely to come to light only when capital gains are realised or when there is a boom or slump of real estate transactions which in some countries are subject to fees.

- Beyond the baseline specification there is one variable which yields statistically significant results for many countries, namely the slope-dummy capturing the acceleration or deceleration of real GDP. The size of the estimated impact varies markedly from country to country but has consistently a negative sign. Conceptually, the acceleration/deceleration is expected to allow for the fact that some tax bases react with a lag to cyclical development. This is particularly true for corporate profits, which due to the leeway foreseen by national tax codes can be carried forward (in some cases also backward) with a considerable degree of discretion.

- Other variables for which there is a sufficiently convincing *a priori* about a potential impact on the tax elasticity to GDP such as the trade balance, inflation, the real effective exchange rate (REER) or the price of oil turn out to play a role only in a very limited number of cases. An appreciation of the REER seems to have a significant effect in Italy suggesting that the loss of competitiveness goes along with a higher tax content of economic growth as consumers may have switched to domestic consumption. In the case of France, a deterioration of the trade balance seems to give rise to a higher tax content of GDP growth as VAT-exempt exports decline relative to imports.

AII.3. RECORDING OF TAXES AND SOCIAL CONTRIBUTIONS IN ESA95 ACCOUNTS

Most government revenue consists in taxes and social contributions (91% of total government revenue on average in the EU amounting to 41.2% of GDP ([1])). The way taxes and social

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([1]) Data are for 2006. They include taxes levied by the general government on behalf of EU institutions (on average 0.3% of GDP); including notably a fraction of VAT receipts, which do not appear as government revenue and are recorded as if enterprises paid them directly to the EU budget. Data also include imputed social contributions. The estimation and recording of imputed social contributions (on average 0.9% of GDP in the EU) appear as revenue and expenditure in the government accounts without any impact on the government balance. Other government revenues include

contributions are recorded in ESA95 is therefore critical to explain the evolution of the surplus/deficit of the general government and to ensure comparability of figures across EU Member States. An understanding of the recording of taxes in practice is also crucial when analysing tax elasticities and other tax-related indicators.

The recording of taxes and social contributions in ESA95 follows two basic principles. *First*, in ESA95, transactions are recorded on an accrual basis i.e. '*when economic value is created, transformed or extinguished, or when claims arise, are transformed or are cancelled*' (¹); this is not necessarily at the time of any effective cash flow. In the specific case of taxes and social contributions, ESA95 specifies that they should be booked '*when activities, transactions or other events occur which create the liability to pay taxes*' (²). For example, social contributions are, in principle, recorded as social security revenue in the period during which the related work is done; VAT and excises are generally recorded at the time of the underlying transaction (the import or the sale of VAT-able goods and services); it may happen that the effective cash payments occurs somewhat later on. The accrual principle may be more difficult to apply for some other taxes, notably income taxes, and a number of pragmatic accounting techniques need to be implemented. In the case of income taxes, it is frequent that the final tax is only determined in a later accounting period than in which the income accrues (e.g. in year 2008 for income earned in 2007); this occurs notably when the tax is progressive, there are a number of tax deductions or tax credits, or simply because the tax rate has not yet been decided by the Parliament at the time the taxable income is earned. For many countries, in the case of corporate taxes, it may even be unrealistic to estimate and book taxes on

the basis of profits earned during the year; in other countries, enterprises pay their income tax in instalments on the basis of their own estimate of taxable profits. ESA95 thus provides flexibility as regards the events that creates the liability, either when income is earned or when the tax to be paid is determined. Withholding taxes – also called pay-as-you-earn (PAYE) taxes –, may be recorded in the periods in which they are effectively paid, since the lag between the taxable event and the effective payment is usually very small. Those taxes often include a final settlement in a subsequent year; thus a part of the tax is recorded in the period in which that settlement takes place.

Since the accrual basis often implies recording revenue before its actual collection, there is a need to deal with unpaid taxes. Thus, a *second* principle is that, taxes and social contributions due but unlikely to be paid – because of bankruptcy of the taxpayer, inefficiency of the tax agency, or any other reason – should not benefit the government deficit/surplus (³). This principle is fully compatible with accrual recording since the difference between accrual and cash bases is fundamentally on the time of recording of taxes, and not on the amounts to be recorded. Amounts recorded according to these two accounting bases may differ on each specific period, but should converge in the medium-term. Moreover, this principle aims at measuring the tax burden on the basis of amounts actually paid by economic agents and not on 'virtual' taxes. These two principles ensure comparability of deficit and tax burden figures across countries in spite of the differences in the tax structure of Member States, (⁴) in the basic data available to statisticians and in the efficiency of tax agencies.

The recording of taxes in practice depends heavily on the data sources that are available to statisticians. There are two main sources of information on taxes. If the data sources are *cash receipts*, taxes can be booked either on a pure cash basis (i.e. amounts effectively collected are recorded as revenue at the time of their

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notably dividends paid by public enterprises, interest on deposits, rents of land, rentals of buildings, revenue from sales, fees, licences, etc.

(¹) ESA95, Council Regulation (EC) N° 2223/96; OJ L 310, 30.11.1996, p.1 (Regulation as last amended by Regulation (EC) N° 1392/2007 of European Council and Parliament; OJ L 324, 10.12.2007, p.1), paragraph 1.57.

(²) ESA95, paragraphs 4.26 and 4.82 for taxes. For social contributions, paragraph 4.96 uses a similar language: '*at the time when the work that gives rise to the liability to pay the contributions is carried out*'.

(³) See Regulations (EC) No 2516/2000 (OJ L 290, 17.11.2000, p.1) and 995/2001 (OJ L 139, 23.5.2001, p. 3).

(⁴) For detailed information on the structure of tax systems in Europe, see Eurostat (2007).

collection) or on a time-adjusted cash basis. The time-adjustment consists in recording as government revenue the amounts effectively collected, but imputing them at the time of the underlying taxable transactions. This is usually done taking into account the average lag between the taxable activity and the effective payment. Many Member States apply this technique for taxes that are paid several times in each year, in particular when the lag between the taxable event and the effective payment is relatively short and does not exceed a few months.

For example, in several countries, VAT received in the first weeks of year t is allocated to the accounts of year t-1. Recording techniques based on cash data – with or without time-lags – have the advantage of not requiring any specific adjustment for unpaid taxes.

If the data sources are the amounts evidenced by *assessments* of the tax authorities or *declarations* by taxpayers as amounts due, there is a need to correct these amounts for taxes that will never be collected. Taxes can be registered on a net basis, i.e. adjusted by a coefficient that reflects the proportion of taxes that will never be collected; those coefficients are estimated on the basis of past experience and of current expectations. Alternatively, amounts assessed as due are fully recorded as government revenue, but the discrepancy between the amount assessed and the actual cash receipts is treated as a capital transfer (i.e. as expenditure) in favour of the defaulting taxpayers ([1]). Table II.AII.3 summarizes for the main categories of taxes and the corresponding recording methods used in the EU Member States.

([1]) Technically, the capital transfers representing taxes and social contributions assessed but unlikely to be collected are recorded in category D995. D.995 appears in government accounts as expenditure; when calculating the tax burden D.995 is deducted from tax and social contribution revenue.

Table II.AII.3:

Accounting treatment of taxes in ESA95

	Indirect taxes (D2)		Direct taxes (D5)			Capital taxes (D91)	Actual social contributions (D61)
	VAT	other	corporate	personal	others		
BE	cash (time adjusted, the lag depends on each specific tax)						ass./decl. + coeff.
BG	ass./decl. + cap. trans.		ass./decl. + coeff. + cap. trans.		taxes on real estate: cash	property taxes: cash	cash
CZ	cash (time adjusted, the lag depends on each specific tax)						
DK	ass./decl. + coeff. + cap. trans.						cash
DE	cash (time adjusted, the lag depends on each specific tax)						
EE	cash (1m lag)	excise duties: cash (1m lag) others: cash	cash				cash (1m lag)
IE	cash (time adjusted, the lag for the time-adjustment depends on each specific tax)		cash; except withhold tax on wages: cash (1 m lag)	cash			cash (1m lag), except self employed: cash
EL	cash (2 m lag),	taxes on products: cash (1 m lag) other: cash (2 m lag)	cash (time adjusted, 2 m lag)				ass./decl. + coeff. + cap. trans.
ES	ass./decl. + coeff. + cap. trans. (for local government non-receivable amounts are netted from tax revenue)						
FR	cash (time adjusted, the lag for the time-adjustment depends on each specific tax)		ass./decl. + cap. trans. (partially, related to control)	ass./decl. + coeff. + cap. trans.	cash		ass./decl. + cap. trans.
IT	cash (time-adjusted, the lag depends on each specific tax), except for tax amnesty: assess/decl. + coeff.						ass./decl. + coeff.
CY	cash (generally 2m lag)	cash	cash except for some part of personal income tax: cash (time adjusted)				cash (time-adjusted)
LV	cash (generally 1m)		cash (1m lag)	cash			cash (1m lag)
LT	VAT: cash (1m lag)	excises: cash (1m lag) other : cash	cash				ass./decl. + coeff. + cap. trans.
LU	cash (the time-adjustment the lag depends on the tax)						
HU	cash (time adjusted, the lag depends		cash (1m lag)	cash			cash (1m lag)
MT	cash complemented with "realistic balances" on taxes pending effective collection. From september 2008 Malta will change to time-adjusted cash (the lag will depends on each specific tax)						
NL	cash (1m lag)		cash		cash (1m lag)		cash (time adjusted)
AT	VAT and fuel duties: cash (2m lag), other: cash		cash (1m lag)	cash			ass./decl. + cap. trans.
PL	cash (1m lag)		ass./decl. + coeff.				
PT	cash (time adjusted, the lag depends on each specific tax)		cash				cash (1m lag)
RO	cash (time adjusted, 1 m lag)						
FI	cash (2m lag)	cash (1m lag)	cash (1 m lag)				cash (m lag) for pension funds, data from profit and loss account
SK	cash (time adjusted, the lag depends on each specific tax)						
SI	ass./decl. + coeff. + cap. trans.	ass./decl.	cash (1m lag) except for final settlement of personal income tax cash (6m lag)				Cash (adjusted for one month); amounts unlikely
SE	cash (1 m lag).		cash (1 m lag) final settlement in yeat t+1 allocated to year t	cash (1 m lag)		cash (1 m lag) final settlement in year t+1 allocated to year t	ass/decl.
UK	cash (time-adjusted, the lag depends on each specific tax)					cash	cash (time-adjusted)

Note: This table distinguishes techniques for recording taxes and social contributions on the basis of data sources: cash data ("cash") or assessments and declarations ("ass./decl"). When cash receipts are used, the table indicates whether there is any time adjustment and the respective lag is indicated ("1m lag" stands for an average lag of 1 month). When assessment and declarations are used ("ass./decl"), the table indicates how amounts unlikely to be ever collected are estimated and handled: uncollectible taxes are estimated through coefficients ("coeff.") and netted from revenue, or identified as capital transfers ("cap. trans.") booked as expenditure. Some countries may use a mix of the last two options: they estimate the amount of taxes not to be collected through coefficients, book all taxes due as revenue and record uncollectible taxes as capital transfer ("coeff.+ cap. trans.").

Source: European Commission, based on questionnaires transmitted by national statistical offices to Eurostat, according to Regulation (EC) N°2516/2000.

Part III

The quality of public finances and growth: a
conceptual framework

SUMMARY

How can fiscal policy support the macroeconomic goal of sustained long-run economic growth, in addition to the commonly accepted role of sustainable fiscal positions? This question has emerged in recent years as a new focal point for EU policy makers and is often captured under the heading of 'improving the quality of public finances' (QPF). In contrast to past discussions on the short-term impact of fiscal policy on aggregate demand, the emphasis has shifted to its role in supporting an economy's growth potential. This shift largely reflects the need to prepare Europe's economies for a dual challenge: their ageing populations, which will put additional demands on public finances and globalisation which raises international competition, increases factor mobility and potentially heightens exposure to external shocks.

The important role that fiscal policy should play in this respect has already been recognised by the Lisbon Strategy for Growth and Jobs and the revised Stability and Growth Pact (SGP). The former stresses the intertwining between fiscal policies and structural reforms and suggest several fiscal policy avenues to support growth. They include a stronger focus on growth-enhancing public spending categories and tax structures and mechanisms for greater effectiveness. At the same time, the revised SGP underlines the importance of different dimensions of QPF for effective implementation of the EU's fiscal surveillance framework.

While individual links between fiscal policy and economic growth had already been identified in the past, a systematic and comprehensive approach had been missing. Therefore, Part III provides a multi-dimensional framework of QPF which sets out six key channels through which fiscal policy impacts economic growth. In addition to the linchpin of sound fiscal positions and sustainable debt levels, they also include the size of governments, the composition and efficiency of public expenditure, the structure and efficiency of revenue systems, fiscal governance and those public finances policies that affect the functioning of markets and the overall business environment.

Even though the links between the different dimensions of QPF and growth, on the one hand, and between various QPF dimensions, on the other, are very complex and not yet always fully understood, a number of empirical regularities have emerged. Part III summarises these empirical findings and conducts preliminary analyses for the EU Member States. These can be summarised as follows.

The *size of governments* tends to matter for economic growth, especially if large public sectors are combined with short-comings in other dimensions of QPF. It is clear that the size of the public sector reflects past and current political choices that go beyond the macroeconomic goal of sustained economic growth. In particular, income distribution and social cohesion considerations also play a role, and some countries have been quite successful in achieving both objectives simultaneously. However, on average, empirical studies find that when governments become too large they tend to hamper long-run growth as they often go hand in hand with higher tax burdens and inefficient public administrations. This is particularly the case if expenditure is largely debt-financed and crowds out private investment. Thus, overall there is a need to consider many factors simultaneously, such as other policy objectives and the types, financing and efficiency of expenditures, in an assessment of the costs and benefits of large governments.

Sound and sustainable fiscal positions are preconditions for growth over the medium and long run. The EU's fiscal framework draws on this link which is also confirmed by empirical work in Part III. The estimates substantiate earlier findings of a negative relation between public debt and growth, but the issue of endogeneity of debt and deficits to growth conditions should not be overlooked. When looking in more detail at the channels through which fiscal policies influence economic growth by using a growth-accounting approach, the evidence tends to suggest that in countries with poor fiscal performance, private investment is less of a driver of growth. This indicates a possible crowding-out effect.

While both the size of the public sector and the debt/deficit can impair growth, an important conditioning factor is the *composition and efficiency of public expenditure*. Both theoretical

and empirical research indicates that growth can be supported when public expenditure is oriented towards investment. This can be particularly relevant for investment in human capital (through education and health spending), technical progress (R&D spending) and public infrastructure. However, evidence also suggests that the link between the amount of spending in these areas and economic growth is not automatic, but depends largely on the ability to achieve the envisaged outcomes (e.g. higher education attainment, more private investment in R&D) and overcoming existing market failures without creating new distortions. Thus, high efficiency and effectiveness of public spending are key to maximising the potential of government outlays and creating fiscal space for other demands (e.g. from ageing populations).

Moreover, the *structure and efficiency of revenue systems* can be a factor for long-run growth. Since the tax structure affects labour supply and demand, incentives for investment, risk taking and human capital formation, it can hamper growth potential by creating various distortions. In addition to lowering the overall tax burden, which would have to go hand in hand with expenditure reforms, adapting tax structures in a revenue-neutral manner is a further important policy option. Such efficiency-enhancing tax reforms should also make tax systems more transparent and link them better to benefit systems, as discussed in detail in Part IV.

Good *fiscal governance* can facilitate structural reforms and is beneficial for all dimensions of public finances. Fiscal governance represents the institutional side of fiscal policy as it comprises the set of rules and procedures that determine how public budgets are prepared, executed and monitored. The importance of fiscal governance has been confirmed in empirical studies, including studies conducted by the European Commission, which have found that EU Member States with strong fiscal rules, medium-term budgetary frameworks and independent budgetary institutions, have exhibited stronger budgetary positions and have been more successful in fiscal consolidations.

Non-budgetary items also form part of QPF, although in an indirect way, since *public finance policies can impact the functioning of markets*

and the business environment. Well-functioning product, services and factor markets and low administrative burdens are usually conducive to higher growth potential. The empirical results in Part III suggest that total factor productivity and the skilled labour contribution to GDP growth are the greatest beneficiaries of economies with lower regulatory burdens. These two growth components, in turn, have played a prominent role for growth over the past two decades.

The empirical findings discussed in Part III, are not always clear-cut and need to be assessed against the background of a number of caveats. First, there is the thorny issue of potential simultaneity of economic growth and QPF. Second, in addition to economic growth other macroeconomic goals of economic policy, such as employment and social cohesion, are also relevant. And third, the question of how QPF impacts on economic growth is complicated by the probably long and variable time lags between the implementation of policies and their effects.

Nevertheless, even if the many QPF dimensions and their interactions make identifying the links between public finances and growth a complex task, they also offer policy makers a broad set of policy options that take account of country-specific objectives. For example, a rather large public sector can only remain compatible with strong growth prospects if accompanied by sustainable budgetary positions and debt levels, efficient public administrations, spending and revenue systems that are also supported by strong fiscal institutions that limit incentives to weaken performance in these areas. Moreover, preliminary empirical findings indicate that QPF dimensions impact the various sources of GDP growth differently and therefore call for different growth strategies. For instance, as might be expected, countries with high education attainment and flexible labour markets appear to benefit from a higher-skilled labour contribution to growth while countries with relatively low public debt (and therefore a low crowding-out effect on private investment) tend to benefit more from capital investment. A better understanding of the links between QPF and the sources of growth is particularly relevant when considering policy recommendations aimed at removing the main barriers to higher growth potential in the EU.

1. INTRODUCTION

Improving the quality of public finances (QPF) has emerged as a new focus for European policy makers. In particular, QPF has as entered as a new aspect into the revised Stability and Growth Pact from 2005 and the Lisbon Strategy for Growth and Jobs. The latter assigns public finances to support the goals of stronger, lasting economic growth and more and better jobs in an environment of more closely integrated markets and greater global competition ([1]). A linchpin of this strategy remains ensuring sound fiscal positions and safeguarding the long-term sustainability of public finances in light of the adverse demographic developments that most European countries are facing. But sound budgets are no longer enough. They need to be accompanied by new ways of economising on the delivery of public services and, at the same time, creating conditions supportive of long-term growth, competitiveness and a better resilience of economies to shocks.

While the necessity to improve the QPF with a view to supporting economic long-term growth had already emerged as a new policy priority in 2000, the policy focus has shifted over time. Table III.1.1 documents this shift in emphasis by quoting from European and ECOFIN Council statements on this matter. In the early years, the emphasis was clearly on the need to ensure the long-term sustainability of public finances. This was eventually also reflected in the revision of the Stability and Growth Pact which allows for country-specific medium-term budgetary objectives, stresses the need to reach these objectives by setting an adjustment benchmark of annually 0.5% per year and explicitly accounts for pension reforms. Since then several Member States have launched or adopted pension system

reforms, but nevertheless many remain at high risk (see Section I.4) ([2]). At the same time, the corrective arm of the revised Pact explicitly mentions QPF as part of 'other relevant factors' when the Commission reports on excessive deficits (Table III.1.1). Moreover, the Council report underpinning the revised SGP emphasised the role of fiscal governance, another aspect of QPF. Later the focus widened to also include other aspects, in particular restructuring expenditure towards growth-enhancing areas, since the Lisbon Strategy for Growth and Jobs explicitly calls for more investment in research and development. Raising the efficiency of spending and remodelling tax systems have surfaced more recently as prominent policy areas.

For the euro area, the demands for improving the QPF are even more pertinent. Particular burden lies on fiscal policy to help stabilise idiosyncratic demand shocks and prepare conditions which facilitate the adjustment to supply shocks since national monetary exchange rate polices are not available as an adjustment tool. Moreover, EMU fiscal policy makers also need to consider the externalities of their actions for the monetary union, stressing the importance of sustainable public finances.

In support of the new policy priorities, a host of analytical and empirical work on QPF has already been carried out in the European Union. The Economic Policy Committee − Working Group on QPF, which was formed in 2004, served as a key exchange on cross-country experiences. At the same time, the European Commission conducted its own analytical work in a number of QPF areas, in part to support the Working Group. Both focused initially on the link between the composition of public expenditure and growth (e.g. European Commission 2003, 2004 and Deroose and Kastrop 2008). More recently, many efforts in the Working Group and the literature have been made to assess the efficiency of public spending

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([1]) See Integrated Guideline No. 3 of the Lisbon Strategy for Growth and Jobs (2005): "To promote a growth- and employment-orientated and efficient allocation of resources, Member States should, without prejudice to guidelines on economic stability and sustainability, re-direct the composition of public expenditure towards growth-enhancing categories in line with the Lisbon strategy, adapt tax structures to strengthen growth potential, ensure that mechanisms are in place to assess the relationship between public spending and the achievement of policy objectives, and ensure the overall coherence of reform packages." For more information on the Lisbon strategy see the Commission's Web site http://ec.europa.eu/growthandjobs/index_en.htm.

([2]) On the technical side, the focus on sustainability resulted in the preparation by the Commission services of the report on *The long-term sustainability of public finances in the European Union* (2006), which is scheduled to be updated in 2009. See European Commission (2006b).

Table III.1.1:

Key European and ECOFIN Council statements on the role of quality of public finances, 2000-2007

Date	Statements/ Key issues
Lisbon, March 2000	The European Council called for using the "opportunity provided by growth (…) to pursue fiscal consolidation more actively and to improve the **quality and sustainability of public finances**" and requested the Council and the Commission to present a report by Spring 2001 on the contributions of public finance to growth and employment.
Santa Maria de Feira, June 2000	The European Council encouraged Member States to "**review the quality and performance of public administration** with a view to the definition of a European system of benchmarking and best practices."
Nice, December 2000	At the European Council, the focus was on modernising social protection with a view to examine the **sustainability and quality of pension systems**. It also called for promoting the **quality in all social policy areas**.
Stockholm, March 2001	The European Council reiterated the need to study the **quality and sustainability of pensions**.
Barcelona, March 2002	The European Council endorsed a Key Issues Paper, which defined **quality of public finances** as "achieving the appropriate structure of government revenues and expenditures to ensure sound and sustainable public finances while raising the potential growth of Union economies. In this light, tax and spending reforms must aim at creating the conditions to foster employment and investment, while adhering to the medium-term objective of a budgetary position close-to-balance-or-in-surplus." It also called to improve the quality of public finance with a view to adequately fund the health care system and raise the transparency and quality of public administration.
Brussels, July 2005	The European Council endorsed amendments to two regulations (1466/97 and 1467/97) that underpin the Stability and Growth Pact and which, among other revisions, take better account of the **quality of public finances** (QPF). The amendments affect the role of the QPF in three ways. First, as part of the preventive arm of the Pact Member States' Stability and Convergence Programmes should present a detailed and quantitative assessment of budgetary and economic policy measures, including on QPF and budgetary rules. Second, as part of the corrective arm, QPF was explicitly mentioned as a part of "other relevant factors" (mentioned in Article 104(3) of the Treaty) when the Commission reports on an excessive deficit. And third, the amendments allow that structural reforms, including the introduction of a multi-pillar pension system, are taken into account under the preventive and corrective arm.
Brussels, March 2006	The European Council underlined "the need to further improve the efficiency and effectiveness of public spending and taxes in order to enhance the **quality of public finances** and foster growth and employment enhancing activities, in line with the priorities of the partnership for growth and employment."
ECOFIN Council, Luxembourg, October 2006	The ECOFIN Council stressed that the revised SGP underlines the important role that **national fiscal rules and institutions** can play in attaining sound budgetary positions and respecting the provisions of the Treaty and that national institutions could play a more prominent role in budgetary surveillance. Coupled with appropriate structural reforms, national fiscal rules and institutions can also contribute to improving the efficiency of public expenditure.
Brussels, March 2007	The European Council reiterated the need to further consolidate public budgets and safeguard the long-term sustainability of public finances. Moreover, it stated that "the **quality of public finances** needs to be improved by raising efficiency and effectiveness of spending, by restructuring public expenditure in support of measures that promote productivity and innovation and by strengthening human capital with a view to raising the long-term growth potential of the economy."
ECOFIN Council, Luxembourg, October 2007	The ECOFIN Council confirmed the importance of **national fiscal rules and institutions**. Also, it "(...) underlined that the **modernisation of public administrations** can play an important role in enhancing competitiveness, delivering better services, achieving better value for money and ensuring the control of government expenditure." (...) It invited the EPC and the Commission to step up their efforts to improve the analysis, methodology and the measurement of the QPF, including the efficiency and effectiveness of public expenditures and revenue structures, as well as of major public sector reforms. And it re-iterated that Member States step up efforts in the provision of COFOG, level II data.

Note: Unless indicated otherwise, the references are to European Council statements.
Sources: Presidency and ECOFIN Council conclusions (http://europa.eu/european_council/conclusions/index_en.htm).

to identify room for savings of public resources (e.g. Afonso et al. 2003, 2006, Afonso and St. Aubyn 2006a,b, Sutherland et al. 2007, Verhoeven et al. 2007, and see for an overview Mandl et al. 2008). At the same time, the role of fiscal governance has been studied in support of sound fiscal positions and expenditure efficiency (e.g. European Commission 2006a, 2007a, von Hagen et al. 2005, Curristine et al. 2007, Joumard et al. 2004). On the revenue side, an extensive literature on the linkages between tax systems and growth exists (see Part IV) but it has rarely been associated with the term QPF.

However, a conceptual framework that captures the various dimensions of QPF and their impacts on growth remains a key gap. Therefore, this part

of the *Public finances in EMU* report presents a definition and a multi-dimensional approach on QPF (Section III.2). The framework aims at bringing together the many different pieces of QPF that have so far mostly been studied in isolation. Specifically, it reviews the findings of earlier studies on issues such as the size of the public sector, composition and efficiency of expenditure, the structure of tax systems, fiscal institutions and sustainability and reviews how EU Member States fare in those aspects (Section III.3). Moreover, it attempts to lay out the possible links of QPF to growth from a supply-side approach of growth accounting and provides some preliminary findings (Section IIII.4). This approach could also serve as a basis for additional analysis going forward.

2. A MULTI-DIMENSIONAL CONCEPTUAL FRAMEWORK

2.1. DEFINING THE QUALITY OF PUBLIC FINANCES

Quality of public finances (QPF) is a concept with many dimensions. It encompasses all arrangements and operations of fiscal policy that support the macroeconomic goals of fiscal policy, in particular long-term economic growth. This objective has been set out in the Lisbon Strategy, in particular in Integrated Guideline No. 3 (see Section III.1). QPF comprises policies that not only ensure sound budgetary positions and long-term sustainability but also facilitate stabilising the economy and adjusting to demand and supply shocks. To achieve these outcomes, public resources need to be used in an efficient and effective way. At the same time, governments should operate expenditure and revenue policies in a way that creates incentives for an efficient functioning of labour, goods and services markets.

Conceptualising QPF as a multi-dimensional framework is needed to reflect the complex relationships to growth. A one-dimensional approach, for example focusing solely on the level of expenditure items that raise productivity, would overlook that such spending may be financed through a higher and distortionary tax burden. A multi-dimensional perspective helps overcoming this 'omitted variables problem'. At the same time, it is clear that for an empirical analysis it is extremely difficult to account for all these interlinkages due to data availability, an incomplete understanding of the transmission mechanisms and reversed causality. Thus, a simplification of some dimensions is called for.

Even though the framework explicitly uses growth as the ultimate benchmark to assess the quality of public finances, it should not be overlooked that large parts of fiscal policies have other objectives. In particular social spending, which accounts for about 55% of public spending in the EU, has primarily redistribution, insurance and consumption smoothing motives. Similarly, many revenue policies, such as a progressive income tax, are geared toward redistribution of income or the allocation of resources toward specific sectors. This framework does not explicitly aim to capture how well public finances perform in achieving those other objectives. Nevertheless, to some extent it includes some of these aspects indirectly. For example, an efficient use of social expenditure geared toward better social cohesion will help avoid an unnecessary tax burden on the economy or crowding out of investment-related public spending and thereby indirectly also serve the growth objective even, if in that case, the latter is not the primary objective.

2.2. ECONOMIC GROWTH AND THE MULTIPLE DIMENSIONS OF QUALITY OF PUBLIC FINANCES

The different dimensions of quality of public finances in a growth-oriented framework are summarised in Graph III.2.1. It indicates that the impact on growth can run through (i) the size of the government, (ii) the level and sustainability of fiscal positions, (iii) the composition and efficiency of expenditure and (iv) the structure and efficiency of revenue systems. At the same time, the set-up of fiscal rules, institutions and procedures ((v) fiscal governance) can affect all of the above four dimensions ([1]). Moreover, there are many ways in which public finances can impact the functioning of markets and the overall business environment, which can therefore be viewed to be a sixth, though indirect, dimension of QPF.

A good starting point to structure the channels through which public finances affect growth is a neoclassical production function framework (see Section III.4 and in particular Box III.4.1 for more details) ([2]). Output growth is herein determined by changes in the stocks and utilisation of capital and labour and total factor productivity. The various aspects of QPF that impact long-run growth can be analysed in terms of shifts to a new steady state. Thus, we do not explicitly distinguish between the neoclassical endogenous growth theory (in which fiscal growth theory (in which fiscal policy can only

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([1]) While not using the label 'quality of public finances', for example the European Central Bank (2001) employs a similar classification on the links between fiscal policies and economic growth.

([2]) This approach closely follows Gerson (1998).

Graph III.2.1: **The quality of public finances - A multi-dimensional framework**
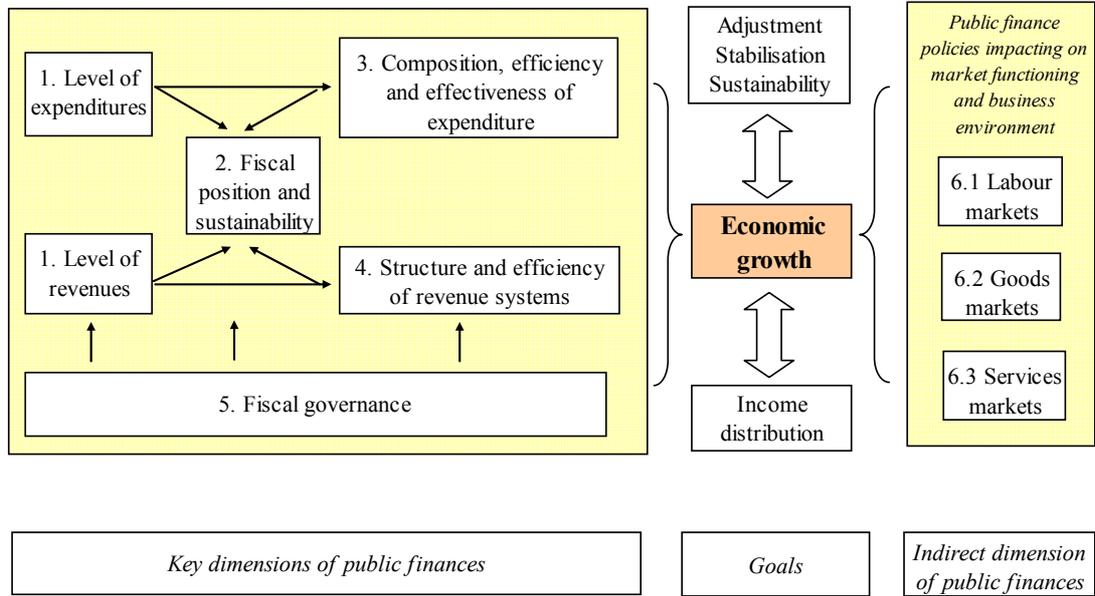
affect the level of output) and the new policy can also impact the growth rates). The six dimensions of QPF can have a direct or indirect bearing on each of the components of the production function. Through which channels they are linked to growth is briefly surveyed below, followed by a more detailed discussion on each QPF dimension in Section III.3. The discussion draws on findings in the literature and assesses data for the EU Member States and sample of non-EU OECD countries. A deeper empirical analysis starting from a growth-decomposition exercise is then conducted in Section III.4. It builds on comprehensive earlier work, including by the Commission services on growth-accounting ([1]). The six dimensions of QPF can be summarised as follows:

1. The size of the government: While a large government sector can contribute to short-term stabilisation of an economy in times of demand shocks, the long-run link to growth is not clear cut. Since the level of public expenditure is mirrored in the tax burden, it can create disincentives for capital accumulation and labour utilisation as well as their productivity.

Empirically, there appears to be an upper threshold when governments become a drag on the economy. Nevertheless, some countries with large governments have been able to overcome many of the impediments that often go hand-in-hand with sizable public sectors, for example by structuring revenue systems and public spending in ways that raise productivity (see these dimensions below).

2. The size and sustainability of the fiscal position: Sound and predictable public finances support long-term growth by ensuring long-term sustainability. This allows to efficiently allocate resources for saving and investment without potentially distorting such decisions through the expectation that governments will raise taxes in the future to finance current deficits or even impose an inflation tax.

3. The composition and efficiency of public expenditure: The composition of public spending matters for growth, with expenditure on public investment, R&D and education typically found to be particularly productivity-enhancing. As ageing is putting upward pressure on future public spending with the attending risk of crowding out growth-enhancing budgetary items, the efficient use of public resources has received

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([1]) See for example Koszerek et al. (2007), van Ark and Inklaar (2005) and Mourre (forthcoming).

increasing attention. Empirical analysis, which largely focused on education and health spending, has shown great room for efficiency improvements.

4. *The structure and efficiency of revenue and tax systems:* The structure of revenues is directly linked to the adjustment capacity of an economy and long-term growth through its impact on the allocation of labour and capital. In terms of adjustment capacity, it has been argued that the higher the labour tax wedge, the less elastic is the labour supply and the higher the volatility that results from supply shocks. In terms of long-term growth, theoretical considerations, supported by simulations, indicate that a higher share of indirect taxes in the overall revenue structure can be associated with faster growth depending on certain conditions, such as wage indexation and minimum wage agreements (details are provided in Part IV). Moreover, simple and transparent tax systems reduce compliance and administrative costs and thereby also create growth-supportive environments.

5. *The governance of public finances:* The governance aspect cuts through all of the above dimensions of QPF and thereby provides an indirect channel to growth. For example, good fiscal governance (numerical fiscal rules, medium-term budgetary frameworks, independent fiscal institutions) has been found to contribute to greater fiscal discipline and help ensure sustainability. It could possibly also support the shift to growth-enhancing spending areas. Similarly, budgetary procedures which use performance information are viewed to increase efficiency by shifting the focus away from input-oriented management of resources to more results orientation.

6. *Public finance policies impacting on market functioning and business environment:* Structural reforms, in combination with a strong regulatory and legal framework, ensure the smooth functioning of labour, product and services markets and thereby affect all elements of a production function. In addition to the above-mentioned role of public expenditure for education and health, public finances also play a particular role through their impact on wage setting (e.g. public sector wages and minimum income schemes), labour market participation

(e.g. tax and benefits systems), and factor mobility (e.g. benefits systems), and, more generally, the business environment (e.g. through the provision of a functioning judicial system and public infrastructure).

3. THE MULTIPLE DIMENSIONS OF QUALITY OF PUBLIC FINANCES

This section reviews the links between each of the six dimensions of quality of public finances (QPF) and growth, highlights some of the interlinkages and summarises empirical findings found in the literature with a particular focus on recent developments in the EU Member States.

3.1. THE SIZE OF GOVERNMENT

3.1.1. Why do governments differ in size?

Economic theory provides two main strands of arguments why the size of public sectors can be expected to differ over time and across countries ([1]). The first line of arguments builds on Wagner's Law, according to which the government's share in GDP increases more than proportionally in GDP. As nations get wealthier, the demand for public goods expands while at the same time the ability to raise revenues rises. Examples for the driving forces behind a greater demand for public goods are a greater urbanisation of countries and ageing of populations. A supply-side explanation has been added known as 'Baumol's disease'. It argues that the government share rises because public sector wages increase more strongly than public sector productivity while the demand for public services is relatively price-inelastic ([2]).

The second strand of arguments is of a political economy nature. To get re-elected, fiscal policy, in particular expenditure policy, tends to be time inconsistent and biased toward higher deficits and bigger public sectors. This tendency is stronger, the larger the number of parties forming the government, the higher the frequency of elections and in case of proportional rather than majority-based election systems (e.g. Persson and Tabellini, 1999, 2002). Another political economy argument bases the size of governments on rent-seeking agents who support larger public sectors with the objective of

benefiting from a redistribution of income (see Shleifer and Vishny, 1998).

Aside from these arguments, the size of the public sector ultimately reflects political choices. How much of public goods to provide (e.g. public infrastructure, environmental protection, defence, law and order) and how to address market failures and externalities depends on country-specific circumstances that are partly a reflection of policies (e.g. competition regulations) and objectives (e.g. income distribution) and partly exogenous (e.g. geopolitical situation or socio-cultural features). A classical case are different social models with those providing more generous insurance also contributing to a more equitable income distribution but at the price of a higher tax burden on the economy. But even when a choice is made to provide a public service, such as education, it does not necessarily mean that it has to be 'produced' by the public sector itself but it could be merely financed with public funds (e.g. education grants) and offered by private service providers.

A simple graphical inspection of recent data for the EU Member States and a few non-EU comparators reveals only a weak link between the size of the public sector and income. Graph III.3.1 indicates that, while varying widely, the expenditure-to-GDP ratio is only weakly correlated with per capita GDP when assessing the averages of the past five years for the EU Member States and seven non-EU industrial countries ([3]). The correlation is somewhat stronger when the non-EU comparators are excluded from the sample, since they exhibit an above average income but a below average size of government.

([1]) See for example Holsey and Borcherding (1997) and Peacock and Scott (2000) for an overview of the literature.
([2]) Baumol's (1967) distinguished more generally the productivity growth in services and manufacturing but his model has then been transferred to public services.

([3]) The non-EU countries which are included in this chapter as comparators are Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United States. Since not all of those countries are included in the Eurostat (Ameco) database going back to 1980, the data shown in charts including non-EU comparators have been taken from the IMF *International Financial Statistics*. The expenditure-to-GDP ratios are on average about one percentage point lower than the corresponding figures from the Eurostat (Ameco) database.

Graph III.3.1: **Size of government and income for EU Member States and non-EU industrial countries, average 2003-2007**
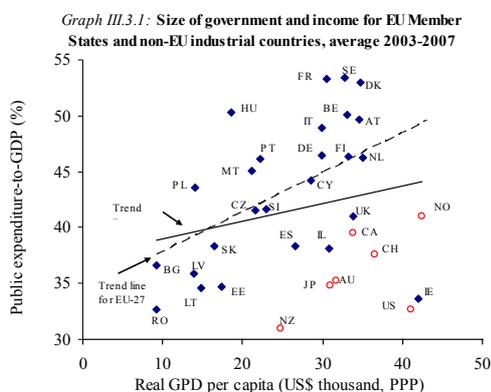
Note: Data are averages for 2003-07 excluding Luxembourg.
Source: IMF International Financial Statistics.

Developments over time substantiate the diversity across countries ([1]). Only six of the 24 countries considered (excluding the transition-country recently acceded Member States) exhibit an upward trend while most follow a hump-shape curve with a peak in the first half of the 1990s. Expenditure reforms, fiscal consolidations and the benefits of euro-area membership, with lower inflation and interest rates, have since brought down somewhat the expenditure-to-GDP ratios in 17 of the 24 countries. But nevertheless, the public sectors continued to be bigger in 2003-07 than in 1980-84 in more than half of the economies (Table III.3.1). At the same time, public sectors in old EU Member States have remained significantly larger than those in the non-EU comparators, with the differences in size fluctuating between 8½ and 12% of GDP since 1980.

Table III.3.1:

Changes in the expenditure-to-GDP ratio between 1980-1985 and 2003-2007

Change / Level (2003-2007)	Increase More than 5% of GDP	Increase Less than 5% of GDP	Decrease More than 5% of GDP	Decrease Less than 5% of GDP
Below 35% of GDP		JP	IE	NZ, US
Between 35 and 45 % of GDP	CY, IL	AU, AT, LU, NO, ES, CH	CA, SE	UK
Above 45% of GDP	PT	FI, FR, IT, MT	BE, NL	DK, DE

Source: IMF International Financial Statistics.

Econometric studies confirm the mixed evidence on Wagner's Law. They tend to find a positive relation between the public expenditure-to-GDP ratio and per capita income only for some countries and certain time periods (Table III.3.2) ([2]). Typically when low and high-income countries are included in a panel analysis, a significant link is established. However, for OECD countries the empirical backing for Wagner's Law is weak, particularly since the 1970s (e.g. Arpaia and Turrini, 2008).

Table III.3.2:

Empirical evidence for Wagner's Law: a summary of findings

Authors	Country coverage	Sample period	Confirmation of Wagner's Law?
Arpaia and Turrini (2008)	EU-15 countries	1970-2003	Only for contries with below median income and fast ageing populations
Akitoby et al. (2004)	51 developing countries	1970-2002	Yes
Wahab (2004)	24 OECD countries	1950-2000	No
Martinez-Mongay (2002)	18 OECD countries	1960-1999	Yes
Kolluri et al. (2000)	G7	1960-1993	Yes
Bohl (1996)	G7 countries	1952-1995	Only for Canada and the U.K.
Payne and Ewing (1996)	22 industrial and developing countries	1950-1994	Only for 6 of the 22 countries

3.1.2. What are the implications for economic growth?

The theoretical literature argues that the long-term link between the size of government and economic growth is hump-shaped. When the government sector is very small, long-term growth could be increased by raising productivity of capital and labour through the provision of public goods. The marginal increase is positive but decreasing with the size of the public sector and becomes negative when the distortion that additional taxes create turn the productivity gains for the economy around. Where the turning point lies, remains a key question and depends on structural factors, such as the development stage of the economy, the composition of expenditure and tax structures chosen to fund public spending.

([1]) For a detailed study on how public expenditure has evolved in industrial countries over the past century see Tanzi and Schuknecht (2000).

([2]) Some of the earlier empirical work, which tended to support Wagner's Law, was later found to have been biased since the variables were non-stationary.

For many non-transition countries in- and outside the EU, larger public sectors have been associated with below average real GDP growth rates. Graph III.3.3 depicts this bottom-line by grouping non-transition economies in the EU and the seven non-EU comparators by growth and size of the public sector, while not accounting for any other factors. During 1980-2007, high-growth countries (i.e. the upper quartile of the sample) had significantly smaller governments than those that grew less rapidly. Countries with the lowest real GDP growth rates (i.e. the lowest quartile) were also those with the highest expenditure-to-GDP ratios. This finding is robust for the three decades since 1980 as well as the entire sample period.
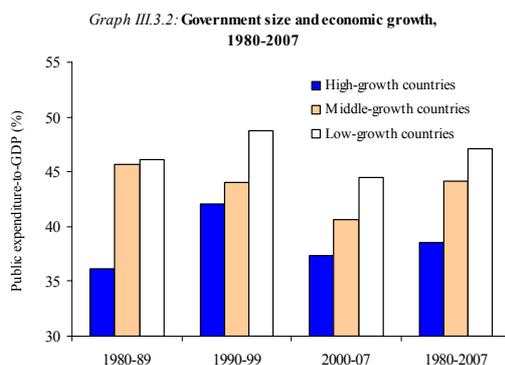
Graph III.3.2: **Government size and economic growth, 1980-2007**

Note: Data for EU and non-EU industrial countries, excluding transition economies. High-growth countries comprise the upper quartile and low-growth countries the lower quartile.
Source: IMF International Financial Statistics.

Most empirical studies that explicitly consider also other variables than just the public sector size confirm an association of larger governments with significantly lower real GDP growth rates [1][2]. Out of the nine studies

surveyed in Table III.3 for industrial countries (all prepared relatively recently between 1997 and 2008), eight find a significantly negative relation to growth. This is in line also with earlier papers. Nevertheless, the empirical studies are not without problems. In particular, the question of causality is an issue since higher growth can facilitate reducing the government sector. Moreover, the cross-country evidence overlooks that some individual countries have succeeded in maintaining rather high growth rates despite relatively large public sectors since they also faired strongly on other dimensions of QPF (e.g. fiscal positions and sustainability, efficiency of spending and fiscal governance).

In addition to the link to long-term growth, the size of government also matters for the automatic stabilisation of shocks. When a negative demand shocks occurs and nominal spending is left unchanged, the expenditure-to-GDP ratio will automatically rise providing a positive counterbalancing effect to the shock. Consequently, many studies have pointed to a trade-off between the stabilisation benefits of larger governments and the negative implications for long-term growth (e.g. Martinez-Mongay and Sekkat 2003, Brunila et al. 2003). However, under certain circumstances this trade-off can largely be resolved. Buti et al. (2003) present a model in which taxation not only affects aggregate demand but also aggregate supply (higher taxation steepens the supply curve and the underlying Phillips-curve, i.e. it deteriorates the inflation-unemployment trade-off). In such a setting, a larger government sector helps stabilise output in case of demand shocks but would destabilises output in case of supply shocks, if the government size exceeds a certain threshold. The authors find that the maximum stabilising size of government is lower for small open economies. Their models suggests a threshold of about 35% of GDP for small open economies and somewhat higher or about 40% of GDP for large open economies. Thus, Buti et al. suggest that reducing the government size with the aim to eliminate distortions and encourage long-run growth, is not necessarily detrimental for the functioning of automatic stabilisers. The multi-

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[1] However, in a seminal paper Easterly and Robelo (1993) using a cross-section data set for the period 1970-1988 for 100 developing and industrial countries find that the link between fiscal variables (other than public investment in transportation and communication) and budget deficits is statistically fragile. For example, the authors find a significant negative relation between the expenditure-to-GDP ratio and real per capita GDP growth in their base regression but when they add other explanatory variables (monetisation and trade openness of the economy) the effect is no longer significant.

[2] Bjørnskov et al. (2007) make an attempt to link government size and life satisfaction, which could be viewed as a measure for welfare. In a study for 74 countries the authors find that life satisfaction decreases with higher government consumption.

However, this negative link decreases with higher overall government effectiveness.

Table III.3.3:

Empirical findings on the link between government size and growth: a survey of recent studies

Authors	Country coverage	Sample period	Effect on growth	Measure for size of public sector	Other explanatory variables	Estimation method
Afonso and Furceri (2008)	28 OECD and EU countries	1990-2004	Significantly negative	Public revenues, public expenditure	Initial GDP per capita, investment share, initial human capital, population growth rate, openness, output volatility, expenditure volatility, several time dummies	Panel fixed effects
European Commission (2006)	OECD countries	1975-2000	Significantly negative	Public consumption	Initial per capita GDP, share of indirect taxation, openness, R&D share, investment share, Fraser index of economic freedom	Panel fixed effects
Garcia-Escribano and Mehrez (2004)	18 OECD countries	1970-2001	Significantly negative	Public revenues, public consumption	GDP per capita, budget balance, direct taxes, other revenues, social benefits, subsidies, labour force growth	Panel regression, random effects technique, IV method
Romero de Avila and Strauch (2003)	EU-15	1960-2001	Significantly negative	Public expenditure	Other control variables only used in estimations that also split public spending by economic function	Panel regression
Dar and Khalkhali (2002)	19 OECD countries	1971-1999	Significantly negative	Public expenditure	Growth rates of real gross fixed capital formation, real exports, labour	Swamy-Mehta random coefficients approach
Bassanini, Scarpetta and Henning (2001)	21 OECD countries	1971-1988	Significantly negative	Public revenues	Lagged real GDP, physical capital accumulation, human capital stock, population growth, ratio of direct to indirect taxes, trade openness	Panel regression
Heitger (2001)	21 OECD countries	1960-2000	Significantly negative	Public expenditure	Total investment, growth of labour force, secondary enrolment rate, GDP relative to the U.S.	GLS
Foelster and Henrekson (1999)	23 OECD countries	1970-1995	Significantly negative	Public revenues, public expenditure	Initial GDP, demographic variables	Panel regression, weighted least squares, 2SLS for first differences
Agell, Lindh and Ohlsson (1997)	23 OECD countries	1970-1990	Neither significantly positive nor negative	Public revenues, public expenditure	Initial GDP, demographic variables	Cross-section OLS

Notes: IV = Instrumental variables method; 2SLS = two-stage least squares method. The results by Bassanini et al. (2001) are also presented in OECD (2000).

dimensional framework of QPF presented here argues in the same vein. Larger public sectors do not necessarily have to impinge on the growth potential, if distortions are kept low through, for example efficient expenditure and tax structures or flexible market structures.

3.2. FISCAL DEFICITS AND SUSTAINABILITY

Sound fiscal positions, over the medium and long term, are a precondition for macroeconomic stability and sustainable economic growth. The EU fiscal framework is built on this premise with the added perspective that irresponsible fiscal policies would interfere with centralised monetary policy-making and spill over to other members of the monetary union and create costs for them ([1]).

The main transmission channels from large deficits and high debt to growth can be summarised as follows ([2]). In all channels, public debt impinges on savings and investment decisions. First, large public debt may raise the real interest rate and thereby crowd out private investment. Second, if economic agents view the current fiscal policy to be unsustainable, they would increase their savings to protect against future tax increases. Similarly, investment may be discouraged if future returns are expected to be taxed at higher rate. This could in part also lead to capital flight. The same applies in case great fluctuations in fiscal policies complicate long-term decision-making by private agents. And third, ill-designed consolidation efforts to reduce deficits and debt, for example through cuts in public investment, may negatively impact long-run growth. A similar effect can be expected from distortionary attempts to reduce the interest costs of public debt, for example through special tax concessions for public debt holders.

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[1] For an overview of the motivation and functioning of the EU fiscal framework see for example European Commission (2008a) and contributions in Brunila et al. (2003).

[2] Tanzi and Chalk (2002) distinguish six channels for the links between high public debt and growth in the EU. The presentation here, while broadly following their arguments, condenses them to three.

Graph III.3.3: **Level of debt size and economic growth, 1980-2007**
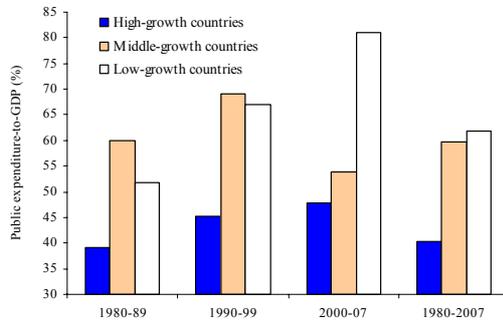
Note: Data for EU and non-EU industrial countries, excluding transition economies. High-growth countries comprise the upper quartile and low-growth countries the lower quartile.
Sources: Commission services and IMF International Financial Statistics.

Graph III.3.4: **Level of public debt and size of governments, 2003-2007**
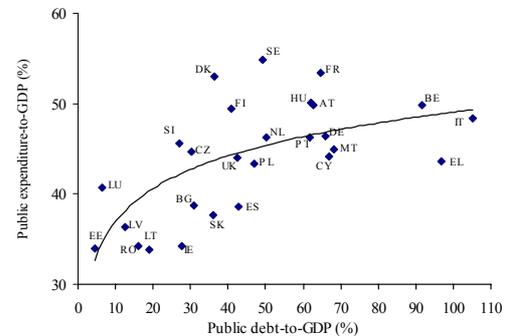
Note: Data are averages for 2003-07 for EU Member States and non-EU industrial countries.
Sources: Commission services and IMF International Financial Statistics.

Empirical evidence broadly supports the negative link between fiscal deficits and public debt and growth. In many growth regressions, for industrial and/or developing countries, these fiscal performance variables have been identified as negative contributors to growth (e.g. Tanzi and Chalk, 2002, Pattillo et al., 2004, Easterly and Rebelo 1993). But one needs to caution again of the problem of reversed causality (i.e. higher economic growth also helping to bring down the debt-to-GDP ratio). This problem is also inherent when illustrating the simple bivariate relation of public debt and growth in Graph III.3.3. The data for EU Member States and the non-EU comparators illustrate that high-growth countries had significantly lower public debt-to-GDP ratios than those that grew below average ([1]). Moreover, high-debt EU Member States were also those with rather large public sectors (Graph III.3.4).

Going forward, some EU Member States are in a precarious situation. They are at high risk that their public finances become unsustainable given their current debt levels and fiscal positions and in view of projected costs from pension and long-term care systems (see Section II.4). This could consequently also have negative implications for their long-term growth prospects, in particular in view of already large, and potentially rising, public sectors.

There is also some evidence that fiscal policy variability is associated with lower growth. In particular, Fatas and Mihov (2003) find that for a set of 91 countries higher volatility of discretionary government spending significantly increased output variability which in turn lowered growth ([2]). The latter link is however not significant for OECD countries. In a recent study, Afonso and Furceri (2008) show that not only discretionary changes in expenditure matter but also cyclical ones. They find that in EU countries a higher volatility of the cyclical component of public expenditure has worsened the growth performance ([3]).

3.3. THE COMPOSITION AND EFFICIENCY OF EXPENDITURE

In recent years, European policy makers have stressed that shifting expenditure toward 'growth-enhancing' areas and becoming more efficient in the use of public resources are key avenues for supporting growth. The Lisbon Strategy for

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([1]) The findings illustrated in Graph III.3.4 remain broadly unchanged if one excludes Luxembourg (which has a very low debt level) and the new Member States Cyprus and Malta from the sample.

([2]) A problem in such studies is the potential reversed causality between output volatility and expenditure volatility. Fatas and Mihov (2003) attempt to account for this by measuring discretionary government spending variability as the variance of the residuals derived from a regression which explains real government spending in terms of real GDP, various control variables and deterministic components such as time trends.

([3]) For a wide sample of industrial and developing countries from 1960-2005, Herrera (2007) finds a positive relation between fiscal policy volatility (measured as the variation coefficient of public expenditure growth) and real GDP volatility. He associates the latter with lower growth. A caveat of the broad sample is that it also includes crisis countries.

Growth and Jobs, specifically Integrated Guideline No. 3 (see Section III.1), makes explicit reference to both objectives. In particular, the role of expenditure composition has been studied in great detail and country experiences have been analysed to draw policy lessons ([1]). Given this wealth of earlier work, only a brief summary is provided below, with a focus on efficiency of expenditure, which has moved to the centre of attention more recently.

3.3.1. Composition of expenditure

While theory offers a framework to identify 'growth-enhancing' types of expenditure, in practice this assessment is difficult to make. In theory, public expenditure that provides public goods and addresses market failures and externalities can be growth-enhancing. In practice, this could apply to, for example, creating public infrastructure, giving liquidity-constrained households and small and medium-size enterprises access to credit to invest in human and physical capital or creating a social safety net where the market fails to provide for it. All these types of expenditure can raise labour and capital productivity. More generally, public investment is associated with a higher marginal productivity than public consumption and therefore more likely to be 'growth enhancing'. However, these examples also highlight that the underlying identification problems of expenditure as 'productive' is intrinsically linked to the existence of public goods, the type of market failure and externality and the ability of public spending to resolve it without creating greater distortions (Gerson, 1998).

Against the backdrop of such methodological difficulties, empirical studies have nevertheless identified certain types of expenditure that have been associated with higher growth. Government expenditure has thereby either been broken down by economic or functional classifications (or, in some cases, a combination of the two).

Using the economic classification, the results for public investment have been mixed. Gerson (1998), who reviews some of the empirical studies, reports that a positive link between total public investment and growth is only found in some cases. More recent studies are also inconclusive. For example, Romero de Avila and Strauch (2003) estimate public investment to have a positive effect on growth in the EU, while Afonso and Furceri (2008) do not find public investment to be significant in explaining growth in the EU and OECD. By contrast, public transfers and consumption are typically estimated to negatively impact growth. There are two possible explanations for these findings. First, the share of public investment in the EU is rather small at about 3% of GDP which limits its potential impact on long-run growth. On the other hand, public consumption is large at 21%. Thus, empirical studies which include both variables in growth regressions may pick up the negative impact of the size of governments rather than the composition. And second, it appears that well-targeted public expenditure, rather than overall public investment, is growth enhancing. This follows from studies that combine the economic classification with the functional classification, and show that investment in certain areas, in particular transportation and communication, appears to be more systematically matched with higher growth (see Gerson, 1998).

Graph III.3.5: **Public investment and economic growth in the EU17 and non-EU industrial countries, 1995-2007**
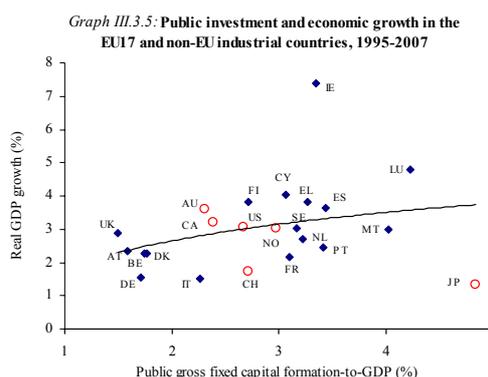
Note: EU-17 comprise the EU-15 and Cyprus and Malta. Data are averages for 1995-2007, excluding New Zealand.
Source: Commission services.

Graph III.3.5 shows data for the EU and the non-EU comparators for 1995-2007 indicating a weak positive bi-variate correlation between overall public investment and growth − however, without taking any other factors into account.

([1]) See for example European Commission (2003, 2004) and the papers in Deroose and Kastrop (2008).

Graph III.3.6: **Share of 'productive' public spending in primary public spending, 2005**
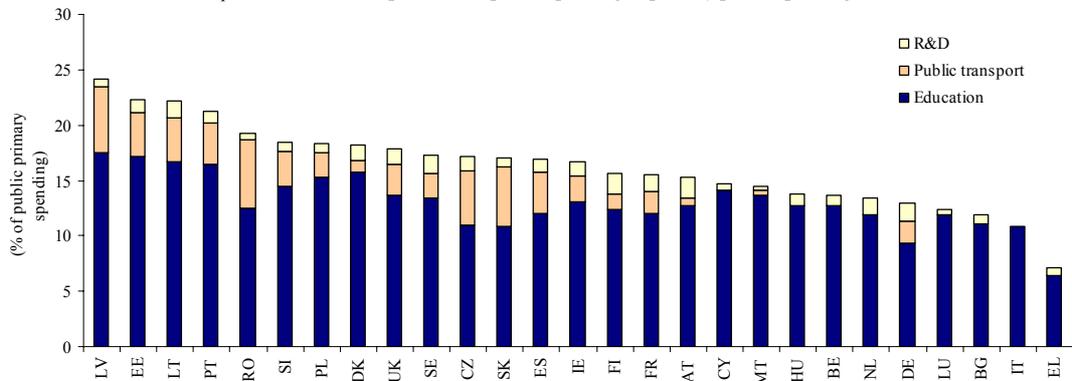
Note: 2005 or latest date available. For BE, BG, CY, EL, HU, IT, LU no data is available on public transportation spending and for IT also no data on R&D spending..
Sources: Commission services, Eurostat and OECD.

Using a functional classification, the types of public expenditure that have been found to raise growth vary strongly with the data sample. Some studies find only education, R&D and public infrastructure spending to be growth enhancing, others also include spending on health, public order and safety, and environment protection (European Commission, 2003, 2004). For illustrative purposes, we use a tight definition in Graph III.3.6 (R&D, public transportation and education spending). In that case, the share in total public primary spending ranges from less than 13% in Germany (of those countries with complete data) to more than 24% in Latvia (if a wider definition is used, it can be up to 45 % of total public outlays, see European Commission, 2004). It is striking that particularly most transition economies are allocating a rather high share of public resources to these productive purposes, which may partly reflect their catching-up needs and the support from the cohesion policy programmes.

Overall, empirical evidence seems to support the hypothesis that certain types of public expenditure can support while others may deter economic growth. The latter tends to be particularly the case when spending is not well targeted and its financing creates negative externalities (through high debt levels or distortionary taxes). Thus, a reallocation of public resources alone cannot be a sufficient strategy to improve the QPF but it needs to be supplemented by a more efficient use of public resources, which would also allow lowering the size of the public sector and create fiscal space for new demands.

3.3.2. Efficiency and effectiveness of expenditure

Assessing the efficiency and effectiveness of public spending is a focal point when analysing the QPF as it establishes the link between the input of public resources and the output (efficiency) and outcomes (effectiveness) that they create. Empirically, however, this analysis faces many challenges.

Approaches to measuring expenditure efficiency ([1])

The first challenge lies in the data requirements, which are summarised in Graph III.3.7. The amount of public *funds* used for the various policy objectives (e.g. education, health or R&D spending) needs to be identified. While these data may be available to individual governments, they are often not publicly accessible and comparable across countries. The publication of the COFOG data by the EU-27 has been a major step forward in that respect but the breakdown into ten functional groups has still not proved to be sufficient for more detailed analysis ([2]). Due to these data shortcomings, but also to neglect

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[1] See also Section II.1.4 on how to capture public sector efficiency and productivity in national accounts.

[2] For example, COFOG-I does not include data on R&D or public infrastructure spending. However going forward, this information would be part of COFOG-II.

differences in factor prices, studies often focus on 'technical' *inputs* instead (e.g. the number of teachers, doctors, nurses and researchers). Similarly, decisions need to be made on choosing relevant *output* variables, such as educational attainments, the number of graduates, number of cured patients, life expectancy, or number of patents. And finally, these outputs should be closely linked with the ultimate policy objectives or *outcomes*, such as a higher labour productivity, higher quality of life or faster technical progress ([1]). In the 'production process' the outputs and outcomes are also affected by *environmental factors* (e.g. parents' education attaminmal impact that of their children and dietary habits affect health policy outcomes), which may or may not be within the realm of policy makers.

Graph III.3.7: **The concepts of efficiency and effectiveness**
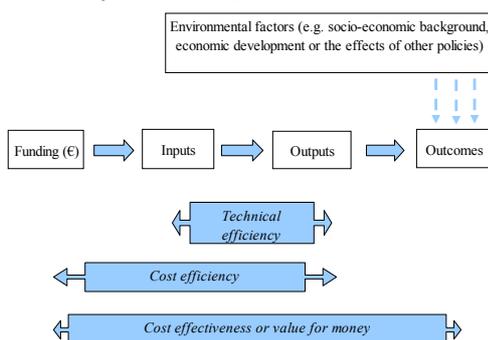
Two types of statistical methods to estimate efficiency, non-parametric and parametric, can be distinguished (see Box III.3.1 for more details). Both methods measure (in)efficiency as the distance to a production possibility (efficiency) frontier. In particular, output efficiency measures by how much the output can be increased at a given input level and input efficiency measures by how much the input can be reduced for a given output level (Box III.3.1). The differences between the two statistical methods to estimate efficiency lie in the assumptions about the shape of the efficiency frontier and the treatment of environmental

variables. The short-comings of both methods call for robustness tests, e.g. by applying both approaches.

Non-parametric approaches (e.g. the DEA) create the form of the production possibility frontier by constructing an envelope around the observed combinations of inputs and outputs. However, the shape is very much dependent on the size of the sample and possible outliers.

Moreover, two data points are by definition always efficient (the one with the lowest input and the one with the highest output). To account for environmental influences, the efficiency scores that are being derived through non-parametric approaches, can be corrected. This is typically done through censored regression techniques (Tobit) or bootstrap methods.

Parametric approaches require an ex ante definition of the functional form (e.g. a Cobb-Douglas type function) but can directly include exogenous factors in the estimations. Inefficiency is derived by decomposing the residual into a random error and an inefficiency term − a calculation that requires a number of assumptions and a large number of observations.

Education spending

Given the role that education attainment can play to enhance growth, it is important to understand whether public resources on education are used in an efficient way ([2]). Just raising the level of public education spending does not seem to be enough, even though it is typically found to be growth-enhancing (see Section III.3.3.1), since the empirical link between education spending and student performance is rather weak (see for an overview Verhoeven et al., 2007 and Greenwald et al. 1996, Hanushek and Kimko, 2000, and Hanushek, 2002). This is also reflected in Graph III.3.8 where no correlation can be detected between the amount of public expenditure on primary and secondary education (during 2000-2004) and education attainment as

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([1]) Since outcomes are particularly hard to determine, empirical studies often focus on efficiency rather than effectiveness measures. Thus, in the rest of this section, we will only use the term efficiency, but it should be clear that higher effectiveness is the ultimate objective.

([2]) See Hanushek and Woessmann (2007) and Abu-Ghaida (2007) on the link between education skills and growth.

Box III.3.1: **Approaches to estimate efficiency**

The decision of using non-parametric or parametric approaches in empirical studies on expenditure efficiency, is strongly linked to the underlying data set. For cross-country comparisons at a macroeconomic level, non-parametric approaches have been particularly popular (e.g., Afonso and St. Aubyn 2006a, 2006b, Hauner 2007, Sutherland et al. 2007, Verhoeven et al. 2007). For micro-level data (e.g. school level) or cross-section data, also parametric approaches have been used (e.g., Pereira and Moreira 2007, Sutherland et al. 2007 and Kempkes and Pohl 2007). Both approaches have different features which are briefly reviewed below. Common to both methods are the problems of identifying appropriate indicators (as described in the text) and determining the appropriate lag structures to capture that policy measures may impact outputs and outcomes with a considerable delay. In practice, period averages are frequently used which also solves the problem of cyclicality.

Non-parametric approaches

They construct an envelope around the observed combinations of inputs and outputs. The Free Disposable Hull (FDH) approach does this in a step-wise way; the Data Envelope Approach (DEA) [1] in a continuous way, which assumes convexity (see graph below). FDH and DEA use linear programming methods to estimate the frontier allowing for multiple inputs and outputs. Thereby, each country's efficiency is calculated relative to that of its peers. Efficiency is measured as the distance between a country point and the efficiency frontier, defined as a linear combination of best practice observations [2]. Efficient countries have scores of one, inefficient ones have scores between zero and less than one. For example, an input efficiency score of 0.6 would indicate that the same output could be produced with only 60% of the inputs. By definition, the countries (or other decision-making units) with the lowest input and the highest output are efficient.

Determining efficiency frontiers
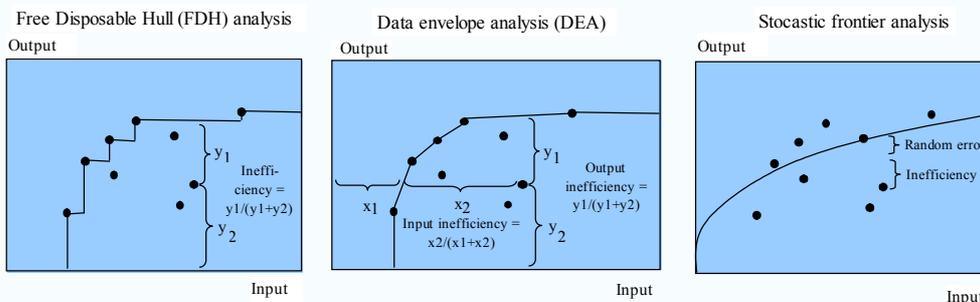
Non-parametric approaches have several caveats [3]. First, estimates are very sensitive to measurement error, outliers and sample size. Since each observation can determine a segment of the efficiency frontier, outliers will affect the efficiency score for all its peers. In the same vein, when a relevant observation which represents best practices has been omitted from the sample, it may lead to an overall overestimation of efficiency. Second, the number of inputs and outputs that can be used is limited. A too

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[1] The DEA originates on work by Debreu (1951), Koopmanns (1951) and Farrell (1957) and was extended by Charnes et al. (1978) and Faere et al. (1994).

[2] For an analytical description of the linear programming problem see for e.g Afonso et al. (2006) or Hauner (2007).

[3] Drawbacks of non-parametric and parametric approaches are summarised for example in Sutherland et al. (2007) and Cincera et al. (2008). The former also offer options on how to overcome some of the caveats.

(Continued on the next page)

Box (continued)

great number would result in the programming exercise delivering too many efficient linear combinations, possibly resulting in all countries being efficient. And third, DEA analysis does not take into account environmental factors. For example, education outcomes are also a function of income or parent attainment. To account for this, DEA scores are in a second step being regressed on a set of explanatory variables, most of which can be influenced by policy makers only over the long run. This is typically done through censored regression techniques (Tobit) or bootstrap methods. The efficiency scores are then corrected for the impact of exogenous factors. For example, the efficiency score of a country with an above average income and parent attainment would be revised downwards.

Parametric approaches

They estimate a stochastic efficiency frontier assuming a specific functional form (e.g., a Cobb-Douglas type function). When compared to the DEA, the frontier will be fit through the cloud of data points rather than enveloping it (see graph above). Using further assumptions, the residual is then decomposed into two components: a random error term and an inefficiency term. While parametric approaches rely on strong assumptions and require a large number of observations, they also have several advantages. They explicitly deal with statistical noise and incorporate environmental variables directly in the efficiency estimates. Moreover, they allow in principle standard statistical testing.

measured by the latest PISA scores for EU and OECD countries ([1]). Thus, a more efficient use of public resources on education has become a key objective of policy makers, in particular with the aim to raise educational attainment rather than to economise on education spending.

Graph III.3.8: **Public expenditure on primary and secondary education and education attainment**
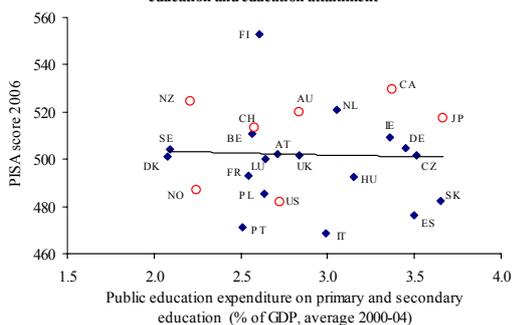
Note: Excludes Greece since OECD public expenditure on primary and secondary edcuation exceed the COFOG figure of overall public expenditure on education.
Source: OECD PISA study 2007 and OECD Education Database.

Efficiency estimates show large room for improvements in most countries. Focusing on

output efficiency, a recent OECD study (Sutherland et al., 2007) for over 6.000 schools finds that the median school in the OECD could improve learning outcomes by 22% by using the same amount of resources (in the case of the study these comprise teacher-student-ratio, and computer availability) ([2]). Afonso and St. Aubyn (2006a), using country-level data, find somewhat smaller margins for improvement of on average 13%. Both studies are correcting their estimates for environmental factors ([3]). The efficiency estimates and country rankings are rather sensitive to the estimation method, the definition of the input and output variables ([4]) and the countries included in the study. Nevertheless, across various studies a pattern emerges which is

([1]) The Programme for International Student Assessment (PISA) is an internationally standardised assessment in the domains of reading, mathematical and scientific literacy.

([2]) When these estimates of technical efficiency are translated into cost efficiency estimates, the room for improvement shrinks to 5%. This is largely due to the use of country-level rather than school-level data for the cost efficiency estimates and the lower number of observations and degree of variation.

([3]) Cross-country studies for industrial economies that use an FDH or DEA approach without such correction include Clements (2002), Herrera (2007), Herrera and Pang (2005), Mattina (2007), Mattina and Gunnarsson (2007) and Kuhry et al. (2004).

([4]) Afonso and St. Aubyn (2006a) use the teacher-student ratio and hours taught per year as input, the average PISA scores as output, and per capita GDP and parent attainment as environmental variables.

summarised in Table III.3.4. Ireland, Finland and Japan are consistently in the most efficient group of countries largely because they achieve far above average PISA scores. On the other hand, Portugal and Slovakia are considered to be relatively efficient despite their below average PISA scores because their use of resources has been rather economical ([1]). Poland combines both aspects: a slightly above average PISA score with below average use of resources.

Table III.3.4:

Estimates for education spending efficiency

Most efficient quartile	Middle two quartiles	Least efficient quartile
FI, IE, JP, PL, PT, SK	BE, CZ, ES, FR, IT, HU, NL, SE, UK, AU, CA, NZ, CH	DE, DK, EL, LU, NO, US

Notes: The classification is based on estimates of technical and cost efficiency, which are corrected for environmental variables, in Afonso and St. Aubyn (2006a), Sutherland et al. (2007) and Verhoeven et al. (2007). The quartiles are determined by the average rank across a number of specifications in these three papers.

Analysing ways to achieve these efficiency gains lies beyond the scope of this paper, but the role of institutional factors should be mentioned. The OECD has created institutional indicators of the primary and secondary education sectors based on a questionnaire to its Member States (see Gonand et al., 2007). They include (i) the ability to prioritise and allocate resources, (ii) the type of management at the local level (outcome-focused, managerial autonomy) and (iii) service provision through benchmarking and user choice. For four of the countries (FI, JP, PT, SK) that have been identified above to be among the most efficient these indicators are available. Three of them (FI, JP, PT) are, according to the self-reported information, exceptionally strong in matching public education resources to specific needs. The other institutional strengths and weaknesses differ however. Outcome-focused management and managerial autonomy is particularly strong Slovakia, and benchmarking and user choice in Portugal.

Health spending

A second focus of empirical studies on public spending efficiency has been the health sector. The link to growth is twofold. First, fiscally sustainable health care systems avoid that additional pressures are created on public budgets that would expand the overall government size and/or crowd out other spending. And second, a healthier population can impact positively on labour input and productivity. At the same time, health care systems, by providing insurance against the risk of illness, allow to smooth consumption and help prevent poverty. Public health expenditure in the EU exceeds education expenditure and averaged 6.5% of GDP in 2005, ranging from 3.0% in Cyprus to 7.1% in the United Kingdom.

Table III.3.5:

Estimates for health spending efficiency

Most efficient quartile	Middle two quartiles	Least efficient quartile
CZ, ES, PO, PT	DE, DE, FI, FR, IT, JP, LU, HU, SE, UK	AU, CA, CH, US

Notes: The classification is based on estimates of technical and cost efficiency, which are corrected for environmental variables, in Afonso and St. Aubyn (2006b) and Verhoeven et al. (2007). The quartiles are determined by the average rank in both studies. Countries are only included if covered by both studies.

However, capturing efficiency of health spending is very difficult. Empirical work has proceeded in the same vein as for estimates on education spending efficiency (see summary findings of two studies in Table III.3.5) ([2]). But while the PISA scores have been broadly accepted as useful outcome indicators, there is less consensus on health outcomes. Variables typically include life expectancy or infant mortality, but it has been argued that better indicators would be quality-adjusted life years or number of avoidable deaths (which are available only for few countries) ([3]). The World Health Organization's (WHO) work in this regard,

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[1] It should be noted that the econometric studies use technical (e.g. student-teacher ratios) rather than monetary input variables. Moreover, it should be recalled that the countries with the highest output and the lowest input are automatically considered to be efficient when using non-parametric techniques.

[2] Cross-country studies for industrial economies that use an FDH or DEA approach without such correction include Herrera and Pang (2005), Lugaresi et al. (2007), Räty and Luoma (2005), Mattina (2007), Mattina and Gunnarsson (2007) and Pommer et al. (2004).

[3] Ways to advance the analysis on health care sector efficiency are discussed in Häkkinen and Joumard (2007). They offer three options: system level analysis, disease level analysis and sub-sector level analysis (e.g., ambulatory care and pharmaceuticals). To assess the link between the QPF and growth, the first option seems preferable but it faces the problems discussed in the text.

where countries were ranked according to the efficiency of their health care systems, based on stochastic frontier estimates, has not been updated or revised since its publication in 2000 as it was met with strong criticism.

Efficiency of public spending for other functions

Research on efficiency of other areas of public spending has been scarce. A recent study on the efficiency of public R&D spending (Cincera et al. 2008) conducts parametric and non-parametric (corrected for exogenous factors) estimations using private expenditure on R&D as an output variable, arguing that the public R&D spending is effective if it spurs private R&D. The authors find that non-EU industrial countries (Australia, Canada, Japan, New Zealand, Singapore, Switzerland and the US) outperform the EU [1]. Using the COFOG classification, Eugène (2007) estimates the efficiency of public spending on public order and safety and the provision of general public services. He finds Austria, Denmark and Finland to be most efficient for the former and Denmark, Finland and the United Kingdom to be most efficient for the latter. However, these results can only be indicative since his estimates are based on the FDH analysis without correcting for exogenous factors. And finally, studies have attempted to measure the efficiency of social spending not from the economic growth perspective but linked to the objectives of poverty reduction, income redistribution and insurance provision. Work includes those by Afonso et al. (2008) and the European Commission (2008b) While the former find the Nordic countries among the most efficient using a DEA approach, the latter work critics the simplification of such an approach and suggest a wider use of indicators.

3.4. STRUCTURE AND EFFICIENCY OF REVENUE SYSTEMS

The link between taxation and growth is very complex. While theory and empirical studies provide some broad lessons on which tax

structures are typically associated with higher growth, the devil is in the detail [2]. For example, the ability of certain tax structures to enhance growth depends on the specific economic structures (e.g. the labour participation rate and share of shadow economy), institutional features (e.g. efficiency of tax administrations) and the interaction between specific taxes, tax expenditures and benefit systems. Thus, reforming tax systems with a view to supporting growth needs to take these country-specific circumstances carefully into account. Moreover, there is a complex link between the overall tax burden and economic activity, as already described in Section III.2, which depends on the type and efficiency of public expenditure that is being financed through public revenues.

An assessment is further complicated by trade-offs between the growth and other objectives. Tax systems' primary objective is to raise the necessary funds for public goods and services while at the same time reallocating income (e.g. through a progressive income tax), addressing externalities (e.g. through environmental taxes) or aiming to support a specific allocation of resources (e.g. as part of housing or industrial policy). Thus, a discussion of growth-enhancing tax structures has to either take these objectives as given or point to potential trade-offs and assess options to optimise them.

Focusing only on the growth objective, the literature on revenue structures offers a broad set of findings, but they remain nevertheless debated [3]. In particular the choice of indicators is critical. For example, it is often difficult to find comparable marginal effective tax rates across time and countries, and results seem to vary with the development stage of

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[1] See also Mandl et al. (2008) for an overview on issues when assessing R&D spending efficiency.

[2] Clearly, this brief section here can only provide a rather simplified summary of a few key issues on the relationship between revenue structures and revenue system efficiency and growth. For more details on one specific aspect, the shift from labour taxation to consumption taxation, see Part IV.

[3] The ongoing OECD's project on 'Tax and economic growth' is analysing in detail the links between tax policies and growth and aims to identify tax policy priorities related to growth. A mapping of the different types of taxes and drivers of growth can be found in Heady (2007).

economies ([1]). Nevertheless, a main set of issues can be summarised as follows.

A shift from labour to consumption taxation can enhance growth. As discussed in much detail in Part IV of this report, indirect taxation has a wider tax base than labour taxation. It also taxes accumulated wealth and profit incomes. Thus, a revenue-neutral shift could reduce the tax rate on labour with positive implications for labour supply and demand. This hypothesis finds support in growth regressions and model simulations which identify a positive link between tax shift and growth (European Commission, 2006c, and findings presented in Part IV, OECD, 2007a, Gray et al., 2007, Gracia-Escribano and Mehrez, 2004, Bleaney et al., 2000).

A commonly used indicator to measure disincentives from labour taxation is the tax wedge. It captures the difference between what workers receive and what firms pay. A higher marginal tax wedge may discourage labour. In the EU, ([2]) this labour tax wedge is significantly higher than in non-EU comparator countries (Graph III.3.9). In particular countries with large public sectors tend to tax labour income highly, which could be problematic for growth. However, in five EU Member States (Ireland, France, Germany, Hungary, the Netherlands) tax reforms have helped to lower the marginal tax wedge by more than 5 percentage points between 2000 and 2007. Only in Greece has it surged (by more than 9 percentage points) in parallel to the expansion of its public sector.

Graph III.3.9: **Marginal tax wedge on labour income, 2007**

Note: Tax wedge is defined as marginal personal income tax and social security contribution rates on gross labour income for an average income earner. No data are available for BG, CY, EE, LT, LV, MT, RO, SI. Averages are unweighted.
Source: OECD, *Taxing wages 2006/2007: 2007 Edition .*

But the size and duration of growth effects from a tax shift from labour to consumption taxation vary strongly with structural factors. The simulation in Part IV for the euro area highlights a tax shift of 1% of GDP could increase employment by 0.25% and real GDP by about 0.2% in the long run. Most positive effects arise in the first three years and depend strongly on how much the increase in indirect taxation results in higher consumer prices and a real reduction of transfer payments and wages. Moreover, institutional factors, such as wage-bargaining setups and minimum wages interact with tax policy in many ways and will affect the outcome of tax shifting policies (European Commission, 2006c, Valenduc, 2007).

Across EU Member States, the revenue structure varies strongly and only a slight shift toward indirect taxation has emerged ([3]). The reliance on direct taxation and social securities contributions in total public revenues ranges from less than 50% in Bulgaria to 72% in Belgium. On average, countries with larger public sectors tend to raise more resources through these two channels (Graph III.3.10). At the same time, revenue system structures have been fairly stable over time with changes reflecting largely cyclical fluctuations (Graph III.3.11).

([1]) For example, Lee and Gordon (2005) find for a sample of OECD and developing countries that a higher corporate tax rates reduces growth. However, when including a dummy for OECD countries the coefficient drops to nearly zero. See for example Valenduc (2008) for a discussion on indicators to assess the quality of revenue systems.

([2]) However, these numbers do not include most transition-economy recently acceded Member States who have, on average, a tax wedge below that of the old Member States.

([3]) For more details on the revenue trends in the EU see Part IV of this report. See also Carone et al. (2007), Eurostat (2007) and OECD (2007c).

Graph III.3.10: **Structure of public revenues, 2002-2007**

Note: Unweighted averages for 2002-2007.
Source: Commission services.

Graph III.3.11: **Share of direct taxation and social security contribution in total public revenues (%)**

Note: Unweighted averages.
Source: Commission services.
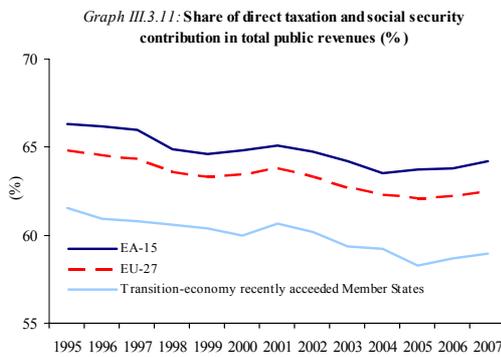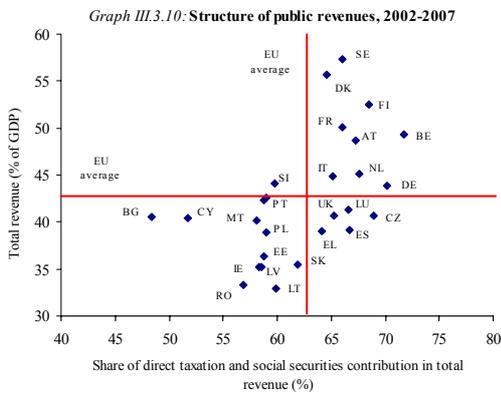
In addition to the share of direct and indirect taxes, also the composition of direct taxes themselves matters for growth. Higher rates of income tax are found to have less of an impact on growth than higher corporate tax rates and social security contributions by employers (see for example, OECD 2007a,b, European Commission 2006c, Widmalm, 2001, Padovano and Galli, 2001, 2002). This results from a rather low elasticity of primary labour supply to tax changes. However, secondary income earners (i.e. additional members of a household that enter the labour market or adjust their hours worked) are found to be much more responsive. Thus, the overall effect depends on the degree of labour market participation and the setup of benefits systems. That growth is more strongly linked to corporate tax rates and employers' contributions has been attributed to the direct impact on costs and competitiveness. However, it should be noted that there is typically a clear trade-off, at least in the short run, between the economic growth and equity objectives as

regards the choice on the structure of direct taxation.

Moreover, many other specific revenue system features need to be considered. For example, human capital formation could be negatively impacted by the progressivity of income taxation as it reduces the return on education (see OECD 2007b). At the same time however, it ensures a more even income distribution. Savings and investment decisions are affected by the taxation of capital income, profits and wealth, including the concrete design choices such as deductability or special treatments. For example, R&D expenditure and FDI are responsive to tax incentives.

And lastly, the administrative efficiency, simplicity, transparency and stability of revenue systems can support growth ([1]). An efficient tax administration allows keeping the administrative burden on taxpayers and the public sector low ([2]). Together with a simple and transparent tax code it can also ensure high tax compliance. Thus, an improvement in administrative efficiency could either translate into additional revenues or in a reduction of tax rates ([3]). At the same time, transparent and stable tax systems facilitate long-term savings and investment decisions, which may stimulate growth.

([1]) See for example Heady (2007).
([2]) Ratios of administrative costs to revenue collections have been collected by the OECD (2007d) but they are not well suited for cross-country comparisons given the range of factors that impact on them (e.g. differences in tax rates and structures and collection of social security contributions).
([3]) Institutional and organisational arrangements for tax administrations vary across countries but the 'taxpayer segment model' where services and enforcement functions are organised around segments of taxpayers (e.g. large, small/medium business, employees) rather than functions (e.g. registration, accounting, collection, audit) has become more popular (see OECD 2007d).

Graph III.3.12: **Administrative burden of tax systems, 2007**

Note: Time to prepare, file and pay (or withhold) corporate income tax, value added or sales tax and labour taxes, including payroll taxes and social contributions based on a case study company. No data available for CY and MT. Averages are unweighted.
Source: World Bank and Price Waterhouse Coopers (2008) *Paying taxes 2008. The global picture* .

In the EU much remains to be done to reduce administrative burdens and compliance costs. For instance, indicators on the time needed to comply with tax payments show large differences across countries reflecting also the different complexities of tax systems (see Graph III.3.12). Countries with rather simple tax systems, including those with flat taxes (Estonia, Latvia, Lithuania, Romania) ([1]) fair rather well, while others impose a much higher time burden for complying with tax payments on enterprises.

3.5. FISCAL GOVERNANCE

Fiscal governance is a key building block to ensuring high quality of public finances ([2]). It has been widely recognised that sound fiscal governance (including fiscal rules, fiscal institutions, budgetary procedures and medium-term frameworks) can address the deficit bias, the common pool problem associated with specific spending items financed out of the general budget and contribute to fiscal sustainability ([3]) This is achieved by providing

constraints on or disincentives for time-inconsistent behaviour of policy makers.

The EU's fiscal framework explicitly accounts for this experience. In addition to the supra-national deficit and debt rules of the Stability and Growth Pact (SGP), the Council Report of March 2005 on the SGP reform explicitly recognised the important role that national fiscal rules and institutions can play in achieving sound budgetary positions. It called on Member States to "ensure that national procedures in the budgetary areas enable them to meet their obligations." Most recently (9 October 2007), the ECOFIN Council confirmed this view and also acknowledged that national rules-based multi-annual fiscal frameworks could help to adhere to medium-term budgetary plans.

But budgetary outcomes and fiscal sustainability are not the only dimensions impacted by fiscal governance. Budgetary procedures, in particular, a greater focus on outputs an outcomes rather than inputs (e.g. performance-based budgeting) can help to improve the efficiency of public expenditure. At the same time, by determining a rule for overall expenditure, they would allow to better focus policy discussions on spending priorities.

The different aspects of fiscal governance, their links to QPF and EU performance are briefly discussed below.

3.5.1. Fiscal rules

National numerical rules have become increasingly important across the EU and underpinned progress in fiscal consolidation. Work by the European Commission (2006a) showed that since 1990 more and more Member States have adopted fiscal rules, extended the rules' coverage or strengthened their features ([4]). Graph III.3.13 summarises this development over the past ten years based on an index that captures five features of fiscal rules: the statutory base, the nature of body in charge of monitoring

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([1]) Surprisingly, despite the major tax reform in Slovakia in 2004, including the introduction of a flat tax, the 'time to comply' indicator is still very high.

([2]) Fiscal governance is understood here as comprising all rules, regulations and procedures that impact on how the budgets and its components are being prepared, approved, carried out and monitored. The terms fiscal governance and fiscal frameworks are used interchangeably in this section.

([3]) See e.g. European Commission (2006a and 2007a), von Hagen and Harden (1994), Poterba and von Hagen

(1999), Strauch and von Hagen (2000) and Hallerberg (2004).

([4]) See also Moulin and Wierts (2006) and Ayuso et al. (2007). For an example on how fiscal rules are operated in Sweden see Fischer (2005).

and enforcing the rule, enforcement mechanisms and media visibility of the rule ([1]). In all but one Member State the strength and coverage has improved unless it had already been very strong in the mid-1990s.

Graph III.3.13: **Fiscal rules index in the EU**
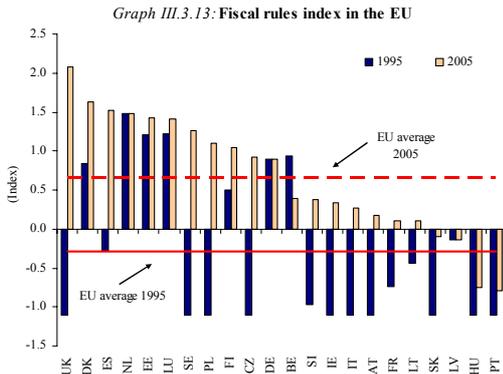
Note: The index measures the coverage and strength of national numerical fiscal rules taking into account five criteria. It is standardised to have a mean of zero and standard deviation of one over the whole sample period. No data are available for BG, CY, IE, MT and RO. EU averages are unweighted.
Source: Commission services.

Moreover, the European Commission (2006a) showed that stronger fiscal rules were linked to better budgetary performance (Table III.3.6). At the same time, rules that focused on the expenditure side were associated with lower primary expenditure-to-GDP ratios. This impact of fiscal rules is also visualised in Graph III.3.14. Countries with a high average fiscal rules index faired significantly better as regards budgetary positions and reduction in expenditure-to-GDP and debt ratios than those with the weakest fiscal rules.

Table III.3.6:

Influence of fiscal rules on the primary cylically adjusted balance, EU-25, 1990-2005

Explanatory variables	Dependent variable: cyclically adjusted primary balance (CAPB)
Output gap	0.09 (1.4)
Constant	-0.90 (-2.0)**
Lagged CAPB	0.63 (15.8)***
Lagged debt/GDP ratio	0.02 (3.1)***
Fiscal rule index	**0.25 (2.1)****
Dummy 1992	0.63 (2.0)**
Dummy 1999	-0.53 (-2.9)***
N. obs.	260
R sq. within	0.59
R sq. between	0.94
R sq. overall	0.81

Notes: Estimations method: fixed effects, instrumental variables regression. The output gap is instrumented with its own lag and a lagged indicator of foreign output gap. The foreign output gap indicator is the export-weighted output gap of the 3 major export markets of each market. All fiscal variables are expressed as shares on potential output. "t" values are reported in parentheses. *, **, and *** denote, respectively, significance at the 10, 5 and 1 percent level. Coefficients for country fixed effects are not reported.
Source: European Commission (2006a).

Graph III.3.14: **Fiscal rules index and budgetary performance, 1995-2007**
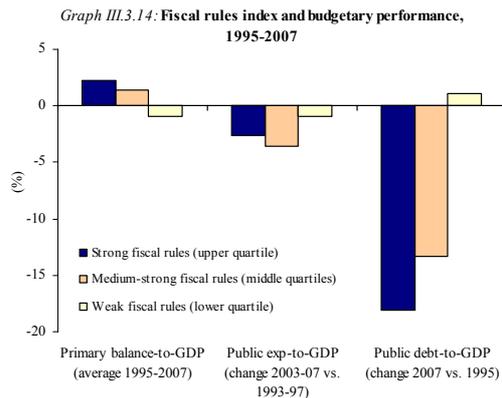
Note: Based on the Commission's fiscal rules index. Strong-rule countries comprise those in the upper quartile of the index, medium-strong-rule countries are in the middle two quartiles and weak-rule countries are in the lower quartile.
Source: Commission services.

The link between numerical fiscal rule and stabilisation of output is however less clear cut. It has frequently been argued that rules-based frameworks could prevent flexible discretionary fiscal policy responses in times of shocks (see e.g. Anderson and Minarik, 2006). But in practice, fiscal policy has often moved with the cycle, with pro-cyclicality in industrial countries having been mostly a phenomenon of good economic times ([2]). While there are no econometric studies yet on the link between cyclicality of fiscal policy and numerical fiscal rules, country experiences point to certain types of fiscal rules and specific design features being

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([1]) These five elements closely follow the one identified by Kopits and Symansky (1998) to promote budgetary discipline.

([2]) See for example Balassone and Kumar (2007), Manasse (2006), Alesina and Tabellini (2005).

potentially helpful in limiting pro-cyclicality. In particular, expenditure rules (especially when nominal expenditure is capped), revenue rules (which define the use of windfall revenues) and budget balance rules (specified in cyclically adjusted terms or applicable over a whole business cycle) are supportive. Desirable design-features of fiscal rules include good coordination among the various levels of government, multi-annual horizons, strong political commitment and strong monitoring and enforcement mechanisms, for example through an independent institution. The different degrees of cyclicality in fiscal policies across EU Member States may be partly linked to these different designs and strengths of fiscal frameworks.

3.5.2. Medium-term budgetary frameworks

A success factor for reducing the deficit bias is a multi-annual orientation of fiscal policy. A longer term horizon can either be enshrined in numerical fiscal rules or, more generally, in medium-term budgetary frameworks (MTBF). They make budget plans more transparent, which should facilitate medium-term decision making by private agents and, at the same time, lower the likelihood of political expenditure cycles. Moreover, MTBFs allow shifting the focus during the medium-term horizon away from the expenditure envelope as a whole toward the allocation of resources between and within Ministries.

For most EU Member States, the stability and convergence programmes (SCP) are not the only MTBFs but they are typically supplemented by specific national setups. The European Commission (2007a) reviewed these MTBFs and identified the following key features. Most MTBFs have 3-4 year horizons, are revised on an annual rolling basis and the majority covers the general government sector. But the degree of political commitment is weak in many countries where budget plans under the MTBFs have only an indicative character, are not linked to annual budgets and no enforcement mechanism is in place. Based on this features, the European Commission constructed an index that measures the quality of MTBFs (Graph III.3.15), which shows a similar dispersion as the fiscal rules index. But not all countries with strong fiscal rules necessarily also have a strong medium-

orientation even though there is positive correlation across both aspects of fiscal governance.

Graph III.3.15: **Quality of medium-term budgetary frameworks and fiscal rules**
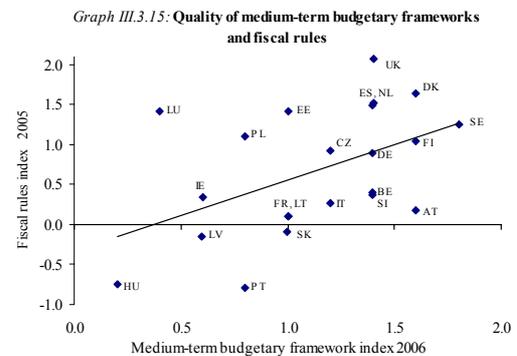
Note: Excludes BG, CY, EL and RO. MBTF index is calculated based on five criteria and ranges from zero to two (see European Commission 2007a for more details). On the fiscal rules index, see Graph III.3.14.
Source: Commission services.

Not surprisingly, countries with stronger MTBFs are also those that have had greater success in adhering to them. During 1998-2006, those EU-15 countries that scored better on the MTBF index were also less likely to overrun their expenditure plans over the medium term. The econometric findings of European Commission (2006a), which are summarised in Table III.3.7, also show the factors that support sticking to medium-term budgetary plans. They include a lower ambition for the planned adjustments, a larger public sector size at the starting point and the delegation of fiscal policy to a strong Minister of Finance (in contrast to countries where fiscal policy is defined in a contract among the diverse ruling parties).

Table III.3.7:

The role of medium-term budgetary frameworks in sticking to expenditure plans

Dependent variable: difference between the observed and planned increase in real primary expenditure EU-15, 1990-2006

Explanatory variables	Coefficient	t-stat
Constant	0.1 (***)	4.6
Planned change primary-expenditure ratio	-1.0 (**)	-2.3
Initial level prim expenditure ratio	-0.2 (***)	-3.8
Dummy contract (0) delegation (1)	-0.2 (***)	-3.4
Real GDP growth surprises	-0.1	-0.9
Total index medium-term budgetary frameworks or SCP	**-0.6 (**)**	**-2.5**
Dummy t+2	0.1 (***)	3.8
Dummy t+3	0.2 (***)	3.5
N. Obs.	282	
R. Sq	0.48	

Notes: Estimation method: fixed-effect OLS with robust standard errors. *, **, and *** denote, respectively, significance at the 10, 5 and 1 per cent level.
Source: European Commission (2007a).

3.5.3. Fiscal agencies

Independent fiscal agencies are a third institutional mechanism to improve budgetary performance and foster medium-term orientation. Experience shows that governments often tend to be overly optimistic in the macroeconomic assumptions that underpin their budgets (see Jonung and Larch, 2004, Mühleisen et al., 2005, Strauch et al., 2004). For that reason, the forecasting function could be delegated to independent fiscal agencies ('fiscal councils') which at the same time could monitor and assess fiscal performance [1]. In practice, the forecasting record of these institutions has been free of the bias that policy makers frequently exhibit (Jonung and Larch, 2006). In the EU, many Member States have independent fiscal institutions that serve as advisors and monitor fiscal performance. In most cases, national central banks also play this role. But only two Member States (Belgium and the Netherlands) rely on independent fiscal institutions to provide the macro forecasts for the budget and medium-term budgetary plans (Table III.3.8).

Table III.3.8:

Key features of independent fiscal agencies in the EU, 2005

Preparation of macro forecasts for budget	Preparation of non-binding macro forecasts
BE, NL	AT, DE, DK, FR, IT, SE, UK

Monitoring of budget performance	**No independent fiscal agency**
BE, DE, DK, EE, ES, FR, HU, IT, NL, PT, SE	CY, CZ, IE, LV, LT, LU, MT, PO, SL, SK

Note: National fiscal agencies are defined as independent bodies, other than the central bank, government or parliament, that prepare macroeconomic forecasts for the budget, monitor fiscal performance and/or advise the government on fiscal policy matters. The table does not include information for BG and RO. In the NL, macro forecasts by the Netherlands Bureau of Economic Policy Analysis (CPB) are not legally binding but in practice the CPB provides the macro forecasts for the budget. In the UK, the government also frequently follows the National Audit Office's (NAO) macro assumptions for the budget.

Source: Based on European Commission (2006a).

3.5.4. Budgetary procedures

While the above aspects of fiscal frameworks are mostly geared toward more fiscal discipline, specific setups of budgetary procedures can also contribute to greater spending efficiency [2]. In particular, a greater results-orientation can create stronger incentives for raising public sector performance. The concept of performance-based budgeting has therefore gained popularity in and outside the EU. When fully implemented it would relate budgetary appropriations to performance, but only some countries, and just for few sectors (mainly education and tertiary education) go that far given many practical problems (see Box III.3.2 for an overview on the various concepts and their use in EU Member States). Given these difficulties it seems that performance-based budgeting, while being a supportive instrument, can in itself not be a panacea for assuring good fiscal performance or high public spending efficiency.

3.6. MARKET EFFICIENCY AND BUSINESS ENVIRONMENT

Public finances, through budgetary and non-budgetary items, can also impact the functioning of markets and the business environment. While this can therefore be viewed as another dimension of QPF, there are very strong overlaps with the above-mentioned dimensions and public policy in general. Moreover, since assessing the links between structural reforms and growth would go far beyond the scope of this paper and is better dealt with under the Lisbon Strategy for Growth and Jobs [3] only the key channels from public finances to growth are summarised below.

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[1] The literature also makes a case that fiscal policy implementation could be delegated to independent institutions, similar to monetary policy (Debrun et al. 2007) but in practice there is not much support for this proposal given that fiscal policy reflects political choices and social preferences.

[2] The discussion of fiscal governance elements here cannot be comprehensive. Other elements of importance, mostly to overall budgetary performance include budgetary transparency, top-down budgeting techniques and centralisation of the budget process and during execution (see Blöndal 2003).

[3] See the European Commission's (2007c) progress report on the Lisbon Strategy for Growth and Jobs. For OECD countries, OECD (2008) contains an assessment of reforms as part of the 'Going for Growth' initiative.

Graph III.3.16: **Public spending on general services, 2005**

Note: Unweighted EU average.
Source: Commission services based on COFOG data.

Graph III.3.17: **'Wastefulness' of government spending, 2007**

Note: Index ranging from 1 to 7 based on exective opinion survey on "public spending in your country is wasteful (=1), provides necessary goods and services not provided by the market(=7)."
Source: Global Economic Forum, *Global Competitiveness Report 2007-2008* .

In addition to the structure of tax and benefit systems and the provision of a public infrastructure, the efficiency of public administrations can be a factor for growth. The first two aspects have already been discussed in Parts III.3.3 and III.3.4. Moreover, Part IV provides detailed analysis on the role of revenue systems and also stresses the need to account for the interlinkages with benefit systems. In particular, the flexicurity concept, which involves labour market flexibility, unemployment benefits, active labour market policies and training and life-long learning is an approach to support growth and employment. The role of public expenditure efficiency was also highlighted with the examples of educational and health spending but an additional point can be made about the efficiency and effectiveness of public administrations. Spending on general administrations in the EU is not negligible at 6.5% of GDP (or 14 % of total public spending), varying from 2.7% of GDP in Estonia to 9.4% of GDP in Hungary (Graph 3.16). A number of countries have therefore embarked on public administration reforms (for an overview see European Commission, 2008c). They often involve establishing a closer link between the use of resources and results (Box III.3.2), changing management practices and relying more on information technologies (e-government) with the aim to raise public sector productivity and citizen's satisfaction.
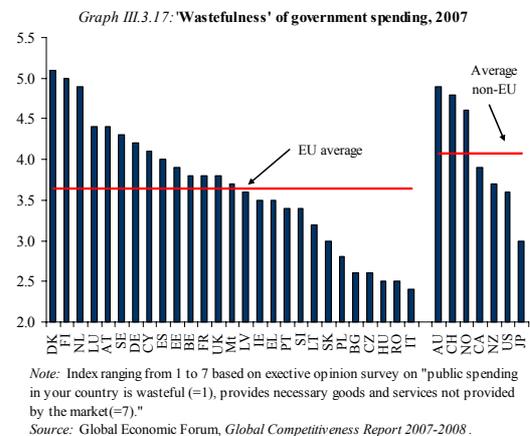
In a number of EU Member States the room of improvement in public administration efficiency is large. This results from a range of indicators, of which only three are described below. First, the World Bank Doing Business indicator can be viewed as a proxy for the quality of business regulation and the effectiveness of its enforcement. The index includes aspects directly affected by public administrations such as ease of dealing with licenses, opening and closing businesses, enforcing contracts, registering property, paying taxes, trading across borders (¹). Five EU Member States (Denmark, Estonia, Finland, Sweden and the United Kingdom) rank in the top 10% of the world (178 countries). Second, the World Bank Governance Indicator captures four public administration areas, namely government effectiveness, regulatory quality, rule of law (both including enforcement) and control of corruption. In terms of government effectiveness, which has been assessed based on surveys among business executives, experts and citizens, the EU comes out somewhat below the non-EU comparators, largely because shortcomings are seen for many of the recently acceded Member States as well as Greece and Italy. And finally, the World Economic Forum's index on the 'wastefulness' of government spending, based on survey among managers, comes to a very similar result.

(¹) Other elements of the indicators, which are only indirectly linked to QPF are protecting investors, trading across borders, employing workers and getting credit.

Box III.3.2: **Performance-based budgeting - A summary of EU Member States experiences**

Performance-based budgeting (PBB) aims to increase the quality of public finances by strengthening the link between the allocation of budget resources and their outputs and outcomes. This is achieved by shifting budgeting and management away from input control towards a greater focus on results. The literature does not offer a single definition of PBB, but following the OECD (2007e) one can distinguish three levels, depending on the strength of the link between performance and funding: (i) presentational, (ii) performance-informed (PI) budgeting and (iii) direct/formula performance budgeting (see also Bouckaert and Halligan, 2006).

Country experiences show that implementing a performance-based approach to budgeting, which is often part of larger public administration reform efforts, can be cumbersome. Problems include overcoming the often stiff resistance against organisational changes, the timely availability of performance data and, more generally, the measurability of performance (e.g. Curristine, 2005) as well as difficulties in avoiding to create distorted incentives (e.g. an over-emphasis on objectives that can be easily quantified (Smith, 1995)). This explains why just a few countries have established pure PPB and typically only for a few selected areas (mostly health and higher education). Instead, most countries apply some form of 'performance-informed budgeting' where decision-makers take performance data into consideration but no automatic link budget allocations exists.

The comparison on how EU Member States use PI below is based on the 2007 updated OECD/World Bank *Budget Practices and Procedures Database*. While the database shows how the countries institutionalise their approach, it can provide only a rough indication to which extent a culture of performance is embedded in national organisations. The main results are summarised in Graphs 1-4.

PI is used in all 20 EU Member States included in the database except Belgium and the Czech Republic (Graph 1). Member States use a mix of evaluation reports, performance measures, performance targets and/or benchmarking to assess the government's non-financial performance but only few use all of them. In particular, benchmarking is not yet very wide spread. Most countries use a combination of output and outcome measures as performance measures and/or targets, reflecting, on the one hand, the difficulty to identify measurable outcomes in all sectors and, on the other hand, the attempt to avoid that using output indicators alone could shift the attention away from the actual desired policy outcomes. These practices are in line with the guidelines developed by the OECD (2007f) on *Designing and developing budget systems that use performance information*.

The formal responsibility of setting performance targets is given either to the relevant minister or the Cabinet as a whole in most Member States (Graph 2). Only Austria and Denmark make the administrative head of the relevant ministry formally responsible for the target setting, even though in practice this is the case in many other Member States as well. In several countries, the Minister of Finance is involved in setting performance targets informally, either alone or in cooperation with the relevant minister. In the United Kingdom, the Prime Minister and the Chancellor of the Exchequer share the responsibility of setting targets in practice. In most countries the relevant minister is responsible for achieving the targets, with the exception of the Prime Minister in Poland and the Director General in Denmark. In Finland both the relevant minister and the head of the agency are responsible for achieving the target, as the ministry and the agency are partners in a performance agreement.

The authorities that most frequently use PI are the Central Budget Authority, the Minister of Finance or the responsible minister (Graph 3). They take advantage of the available PI during the budgetary decision-making process. Within the national parliaments the use of PI is less frequent, with only Finland and France and, to a lesser degree, Slovakia and Sweden regularly taking PI into account in the budget and sectoral committees.

Box (continued)

When asked on how much of the budget is linked to performance targets, EU countries display vary diverse practices. Some include performance targets for all expenditures (FR, SK, SE), while others use no performance target in the budget documentation at all (AT, DK, LU, PL, SI). The differences are just as big when it comes to performance goals (e.g. FI and NL have goals covering all expenditure items, together with SK and SE).

Graph 1: **Types of performance information produced to assess the Government's non-financial performance**

Notes: 20 EU Member States included (no data for BG, EE, CY, LT, LV, MT and RO). FI also uses analysis of personnel in their assessment.
Source: OECD Budget Practices and Procedures Database 2007.

Graph 2: **The responsibility for setting performance targets**

Notes: 20 EU Member States included (no data for BG, EE, CY, LT, LV, MT and RO). More than one response possible, i.e. the responsibility is shared.
Source: OECD Budget Practices and Procedures Database 2007.

Graph 3: **The use of performance information in budgetary decision-making**

Notes: 20 EU Member States included (no data for BG, EE, CY, LT, LV, MT and RO). Frequency ranges from 1 = Almost never (0-20%) to 5 = Almost always (81-100%). The chief executive refers to either the President or Prime Minister.
Source: OECD Budget Practices and Procedures Database 2007.

Graph 4: **Consequences when performance targets are not met**

Notes: 20 EU Member States included (no data for BG, EE, CY, LT, LV, MT and RO). Frequency ranges from 1 = Almost never (0-20%) to 5 = Almost always (81-100%).
Source: OECD Budget Practices and Procedures Database 2007.

The review on consequences, penalties or costs incurred when missing performance targets confirms the loose link between PI and funding (Graph 4). In general, across the 20 Member States considered on that matter, a budget reduction would rarely happen (in around one quarter of the cases a missed target leads to budget cuts). Other forms for disciplinary mechanisms, like pay reduction or consequences for future career opportunities for the responsible person(s) and elimination of the program, are also rarely being applied. Closer scrutiny in form of more intense monitoring is the most common consequence, used in close to 50% of the instances where targets are missed.

Given the difficulty of linking performance measures directly to budget appropriation, the use of more comprehensive evaluation mechanisms are key when assessing programmes or sectors. Evaluation reports may even be a tool to determine the linkages between activities or programmes and outcomes (OECD, 2005). Throughout the EU Member States, the line ministries conduct or authorise most types of evaluations. The involvement of the legislature in initiating evaluations is rarer and limited to a few countries (LU, NL, PL, FI, EL and FR).

To sum up, EU Member States differ greatly in their use of PI, even though many countries have initiated reforms over the last years (OECD, 2007e). This partly reflects different country-specific needs, as highlighted by the OECD Guidelines, but also different degrees of progress in tackling the practical problems of PBB. Countries which have institutionalised PBB to the strongest degree in the EU include NL, FI, FR, SK and DK, but even in these countries the actual approach is rather that of 'performance-informed budgeting' than direct performance budgeting.

3.7.   CONCLUSIONS

Public finances can impact growth through a number of channels. Even though not all of them are yet well understood and interlinkages are not always clear-cut, a number of broad conclusions can be drawn based on findings in the literature and the review of data for the EU Member States and non-EU comparators.

First, sound overall public finances, i.e. strong and sustainable budgetary positions and debt levels remain the linchpin of fiscal policy-making conducive to economic growth but they need to be accompanied by improving other aspects of QPF.

Second, when public administrations become too large they tend, in general, to hinder economic growth in particular if they are associated with high tax burdens on labour and capital and inefficient use of public resources. Problems are compounded by large deficits and debt. On the other hand, when governments excel in these other dimensions of QPF, large public sectors can go hand in hand with strong growth performances.

Third, whether certain types of public expenditure (such as public investment or spending on education and health) are growth-enhancing largely depends on their ability to address market failures and provide public goods. Thus, it is rather the outcomes (such as a public infrastructure or educational attainment) than the level of inputs that matter for growth.

Fourth, in light of rising pressures on public finances and the importance of spending outcomes for growth, a key focus for policy makers should be on raising the efficiency and effectiveness of public spending.

Fifth, revenue structures that limit distortions and disincentives (e.g. indirect taxes on consumption rather than direct taxes on labour and capital) are typically associated with higher growth. However, when deciding on tax structures there are clear trade-offs between the growth and other objectives (such as income distribution and fairness), which need to be fully taken into account.

And finally, achieving results on all of the above fronts of QPF can be facilitated by strong fiscal governance frameworks. They can contribute not only to better budgetary performance and thereby fiscal sustainability but also to a more medium-term orientation with better focus on budgetary priorities and greater efficiency and effectiveness.

The multi-dimensional concept of QPF gives fiscal policy makers a wide range of policy options in support of economic growth. The many policy levers of QPF allow choosing various policy mixes which can explicitly account also for other country-specific objectives. But it is clear that choices need to be made. For example, a rather large public sector can only remain compatible with strong growth prospects if accompanied by sustainable budgetary positions and debt levels, efficient public administrations, spending and revenue systems that are supported by strong fiscal institutions.

4. THE QUALITY OF PUBLIC FINANCES: SOME STYLISED FACTS

The existing literature on fiscal policy and growth, rooted in endogenous growth models, has explored the role played by governments' investment in shaping growth (and innovation) potential (see Gemmell and Kneller, 2001 and Afonso et al., 2005 for a review of the main arguments). To date however, existing knowledge about the influence of public finances on macroeconomic performance is rather dispersed. As shown in Section III.3, a growing body of empirical evidence has considered the impact of public expenditure on items such as health, education, infrastructures, as well as administrative burden or taxation structure. A general analysis encompassing these various aspects into one analytical framework is still missing, however. In particular, still little is known regarding the mechanisms through which quality of public finances (QPF) may influence growth in the long run.

This section provides descriptive evidence on the link between QPF and economic growth. First, long-run GDP per capita growth in the EU and non-EU OECD countries is linked to the different dimensions of QPF. Second, the question regarding the link between QPF and growth is investigated by identifying components of growth and relating them to the different dimensions of QPF through a growth-accounting approach. Finally, some tentative conclusions are drawn from the evidence presented and avenues for future empirical research are indicated.

4.1. QUALITY OF PUBLIC FINANCES AND GROWTH IN THE LONG RUN

4.1.1. Does the quality of public finances matter for long-run growth?

Table III.4.1 provides the average values of indicators representing the different dimensions of QPF as described in Section III.3 for two different groups of countries: the high GDP-per-capita growth countries and the low GDP-per-capita growth countries, where the mean growth rate of the overall sample represents the reference value. The periods covered are 1980-1989 and 1990-2005; besides the EU15 countries

a number of non-EU industrialised countries are also included (Australia, Canada, Iceland, Japan, Korea, New Zealand, Norway, Switzerland and the United States). The table does not consider the dimension efficiency of expenditure described in Section III.3 as only very short time series were available for the corresponding variables. Since limited information is available for the recently acceded Member States (RAMS) before 1990, indicators for the EU27, i.e. EU15 + RAMS are reported in Columns (5) and (6) only for the period 1990-2005. All variables in Table III.4.1 are expressed in weighted average terms, using the value of the GDP per capita in purchasing power standard (PPS) terms as weight. Differences in mean values across country groups that are statistically significant are reported in bold ([1]).

The figures in Table III.4.1 highlight marked differences in growth performance which appears to have become more pronounced since the early 1990s. These figures suggest that high-growth countries have tended to display lower public expenditure as percentage of GDP, lower public debt, lower public deficit and variability of public deficit, a lower (higher) weight of (indirect) direct taxation, a lower labour tax wedge and more flexible markets. This evidence tends to support existing findings in the growth and macroeconomic policy literature as discussed in Section III.3.

The difference between high and low-growth countries concerning government debt is not the one expected, however, for the period 1980-1990. This can mostly be attributed to Italy, Ireland, the UK and Japan, which experienced relatively high growth rates during this period while displaying relatively high debt levels. During the period 1990-2005, however, this situation was reversed and countries with

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([1]) The statistical significance level has been calculated performing a Wald-test with the significance level set to 5%, where the null hypothesis is that the difference between mean values is equal to zero. Table III.4.1 was also constructed using unweighted figures and yielded results very similar to the ones displayed here.

Table III.4.1:

Growth and the quality of public finances: selected indicators for the EU and OECD countries

	All countries, 1980-1989		All countries, 1990-2005		EU27 countries, 1990-2005	
	low growth	high growth	low growth	high growth	low growth	high growth
Average GDP per capita growth rate	2.3%	3.3%	1.6%	3.3%	1.6%	3.0%
1. The size of the government						
Government expenditure	41.0%	40.1%	**40.8%**	**37.8%**	48.6%	42.1%
2. Fiscal deficit and sustainabillity						
Size of deficit	-3.8%	-3.9%	**-3.1%**	**-0.1%**	-3.2%	-3.0%
Variability of deficit	-1.1%	-1.0%	**-1.1%**	**-0.4%**	**-1.5%**	**-0.9%**
Public debt	50.6%	63.2%	**73.8%**	**57.3%**	65.0%	49.8%
3.Composition of expenditure						
Consumption	**27.9%**	**25.7%**	**26.8%**	**21.4%**	**26.5%**	**23.5%**
Investment	**2.7%**	**3.9%**	**2.9%**	**3.7%**	**2.4%**	**3.5%**
4. Structure of revenues						
Tax wedge on labour	35.5%	32.1%	**34.7%**	**29.6%**	**44.8%**	**39.6%**
Indirect taxes	9.7%	9.4%	**10.0%**	**11.9%**	**13.1%**	**12.2%**
Direct taxes	12.7%	12.5%	**12.9%**	**10.2%**	**12.9%**	**10.1%**
5. Fiscal governance						
Overall fiscal rules index					0.0	0.0
Expenditure fiscal rules index					0.1	-0.1
6. Business environment (Fraser index)						
Regulation	5.5	5.5	**6.1**	**6.4**	**5.6**	**5.6**
Credit regulation	7.3	7.4	**7.7**	**8.0**	**7.7**	**8.4**
Labour market regulation	**4.3**	**5.3**	**5.1**	**5.4**	**5.0**	**5.6**
Business regulation			**6.3**	**6.8**	**6.4**	**7.0**

Notes: Weighted (GDP in purchasing power standard) average reported. All variables are measured as percentage of GDP except the tax wedge, fiscal governance variables and the business environment variables. The tax wedge percentage includes employers' social security contributions. Business environment variables reflect structural rigidities in labour and capital markets and business environment and are taken from the Fraser database, a high value of the Fraser index indicating a high flexibility in each of the market considered under item 6. The variability of the deficit is measured by the ratio of the standard deviation of the deficit (or surplus) divided by the average value of the same variable for each country. Non-EU countries includes AU, CA, IS, JP, KO, NO, CH, NZ, US. Figures in bold denote statistically significant differences in variables (weighted) means across country groups

Source : European Commission (Ameco and Eurostat), OECD and Fraser Institute (available at: http://www.fraserinstitute.ca/).

relatively high growth rates of GDP per capita tended to have relatively low public debt.

Interestingly, the widening difference in growth performances between high and low-growth countries was also accompanied by a growing divergence in terms of QPF. During the 1980s, only the indicators concerning public consumption, public investment and labour market regulation were significantly different between the two groups. During the 1990-2005 period, however, all indicators of QPF also displayed significant differences as growth divergence widened.

The last two columns of Table III.4.1 provide the (weighted) mean values of the QPF variables for the low and high-growth country groups by considering only the EU27 countries. These two groups are defined according to the same reference growth rate as for the columns 1-4. In addition to the aforementioned variables, the EU sample also includes two indicators of fiscal governance as described in Section III.3. The differences in the mean values for these

indicators do not appear to be significant between high and low-growth countries, however. The same applies to the average value of the fiscal deficit which, despite its lower value for the high-growth country groups, remains rather close to the corresponding value for the low-growth country group. Excluding fiscal governance and the government deficit, the high-growth countries displayed better performance in terms of the other dimensions of QPF as for the sample group including EU15 and other non-EU OECD countries.

4.1.2. Public policy spending versus policy outcome: a closer look at health and education

The simultaneity between growth performance and QPF does not necessarily imply a one-way causal relationship. Better growth performance may itself improve QPF as, for instance, high-growth countries have better chances to reduce their debt ratio including a reduction of their expenditure ratios, or may also find it easier, for instance, to implement tax or market reforms.

Broadly speaking, the arrows of causality between QPF and economic growth may point in both directions, see Graph III.2. Additionally, public policies do not necessarily have economic growth as the primary goal. Taking the traditional Musgravian classification for instance, public authorities have three main goals: (i) macroeconomic stabilisation, (ii) income redistribution, and (iii) resource allocation. These policies may or may not have implications for economic growth and/or may not be designed primarily to influence economic growth. Despite the above caveats, in most cases, however, better public policies are generally conducive to higher growth performance. For instance, a rise in skill levels as a result of an improved education system is likely to foster economic growth through higher labour productivity levels. Similarly, improvements in health care systems may generate positive spillovers on economic activity through healthier workers and reduce costs of medical care.

Furthermore, the changes in public policies are implemented gradually and the influence of such policies on economic growth, if any, also usually takes relatively long time to materialise. For instance, public spending in education or reforms of education systems can enhance the job prospects of future workers only after several cohorts of students have experienced these reforms. The above arguments also suggest that using only indicators on the composition of expenditure is likely to miss the true effect of public policies on growth if no account is taken of the outcome of these policies.

Graph III.4.1: **Public spending in health and GDP per capita growth rate, 1980-2005**

Sources: Commission services and OECD.
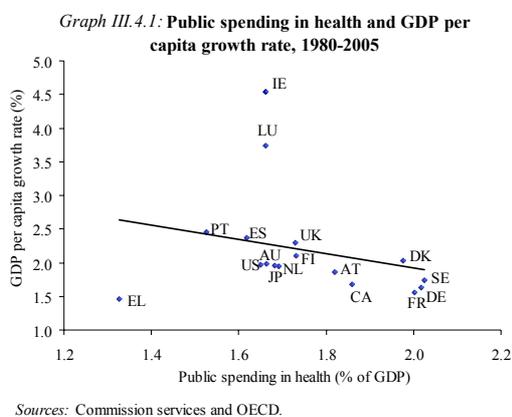
Graphs III.4.1 and III.4.2 provide illustrations of these points by considering the special case of public spending in health and comparing the experience of a sample of countries for which data are available for the same period in both terms of policy and outcome indicators.

Graph III.4.2: **Change in mortality rate and GDP per capita growth rate, 1980-2005**

Sources: Commission services and OECD.
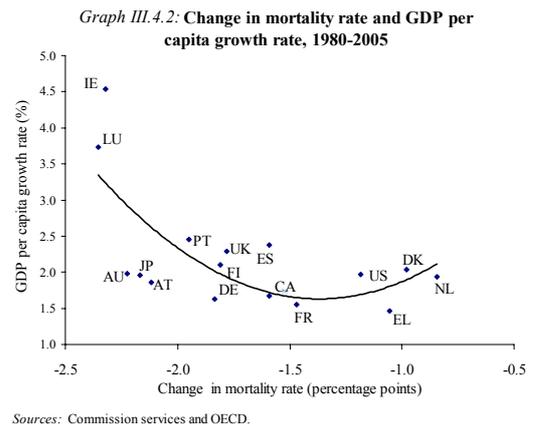
Graph III.4.1 plots the average value of the percentage of public spending in GDP for a sample of EU countries against the average growth performance of these countries during the period 1980-2005. The relationship between the two variables appears to be rather weak and rather counter-intuitive. However, Graph III.4.2 shows that when considering the link between growth performance and an outcome indicator related to health such as the change in the mortality rate during the same period, then a negative relationship, in line with prior expectation, tends to emerge. These descriptive results are only illustrative, however; in particular a more detailed analysis should take into account the role played by the level of development of a country and possibly reverse causality issues (see for instance Bhargava et al., 2001 and Weil, 2007).

A similar pattern emerges for education policy in Graphs III.4.3 and III.4.4. Graph III.4.3 plots the growth performance against the share of public spending in education as percentage of GDP including also non-EU OECD countries. Here again, no clear relationship emerges concerning the link between public spending and growth performance. Graph III.4.4 displays however a positive relationship between growth and an

Graph III.4.3: **Public spending in education and GDP per capita growth rate, 1980-2000**

Sources: Commission services and OECD.

(such as air pollution) to name a few, strongly influence the outcomes of health policy so that the efficiency of this policy can hardly be gauged without considering these other factors as well (see Pestieau, 2007). Ideally, therefore, a proper understanding of QPF would allow explaining the relationship depicted in Graphs III.4.1 to III.4.4 and in particular the reasons why the same relationship cannot be found when considering the influence of the level of public spending on its desired outcome.

outcome of education policy such as the growth of average years of higher schooling in the total population during the period 1980-2000 [1], (Ireland appears as an outlier given its exceptional growth rate during the period). Overall, these results concerning two specific public policies, namely, education and health, tend to highlight the importance of efficiency of public spending. Analysing the link between public finances and growth thus requires considering the outcome of such policies and, more specifically, the link between the policies put in place (here spending in public health and education systems) and their respective objectives.

This conclusion raises the issue of how efficiency is measured (as discussed in Section III.3) and including the availability of indicators reflecting the efficiency of public spending. In particular, the use of inappropriate data may blur the usefulness of studies on the efficiency of public spending as researchers have often to rely on input indicators (such as, in the case of health care, number of hospital beds) in order to measure public spending performance (see in particular Afonso et al., 2005). Besides this data issue, the efficiency of public spending crucially depends on the environment within which this spending takes place. For instance, when considering health care, social conditions, sanitation, housing, and environmental factors

Graph III.4.4: **Changes in secondary and higher education attainment and GDP per capita growth, 1980-2000**

Note: Higher education attainment is the absolute change in average years in tertiary education of the working age population.
Sources: Commission services and Barro and Lee (1996) database.

4.2. OPENING THE BLACK-BOX: QUALITY OF PUBLIC FINANCES AND THE COMPONENTS OF ECONOMIC GROWTH

As outlined in Section III.2 and III.3, QPF covers many dimensions, some of which are easily quantifiable (e.g. public debt and deficit, tax burden), while others are of a more qualitative nature. Different items of public finances also impact GDP growth via different channels. For instance, taxation on labour can be expected to affect primarily labour participation and employment (and unemployment) and the acquisition of skills. Government deficit and debt and its financing in capital markets should primarily affect private capital investment via crowding-out effects. Also, public investment in infrastructure can foster growth via increased trade (both intra-national and international) and, possibly, increased productivity through specialisation and resources re-allocations across

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[1] This variable is taken from the Barro and Lee database, (see Barro and Lee, 1996 and Barro, 2003 for a description). This database can be accessed at: http://www.cid.harvard.edu/ciddata/ciddata.html. The end year for this dataset is 2000 in most cases.

sectors of activity. As evidenced earlier, EU countries are characterised by very different situations with regards to their QPF given their different institutional settings, policy priorities and public investment efforts and starting debt level, which all are unlikely to give rise to uniform impact of public finances on growth outcome. It is therefore unlikely that QPF should affect GDP growth in the same way in all countries. Given the differences in QPF across countries and the various channels through which these can impact on growth performance, a possible angle of analysis is to first identify the sources of growth and then, in turn, try to link each of these growth components with the QPF variables most likely to influence them.

4.2.1. The sources of economic growth in EU countries

Economic growth can present different patterns. Existing evidence suggests that in some countries labour skills, innovation and technological progress (via ICT diffusion for instance) were the main factors behind recent GDP growth evolutions (for instance, the Netherlands, Finland, Sweden). In other countries such as Spain, by contrast, increased labour market participation was the dominant factor (see for instance, van Ark and Inklaar, 2005). A way to identify the sources of economic growth is therefore to decompose GDP growth rate into its main components using a growth-accounting approach. Graph III.4.5 provides the results of a growth decomposition taken from the EU KLEMS database ([1]).

The components considered in this exercise are: medium and high-skilled labour, which are taken together, low-skilled labour, capital and total factor productivity. Graph III.4.5 shows that, on average, during the period 1990-2004, EU countries, Japan and the US differed widely regarding their growth patterns. As evidenced earlier, this period is also characterised by widening growth dispersion across countries. For instance, the sources of growth for fast growing,

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catching-up countries such as Hungary, Slovenia or Poland appear to be very different. In the cases of Hungary and Poland, total factor productivity emerges as the main engine of growth, while in the case of Slovenia, capital services tended to drive most of the recent growth experience. Employment, including both low and high/medium-skilled workers, emerges as an important source of growth in Spain, the Netherlands, Belgium and the US. Overall, the dominant sources of growth appear to be capital services, explaining around half of the GDP growth during the period considered, while total factor productivity explains a quarter and employment, mainly medium and high-skilled, explains the remaining quarter.

Graph III.4.5: **GDP growth decomposition, 1996-2004**

Note: See Box III.4.1 and Koszerek et al. (2007) for definitions
Sources: Commission services and EU KLEMS database (www.EUKLEMS.net).
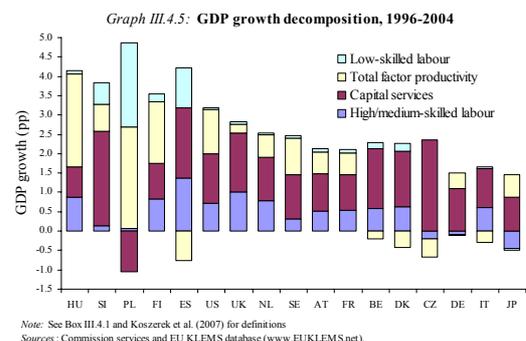
4.2.2. The quality of public finances and the sources of economic growth

The question arises whether the differences in sources of growth can be linked to differences in QPF. This issue was considered in Fischer (1993) who suggested that most macroeconomic policy variables would likely influence growth through capital accumulation and productivity changes. Indeed a number of authors have made use of investment functions (rather than GDP growth equations) in order to analyse the influence of public policy on economic outcomes, see for instance Barro, 1991). Other authors have also considered the role played by tax and public policies, including fiscal policies, on employment changes (see for instance, Gray et al., 2007). A simple way to apply this approach to the issue of the link between QPF and growth is to investigate whether a (significant) relationship exists between the sources of countries' economic growth derived from growth accounting and the components of

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([1]) The set of countries considered in the growth-accounting exercise is limited to some EU countries, Japan and the US given that data was available for these countries only. See EU KLEMS (2005) http://www.euklems.net/ for more details.

Box III.4.1: **Growth-accounting analysis**

Growth accounting is an approach that identifies the components of GDP growth from the supply side by using a production function, typically of the Cobb-Douglas type. The contributions of each factor in the production process are calculated based on a set of assumptions, most importantly constant returns to scale and perfect competition. The production inputs include (i) labour (which can be further decomposed into highly-skilled, medium-skilled and low-skilled labour), (ii) capital (which can also be decomposed into ICT and non-ICT capital) and (iii) total factor productivity (TFP) which is the residual term and represents all non-observed elements, mainly technological progress. The Cobb-Douglas production function can be written as follows:

$$Y = AK^{v_K} L^{v_L}$$

Where Y stands for real output of a given country, K is an index of capital services, L is an index of labour services while A stands for all other factors. The standard accounting decomposition of total output growth into the contribution of each input and the multi-factor productivity is:

$$\Delta \ln Y = v_K \Delta \ln K + v_L \Delta \ln L + \Delta \ln A$$

The contributions of capital and labour (which, as indicated above, could be further decomposed) are the product of capital productivity (v_K) and labour productivity (v_L) and the changes in input factors. The last term $\ln \Delta A$ represent the Solow residual or total factor productivity term.

Growth components for twelve old and four recently acceded Member States, the US, Japan and Canada have been calculated as part of the EU KLEMS project. KLEMS stands for 'capital', 'labour', 'energy', 'material' and 'services'. The main aim of the EU KLEMS project is to create a database on measures of economic growth, productivity, employment creation, capital formation and technological change at the industry level for all EU Member States from 1970 onwards. For a description of the project, the methodology, the main findings and the database (see http://www.euklems.net/ and Koszerek et al., 2007).

QPF identified in Section III.3. Such investigation can be undertaken through discriminant analysis, where countries' characteristics regarding their public finances are analysed according to the sources of their GDP growth ([1]). The question addressed is whether the QPF variables can help characterise the countries' growth performance assuming that no information on growth performance is available ex ante. One can then compare the hypothetical grouping that is obtained by using only the QPF variables with the `true´ one, i.e. the one obtained by using the GDP growth values.

Such a comparison between hypothetical and true groupings of countries carried out by calculating canonical correlation coefficients is reported in the last row of Table III.4.2.

The figures reported in the preceding rows of Table III.4.2 are the canonical loadings representing the weights of each QPF variable used in order to differentiate countries between growth groups. Here the absolute value of the coefficient obtained provides information which, to some extent, can be interpreted as an indication of the significance of an equivalent regression estimate (see Manly, 1986). These groups are defined by their GDP growth in the first column and the GDP growth components in

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([1]) Annex III provides technical details on discriminant analysis.

Table III.4.2:

The sources of growth and the quality of public finances, 1990-2004

	GDP growth	*Growth components*		
	(1)	**(2)**	**(3)**	**(4)**
	High vs low GDP growth	**High vs low capital contribution to GDP growth**	**High vs low TFP* contribution to GDP growth**	**High vs low-skilled labour contribution to GDP growth**
Primary budget balance	0.018	0.076	-0.057	0.135
Debt	-0.332	-0.283	-0.075	-0.366
Public consumption	-0.422	-0.234	0.295	-0.233
Public investment	0.561	0.448	0.066	-0.104
Direct tax	-0.325	-0.127	-0.025	0.054
Indirect tax	-0.110	-0.284	0.543	0.040
Tax wedge	-0.293	-0.264	0.188	-0.255
Market flexibility	0.029	0.020	-0.173	0.120
Canonical correlation	*0.760*	*0.910*	*0.760*	*0.740*

Notes: Results of canonical discriminant analysis, see Annex III for a description of the methodology used. The definition of variables is the same as for Table III.4.1. Countries covered: AT, BE, CZ, DE, DK, ES, FI, FR, HU, IT, JP, LU, NL, PL, SE, UK, US.

* TFP: total factor productivity

Source: Data on GDP growth and its components based on the EU KLEMS (www.EUKLEMS.net) database and Commission services.

the remaining columns ([1]). According to the results in the first column, for instance, the share of public investment (with a positive sign) and the share of public consumption and the ratio of public debt over GDP (with a negative sign) appear to play a particularly significant role in discriminating between high and low-growth countries. The canonical correlation coefficients reported in the last row of the table provide information on the variance between groups, i.e. the extent to which countries are correctly classified into growth groups following the values of their QPF variables. This coefficient appears to be especially high for the capital component of growth suggesting that the QPF indicators allow classifying countries rather accurately according to their effect on capital accumulation.

Overall, the signs of the variables in Table III.4.2 correspond to the expectations discussed in Section III.3. Countries with high debt, low public deficit, high public consumption, high direct taxes over GDP and a high tax wedge on labour tend to display lower growth

performances. Countries with high public investment and flexible markets tend to have higher GDP growth rates.

The results concerning the growth components in columns (2) to (4) provide indications broadly in line with those on overall growth. In particular, the analysis concerning the contribution of capital accumulation to GDP growth suggests a high correlation of this variable with the QPF variables. A noticeable exception concerns the link between TFP and overall market flexibility shown in Column (3). This relationship turns out to be negative meaning that more flexible market economies have also tended to experience a lower contribution of TFP to overall GDP growth. Existing evidence tends to suggest that the relationship between TFP and market flexibility is not clear cut. For instance, Aghion et al. (2006) find that the relationship between innovation, a main driver for TFP growth, and competition follows and inverted-U shaped relationship. In a recent paper also Roeger et al. (2008) show that the effect of lowering mark-ups, which goes along with greater market flexibility (though greater competition and firms' entry) depends on the sector that is being considered. The evidence provided by these authors suggests that a greater flexibility in intermediate-product sectors of activity has a

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([1]) The contribution of low-skilled labour to GDP growth is not considered here as this component was never the most important one for GDP growth during the period and for the countries considered.

negative impact on TFP while in final-product sectors it has a positive impact. Such result could be explained by the fact that mark-ups cover fixed costs while less regulation could discourage innovation and lower TFP.

4.2.3. Public finances, policy outcomes and the sources of economic growth

The results of the discriminant analysis suggest that the characteristics of countries with regard to QPF can be used to make inference about their growth performance and also to the sources of growth. The latter appears particularly true for the contribution of capital to growth. Given that capital accumulation was also one the main driver of growth in the sample of countries considered, a closer investigation of the link between QPF and the contribution of capital investment to growth seems particularly relevant. Graph III.4.6 illustrates this by showing the evolution of the contribution of capital to growth during the period 1990-2004 for high and low-debt countries ([1]). In general, countries with a low government debt-to-GDP ratio also had a significantly higher contribution of capital to growth, suggesting a crowding-out effect of public debt on private investment.

Graph III.4.6: **Contribution of capital to GDP growth: high public debt versus low public debt countries**
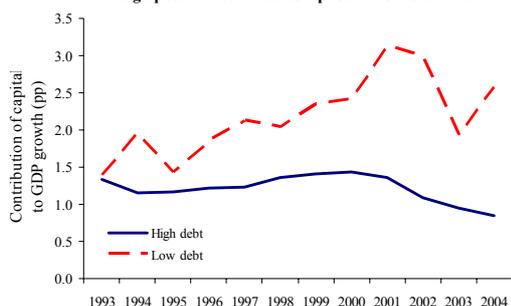
Sources: Comission services and EU KLEMS (www.EUKLEMS.net).

The above result tends to be in line with existing empirical evidence regarding the effect of fiscal policy on growth. For instance, Alesina et al. (2002) show, using a panel of OECD countries,

that a reduction of the size of government (measured by total spending and total taxation over GDP) increases the private accumulation of capital. Graph III.4.7 repeats the same exercise grouping countries according to the degree of flexibility of their markets (including capital, labour and product markets) and using the indicator from the Fraser database already used in Table III.4.1. A higher value indicates more flexibility. Differences appear to be less pronounced in terms of contribution of capital to GDP growth between the two groups of countries although on average, countries with the most flexible markets also experienced a higher contribution of capital to GDP growth during the whole period. This result indeed corresponds to the one obtained through discriminant analysis is reported in Table III.4.2 suggesting that, in fostering the contribution of capital investment to growth, market flexibility does play a positive albeit relatively minor role.

Graph III.4.7: **Contribution of capital to GDP growth: most flexible versus least flexible markets countries**
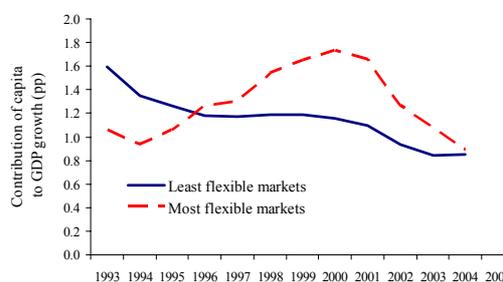
Sources: Commission services and EU KLEMS (www.EUKLEMS.net).

Regarding the contribution of skilled labour to growth, the investigation includes both a policy input variable, namely public expenditure on education and a policy outcome variable, namely, the level of education attainment. Graph III.4.6 shows the evolution of the contribution of skilled labour to GDP growth splitting countries according to the level of their public spending in education. No significant differences emerge between the groups of countries. In particular, the negative evolution of the contribution of skilled labour during the early 1990s is due to the experience of countries with high public education spending such as Finland (which suffered a strong recession in the early 1990s) and also, to some extent, Denmark. Overall though, the evolutions for the two groups are relatively similar on average.

([1]) Annual figures are smoothed using a three-year moving average. The five countries with the lowest debt are grouped together into the low-debt group. The remaining countries are grouped into the high-debt countries.

Graph III.4.8: **Contribution of skilled labour to GDP growth: high versus low public education spending (% of GDP)**
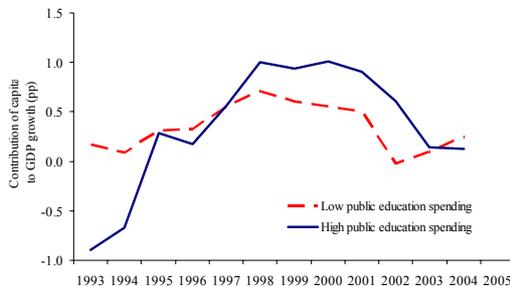
Sources: Commission services and EU KLEMS (www.EUKLEMS.net).

Graph III.4.9 shows instead the evolution of the contribution of skilled labour to growth in relation to the level of secondary and higher education attainment. The data indicate that countries with better educated workforces also benefited from a larger contribution of skilled labour to growth.

Graph III.4.9: **Contribution of skilled labour to GDP growth: high versus low education attainment level**
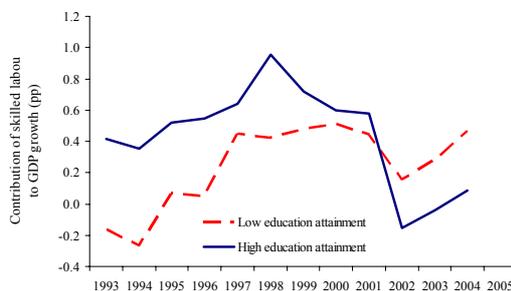
Sources: Commission services and EU KLEMS (www.EUKLEMS.net).

More generally, the outcome of public policy depends crucially on the spending level and their efficiency but also on other factors. In particular, concerning education, the functioning of labour markets is likely to play a conditioning role. Education policies (through high public spending in education) may have little impact on workforce qualification if labour market settings are not the appropriate ones through, for instance, insufficient labour skills' matching or the existence of burdensome labour regulations, in particular concerning (highly educated) young workers. Rigid or badly performing labour markets may hinder education and training policies and, by the same token, deter a higher contribution of skilled labour to economic growth. These conjectures are to some extent

supported by Graph III.4.10 which plots the evolution of the contribution of skilled labour to growth, grouping countries according to the degree of flexibility of their labour market (using, as before, the indicators on labour market flexibility of the Fraser database). The data indicate that countries with a more rigid labour market have also benefited less from the contribution of skilled labour to GDP growth. This result needs to be qualified in light of the existing literature, however. For instance, Agell and Lommerud (1997) suggest that rigid labour markets may give rise to higher incentives for human capital investment. Other authors have suggested instead that rigid markets may prevent that those skills can effectively be used in high-tech/high growth potential production activities due to the higher labour costs see Saint-Paul, 2002).

Graph III.4.10: **Contribution of skilled labour to GDP growth: flexible versus rigid labour markets**
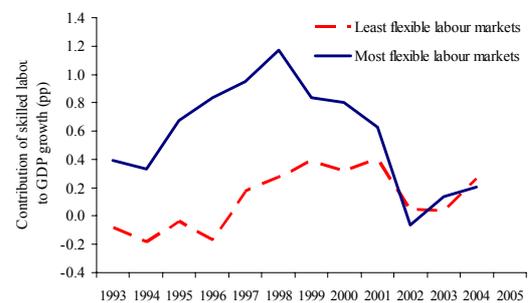
Sources: Commission services and EU KLEMS (www.EUKLEMS.net).

Finally, Graph III.4.11 considers the influence of market rigidities on TFP. Here the evolutions appear to be much more volatile than for the other growth components as mentioned before. This is not surprising given that TFP is in fact a residual of the production function as described in Box III.4.1. Despite a higher volatility, the countries with the most flexible markets appear to be the ones benefiting more from TFP changes. This result suggests that the overall negative relationship between market rigidities and TFP found earlier when considering average figures may possibly hide different underlying dynamics given the high volatility of the TFP component. More generally, further caution is in order due to the cyclicality of the growth components considered in Graph III.4.6 to Graph III.4.11.

Graph III.4.11: **Contribution of total factor productivity to GDP growth: flexible versus rigid markets counties**
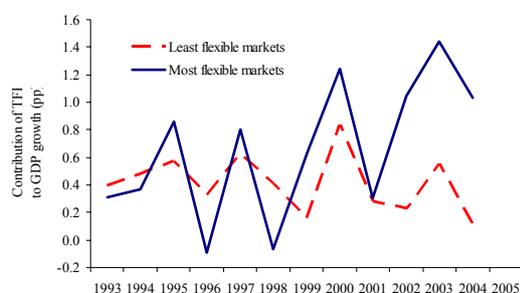
Sources: Commission services and EU KLEMS (www.EUKLEMS.net).

This is particularly salient in the case of the contribution of TFP but also applies to the other growth components. The issue can be tackled by considering countries' individual series over longer time spans in order to remove the influence of the business cycle which, in some cases, may blur the overall relationship between QPF and growth components.

4.3. SUMMARY AND FUTURE RESEARCH

Since the 1980s, growth performances differed across EU and non-EU OECD countries and were accompanied by significant divergences in terms of QPF. Generally speaking, countries with high debt, high deficit, high public consumption, high direct taxes over GDP and high tax wedge on labour tend to display worse growth performances. Countries with high public investment and flexible markets tend also to have higher GDP growth rates. When considering in more detail the channels through which QPF can affect GDP growth, the evidence provided here shows that high public debt tends to be associated with lower private capital investment impact on growth while high education attainment together with flexible labour markets tend to foster the contribution of skilled labour to GDP growth.

While the above result tends to suggest a positive relationship between the QPF indicators and growth performance, a number of qualifications are in order. First, the simultaneity between good growth performance and good QPF does not necessarily imply a one-way causal relationship. Due account must be taken of possible endogeneity, especially when analysing these issues using regression analysis. Second, the design of most public policies is usually not made with the immediate aim of boosting growth, at least in the short to medium run. These policies cover long time periods so that their influence on economic growth, if any, also usually takes relatively long to materialize. Third, indicators on public policies considered alone are likely to miss the true effect of public investment on real economic activity. Analysing the link between public finances and growth requires considering the outcome of such policies and, more specifically, the link between the policies, their respective objectives and the environment within which these policies take place. Given that QPF is a wide-ranging concept, future research would need to provide a comprehensive view on the link between QPF and growth. Existing macroeconomic studies testing the link between QPF and growth typically omit the components of growth. Future research should also aim to better identify these components in order to get a clearer view on the transmission channels of QPF on economic performance.

ANNEX III

Canonical discriminant analysis

Discriminant analysis is a statistical method used to describe differences between a number of individuals (e.g. firms, consumers or countries) and to allocate observations to pre-defined groups. It allows to measure the extent to which the characteristics of the individuals can explain their membership to a group defined according to a given criteria. In Part III a canonical discriminant analysis is undertaken in order to predict the membership of countries to groups with different growth patterns. The discriminating criteria are indicators gauging QPF of the countries, which are used in order to group countries. This grouping is then compared with the one obtained on the basis of their growth performance. The same method is applied by using, alternatively, each growth component rather than the overall growth rate (see Box III.4.1 and Table III.4.2). This method thus tests whether the groups of countries defined according to their growth performance are comparable to the ones obtained when using QPF variables and hence whether the characteristics described by the indicators of QPF can systematically be linked to growth performance and the sources of growth.

Assuming that there are n variables X describing the characteristics of QPF, the objective is to use this set of n variables to group countries in order to maximise the between-group variance and to minimise the within-group variance such that this grouping matches the best possible way the grouping observed when using the growth variables instead. Assume a linear combination of the X variables such that:

$$Z = a_1 X_1 + \ldots + a_n X_n$$

countries can be grouped using Z if the mean value changes significantly between country growth groups. The coefficients a_1-a_n indicate the weight of each variable in the groups constructed which are, to some extent, equivalent to the coefficients (and their significance) estimated in multiple regression analysis. A F-ratio test can be performed such that the ratio of between and within groups variances is as large as possible. Several linear combinations (or canonical discriminant functions) of the X variables can be envisaged for grouping countries which ends up being an eigenvalue problem based on within- and between-sample

matrices of sums of squares In the present case, however, only one canonical discriminant function can be estimated given that, for each of the growth variables (GDP growth and the contribution of TFP, capital and skilled labour to GDP growth) only two groups are considered, high and low GDP growth, where the five countries with the highest GDP growth belong to the high-growth group (see Manly, 1986). This analysis is thus performed four times, once for the overall GDP growth and, alternatively, for the contribution of capital, TFP and skilled labour to GDP growth. Table III.4.2 provides the results of these four alternative canonical discriminant analyses.

Furthermore, a so-called canonical correlation R can be computed to measure the association between the groups formed by the dependent variables and the given discriminant function. When R is zero, there is no relation between the groups and the function. When R is large, there is a high correlation between the discriminant function and the groups such that in this latter case, the discriminant (i.e. QPF) variables can be considered as good predictors of the growth performance (and the sources of growth) of the countries considered.

Part IV

The efficiency of tax systems

SUMMARY

While there is considerable variation across EU Member States, the EU is a high tax economy on the whole. In particular, high tax levels on labour have contributed to unsatisfactory employment and growth in the EU in recent years. At the same time, competition for mobile tax bases and mobile factors of production is placing additional constraints on government policy. Against this background, the revenue side of government budgets warrants increased attention and policy makers are becoming increasingly interested in the potential of efficiency-enhancing tax reforms. Based on the theory of optimal taxation and insights from the tax competition literature, and also practical and administrative considerations, the following aspects of efficiency-enhancing tax reforms in the EU can be identified: (i) broadening of tax bases and reduction of rates at the same time, (ii) use of different tax instruments for taxing different tax bases, (iii) optimal re-adjustment of the tax burden between different groups of workers, (iv) better integration of tax and benefit systems, (v) simplification of tax systems and (vi) shift of the tax burden from labour to other tax bases.

Given the importance of the high levels of tax burden on labour in the EU, the discussion in both the policy and the academic arena focuses on how it can be reduced. Such a reduction requires alternative tax bases. Ideally, the new tax base should be wide – so that a low tax rate can be imposed and distortions minimised – and stable – so as to ensure certainty in revenue collection.

A much discussed policy proposal suggests a reduction in labour income taxation or social security contributions financed by an increase in VAT. This part of the report identifies and discusses several channels through which a shift from labour taxation to increased VAT can effect employment and growth.

First, VAT has a larger tax base than labour income tax. The VAT is a consumption tax that, given an accommodating policy by the central bank, will be passed onto an increase in consumer prices. This reduces the real value of inherited wealth and of labour and profit incomes individuals receive. Thus, the VAT as is currently applied in the EU is actually a tax on labour income, pure economic profits and wealth (in terms of the equivalent stream of future consumption). The reform is therefore a classic tax reform aimed at rate cut cum base broadening. To raise the same tax revenue, rates can be reduced and the negative effects on labour market outcomes lessened.

Second, an increase in VAT results in a reduction in the real value of unemployment benefits due to the increase in prices. Employed workers are typically more than compensated for the price increases by a reduction in labour taxes. Thus, the difference in income between wage earners and the inactive population increases. This increases the income gap between the employed and the unemployed, which results in increased individual and collective labour supply incentives. The increase in consumer prices also results in reduced real value of transfer payments. This makes it possible to further reduce the tax rate on labour with additional positive effects on employment. Both effects are however conditional on the value of benefits and transfers not being adjusted for the increase in prices.

Third, nominal rigidities generate additional – although typically temporary – positive employment effects of the tax shift. The effects can be expected to be more pronounced in an open economy due to the improvement in competitiveness. For this reason, tax shifts such as from direct labour taxation to VAT are sometimes termed fiscal devaluations.

The effects of nominal rigidities also depend on specific institutional conditions, e.g. whether employer paid payroll-taxes are reduced, or whether taxes payable to employees' are cut. Similarly, if institutional features, such as a binding minimum wage are part of the economy, the shift can have more pronounced and long-lasting effects on the labour market, conditional on the minimum wage not being adjusted for the increase in prices due to the tax shift.

Depending on the strength of these channels, the effect of the tax shift on employment and growth may be more or less substantial. A number of more problematic aspects of a shift from labour taxation to VAT need also to be taken into account:

- A tax shift from taxation on labour to VAT can help to recover international competitiveness in a difficult macroeconomic situation in the short run. However, it is not a solution for the problems underlying persistently weak growth and competitiveness typically associated with badly functioning product and labour markets.

- The short-run effects are often perceived to have an element of a beggar-thy-neighbour policy as the gain in competitiveness comes at the expense of the trading partners.

- The potential inflationary effects can prompt reactions from central banks.

- There are obvious limits to the amount of tax shifting, and some mix of direct and indirect taxes is likely to be optimal.

- There will be major announcement effects that potentially work against the effectiveness of the reform.

- Given the capacity of VAT to raise additional revenues, policy makers may be tempted not to engage in revenue-neutral tax reforms, but to use VAT increases to augment fiscal revenues instead of addressing politically difficult expenditure cuts.

Increased reliance on VAT to finance government expenditures frequently gives rise to concerns about equity. While several arguments can be brought forward in favour of a potentially positive distributive effect of the tax shift from labour taxation, in particular from social security contributions to VAT, recent studies support the traditional regressive view of the VAT. VAT regimes in Europe are characterised by substantial exemptions and the application of reduced rates, typically motivated by equity concerns. However, such differentiated regimes are inefficient for redistributive objectives and other instruments are generally better suited. There is a strong case for a uniform VAT, complemented by some elements of corrective taxation, e.g. for environmental taxes or taxes on alcoholic beverages and tobacco products.

The tax shift from labour taxation to consumption taxation is evaluated quantitatively using DG ECFIN's QUEST III model. The simulation results show that a tax shift undertaken in the whole of the euro area can have positive although modest effects on employment and growth. The simulations suggest that such a reduction of labour taxation by 1% of GDP, financed by an increase in VAT, will increase real GDP by about 0.1% in the first year and by about 0.2% in the long run. Employment is estimated to increase by 0.14% in the first year and by 0.25% in the long run. Interestingly, the simulations show that, at least in the long run, the positive effects on employment and growth of countries acting alone are smaller compared to the case of a coordinated policy shift. At the same time, the beggar-thy-neighbour aspect of an unilateral tax shift appears to be rather limited, both in the case of a small and a large country implementing it. A sensitivity analysis reveals larger positive effects if labour supply is assumed to be more elastic, if transfer payments (i.e. unemployment benefits, pensions, social assistance) are not indexed, or if the price-elasticity of international demand is assumed to be higher than the benchmark assumptions. However, even under such modified assumptions the positive effects remain fairly small.

The quantitative results indicate that shifting the tax burden from labour to VAT can be a potentially useful but also limited instrument for governments to react to short-run country-specific shocks or to achieve long-run improvement of the structural conditions for increasing employment and growth in the EU. Further analytical work on taxation could focus on other tax reforms and the contribution of tax system efficiency to economic growth and employment in general. As discussed in Part III, to maximise the benefits of improving taxation systems, tax reforms should be an element in a broader reform strategy. An effective strategy to revitalise EU economies needs to rely on a comprehensive approach, using a wide set of policy instruments and emphasizing a resolute implementation of structural reforms in line with the Lisbon Strategy.

1. THE CASE FOR EFFICIENCY-ENHANCING TAX REFORMS IN EUROPE

1.1. INTRODUCTION

For a given expenditure path, the sustainability of public finances depends on the level of government revenues, of which taxes typically represent the largest part by far. However, taxes are more than the budgetary counterpart of expenditure. They also have important implications in terms of the allocation of economic resources. High levels of taxation are often regarded as an important reason for low employment levels and unsatisfactory economic performance in the EU ([1]). High taxes can discourage labour supply and reduce incentives for investment and human capital formation ([2]). Accordingly, some policy analysts recommend a substantial reduction in tax levels to revitalise European economies. However, reducing taxation implies lower revenues, which requires cuts in spending. At the same time, ageing populations will put further stress on public spending. In many countries, this will require either higher fiscal revenues or decisive expenditure cuts ([3]).

On the other hand, some EU Member States have been able to combine elevated levels of taxation with a strong economic performance and low unemployment. This indicates that the determination of the optimal aggregate *level* of taxation is not straightforward. As discussed in Part III, it depends on all dimensions of QPF that determine the marginal benefits of public expenditure and the marginal costs of revenues.

From a tax policy perspective, this highlights in particular the importance of the optimal structure of the tax system for a given level of revenues. This implies that much can be gained from tax reforms that improve the structure of the tax system. Such reforms need to address issues related to the optimal tax composition, but also the details of the tax schedule (in particular regarding tax progressivity) and the interaction of taxes with the benefit system. Moreover, since the expenditure side is unaffected by revenue-neutral tax reforms, such reforms are easier to implement politically, compared to measures that aim to reduce the overall level of expenditures and taxation.

The perceived shortcomings of European tax systems on the one hand, and the consideration of optimal tax systems on the other, lead to the question of how to design appropriate tax reforms that can increase efficiency and boost employment and growth. A particular challenge for European tax policy has been the heavy tax burden on labour, which has created widespread concern that this burden is detrimental to employment and growth in Europe. For reducing the tax wedge on labour EU Member States have to look for robust alternative tax bases. Ideally, the new tax base should be wide – so that a low tax rate can be imposed and distortions minimised – and stable – so as to ensure certainty in revenue collection. Several tax shifting options are possible, ranging from a shift from low-income to high-income workers, a shift from labour to capital, an increasing use of environmental taxes, or greater reliance on immovable property or consumption as a tax base. All these options present advantages and disadvantages, as well as practical constraints. Therefore, in practice, shifts have so far been relatively limited.

This chapter discusses the economics behind some revenue neutral tax reforms and considers their potential to improve employment and growth in Europe. The analysis is set in the context of recent tax reforms in some Member States and the ongoing discussion in others. The chapter is structured as follows. It first provides a summary of current tax structures in the EU. It then discusses the challenges and the need for policy action in the light of unsatisfactory economic and social performance in some Member States, with a focus on the tax burden on labour. Based on this assessment, elements of improved tax systems are discussed and reforms

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([1]) See for example Prescott (2004).
([2]) Part III of this report notes that, on average, empirical studies find that when governments become too large they tend to hamper long-run growth, as high expenditure levels go hand in hand with higher tax burdens and inefficient public administrations.
([3]) These pressures and the existing scope for reforms has recently been analysed quantitatively by the European Policy Committee and the European Commission (2006).

Graph IV.1.1 : **Total taxes (incl. social security contributions), % of GDP**
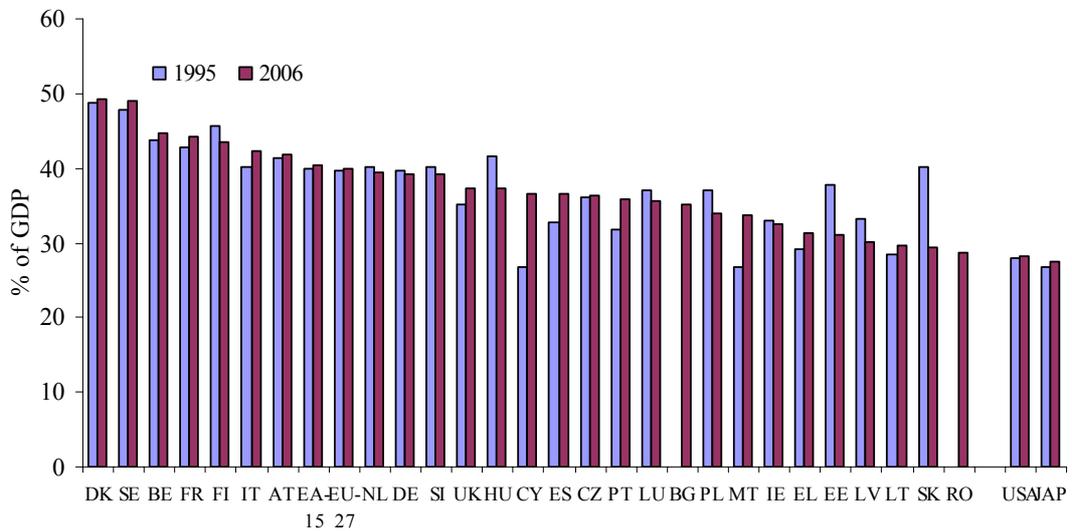
Note: Japan refers to 1995 and 2005.
Sources : Commission services and OECD.

towards such systems are considered. Given the ongoing policy debate, a particular focus is on revenue neutral tax reforms that reduce the tax burden on labour. Several policy proposals, notably in France and Germany, have suggested a reduction of the taxation of labour, typically in the form of reduced employer-paid payroll taxes or social security contributions, financed by an increase in consumption taxation in the form of an increase of VAT rates. The chapter discusses the economics of such a tax shift and analyses which factors will influence the effects of such reforms on employment and growth. The conceptual analysis is complemented with a quantitative assessment of the potential effects of a revenue-neutral tax reform that considers a shift from labour taxation to consumption taxation. Using DG ECFIN's DSGE model QUEST III a euro-area wide tax shift in the order of 1% of GDP is simulated.

1.2. THE STRUCTURE OF TAXATION IN THE EU (¹)

1.2.1. The level of taxation

Tax levels – measured by total tax burden as a percentage of GDP (²) – are high in the European Union. The tax rates of some Member States are amongst the highest of developed nations, although there are important differences across countries (Graph IV.1.1). These high tax levels were gradually built up since 1970 (Graph IV.1.2). The 1970s were a period of rapid growth of public expenditures, reflected by strong increases in tax levels. The growth of the total tax burden slowed down in the 1980s before growing again more strongly in the 1990s. The total tax-to-GDP ratio in the EU peaked at the turn of the century before starting to decrease.

(¹) Sections IV.1.2.–1.4. draw on Carone et al. (2007).

(²) Despite its simplicity – or rather because of it – the total tax-to-GDP ratio remains a rough indicator that carries interesting summary information but also suffers from deficiencies. The indicator cannot be seen in isolation of the level of public expenditures and of the use of other alternative means of government intervention such as regulation. Moreover, total tax revenues convey very little information on the impact – in terms of distortions and in terms of redistribution – of tax systems.

Graph IV.1.2: **Evolution of total taxes (incl. social security contributions) in Europe 1970-2006**
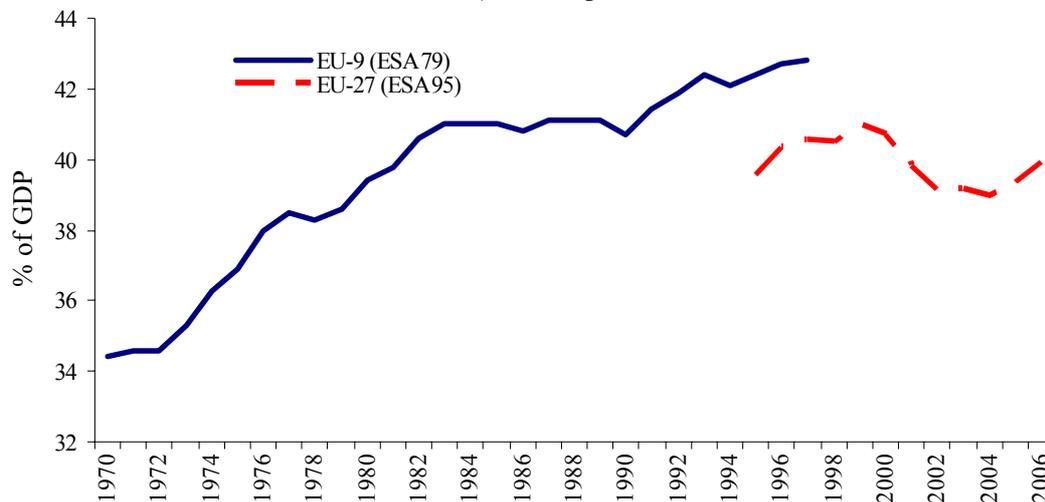
Source: Commission services.

The latest data however, show a renewed pick-up of the overall tax burden. Short-term changes in the ratio of taxes to GDP need to be interpreted with care, as direct taxes in particular are strongly pro-cyclical. Overall, the tax ratio is by now at about the same level as ten yeas ago.

Taxation trends mainly follow the financing needs stemming from government expenditure decisions. The many years of increasing tax burdens in most Member States, reflect increases in public expenditures. More recently, overall levels of expenditure have started to be reduced in an effort to consolidate public finances. However, driven by various factors, such as ageing populations, high demand elasticity of public services, low productivity growth in the public sector compared to the private sector, changing life and work patterns, spending pressures are likely to remain high. This implies that Member States need to pursue more efficiency in public spending. On the other hand, Member States also need to increasingly look to the revenue side for efficiency-enhancing reforms that can boost employment and growth. These issues are also discussed in the multi-dimensional presented in Part III of this report.

While the general trends in taxation across the EU are important, the differences in individual country developments also provide interesting case studies that can teach useful lessons. Several cases stand out. First, some countries have been particularly successful to stabilise their total tax-to-GDP ratio either from the 1970s – this is the case of Ireland and United Kingdom (although with signs of increase for the latter) – at levels around 35%, or from the 1980s – such as Germany (at about 40%), Belgium, Luxembourg and the Netherlands (all at about 45%). Second, the level of taxes in the economy dramatically increased – by some 10 pp – in Finland, Greece, Italy, Portugal and Spain in the 1980s and 1990s, although starting from comparatively low levels. The same 'catch-up' effect occurred in Cyprus and Malta over the last decade. Third, some of the recently acceded Member States experienced in the period 1995-2006 important decreases in their total tax burdens. This is the case of the Slovak Republic (10.9 pp), Estonia (6.7 pp), Hungary (4.4 pp), Poland (3.3 pp) and Latvia (3 pp). The bulk of these changes occurred in the second half of the 1990s.

Finally, about half of the Member States experienced a decrease in their tax-to-GDP ratio between 2000 and 2006. This decrease was especially marked in Germany, Greece, Finland, Slovakia, and Sweden. In 2006, the GDP-weighted average for the EU-27 was at 39.9%, ranging from 28.6% in Romania to 49.1% in Denmark.

Graph IV.1.3: **Direct taxes, indirect taxes and social security contributions (SSC), 1970-2006**
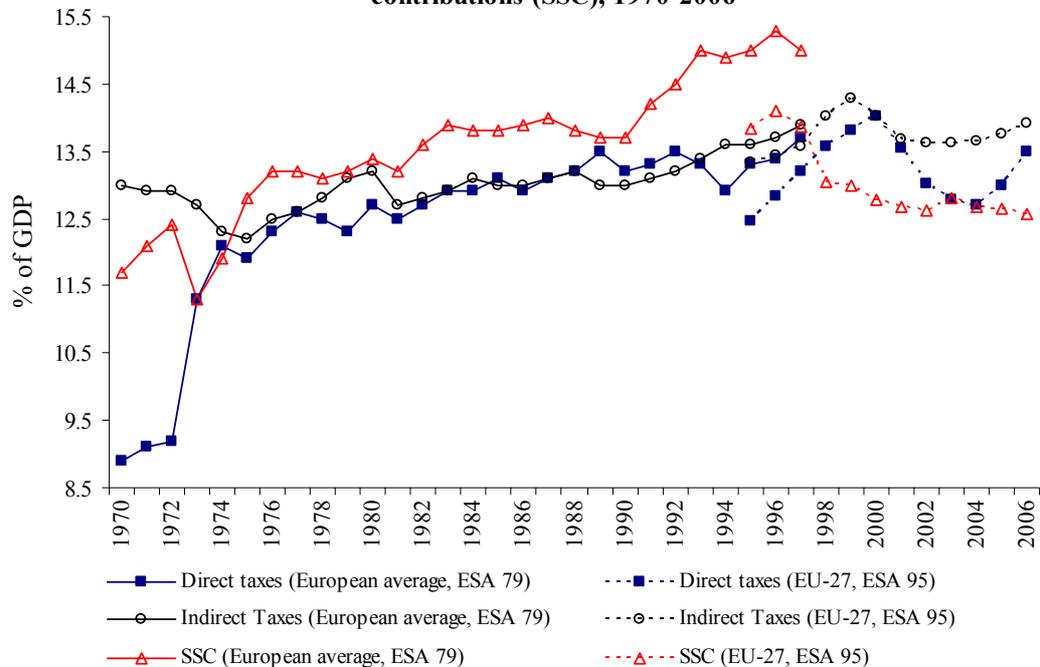
Note: The European average is a function of the size of the European Community / EU in the respective years.

Sources : European Commission and Eurostat (2000).

1.2.2. Tax composition

Most tax systems in the world rely on three pillars: direct income taxes, indirect taxes on consumption and social security contributions. The EU does not differ in that respect, although it generally relies proportionally more on indirect consumption taxes (because of its developed VAT system) and on social security contributions than other developed economies. Graph IV.1.3 reports the development of direct and indirect taxes and social security contributions in the EU. The ratio of indirect taxes to GDP steadily increased until 1999 before levelling off in the most recent years (but the share of indirect taxes in the total has increased over the last decade). This increase is due to developments in VAT collection that represented about 5% of GDP in 1970 to reach over 7% in 1999, partly explained by the creation of VAT systems in Portugal (1986), Spain (1986), Greece (1987) and Finland (1995). At 13.9% of GDP and 34.9% of total taxes, indirect taxes are the main source of tax revenues in the European Union in 2006, followed by direct

taxes at 13.5% of GDP (or 33.8% of total taxes). There also seems to be a trend in recent years towards more reliance on indirect taxes, as exemplified most recently by the German decision to increase its VAT rate by three pp in 2007, see also Box IV.1.1 for a discussion of this recent reform in Germany.

Social security contributions constitute a third important source of government revenues. EU Member States increasingly relied on social security contributions until the mid-1990s, but changed in 1996-1998 when the need to decrease labour costs translated into a decline in social security contributions. However, measures were mostly targeted or of limited scope so that little if any marked reduction in EU averages is visible since the turn of the century. Short-term movements in the tax composition need to be interpreted with care: direct taxes are particularly volatile and largely influenced by the business cycle, given the progressivity of the income tax and the cyclical movements of corporate profits.

Box IV.1.1: Shifting taxes from labour to consumption. The case of Germany

Germany increased its VAT by 3 pp in 2007. The government had planned to use about one third of the additional tax revenues (about € 6.5 billion out of estimated € 20 billion in additional tax revenue) for reducing contributions to the unemployment insurance scheme. The remaining revenue increases were to be used for budget consolidation. Owing to improved labour market conditions, the contribution rates to the unemployment insurance scheme could be cut even more strongly, in total by 2.3 percentage points, from 6.5% to 4.2% (rather than the planned cut of about 1 percentage point). In fact, the contribution rate has been lowered again in 2008 to 3.3%. On the other hand, other social security contributions were increased in 2007 (pension contribution by 0.4 percentage points and sickness insurance contribution by 0.5 percentage points on average).

The effects of the tax reform are difficult to evaluate. Economic performance was relatively strong in 2006 and 2007. Of course, there was some shift in activity from the first quarter of 2007 to the final quarter of 2006 due to the announcement effect of the reform. Retail sales increased at the end of 2006 and fell substantially at the beginning of 2007. While Germany experienced a strong labour market performance in 2007, employment growth was already strong in 2006. Thus, it is difficult to attribute the improved labour market performance in Germany to the reform. It can rather be seen as a result of several years of substantial wage restraint, important labour market reforms enacted at the beginning of 2005 and cyclical factors. The shift occurred at a time when Germany was already regaining competitiveness after a painful adjustment period. Given the high relevance of these other factors, it is difficult to assess the additional effect of the tax shift. Moreover, given the concomitant increase in revenues for the purpose of budget consolidation, the shift effect cannot be easily disentangled from the level effect. On the other hand, the economy appears to have managed to stay on a solid expansion path following the reform. An extensive account of the German tax shifting policy that also includes an overview of some simulation results can be found in Fuest (2007).

Table IV.1.1 provides additional information about the importance of the various components of direct and indirect taxation and social security contributions in the EU. Employer-paid social security contributions are substantially more important than employee-paid. While VAT is the single most important component of indirect taxation, the data indicate that other components such as excise taxes also play a considerable quantitative role.

The structure of taxation varies widely across EU Member States, as can be seen from Graphs IV.1.4-6. The share of indirect taxes in total taxation varies from about 30% in Belgium, in the Czech Republic and in Germany to over 55% in Bulgaria. Direct taxes take on less than 20% of total taxes collected in Bulgaria but reach over 61% in Denmark. Finally, social security contributions represent only about 2.1% of the total in Denmark, but over 40% of the total in Germany, in Slovakia and in the Czech Republic.

The tax structure can also be classified in relation to the economic function, such as consumption, or factor of production, i.e. capital and labour ([1]). Taxes on consumption carry a relatively similar weight across Member States (Graph IV.1.9), while there is much more variation across Member States in the taxation of labour and capital (Graph IV.1.7 and Graph IV.1.8).

([1]) The data on direct taxation, indirect taxation and social security contributions as well as the data on taxes on labour, capital and consumption are compiled from European Commission (2008d), see in particular 'Annex C: Methodology and explanatory notes', where the underlying methodology is explained in detail.

Table IV.1.1:

EU-27 (weighted average): Total taxes (incl. social security contributions) and tax structure, % of GDP, 1995-2006

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Average 1995-2006	pp change 1995-2006
Total taxes (including SSC)	**39.6**	**40.3**	**40.5**	**40.5**	**41.0**	**40.7**	**39.8**	**39.2**	**39.1**	**39.0**	**39.3**	**39.9**	**39.9**	**0.4**
Indirect taxes	**13.3**	**13.4**	**13.6**	**14.0**	**14.3**	**14.0**	**13.7**	**13.6**	**13.6**	**13.7**	**13.8**	**13.9**	**13.7**	**0.6**
VAT	6.6	6.7	6.8	6.8	7.0	7.0	6.9	6.8	6.8	6.8	6.9	7.0	6.9	0.4
Excise duties & consumption taxes	3.1	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	2.9	2.8	2.7	3.0	-0.3
Other product taxes incl. import duties	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.8	1.6	0.2
Other taxes on production	2.0	2.1	2.1	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	0.3
Direct taxes	**12.4**	**12.8**	**13.2**	**13.6**	**13.8**	**14.0**	**13.6**	**13.0**	**12.8**	**12.7**	**13.0**	**13.5**	**13.2**	**1.1**
Personal income taxes	9.2	9.3	9.2	9.7	9.8	9.9	9.7	9.4	9.3	8.9	9.0	9.2	9.4	0.0
Corporate income tax	2.0	2.4	2.7	2.6	2.7	2.8	2.6	2.3	2.2	2.4	2.7	3.0	2.5	0.9
Other	1.2	1.2	1.2	1.2	1.3	1.4	1.2	1.2	1.3	1.3	1.3	1.3	1.3	0.1
Social security contributions	**13.8**	**14.1**	**13.8**	**13.0**	**13.0**	**12.8**	**12.7**	**12.6**	**12.8**	**12.7**	**12.6**	**12.6**	**13.1**	**-1.3**
Employer SSC	7.5	7.7	7.6	7.4	7.3	7.3	7.3	7.2	7.4	7.3	7.2	7.2	7.4	-0.3
Employees SSC	4.7	4.7	4.6	4.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.9	4.2	-0.9
Self employed SSC	1.6	1.7	1.7	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	-0.2

Note: GDP-weighted averages. Totals may be affected by rounding. SSC: social security contributions.

Source: Commission services.

Graph IV.1.4: **Share of indirect taxes in tax revenues, 2006**

Source: Commission services.

Graph IV.1.5: **Share of direct taxes in tax revenues, 2006**

Source: Commission services.

Graph IV.1.6: **Share of social security contributions in tax revenues, 2006**

Source: Commission services.
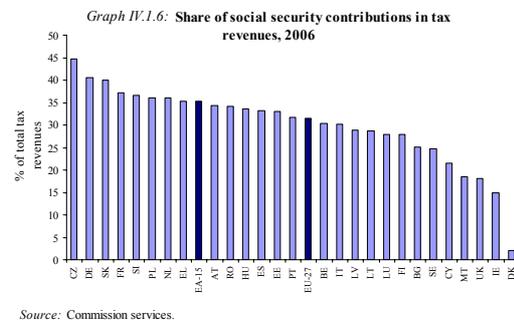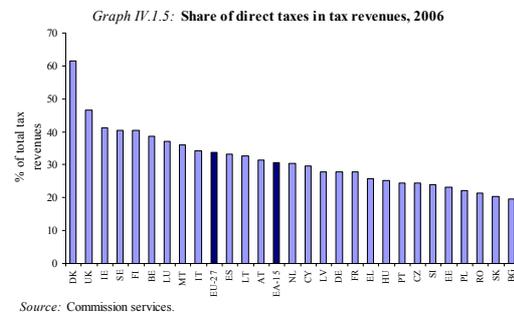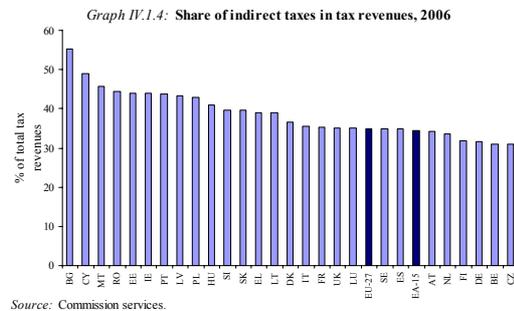
This reflects the higher degree of tax harmonisation in important consumption taxes such as the VAT and motor fuel excises in the EU. Taxes on labour vary from slightly above 10% of GDP in Romania, Bulgaria, Ireland and Malta to over 29% in Sweden in 2006. Overall EU Member States still largely rely on taxes on labour but they differ as to whether those taxes are payable by employees or employers. On average, in 2006 about 43% of taxes on employed workers are paid by employers but the share varies from 2.5% in Denmark to around 60% in a range of countries. Tax revenues from taxes on capital also vary largely among Member States, ranging from below 3% of GDP in Lithuania to over 11% in the UK and Italy in 2006. On average, recently acceded Member States receive a lower fraction of their revenues from taxes on capital.

In terms of trends over the period considered, tax revenue from consumption has remained fairly stable across EU Member States. In response to the need to put in place more employment-friendly tax systems, one noticeable trend has been the decrease in labour taxation in a number of countries over the last decade. However, measures have tended to be either narrowly targeted or of limited scope so that little if any reduction in the EU's average taxation on labour is visible since the turn of the century.

Graph IV.1.7: **Taxes on capital, 1995-2006 averages**

Source: Commission services.

Graph IV.1.8: **Taxes on labour, 1995-2006 averages**

Source: Commission services.

Graph IV.1.9: **Taxes on on consumption, 1995-2006 averages**
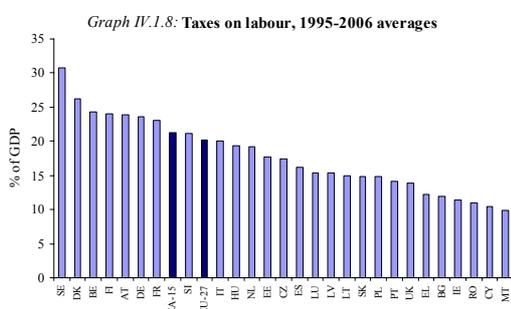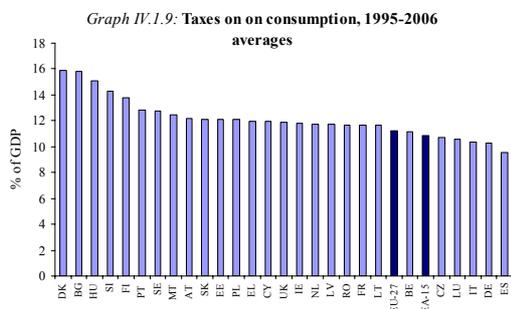
Source: Commission services.

As for revenues from capital taxation, they have shown some tendency to increase during the last decade, although the tax rates on corporate income have been reduced in many countries. This is due to the interplay of various causes such as base broadening – through measures modifying the tax code or an increase in the number of companies – and cyclical factors.

The evolution of tax revenues from labour and capital taxation should also be interpreted in the context of a rising share of capital income and a falling share of labour income in total income.

Last but not least, it should be kept in mind that depending on how quantities adjust to the

structure of taxation the actual incidence of taxation can differ from its classification in relation to economic function or factor of production.

1.3. CHALLENGES FOR TAX POLICY

1.3.1. Increased economic integration

Over recent years we have witnessed an ongoing process of rapid economic integration. This development has made tax bases more mobile. Greater tax base mobility holds in particular for capital, but also for other tax bases. This development also affects indirect taxation, at least within the EU, in the form of cross-border shopping. This development is creating new challenges for tax policy as the increased mobility of capital and of some categories of workers (mainly highly skilled) fosters tax competition for these tax bases. Attracting these mobile tax bases is not only important for government revenues, but also for the rents they can generate for the immobile factors, such as immobile unskilled workers.

The increased difficulty to collect taxes from mobile tax bases, has fuelled fears of erosion of the overall revenues, of an undesired shift of the tax burden from mobile to immobile factors of production, mainly labour (particularly unskilled workers), and of a reduced ability to contribute to the achievement of income redistribution objectives. Governments have become more aware of this increasing policy restriction. However, the view that globalisation has dramatically altered the composition of government revenues and reduced its capacity to finance the welfare state is so far not fully supported by empirical analysis. On the one hand, there is evidence that global competition for attracting multinationals and profit shifting by multinational companies is a relevant problem in practice. Huizinga and Laeven (2007), for instance, find that international profit shifting has lead to a substantial redistribution of national corporate tax revenues in the EU.

On the other hand, according to available aggregate figures, taxation has not been shifted massively from capital to labour. While there has been a strong and ongoing EU-wide decline in

statutory corporate income tax rates and, in several countries, a decline of top personal income tax rates or the introduction of flat tax rate systems, revenues from capital taxation, including corporate taxation, have not been eroded so far (compare Graph IV.1.7). Several explanations have been put forward for this finding. First, the share of mobile activities in total taxes is still relatively small. Second, globalisation may also have increased profitability and hence tax revenues, for any given tax rate. Fourth, increased incorporation incentives due to reduced corporate taxes may have resulted in increased tax revenues from corporate income but reduced revenues from personal income taxation (see de Mooij and Nicodème, 2007). Fourth, extensive work already done and policy initiatives undertaken at both OECD and EU level (in particular the code of conduct on business taxation adopted in 1997) may have – at least partly – prevented harmful tax practices.

1.3.2. High tax burden on labour

Over the last two decades European economic performance has been lagging behind that of other developed economies. A key aspect of this unsatisfactory performance are the labour market outcomes in several Member States, in the form of high unemployment rates, low participation rates and low numbers of hours worked. Such outcomes constitute a loss of human capital, create social tensions and make it difficult to finance European welfare states. In response to this challenge, the EU, as part of its Strategy for Growth and Jobs, has set ambitious targets to improve the labour market performance. The high tax burden on labour is frequently cited as a main reason for these negative labour market outcomes. Such a view directly implies that the reduction of the tax burden on labour should be a top priority for tax policy.

The tax burden on labour is composed of several elements. First, employers have to pay payroll taxes and/or employers' social security contributions. Second, employees have to pay social security contributions and labour income taxes on their wage income received. The distinction between contributions payable by employers and employees is mainly institutional. However, with nominal rigidities, it can affect labour market outcomes, particularly in the short run, and taking into account such features as binding minimum wages, also in the long term.

One should also stress that social security contributions (whether paid by the employer or employee) give right to individual benefits. Therefore, only to the extent to which the link between contributions and benefits in such social insurance schemes is not actuarially fair, the contributions actually constitute a tax ([1]).

Finally, labour income is subject to the personal income tax. These different taxes and social security contributions constitute the different components of labour taxation, and they can be summed up to give the aggregate tax wedge due to labour taxes, see Graph IV.1.10 for an overview of the aggregate tax wedge in the EU and selected non-OECD countries.

Such measured tax wedges on labour remain high in most EU countries, reaching over 50% on average, and even substantially higher levels in several Member States. The lion's share (about 45%) of the total tax wedge is accounted for by employers' social security contributions, while the remaining is made up of personal income taxes (about 30%) and employees' social security contributions (about 25%). This situation contrasts with that of non-EU OECD countries, where the total tax wedge is substantially lower on average than in the EU.

However, considering only labour taxes for the tax wedge on labour is incomplete. Consumption taxes reduce the value of wages for the worker and should therefore also be regarded as part of the tax wedge on labour. Moreover, as already highlighted, other taxes can be considered implicit forms of labour taxation to the extent the

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([1]) An insurance scheme is called actuarially fair, if the insurance premium is equivalent to the expected costs of the insured contingency. In public health insurance schemes high income earners pay higher premiums, even if their risk is the same, or potentially lower than that of low income earners. In pension schemes, if the internal rate of return of the scheme is significantly different from the long-term rate of return of a low-risk financial investment, the scheme is not actuarially fair.

Graph IV.1.10: **Marginal tax wedges on labour, 2007**
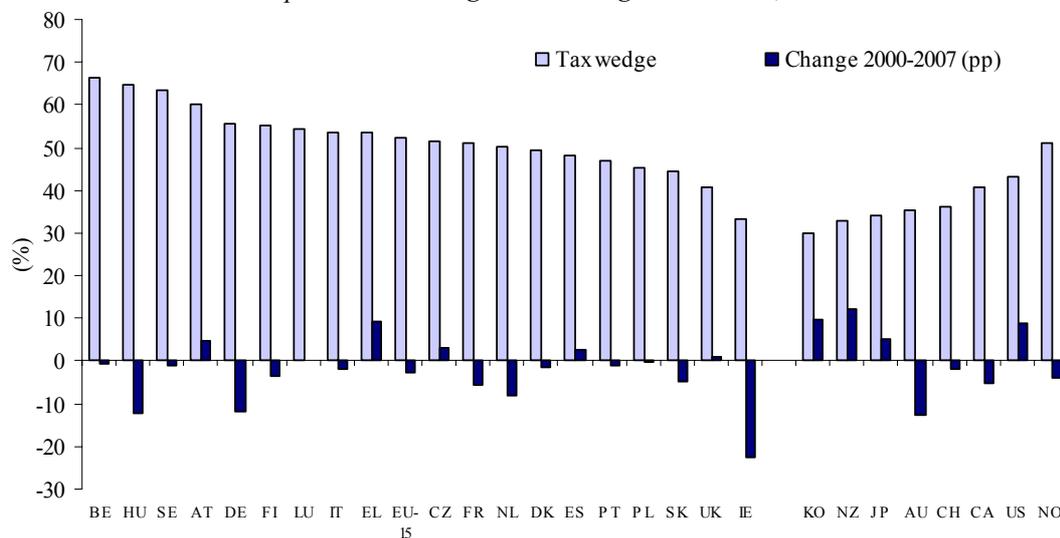
Notes: 100% of average earnings, no children, 2007 level (%) and 2000-2007 change (pp).
Source: OECD.

incidence falls on labour, no matter how such taxes are classified. The classic example is that of capital income taxation in a small open economy. If capital is fully mobile across borders, the tax will be fully shifted onto labour.

Finally it should be noted that the high tax burden on labour is the prime reason for high levels of undeclared work that can be observed in many European countries. See for example Schneider and Enste (2000), which document the increase in the size of the shadow economy from 1960-1995.

1.4. RECENT REFORM EXPERIENCES AND POLICY DEBATE

Over recent years, many Member States have already carried out reforms of their tax systems. These reforms have been driven by several interrelated factors. The growing awareness that an excessive tax burden on labour and its interaction with the benefit systems lowers work incentives, especially for those with low earnings potential, has caused Member States to attempt moving towards more employment-friendly labour taxation. However, in doing this, they have also faced the difficulty of finding

alternative tax bases to finance their expenditures.

Second, Member States have endeavoured to rationalise and simplify their tax systems, almost always by broadening the tax base in order to reduce the tax rates. This potentially brings economic benefits but also raises the question of a possible trade-off between efficiency and equity.

The reforms enacted by Member States have tried to pay particular attention to reducing taxes on labour for low-skilled workers and making work pay. The reductions in personal income taxes and social security contributions have often been accompanied by increases in tax allowances. In 2006, the GDP-weighted personal income taxes in the EU-27 were at 9.2% of GDP, the same level as 1995. In the same period, social security contributions paid by employers decreased from 7.5% to 7.2% of GDP and those paid by employees declined from 4.7% to 3.9% of GDP.

Box IV.1.2: **Taxes and labour market outcomes**

Taxation is a source of distortion in the labour market. The impact of taxes on wages and employment depends on technology, the workers' preferences for consumption and leisure and labour market institutions, most notably the institutional design of the wage bargaining process and unemployment benefits. The effects of taxes on labour market outcomes have been extensively studied. See Pissarides (1998) and Bovenberg (2006) for useful summaries, and Nickell (2006) and Arpaia and Carone (2004) for empirical evidence.

Taxes and social security contributions drive a wedge between the cost for the employer and the net compensation received by the employee. From a theoretical perspective, different predictions have been derived depending on the specific assumptions regarding the functioning of the labour market, e.g. whether the labour market is a neoclassical one, or collective bargaining dominates or whether search and matching frictions are modelled or not. At the individual level taxes can increase or decrease labour supply, depending on which of the income and substitution effect dominates. Empirical evidence tends to find a negative impact of labour taxes on labour supply, albeit with different magnitudes for different groups of workers. In particular, the effect seems largest for the second member of the household and for single parents. In parallel to the disincentive effects of taxes on labour supply, taxes and social security contributions, to the extent they are reflected in higher labour costs, will also decrease labour demand for any given state of technology, thereby reducing employment and output levels.

Empirically, several questions arise regarding the relationship between taxes and labour market outcomes. First, what are the short-run and long-run effects of the total level of labour taxation on labour market outcomes? Second, do different components of the tax wedge on labour, i.e. social security contributions, labour income taxation, and consumption taxation, affect labour market outcomes differently? Third, do the answers to these questions depend on the configuration of existing labour market institutions in a given country?

The first question, whether the total tax wedge has a long-run effect on real labour cost, is debated in the literature. Classic studies such as OECD (1990) only find significant short-run effects of taxes on real labour costs, but no long-run effects. Similar results have been obtained more recently by Arpaia and Carone (2004). These findings are in line with the insight that, from a theory perspective, the size of the tax wedge will typically not have a long-run equilibrium effects on real wages in models of collective bargaining, if the effective replacement rate remains unchanged (see Layard et al., 1991). Other multi-country studies, such as Daveri and Tabellini (2000) and Nickell et al. (2003) have found significant long-run effects of the tax wedge on labour cost. The former authors find that an increase in the tax wedge of 10 pp increases real labour costs by 5%, whereas the latter authors find an increase of 3.6%. Nickell (2006) reviews the evidence on the effects of taxes on aggregate employment. He concludes that an increase of 10 pp of the tax wedge reduces aggregate labour input between 1% and 3% in the long-run. However, for specific groups, such as younger or older workers, single parents or second earners, effects are likely to be more pronounced. These group-specific effects depend on the differential impact taxes, or, more exactly the entire tax-benefit system has on the extensive margin, i.e. whether individuals decide to work or not to work at all, and on the intensive margin (how many hours) individuals actually work.

The existing evidence on the second question, whether the different elements of the tax wedge, i.e. payroll taxes, labour income taxes and consumption taxes are shifted onto labour to a different degree is surveyed by Nickell (2006). He concludes that there is no evidence of difference between these different elements of the tax wedge, in line with what should be expected from a theoretical perspective.

The third question, i.e. the rigidity of labour markets and the role of labour market institutions is also addressed by Daveri and Tabellini (2000). They claim that the interaction with other labour market institutions is the key to the real effects of the tax wedge on labour market outcomes. The effects tend to be bigger in less flexible labour market configurations. This conclusion is also supported by Nickell

Box (continued)

(2006). Thus, those European countries that are particularly characterised by rigid labour markets are likely to have to gain most from a reduction of the tax burden on labour.

The total decline in tax revenues from personal income taxes and social security contributions corresponds therefore to about slightly more than 1% of GDP (compare the overview of the change in importance of different components of labour taxation in the EU Member States between 1995 and 2006 as displayed in Graph IV.1.11) ([1]).

There has also been a trend towards modernisation and simplification by reducing marginal tax rates and widening tax bases in most Member States. This is a positive and important development in terms of efficiency of the tax systems, given well-known problems of using 'tax expenditures' (i.e. tax exemptions or deductions for specific spending categories), related to lack of transparency and efficiency. There is considerable room for further reducing administrative burdens in the various fields of taxation. This is particularly evident from cross-country comparisons, such as the World Bank indicator of administrative tax burden presented in Part III.3. There is also a lot of room to simplify and clarify tax codes, especially on labour taxation of cross-border workers, repayment and refund of cross-border VAT and corporate taxation of companies doing business on a pan-European basis. Moreover, personal income tax systems are increasingly perceived by the public as too complicated resulting in high compliance costs. Given this background, the flat tax system (defined here as a single rate on personal income) has attracted a lot of attention over the last few years, having been discussed in many Member States and implemented in five recently acceded Member States (Estonia, Lithuania, Latvia, Slovakia and Romania). However, neither the assumed benefits nor the pitfalls of flat taxes are as clear as claimed by their proponents and opponents respectively.

Clearly, the design of flat tax systems affects their impact and flat taxes may have strong and diverse implications in terms of efficiency and redistribution ([2]).

Against this background, governments and international institutions are acutely aware of the need for further improvements of their tax system and are looking for advice on how to proceed.

The UK government has commissioned Nobel Laureate Sir James Mirrlees with the so-called Mirrlees Report that is to be published in 2008. The report will bring together contributions from leading tax policy scholars and will summarise the current knowledge on optimal tax systems with a view to the further development of tax policy in the UK. It is set in the explicit tradition of the 1978 Meade Report, a landmark in the study of tax design that has been very influential for theoretical thinking and policy reforms way beyond the UK. Interestingly, one of the main recommendations the Meade Report made already 30 years ago was a shift towards expenditure taxes, which maintains its relevance against the current debate on increasingly relying on consumption taxes.

In France, the Prime Minister commissioned Eric Besson to assess how to finance the French welfare state in the changing international environment. The Besson Report's (completed in November 2007) central suggestion is the introduction of a 'social VAT', comprising a substantial shift in the structure of tax revenues. It foresees a reduction in employer paid social security contributions financed by a rise in VAT rates (see Besson, 2007).

([1]) Tax revenues are of course a broad estimate that does neither control for the economic cycle, nor for the share of wages in the economy.

([2]) Flat tax regimes are discussed in detail in Keen et al., 2006.

Graph IV.1.11: **Change in the share of tax revenues (% of GDP) from components of labour taxation, 1995-2006 (pp change)**
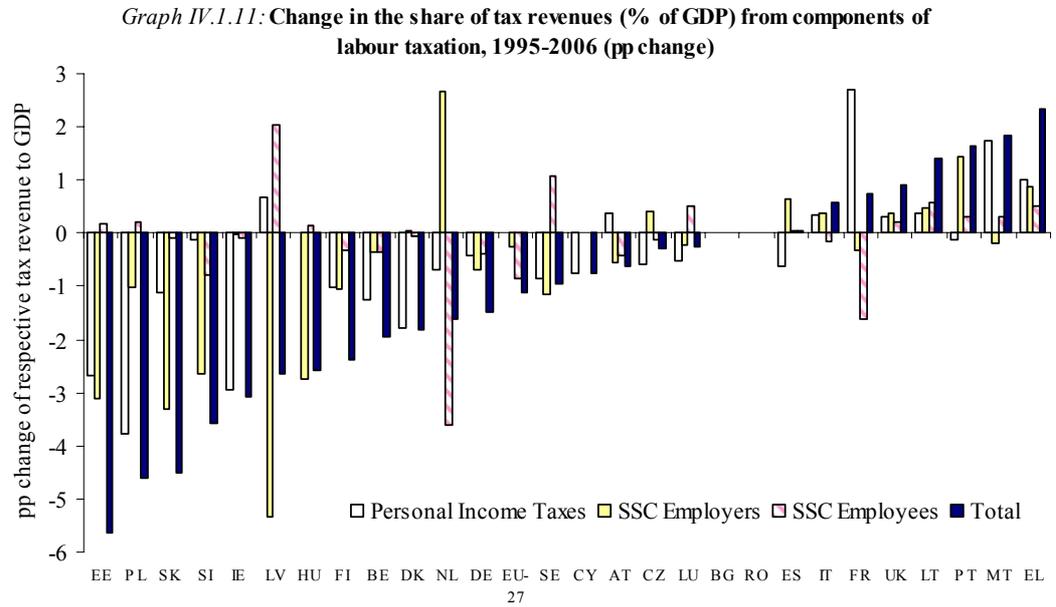
Source: Commission services.

In addition to country-specific reform proposals, the ongoing debate has received substantial contributions from academics (see, among others, Bovenberg, 2006). It is also fed by international organisations. The OECD is also exploring the potential of efficiency-enhancing tax reforms, in particular in the context of its project on 'Tax and economic growth' (see OECD, 2007a). The European Commission has also already considered the potential for revenue-neutral tax shifting from labour to consumption (see European Commission, 2006c and Roeger and in 't Veld, 2006).

2. EFFICIENT TAX SYSTEMS AND THE SHIFT FROM LABOUR TO CONSUMPTION TAXATION

2.1. ELEMENTS OF EFFICIENCY-ENHANCING TAX REFORMS

An optimal tax system should achieve several objectives. First, it should be efficient. An efficient tax-benefit system moves the economy towards a desired distribution of income and raises the necessary public funds for spending on publicly provided goods with minimal distortions ([1]). Second, an optimal tax system should be simple and transparent. Third, it should minimise incentives and opportunities for tax avoidance, evasion and fraud. Finally, it should have low administrative demands and low compliance costs. Starting from these general considerations, the main elements for raising the efficiency of EU tax systems include:

- broadening the tax bases and reducing rates at the same time,

- using more sophisticated tax instruments,

- readjusting the tax burden between different groups of workers,

- better integrating tax and benefit systems,

- simplifying the tax system, and

- shifting the tax burden from labour towards other tax bases.

These elements are further explained below.

Broadening the tax bases

The idea of base broadening cum rate reduction has firm foundations in economic theory. Tax-induced distortions grow more strongly in the rate than in the base. This recommendation has already been put into practice in the field of capital taxation, where statutory corporate tax rates have been substantially reduced over recent years, but changes in the calculation of the tax base, such as changes in depreciation rules, have resulted in a broadening of the tax base. Similarly, regarding personal income taxation, reducing the scope for exemptions and deductions and tax credits allows reducing income tax rates. The potential for base broadening is also at the heart of a tax shift from labour taxation to the VAT. A central question in such base broadening attempts is, whether, and, by how much, the tax base can be actually expanded, since this will determine the extent to which rates – and accordingly distortions – can be reduced.

Sophisticated instruments for better targeted tax policies

Countries have become increasingly aware that different tax bases are mobile to a different degree. By applying a more sophisticated set of tax instruments, countries can better withstand international competition and defend their revenues. For example, the Nordic systems of dual income taxation distinguish between capital and labour income. This allows to tax capital and labour income at different rates. While capital income is taxed at a constant and rather modest rate, a strongly progressive rate is applied to labour income. This takes into account the different degrees of mobility of these tax bases. Similarly, in the field of corporate taxation, countries appear to increasingly target book profits and real investments of multinational firms using different instruments in their corporate tax code, e.g. on the one hand statutory rates to attract book profits and, on the other hand, tax accounting regulations, in particular depreciation allowances, to target real investments (see Devereux et al., 2008).

Readjusting the tax burden between different groups of workers

Several groups of workers, such as low-income workers, older or younger workers, single parents, or second-income earners, are often more severely affected by high tax rates than the average or high-income workers. In this case,

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([1]) This is in fact the key question in the literature on optimal taxation. How can the government maximise the welfare of its citizens subject to the requirement of raising a given amount of tax revenue and subject to technical and informational constraints.

reducing the tax burden on these specific groups, financed by an increase in the tax burden of other workers, can improve labour market outcomes. In fact, the readjustment of the tax burden between different types of workers, typically in conjunction with the optimal design of transfer schemes such as in-work and out-of-work-benefits have rightly received much attention (see for example Saez, 2002 and Immervoll et al., 2007). The design of optimal tax schemes across workers needs to take the effects of taxes on the extensive margin, i.e. whether individuals decide to take up work or not, and the intensive margin, i.e. how many hours an active individual is actually working, into account.

Several Member States have already enacted tax reforms aiming at optimising the tax structure across workers. Of course, this policy is constrained by the incentives of those groups whose burden is increased. This regards their labour supply decisions, increasing international mobility of skilled workers and the possibility (especially for the self-employed) of income shifting by formally converting labour income into capital income. This puts a limit on top marginal personal income tax rates.

Better integration of revenue and benefit systems

Closely related to the optimal design of the tax schedule across workers is the issue of optimal benefit systems. There is an increasing awareness that taxation and benefit policies are intricately linked and that a comprehensive approach is required to address problems of unemployment and inactivity traps for specific groups of workers. These are, in particular, low-skilled workers, single parents, older workers and second wage earners.

Simplifying the tax system

Simplifying the tax system makes the system more transparent, which reduces administrative and compliance costs. Clear and uniform rules also reduce the power of lobbying and vested interests which may render further reform unfeasible. Finally, simplification typically goes hand in hand with base broadening as loopholes and exemptions are being closed.

Shifting the tax burden from labour towards other tax bases

Shifting the tax burden from labour to other tax bases is the main idea behind tax-shifting policies. This arises naturally from the observation of the excessive tax burden on labour. The challenge consists in finding alternative tax bases that are sufficiently broad, robust and stable to generate the desired revenues. Several options can be considered:

a) Shifting burden to capital

The possibility of shifting the tax burden from labour to capital has often been presented as an attractive political proposition: to the extent that globalisation shifts the tax burden the other way round some corrective measures would seem desirable. Two major constraints, however, have prevented this from materialising to any great extent. First, the capital tax base is smaller than the labour tax base and a much higher tax rate on capital would therefore be required for the shift to be revenue neutral, which would probably lead to distortions. Second and more important, capital is much more mobile than labour, and consequently, it is much more difficult to effectively tax it in the absence of international coordination. In fact, as mentioned above, some countries, starting with the Scandinavian countries in the early 1990s, have instead introduced a dual income tax system that generally taxes individuals' capital income at low and proportional tax rates while keeping higher and progressive tax rates on labour income. One of the objectives of this has been to reduce the incentives for capital exports and tax avoidance and evasion.

b) Shifting burden on polluting activities

Environmental taxes are traditionally an important tool for applying taxation that discourages the consumption of goods with negative externalities or 'bads'. Many ideas have been launched recently, especially as the debate on the need to act against global warming has become prominent. For example, car taxation can be based to some extent on emission levels. Some proposals have also been made to modulate property taxes with the degree of insulation of the dwelling or to tax products

based on the pollution created by their manufacturing process. However, it seems that despite some noteworthy exceptions, putting these principles into practice has proved hard in most Member States and environmental taxes are not widely applied. Moreover, the self-defeating nature of successful environmental taxes, i.e. the intended reduction of the tax base, poses some challenge for maintaining high revenue levels. Nevertheless, energy and transport taxes can be regarded as important sources of tax revenue in the future.

c) Shifting the burden to other tax bases

There are several other alternatives to potentially shift the tax burden on. Property taxation is one particularly suitable alternative that could generate substantial additional revenues. It has the additional benefit that the distortions associated with these taxes are rather low, as the supply of property tends to be inelastic and tax evasion difficult. Taxes on property are also less problematic from an equity perspective. Finally, they are particularly suited for financing local governments, since in this case the owners of local property will largely benefit from local services and public goods. Another alternative tax base that could increasingly be relied on is bequests. Finally, a shift to consumption taxes is also a possibility and is discussed in the next sections in more detail.

2.2. SHIFTING FROM INCOME TO CONSUMPTION TAXATION

Indirect taxation is often regarded as synonymous to consumption taxation and direct taxation as synonymous to income taxation. However, it appears to be useful to define direct and indirect taxation along the lines of Atkinson (1977), who argues that "…the essential aspect of distinction (is) the fact that direct taxes may be adjusted to the individual characteristics of the taxpayer, whereas indirect taxes are levied on transactions irrespective of the circumstance of buyer and seller". Following this definition, it is evident that consumption taxation is not necessarily equivalent to indirect taxation. In particular, it is perfectly feasible to tax individuals according to their consumption, by considering their (yearly) income corrected for

their net savings of that year. Note that this personal consumption tax base can also be subjected to a progressive schedule. Thus, in general, there is no one-to-one correspondence when talking about a shift from direct to indirect taxation and, alternatively, talking about a shift from (labour) income taxation to consumption taxation. However, given the current policy debate, the advantages and challenges of a potential transition to a system of personalised consumption taxation are not discussed in more detail here. Given that, as long as there is no direct consumption taxation, the typical shift from income to consumption taxation takes the form of the shift from direct income taxation to indirect consumption taxation (VAT) the focus of the analysis is instead on such a shift.

In the light of this differentiation, and before considering the potential advantages of different tax-shifting possibilities, it is useful to start by asking, why direct and indirect taxes coexist in practice. The answer to this question appears straightforward in the case of specific excise taxes that can be ascribed a role as potentially efficiency-enhancing taxation of certain goods or activities that inflict negative external or otherwise socially undesirable effects, e.g. tobacco, alcohol or motor fuels. However, in the case of a general consumption tax this question is more difficult to answer. As has been discussed by Boadway et al. (1994), the answer can be found in the problems of tax evasion and compliance costs. If some income escapes the income tax system, this income can still be taxed by commodity taxation. Such arguments imply that in general, some mix of direct and indirect taxes will typically be optimal, even if the tax base of direct and indirect taxes were the same. A desirable tax shift from direct to indirect taxation adjusts the direct indirect tax mix towards the optimum.

Shifting from direct taxation to indirect taxation is a very general proposal. Given that direct taxes comprise labour and capital income taxes, as well as corporate taxes, and that indirect taxes comprise not only VAT, but also tariffs, and specific excise taxes such as on motor fuels, tobacco, alcoholic beverages and others, tax shifting can mean different things in practice. The policy discussion has often been dominated by the shift from income taxation to consumption

taxation in the form of a reduction of personal income taxes financed by an increase in VAT or a general sales tax, as the most important type of indirect tax ([1]). There are usually two potential advantages that are brought forward for such a shift. The first is the increased incentives for investment, as capital income is not subject to indirect taxation. The second is the reduction in progressivity of the tax system, given the progressive nature of the typical income tax scheme. Such reduction in progressivity may result in increased employment and generates increased incentives for human capital formation ([2]).

2.2.1. Tax shifting from labour taxation to VAT

Given the concerns about the negative effects of high levels of labour taxation in the EU, policy makers have become particularly interested in tax reforms that focus more narrowly on the shift of the tax burden from labour to consumption. Such recommendations typically suggest reductions in payroll taxation or social security contributions financed by an increase in the VAT.

A balanced-budget shift from labour taxation to VAT affects economic activity through the following channels:

- The proposed shift *broadens the tax base*, which allows lower rates to obtain the same amount of revenues. The VAT is a consumption tax that, given an accommodating policy by the central bank, will be passed onto an increase in consumer prices. This reduces the real value of inherited wealth and of labour and profit incomes individuals receive. Additional capital income, however, that individuals may generate by saving out of the mentioned income streams, is not additionally taxed. Thus, the VAT as is currently applied in the EU is actually a tax on labour income, pure economic profits and wealth (in terms of the equivalent stream of future consumption)

([3]).The size of these additional tax bases is central to the determination of whether substantially lower rates can be applied, and whether the tax burden on labour can effectively be reduced as a consequence of revenue-neutral tax shifting, with positive effects on employment and growth. In fact, the proposed tax shift from labour to VAT is a classic tax reform aiming at rate cut cum base broadening.

- An increase in VAT that is pushed forward to consumer prices implies a reduction of the real value of transfer payments to the unemployed. Employed workers are typically more than compensated for the price increases by a reduction in labour taxes. Thus, the difference in income between wage earners and the inactive population increases. In basically all theoretical models of the labour market, whether labour supply is individual or collective, this will result in an *increase of labour supply*. Trade unions will take the reduced outside option into account. Similarly, individual workers' reservation wages are reduced, which increases the probability of taking up a job. These changes will result in higher equilibrium employment. Clearly, what is decisive is the question whether, and how, unemployment benefits are adjusted. If they are indexed so that the level of support remains constant in real terms and the replacement rate will change only marginally to the extent that the reduction in labour taxation exceeds the increase of consumer prices, there is little effect on labour supply. If benefits are adjusted to a lesser extent, there will be an additional positive long-run effect on employment.

- Similarly, an increase in VAT implies *reduced financing needs for transfer payments*, since these are smaller in real

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([1]) Dahlby (2003) provides a discussion in favour of such a shift for the case of Canada.
([2]) See also Section IV.2.2.2 on the effects of tax progressivity on labour market outcomes.

([3]) Another way to see that capital is actually exempt from the VAT is to look at the supply side of the economy. Firms can immediately deduct fully their spending on capital investment goods from their tax liability, so that the VAT does not levy an additional tax burden on the investment. As a consequence, the other income types, labour incomes and pure economic profits, carry the burden of the VAT.

terms. The reduction of transfers in real terms would allow a further reduction of the tax rate on labour, with additional positive effects on employment. This regards both the transfer payments to the active population, and the inactive population, in particular transfers to the old, or child and family benefits. As in the case of unemployment benefits, this result is conditional on the degree of indexation of transfers. Only if transfers are not fully adjusted for the increase in prices will a further reduction of the tax on labour be possible with the corresponding employment gains. How, and, to what extent, benefits are adjusted, clearly depends on the institutional setting and on the political conditions.

- A tax shift away from labour taxation results in a *reduction in real labour costs in the presence of nominal rigidities.* Depending on the institutional details of the shift, the effect will work through labour demand, labour supply, or both. For example, consider the case in which social security contributions are in equal measure paid by employers and employees. If a reform cuts social security contributions across the board, the reduction in employers' contributions will immediately affect labour costs and thus labour demand, whereas the effects of the reduction in the employees' contributions will work their effect on labour supply. The effect can be expected to be more pronounced in an open economy, since the reduction in real labour costs improves the international competitiveness of domestic firms. Because of its international dimension, tax shifts such as the shift from social security contributions to VAT are sometimes termed fiscal devaluations ([1]). As nominal wages are adjusted to changing labour market conditions, the effect on real labour cost, and hence employment and growth, will typically be temporary. The size of the effect will depend on the degree of nominal rigidity and trade openness of the economy. A country that is more integrated internationally is

likely to experience a larger effect from the improvement of its competitive position.

A fiscal devaluation can help to increase labour demand and recover international competitiveness in a difficult macroeconomic situation. However, it is not a solution for the problems underlying persistently weak growth and competitiveness. These are typically associated with badly functioning goods and factor markets, and particularly inflexible labour markets that do not allow the economy to smoothly adjust to aggregate and sector shocks, but also other structural features such as the innovative capacity of the economy, the speed of technology adoption, the qualification of the workforce and the capacity of firms to reorganise themselves in a rapidly changing competitive environment.

Moreover, the boost in activity and employment from a fiscal devaluation contains elements of a beggar-thy-neighbour policy, as the improvement in the country's competitiveness comes at the expense of its trading partners.

At the same time, the increase in activity induced by the fiscal devaluation will have some positive demand effects on the trading partners. The direction and the magnitude of the net effect on trading partners are thus empirical issues that need close investigation. These issues are analysed in detail in the simulations in Section IV.3.

- Institutional features may cause the tax shift to have more pronounced, and potentially long-lasting effects on labour market outcomes. For example, the employment effects of a tax shift that reduces employer-paid social security contributions or payroll taxes will be more pronounced in case of a *binding minimum wage* (see Cahuc, 2002). In such a case, the increase in labour demand results entirely in an increase in equilibrium employment and is not absorbed by a potentially inelastic labour supply curve. This result is conditional on the minimum wage not adjusted for the increase in prices due to the tax shift. This illustrates the importance of institutional settings in determining the potential effects of tax shifts, which is very

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([1]) Note that the increase in VAT itself does not improve international competitiveness, since VAT is internationally neutral.

much in line with the empirical literature on the effects of tax wedges on labour markets outcomes.

- A reduction in labour taxation with a simultaneous, revenue-neutral increase in consumption taxation can result in *potential behavioural effects*, stemming from different perceptions of economically equivalent taxes. According to standard economic theory, in a simple static setting with an endogenous labour supply decision, an income tax can be replaced by an equivalent consumption tax. Recently, behavioural economists have challenged this view claiming that income taxes result in more negative incentives effects compared to consumption taxes, although both taxes result in the same household budget constraint (see e.g. Blumkin et al., 2007). These authors provide experimental evidence on this claim. However, it is not clear whether this evidence is also relevant in the real world, in particular since the empirical evidence on the composition of the tax wedge, as discussed by Nickell (2006), seems to contradict the claim ([1]). Therefore, it seems too early to base policy advice on these preliminary findings and more research is needed on the issue. However, it is worth mentioning that such behavioural effects would strengthen the case for tax shifting from labour to consumption taxes.

- The extent to which the tax shift makes it possible to reduce the tax on labour will also determine the extent to which previously *undeclared work may move to the official sector*. This will generate additional tax revenues, which can be used for additional tax reductions with additional positive employment effects.

2.2.2. More targeted tax shifting

The above considerations relate to a simple linear reduction in labour taxation (across the board) financed by a linearly increased VAT, without considering the impact on specific groups. As noted by many observers, e.g.

Bovenberg (2006), policy changes may have little impact on a representative individual but could significantly affect incentives and behaviour of specific groups, such as older workers, retired workers considering part-time work, low-skilled workers, or second earners in a household, and single parents. In many countries the adverse incentives of high levels of labour taxation bear particularly strongly on these groups. It can thus be important to look at the effects for such groups more specifically. This carries on to the design of tax reforms, since concentrating the reduction of labour taxes on particular groups would require a smaller increase in the VAT to achieve revenue neutrality. In turn, this is part of the lively debate on how to target these disadvantaged groups better and how to integrate tax and benefit systems with the aim of avoiding inactivity and unemployment traps among these groups.

More generally, an important aspect of the tax reforms is the question how they change the progressivity of the tax system. Changes in the tax progressivity will have very different effects on labour market outcomes depending on how the labour market is working. In the case of a competitive labour market tax progression will tend to reduce labour supply. In a collective wage bargaining framework (and similarly in search and matching frameworks) tax progression can induce wage moderation and tends to result in higher employment levels (see, among others, Koskela and Vilmunen, 1996).

2.2.3. Further caveats to tax shifting

A tax shift from labour taxation to VAT involves also problematic aspects. It has already been stressed that it is an inadequate substitute for structural reforms. Similarly, the potential beggar-thy-neighbour aspects have also been pointed out. Besides these points, there are further problems that need to be kept in mind. First, substantial tax shifting has short-term inflationary effects. In an environment of inflationary pressure this could be a reason for concern and prompt action from central banks, with potential negative consequences for economic activity. Second, there are limits to the amount of tax shifting. As pointed out before, a mix of direct and indirect taxation is likely to be optimal since both taxes are likely to be subject

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([1]) Compare also Box IV.1.2 on this.

to evasion. Third, there are limits to both the possible reduction of the various components of labour taxation and to the maximum increase in VAT. Fourth, a major tax reform will take time to move from the stage of design to that of implementation, which makes it a rather inflexible instrument. Fifth, and related to the previous point, the shift is likely to have announcement effects that are potentially working against the effectiveness of the reform. A substantial increase in VAT will cause consumers to purchase durable goods earlier. This will result in additional economic activity before the reform and reduced activity afterwards. Particularly this latter effect may be detrimental in a context of fragile economic prospects. Finally, care must be taken that the reforms of the tax revenue structure do not result in simple revenue increasing exercises. Given the capacity of a VAT rise to generate additional revenues, policy makers may be tempted to use it as an instrument to increase revenues instead of addressing politically difficult expenditure cuts.

2.2.4. Equity aspects

Since indirect taxes cannot be adjusted at individual level there are concerns that tax reforms that assign a greater role to indirect taxes are potentially regressive and thus be in conflict with distributional objectives. However, in the case of a tax shift from payroll tax or social security contributions to VAT, there are several arguments qualifying the objections raised from an equity perspective. First, as noted by Dahlby (2003), taxing individuals' consumption may be appealing from a normative perspective, since individuals' consumption levels describe rather well their standards of living. Second, indirect taxation of consumption does not rely on a yearly assessment, but taxes lifetime consumption instead. Third, if labour taxation is just a linear tax itself, which is often the case for social security contributions, then, if the labour tax is reduced linearly and the consumption tax increased linearly, the total distributional effect should be neutral. In fact, many social security contributions only apply up to a certain wage limit and are therefore regressive in nature. In this case, the shift towards a consumption tax could actually be progressive. Fourth, as long as direct taxation continues to exist, this can still be used for keeping the progressivity of the tax

system. Fifth, distributional objectives are largely achieved via the expenditure side of the budget. This regards direct social benefits, but also publicly provided goods, such as security, health services, education, recreation and infrastructure, which are typically provided to all citizens regardless of their contribution to the government's budget. Sixth, VAT also taxes accumulated wealth and profit income that are typically owned by, or accrue to, richer households. This is likely to have a redistributive effect. Finally, if the tax reform is successful in enhancing efficiency and growth, also the poorer parts of the population can potentially profit from the reform in the long run through higher employment and income levels. Despite these arguments, some recent studies ([1]) strengthen the classic regressive view of indirect consumption taxes and also indicate that revenue-neutral budget shifts from labour taxation to VAT tend to be regressive.

Finally, there is a distributional question regarding intergenerational equity. Since an increase in VAT taxes existing wealth, the older generation that has accumulated wealth, is made worse off. The younger generation, however, is less affected by this effect, but benefits from the reduction of the tax on labour. This effect is even stronger in the case of a tax shift from a general income tax to VAT, because in this case also the tax on capital income, which would affect the young who are engaging in saving, is reduced.

2.2.5. Tax competition and tax shifting

The competition for mobile tax bases places restrictions on national tax policy. Given that tax competition is relevant for direct as well as for indirect taxation, the extent of the competition and its implications for a tax shift need to be considered. As regards indirect taxation, the empirical evidence indicates that tax competition for cross-border shoppers is a real problem in practice. Theory suggests that countries trade off the marginal tax revenues from additional cross-border shoppers associated with a reduction of their own tax rate with the foregone revenues on their existing tax base, namely the revenues derived from the consumption of their home

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([1]) For a review see OECD (2007h).

population (see Kanbur and Keen, 1993, Nielsen, 2001 and Ohsawa, 1999). This approach predicts that the tax rates of neighbouring countries will react positively to each other. Moreover, smaller countries will, ceteris paribus, set lower tax rates, because their existing tax base is smaller. Similarly, countries that have many neighbours should have, ceteris paribus, lower tax rates than countries with fewer neighbours, because they can attract more cross-border shoppers by reducing their tax rates. Using European data, Egger et al. (2005) find strong evidence for these predicted effects. More recently, using the reduction of Danish taxes on alcoholic beverages in 2002 as a natural experiment, Asplund et al. (2007) found striking evidence how Swedish consumers reacted to the neighbouring country's tax policy change. Finally, using data from the US, Devereux et al. (2007) show that, in the US, individual states react to each other's tax policies regarding indirect taxes. In summary, there is evidence that competition for cross-border shoppers is a relevant problem from a policy making perspective.

Given the existence of tax competition, excise rates are typically set below the level that would be chosen in the absence of tax competition. A coordinated increase in indirect taxes has therefore the potential to make all countries better of. A full harmonisation, however, could make worse off those countries that are currently profiting from cross-border shopping. As shown by Kanbur and Keen (1993) minimum tax levels can make all countries better off. This theoretical prediction is well in line with the harmonisation process in the EU, which has set minimum rates for indirect taxes such as the VAT and excise duties on motor fuels, although the fact that the minimum levels are binding for few Member States may be taken as evidence that these minimum levels are not very effective at reducing competition.

For the analysis of the merits of direct relative to indirect taxation and a potential shift from one to the other, it is of interest to consider whether international pressures on national tax policies will be increasing more in the field of direct or indirect taxation, since this will determine the future constraints for policy making and affect the scope for tax shifting. It seems reasonable to assume that the ease of cross-border shopping

will increase further, but not as dramatically as it has been in the context of the completion of the internal market and the expansion of the Schengen agreement over recent years. On the other hand, the mobility of workers across borders is likely to increase substantially in the future. This reasoning provides an additional argument in favour of countries to rely more strongly on consumption taxation, in particulary on VAT, in the future.

Box IV.2.1: **The VAT - A European success showing signs of age**

The European VAT has proved to be a lasting success but a 'face-lift' appears needed to address new challenges. Currently, the US is the only OECD country that does not rely on a VAT-type system to raise tax revenue. VAT has a number of practical advantages which have made its success possible, such as its administrative advantages, its 'self-enforcing' nature, and related to that, its substantial capacity to raise revenue. However, given that the VAT systems of some Member States have already been in place for about 40 years, many observers have noted that they fall short of some more recently introduced VAT systems, such as the New Zealand VAT scheme, for example. Moreover, the completion of the Internal Market has put new challenges on the proper design of European VAT systems. In particular, the current VAT regulations are quite susceptible to fraud. Given the nature of the typical fraud schemes, the problem is unlikely to be resolved by increased monitoring and investigating activities by the tax authorities. Rather, it calls for a more systematic solution that requires reconsidering the treatment of cross-border transactions within the Internal Market ([1]).

The current European VAT regimes do not apply a uniform rate to all goods and services. Rather there are substantial exemptions for particular goods and services, for which reduced or even zero rates apply. There are basically two economic arguments that can justify differentiated indirect tax rates. First, Pigouvian taxes or subsidies can correct externalities. Goods and services that exert negative (positive) externalities should be taxed at higher (lower) rates. Excises on alcoholic beverages or energy may be considered example of such correcting indirect taxes. Second, recent research by Kleven (2004), discussed also in Sørensen (2007), has identified a case in which differential taxation may be desirable. Kleven departs from the traditional goods-services market production by including a third sector: the household production of services, covering activities that can be carried out by households. Examples are house cleaning, child care, car-washing, do-it-yourself activities and (arguably) restaurants. He shows that a high tax on these activities, which are complements to leisure, are not an efficient way to stimulate labour supply because they tend to encourage substitution of home production for market production. He derives a tax rule that recommends putting a low tax rate on activities that can be produced in both the household sector and the market sector. Several labour-intensive services for which some Member States would like to have reduced VAT rates do share the feature that their consumption reduces or saves household time.

On the other hand, there are strong theoretical and practical arguments for a uniform indirect tax rate:

> In the policy debate, exemptions and reduced rates are often advocated for equity reasons. However, differentiated rates of indirect taxes are inefficient instruments for redistribution. Generally, the more alternative instruments the government has for redistribution, the less it should rely on differentiated commodity taxation to pursue distributional objectives. More particularly, under the condition of weak-separability of leisure and consumption, Atkinson and Stiglitz (1976) have shown that a government that applies a non-linear income tax optimally should not use differentiated commodity taxes for redistribution. More recently, Kaplow (2006) has proven that this result even holds, if the income tax is not chosen optimally. He also demonstrates that any proportional reduction in differential commodity taxation results in a Pareto improvement. These theoretical considerations are mirrored by simulation studies, such as the recent work by Boeters et al. (2006)

([1]) The question how to modify the European VAT system to make it less susceptible is an important one. Several potential responses to this problem have been put forward. Given the complexity and the number of suggestions, this issue cannot be addressed here. For a discussion, see Keen and Smith (2007).

Box (continued)

for Germany or Ruiz and Trannoy (2006) for France. These authors find substantial welfare gains from the elimination of reduced VAT rates.

- Uniform VAT is easier to administrate and less prone to fraud (by re-labelling goods).

- There is no need to change the relative rates when tastes or technologies are changing.

- Uniform VAT rates better prevent wasteful lobbyism.

Thus, even though there may be a theoretical case for non-uniform commodity taxation, it seems desirable to maintain neutrality as the general norm. This is because governments are likely not to have full information on the adequate parameters to fine-tune their taxes and non-uniform taxes are subject to lobbyism. Hence, as noted by Sørensen (2007), the burden of the proof should always be carried by those who argue for deviations from uniformity. As a consequence of these arguments, the tax base of the VAT in Europe should be substantially broadened, given the substantial scope of exemptions and reduced rates in the current systems. More recently introduced VAT systems, such as the New Zeeland regime, come close to a full coverage of all consumption expenditures. Finally, widening the VAT base would also make it a more attractive target for tax shifting from labour to consumption.

3. A TAX SHIFT FROM LABOUR TO CONSUMPTION IN THE EURO AREA: SIMULATION RESULTS

3.1. THE QUEST III MODEL

The preceding analysis has described the various factors that can be expected to influence how a revenue neutral shift from labour taxation to VAT will affect the economy, and, in particular, employment and growth. However, for sound policy recommendations one also needs to assess quantitatively what the likely effects of such a tax reform would be. Given the limited availability of data and empirical evidence on past experience with tax shifting from labour to consumption, simulation methods represent the key technique to assess the potential effects of such tax shifting reforms. Several simulation studies have already been carried out to assess tax shifting from labour to consumption, typically at the level of individual Member States. These include, among others, Feil et al. (2006) for Germany and various analyses for France reported in Besson (2007). Some country-level studies also match income and consumption data at the micro level and apply micro-simulation methods. See for example Fuest and Peichl (2008) who consider the implications of a shift from labour taxation to VAT for several Member States. While these micro studies provide more detailed results on the distributional impact of tax shifting from labour taxation to VAT, they are typically static by nature and do not address the dynamic macroeconomic effects on employment and growth that are the focus of this section. EU-wide assessments have been carried out by the Commission in the past with the earlier QUEST II model (see Roeger and in 't Veld, 2006, and European Commission, 2006c).

This section provides a quantitative assessment of a shift from labour taxation to consumption taxation using the QUEST III model. The global dynamic stochastic general equilibrium (DSGE) model is employed in DG ECFIN for quantitative policy analysis. It belongs to the new class of micro-founded DSGE models that are now widely used in economic policy institutions ([1]). Equations in these models are explicitly derived from intertemporal optimisation under technological, institutional and budgetary constraints and the model incorporates nominal, real and financial frictions in order to fit the data (Ratto et al., 2006, 2008).

The QUEST III model employs the product variety framework proposed by Dixit and Stiglitz (1977). The economies are populated by households, final and intermediate goods producing firms, a monetary and a fiscal authority. In the final and intermediate sector firms produce differentiated goods that are imperfect substitutes for goods produced abroad. Final-good producers use a composite of domestic and imported intermediate goods and three types of labour (low-, medium-, and high-skilled). There are two types of households. The first group of households is liquidity-constrained and consumes its entire income in each period. These households only receive labour and transfer income. The second group consists of households that are not liquidity-constrained and are active in the financial markets. They own the capital stock and receive capital and profit income besides their labour income.

3.2. SIMULATING A TAX SHIFT FROM LABOUR TO CONSUMPTION

Within the framework of the QUEST III model different tax-shifting scenarios from labour to consumption taxation can be considered. The tax experiments that are presented in this chapter represent a 1% of GDP reduction in wage taxes financed by an increase in consumption taxes. There are three baseline scenarios:

1. The first scenario investigates the effect of joint tax-shift from wages to consumption for the entire euro area.

([1]) See for example the International Monetary Fund's Global Economy Model (Bayoumi et al., 2004) and the European Central Bank's New Area-Wide Model (Christoffel et al., 2008).

2. The second scenario examines the effect of a tax shift in a large euro-area Member State (Germany). This scenario is interesting since it allows looking at potential spillover effects within EMU.

3. The third scenario considers the effects of a unilateral tax shift by a small euro-area Member State (Ireland) ([1]).

All these scenarios are based on the two-sector (tradable vs. non-tradable), four-region version of QUEST III (one euro-area (EA) economy, rest of euro area (RoEA), the US and the rest of the world (RoW)). Furthermore, the three scenarios use the benchmark assumption of benefit and transfer indexation to consumer prices, i.e. benefit and transfer recipients are compensated for the increase in consumption taxes. In order to guarantee that the tax shift is roughly budgetary neutral in the long run, labour taxes adjust to stabilise the government debt around its long-run target, which is assumed to be a stable debt-to-GDP ratio at a level of 60 % of GDP. As transfers and benefits are raised to compensate their recipients for the consumption tax increase, labour taxes have to increase to offset the increase in expenditure. Hence, the reduction in labour taxes is smaller in the medium/long run than in the short run.

The baseline scenarios are complemented by several sensitivity analyses that either change the magnitude of some key parameters or change the benchmark assumption regarding the adjustment of transfers. Several parameters play a decisive role. First, the labour-supply elasticity is important for the magnitude of the labour supply response to a tax shift. There is some uncertainty about the magnitude of this response. Most micro studies estimate values below 0.5, even going as low as 0.2. In order to provide a cautious

estimate for the output and employment effects we have opted for a value of 0.25. Similarly, the international price elasticities for tradables could be important determinants for the domestic effects, since they affect the competitiveness gains. Unfortunately, there is little consensus in the trade literature on the magnitude of the price elasticity of tradables. The estimates range from 1 to values above 10. The standard model setting assumes an elasticity of 2 for tradables. This seems to be consistent with estimated price elasticities from aggregate trade data.

The effects of a switch from labour to consumption taxation will depend crucially on how other income earners are compensated for the increase in consumption taxes. Besides wage income, there are five other types of income for households: unemployment benefits, transfers, profit income and interest from domestic government and foreign bonds. The benchmark case considers the case in which the first two types of income (benefits and transfers) are indexed to consumer prices and are thus compensated for the increase in consumption taxes. This is the default assumption in the model simulations. However, profit income and interest income earners are not compensated and are de facto paying for the reform. While the benchmark assumption of full indexation may be regarded to reflect political pressures or explicit legal indexation schemes, it has the additional conceptual advantage that it allows to isolate the effects of the reform that originate in the difference in the tax bases of labour and consumption taxes. The additional effects that arise if transfers are not indexed are considered in an additional sensitivity analysis.

3.2.1. Mechanics of the model simulations: domestic effects

The model predicts that a permanent shift of taxes from wages to consumption has positive employment and GDP effects. The size of the effects depends on the specific underlying assumptions, such as the size of the key parameters, but also on the specific policy that is being considered. Whether a country acts in isolation or whether a joint shift is considered makes a substantial difference.

([1]) It should be noted that Germany and Ireland are represented in this exercise in a stylised manner. The model uses region specific estimated parameters for the euro area and the US, as well as calibrated parameters for the rest of the world. There are no country specific behavioural estimates for Germany and Ireland, but the estimates obtained for the euro area are imposed. These countries are distinguished from the RoEA only by using country-specific information on their size, their degree of openness, their bilateral trade linkages as well as their employment, tradable sector and government shares.

These findings are in line with theoretical arguments presented in Section IV.2. The different economic effects of tax shifting in isolation or jointly and the relevance of country size are discussed in detail in the scenarios presented in section IV.3.3.

The effects of the tax shift on the domestic economy can be described as follows. The reduction in labour taxes lowers wage costs and reduces prices. It is assumed that the central bank targets 'core' inflation and does not respond to the increase in consumer prices due to the tax increase. Instead, lower prices allow the central bank to reduce nominal interest rates. Lower interest rates lead to an expected appreciation of the nominal exchange rate. It should be noted, however, that the induced monetary effects are not quantitatively important for the observed real effects. The gain in competitiveness that results from the labour tax reduction boosts exports. But the increase in domestic demand, in particular in consumption, also raises imports and the net outcome of these two opposing effects is typically a small worsening of the trade balance in the simulations.

The reduction in labour tax leads to an increase in employment and in output. The budgetary impact is more complex as there are many channels affecting the budget both directly and indirectly. As the reform consists of changes in tax rates, there is a direct impact on the budget, but the shift is constructed to be ex ante budgetary neutral on the baseline. The budget is further indirectly affected as the reform is accompanied by the adjustment of benefit and transfer payments, which are driven by indexation and the macroeconomic impact of the reform. The ex post labour tax reduction is considerably smaller in the long run.

Layard et al. (1991) have raised doubts against a tax shift from wages to consumption based on the empirical observation that real wages will only fall temporarily after a tax shock. They regard this as evidence that taxation of labour does not have permanent labour market effects. It is interesting to notice that the QUEST simulation results exactly generate this pattern of the real wage response. Nevertheless there is a permanently positive employment effect. This can be explained when we take into account

various dynamic adjustment mechanisms. The basic intuition behind this result is the fact that a temporary increase in employment leads to an increase in the capital stock in the medium term until the pre-existing capital labour ratio is re-established [1]. However, once the initial capital-labour ratio is re-established, the marginal product of labour returns to its initial level and, therefore, the real wages firms are willing to pay return to baseline at a higher level of employment and capital.

In a stylised fashion the dynamics of wages, investment and employment can be described as follows. The initial impact of a tax shift is a reduction of real wage costs (not necessarily of the real consumption wage), this leads to an increase in employment that is accompanied by an increase in investment in the medium term. Both the increase in employment plus the improved supply conditions (a larger capital stock) lead to an increase in real wages. The process comes to an end when the pre-reform capital labour ratio is re-established, since this is the capital-labour-ratio which is consistent with an unchanged user cost of capital, which, as explained in detail in Box IV.3.1, is consistent with the long-run capital market equilibrium. There exists a one to one relationship between the capital-labour-ratio and the real producer wage (i.e. the wage a firm is willing to pay). Thus a return of the capital-labour-ratio to its initial condition is associated with a return of real wages to their initial level.

There are also important distributional effects of the tax shift, since shifting taxes from labour to consumption affects consumption possibilities for different income groups differently. The QUEST model does not distinguish households by their position in the income distribution but only allows looking at functional income groups. By distinguishing between liquidity-constrained households and households with free access to capital markets one can at least indirectly trace the distributional effects.

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[1] This is a direct implication from the marginal productivity condition for capital (for any constant returns to scale production function), which requires a long run constant capital labour ratio when real capital costs are not changed.

Box IV.3.1: **The mechanics of the tax shift in the QUEST III model**

This box explains the basic mechanisms at work when one considers a tax shift from labour to consumption in the QUEST III model. The focus is on capital formation and employment.

Capital formation:

The first question addressed concerns the effect of a VAT on capital formation both in the long run (steady state) and in the short run. Investment is determined by firms, equating the marginal product of capital (*MPK*) to the rental rate (or user cost (*UCC*)) of capital

(1) $\qquad MPK = UCC$

The user cost of capital must be equal to the real rate of interest on a safe asset (r), the rate of depreciation (δ) and possibly a risk premium (*risk*)

(2) $\qquad UCC = r + \delta + risk$ ([1])

Equation (1) and (2) determine a demand schedule for capital as a function of the real interest rate. The supply of capital is determined by savings decisions of private households. In standard DSGE models savings is determined by intertemporally optimising households with a discount rate equal to ρ. Households equate the marginal utility of current consumption ($U_{C,t}$) with the marginal utility of future consumption ($\frac{1}{1+\rho}U_{C,t+1}$) and the relative price of consumption today versus consumption tomorrow, which is the (gross) real interest rate ($1+r$) multiplied with the ratio of value added tax factor ($1+tv_t$) and $(1+tv_{t+1})$ ([2])

(3) $\qquad U_{C,t} = \dfrac{(1+r)}{(1+\rho)}\dfrac{(1+tv_t)}{(1+tv_{t+1})}U_{C,t+1}$ ([3])

This condition determines a savings (intertemporal consumption) schedule. Households shift consumption into future periods when the real interest rate is high and when they expect value added taxes to be lower in the future compared to current rates. In the steady state this condition fixes the real interest rate at the rate of time preference, irrespective of the level of the consumption tax. This shows that in the long run (steady state) value added taxes do not distort capital formation. It is important to notice that this condition also holds for the open economy. Increasing consumption taxes for capital owners does not lead to an outflow of capital. However, in the short run the tax shift can affect consumption and savings. An increase in value added taxes lowers real consumption from all sources of income, while a reduction of labour taxes increases consumption. A priori, the short-run effect of a tax shift on savings cannot be determined. In QUEST III the effect of the tax shift on savings seems to be negative   in   the

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[1] For ease of exposition corporate taxes and depreciation allowances are ignored.
[2] The real interest rate is defined as nominal interest rate minus the expected consumer price inflation net of value added taxes.
[3] This is a simplified representation of consumption and only describes consumption of non liquidity constrained households. The QUESTIII model a fraction of households is liquidity constrained and only consumes out of current wage and transfer income. This has additional implications for short run adjustment which are described in the simulation section.

(Continued on the next page)

Box (continued)

short run and consequently the tax reform is accompanied by a temporary increase in the real interest rate, which slightly reduces investment initially.

Employment:

The source of the positive employment (GDP) effect is due to the shift in taxation from wages to income from financial wealth. To understand the labour supply effect of the tax shift consider the following (simplified) labour supply equation

(4a)
$$L = 1 - \omega \left(\frac{C}{W_C^r} \right)^\sigma \quad \text{with} \quad W_C^r = \frac{W}{P} \frac{(1-tw)}{(1+tv)}$$

where σ denotes the elasticity of labour supply (L) and ω a preference parameter that indicates the preference for leisure. Labour supply (as a share of population of working age) depends positively on the real net consumption wage (W_C^r) and negatively on household wealth (which is proportional to private consumption (C)). Or, alternatively, this relationship can be rewritten to show that wages respond positively to labour taxes, value added taxes, employment and wealth,

(4b)
$$\frac{W}{P} = \frac{(1+tv)}{(1-tw)} \omega^{1/\sigma} \frac{C}{(1-L)^{1/\sigma}}$$

The labour supply/wage response depends on the relative size of *tw* and *tv*. As long as

(5)
$$\frac{(1-tw^{old})}{(1+tv^{old})} < \frac{(1-tw^{new})}{(1+tv^{new})}$$

a positive labour supply response can be expected from a change in tax policy. It is important to notice that base effects are important. Condition (5) to hold only requires *tw* to fall by the fraction $\dfrac{(1-tw^{new})}{(1+tv^{new})}$

for any percentage point increase in *tv*.

The effects on the various household types are as follows. Liquidity-constrained households, which receive labour income and do not possess wealth, are positively affected. Non-liquidity-constrained households are subject to opposing effects. As recipients of wage income, they are profiting from the shift. On the other hand, as owners of financial wealth and recipients of profit income, they are negatively affected. Whether the latter negative effect dominates the former positive effects depends on the share of these households. If there are very few of them, the negative effects are strong for each household. In that case, they each own a larger share of the capital stock so that their capital and interest income represents a greater proportion of their total income. In the baseline assumptions used in the simulations of 40% liquidity-constrained households and 60% non-liquidity-constrained households, the total effect on the non-liquidity constrained households is slightly positive.

3.2.2. Mechanics of the model simulations: international spillover effects

As discussed, a tax shift carried out unilaterally by an single country can have spillover effects on

its trading partners. The simulations suggest a rather small international spillover effect of a tax shift carried out in isolation by a single country. Theoretically, the international spillover effect is not determined a priori. It depends on a number of factors, in particular the relative size of demand and price effects generated in the country where the reform is undertaken. It is conceivable that, with a low price elasticity between domestic and foreign goods (countries specialise in the production of tradables), the positive demand effect generated by a tax shift dominates the price effect. However, as the price elasticity of internationally traded goods increases it is more likely that competitiveness effects generate negative spillovers. However, the simulations imply that even for relatively low international price elasticities the competitiveness effect seems to dominate. For example, if Germany undertakes a tax shift, the model suggests that this leads to a decline in real wage costs for German firms and a reduction of export prices. This in turn leads to a fall of real wages in the RoEA in the order of magnitude of one third of the decline in real wages in Germany. This has effects on consumption of liquidity constrained households which reduces demand for domestic goods and imports. However, the fall of real wages stabilises employment and GDP in the RoEA. Therefore, because of strong cost and demand spillovers, the trade balance in the RoEA is rather unaffected.

3.3. SIMULATION SCENARIOS

3.3.1. Scenario 1: co-ordinated tax shift in the euro area

The first simulation scenario considers a co-ordinated tax shift throughout the euro area in which all euro-area Member States reduce labour taxation and increase their consumption taxes at the same time. A revenue-neutral tax shift in the order of magnitude of 1% of GDP can be generated with a labour tax reduction of 1.3 pp in the long run, financed by an increase in VAT of 1.5 pp ([1]). Such a tax shift generates a positive

employment and GDP effect in the short and the long run (compare Table IV.3.1). Compared to baseline, employment increases in the first year by about 0.14% and rises to 0.25% in the long run. Real GDP increase is slightly lower, at 0.09% and 0.23% respectively. The smaller GDP effect is explained by a slower adjustment of capital to its new equilibrium level, because the reform is biased towards an increase of employment. The main mechanism is a decline in real wage costs of about half a percent in the first three years. As discussed above, the tax reform does not lead to a permanent reduction of real wage costs. Adjustment in the capital stock and a higher demand for labour bring real wage costs back to their pre-reform levels. There is however, a permanent gain in real consumption wages of about 0.7%.

Since this tax reform shifts the burden of taxation from wages to capital income earners it has important distributional effects (in consumption terms). As shown in the Table IV.3.1, real wage income rises because net consumption wage and employment increase. Real consumption income from capital and financial wealth rises initially because of an increase in the real interest rate, but it falls below baseline over the medium term and recovers slightly in the long run because of wealth accumulation effects. This has implications for consumption and is reflected by a stronger increase of real consumption from current net wages and transfers of the liquidity-constrained households, compared to households that consume out of labour and capital income. Consumption of non-liquidity-constrained households rises over time but the increase does not reach the same level as the consumption increase of wage earners. The difference is explained by the fact that the tax reform shifts the burden of taxation on consumption out of capital income.

([1]) The absolute change of value added taxes exceeds the absolute change of labour taxes because of compensatory payments to benefit and transfer recipients. Given our

baseline levels of labour taxes (including social security contributions) of 38% and value added taxes of 17%, these relative changes fulfil condition (5) in Box IV.3.1., required for lowering the tax wedge.

Table IV.3.1:

Simulation of a euro-area wide tax shift

Germany	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	0.09	0.16	0.20	0.21	0.22	0.22	0.23
Employment	0.14	0.25	0.29	0.30	0.29	0.27	0.25
Consumption	0.15	0.17	0.20	0.22	0.23	0.23	0.22
- Consumption LC	0.45	0.30	0.33	0.37	0.40	0.47	0.48
- Consumption NLC	0.01	0.10	0.15	0.15	0.14	0.12	0.10
Investment	-0.18	-0.12	-0.03	0.01	0.04	0.10	0.13
Exports	0.01	0.07	0.11	0.13	0.13	0.14	0.16
Imports	0.04	-0.02	0.03	0.06	0.08	0.11	0.11
Real wage costs	-0.41	-0.54	-0.47	-0.38	-0.31	-0.13	-0.06
Net real consumption wage	0.67	0.41	0.43	0.49	0.54	0.65	0.67
Real consumption interest income	2.63	-0.29	-1.09	-1.17	-1.13	-1.02	-1.04
Consumer price level	1.13	0.87	0.66	0.49	0.36	0.01	-0.19
Terms of trade	0.02	-0.05	-0.06	-0.06	-0.06	-0.06	-0.07
Dollar exchange rate	-0.22	-0.38	-0.58	-0.74	-0.87	-1.20	-1.36
Nominal interest rates	-0.13	-0.20	-0.18	-0.14	-0.11	-0.03	-0.01
Real interest rates	0.18	0.04	0.00	-0.00	0.00	0.01	0.01
Inflation	-0.28	-0.24	-0.19	-0.15	-0.12	-0.04	-0.01
Tax rate labour	-1.47	-1.41	-1.38	-1.36	-1.35	-1.30	-1.28
Tax rate consumption	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Bilateral trade balance vs. EA	0.01	0.00	0.00	0.01	0.01	0.01	0.01
Trade balance	-0.00	0.01	0.01	0.00	-0.00	-0.01	-0.01

Rest of euro area	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	0.09	0.17	0.21	0.22	0.23	0.23	0.24
Employment	0.15	0.26	0.30	0.31	0.30	0.27	0.26
Consumption	0.17	0.19	0.22	0.24	0.24	0.25	0.24
- Consumption LC	0.46	0.32	0.35	0.39	0.42	0.49	0.51
- Consumption NLC	0.03	0.12	0.16	0.17	0.16	0.13	0.12
Investment	-0.15	-0.08	0.01	0.05	0.07	0.12	0.16
Exports	-0.01	0.07	0.11	0.12	0.12	0.13	0.15
Imports	0.06	-0.03	0.02	0.05	0.07	0.11	0.10
Real wage costs	-0.40	-0.53	-0.46	-0.38	-0.31	-0.13	-0.05
Net real consumption wage	0.68	0.43	0.45	0.51	0.56	0.68	0.71
Real consumption interest income	2.55	-0.33	-1.12	-1.20	-1.15	-1.02	-1.04
Consumer price level	1.13	0.88	0.67	0.50	0.37	0.02	-0.19
Terms of trade	0.02	-0.05	-0.07	-0.07	-0.06	-0.06	-0.08
Dollar exchange rate	-0.22	-0.38	-0.58	-0.74	-0.87	-1.20	-1.36
Nominal interest rates	-0.13	-0.20	-0.18	-0.14	-0.11	-0.03	-0.01
Real interest rates	0.17	0.03	0.00	-0.00	-0.00	0.01	0.01
Inflation	-0.28	-0.24	-0.19	-0.15	-0.12	-0.04	-0.01
Tax rate labour	-1.47	-1.42	-1.39	-1.37	-1.36	-1.31	-1.29
Tax rate consumption	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Bilateral trade balance vs. DE	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Trade balance	-0.01	0.01	0.01	0.00	-0.00	-0.01	-0.01

Notes:
Percent(age points) deviation from baseline.
LC: Liquidity-constrained households. NLC: Non-liquidity constrained households.
Inflation is defined as core inflation, i.e. excluding VAT.
Source: Commission services.

The decline of wage costs does not improve competitiveness vis-à-vis the RoW outside the euro area because it goes along with a nominal appreciation that is driven by the increase of the

real interest rate, triggered by a rise in domestic demand, especially from consumption of liquidity-constrained households. The wage and exchange rate effect compensate each other and leave the terms of trade virtually unchanged.

3.3.2. Scenario 2: an isolated tax shift in a large country (Germany)

If only a single large country (Germany) undertakes the reform, the outcome for this country could be different. Germany could benefit by making competitiveness gains relative to its RoEA neighbours and could loose because of demand effects in the rest of the euro area. The total output effects in the RoEA are negligable because there is a strong real wage response in RoEA, which stabilises employment (and GDP). However, the initial gain in competitiveness does not lead to stronger output expansion in Germany compared to the joint tax reform case. Germany does not gain a permanent cost advantage over its RoEA neighbours, because real wages adjust upwards in Germany with rising employment, and real wages in RoEA fall.

The simulation results suggest that the output gains, in the case Germany goes ahead unilaterally, are slightly higher in the short run but the long-run output effects are lower. In the first year, German GDP grows by 0.11% relative to baseline if moving unilaterally compared to 0.09% if the shift is coordinated throughout the euro area. However, already after two years the effect on GDP growth is larger in the coordinated case. In the long run German GDP increases 0.2% if acting on its own, whereas the increase is 0.23% in case of the coordinated shift, see Table IV3.2. The effects on RoEA GDP and employment are negligible.

3.3.3. Scenario 3: isolated tax shift in a small country (Ireland)

Ireland, which here serves as a prototype small open economy with a high trade share and a high degree of substitutability between domestic and foreign tradables, constitutes another interesting example for a country that could possibly benefit extensively from tax shifting policies via potential competitiveness effects. Surprisingly this is not the case, see Table IV.3.3. The

competitiveness gains accrue to Irish workers in the form of higher net wages and a stronger increase in domestic demand. Higher substitutability between domestic and foreign tradables limits movements in the terms of trade and it is the adjustment of real wages which generates the international price equalisation. Because of a faster real wage response, the employment gains, especially in the tradable sector, are smaller and there is less of an expansionary (investment) effect. Another important reason for a smaller real effect of the tax reform if conducted in a small country is a less accommodative monetary policy because consumer prices in the monetary union decline less if Ireland undertakes the reform compared to Germany.

Table IV.3.2:

Simulation of a tax shift by Germany only

Germany	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	0.11	0.16	0.19	0.20	0.20	0.20	0.20
Employment	0.14	0.22	0.25	0.26	0.26	0.24	0.22
Consumption	0.19	0.19	0.21	0.22	0.22	0.21	0.17
- Consumption LC	0.61	0.52	0.52	0.52	0.52	0.49	0.45
- Consumption NLC	0.01	0.04	0.07	0.08	0.08	0.07	0.05
Investment	-0.06	-0.02	0.03	0.07	0.09	0.11	0.10
Exports	0.01	0.05	0.07	0.08	0.08	0.10	0.12
Imports	0.08	0.03	0.04	0.05	0.06	0.05	0.02
Real wage costs	-0.19	-0.25	-0.21	-0.17	-0.14	-0.08	-0.05
Net real consumption wage	0.89	0.74	0.72	0.72	0.72	0.69	0.63
Real consumption interest income	-0.01	-0.69	-0.98	-1.06	-1.08	-1.09	-1.16
Consumer price level	1.26	1.18	1.12	1.07	1.03	0.94	0.89
Terms of trade	-0.01	-0.05	-0.07	-0.08	-0.08	-0.09	-0.11
Dollar exchange rate	-0.05	-0.09	-0.13	-0.17	-0.20	-0.27	-0.29
Nominal interest rates	-0.03	-0.05	-0.04	-0.03	-0.02	-0.01	0.00
Real interest rates	0.07	0.03	0.01	0.01	0.01	0.00	0.00
Inflation	-0.08	-0.07	-0.06	-0.04	-0.03	-0.01	-0.00
Tax rate labour	-1.48	-1.44	-1.40	-1.38	-1.36	-1.30	-1.25
Tax rate consumption	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Bilateral trade balance vs. EA	-0.01	-0.00	0.00	0.00	0.00	0.01	0.02
Trade balance	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01

Rest of euro area	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	0.00
Employment	-0.00	0.00	0.01	0.01	0.00	-0.00	0.00
Consumption	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	0.01
- Consumption LC	-0.05	-0.07	-0.06	-0.05	-0.04	-0.01	0.00
- Consumption NLC	0.00	0.01	0.02	0.02	0.01	0.01	0.01
Investment	-0.04	-0.04	-0.03	-0.03	-0.03	-0.01	0.00
Exports	0.02	0.02	0.03	0.03	0.03	0.03	0.02
Imports	-0.01	-0.01	0.01	0.02	0.02	0.04	0.05
Real wage costs	-0.07	-0.09	-0.08	-0.07	-0.05	-0.01	-0.00
Net real consumption wage	-0.07	-0.10	-0.09	-0.07	-0.06	-0.02	0.01
Real consumption interest income	0.83	0.12	-0.05	-0.04	-0.02	0.03	0.04
Consumer price level	-0.04	-0.09	-0.14	-0.17	-0.20	-0.27	-0.29
Terms of trade	0.01	0.01	0.01	0.02	0.02	0.03	0.03
Dollar exchange rate	-0.05	-0.09	-0.13	-0.17	-0.20	-0.27	-0.29
Nominal interest rates	-0.03	-0.05	-0.04	-0.03	-0.02	-0.01	0.00
Real interest rates	0.03	0.00	-0.00	-0.00	-0.00	0.00	0.00
Inflation	-0.06	-0.05	-0.04	-0.03	-0.03	-0.01	-0.00
Tax rate labour	0.00	0.01	0.01	0.01	0.01	0.00	-0.00
Tax rate consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bilateral trade balance vs. DE	0.01	0.00	-0.00	-0.00	-0.00	-0.00	-0.01
Trade balance	0.01	0.01	0.01	0.01	0.01	0.00	-0.00

Notes:
Percent(age points) deviation from baseline.
LC: Liquidity-constrained households. NLC: Non-liquidity constrained households.
Inflation is defined as core inflation, i.e. excluding VAT.
Source: Commission services.

Table IV.3.3:

Simulation of a tax shift by Ireland only

Ireland	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	0.12	0.17	0.19	0.20	0.20	0.20	0.19
Employment	0.14	0.22	0.24	0.25	0.25	0.23	0.21
Consumption	0.22	0.22	0.23	0.24	0.23	0.20	0.15
- Consumption LC	0.66	0.60	0.58	0.57	0.56	0.49	0.42
- Consumption NLC	0.02	0.05	0.07	0.08	0.08	0.07	0.03
Investment	0.01	0.05	0.07	0.09	0.10	0.10	0.08
Exports	0.01	0.03	0.04	0.05	0.05	0.06	0.06
Imports	0.08	0.05	0.05	0.05	0.05	0.03	0.00
Real wage costs	-0.11	-0.15	-0.12	-0.10	-0.09	-0.06	-0.04
Net real consumption wage	0.95	0.84	0.80	0.78	0.76	0.68	0.58
Real consumption interest income	-0.98	-0.97	-1.05	-1.10	-1.13	-1.18	-1.27
Consumer price level	1.32	1.30	1.28	1.27	1.27	1.25	1.23
Terms of trade	-0.01	-0.04	-0.05	-0.05	-0.05	-0.06	-0.06
Dollar exchange rate	-0.00	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02
Nominal interest rates	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00
Real interest rates	0.04	0.02	0.01	0.01	0.01	0.00	0.00
Inflation	-0.02	-0.02	-0.01	-0.01	-0.01	-0.00	-0.00
Tax rate labour	-1.49	-1.44	-1.41	-1.39	-1.37	-1.30	-1.24
Tax rate consumption	1.55	1.55	1.55	1.55	1.55	1.55	1.55
Bilateral trade balance vs. EA	-0.03	-0.02	-0.01	-0.01	-0.01	0.00	0.01
Trade balance	-0.06	-0.04	-0.04	-0.04	-0.04	-0.03	-0.00

Rest of euro area	Years after reform						
	1	**2**	**3**	**4**	**5**	**10**	**20**
GDP	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Employment	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00
Consumption	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00
- Consumption LC	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
- Consumption NLC	-0.00	0.00	0.00	0.00	0.00	-0.00	0.00
Investment	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Exports	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Imports	-0.00	-0.00	0.00	0.00	0.00	0.01	0.01
Real wage costs	-0.00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00
Net real consumption wage	-0.00	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00
Real consumption interest income	0.05	0.01	-0.00	-0.00	0.00	0.00	0.00
Consumer price level	-0.00	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02
Terms of trade	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dollar exchange rate	-0.00	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02
Nominal interest rates	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00
Real interest rates	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00
Inflation	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Tax rate labour	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax rate consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bilateral trade balance vs. IR	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Trade balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
Percent(age points) deviation from baseline.
LC: Liquidity-constrained households. NLC: Non-liquidity constrained households.
Inflation is defined as core inflation, i.e. excluding VAT.
Source: Commission services.

Table IV.3.4:
Sensitivity analysis, selected results (tax shift in Germany)

	Employment	GDP	Real wages	Real net consumption wage
	(after 20 years)	(after 20 years)	(after 3 years)	(after 3 years)
Base case (Shift by DE)	0.22	0.20	-0.21	0.72
Higher labour supply elasticity (= 0.5)	0.58	0.53	-0.48	0.42
No compensation of transfer recipients	0.43	0.47	-0.43	0.63
Higher price elasticity of traded goods (= 5.0)	0.25	0.24	-0.20	0.78

Note: Percent(age points) deviation from baseline.
Source: Commission services.

3.3.4. Sensitivity analysis

Though the output and employment effects of the simulated tax shifts from labour to consumption taxation are positive, they are relatively modest in size. The assumptions that were chosen for the baseline calibration were of a cautious nature along three dimensions. First, compared to the Commission's own estimates based on macroeconomic time series, a low labour supply elasticity of 0.25 was adopted, which is more in line with the microeconomic evidence. This restricts the labour supply response. Second, the price elasticity of tradables is at the lower end of the spectrum of available estimates. This may restrict positive international competitiveness effects. Finally, it was assumed that transfer and benefit recipients are fully compensated by this reform. This restricts incentive effects associated with the reform and it inflicts budgetary costs. Table IV.3.4 provides results from sensitivity analyses with alternative assumptions for the case of a unilateral tax shift by Germany.

The scenarios confirm the theoretical intuition that higher labour supply elasticity increases the multiplier effect of a tax reform considerably. The mirror image of higher labour supply elasticity is a stronger and more persistent decline in real wages (a smaller increase in real net consumption wages). This boosts the long run real effects by generating a more positive investment climate. In the case without compensation of transfer and benefit recipients, real wages will fall more because a higher reduction of labour taxes is possible for any given increase in VAT. Notice that this is not reflected in a stronger increase of net wages because there is an additional effect from non-compensation, namely a decline in wage pressure because the fall in real transfer income reduces the reservation wage. Higher trade elasticities can also boost the domestic employment and output effects, however the gains remain modest. As discussed in the case of Ireland, the competitiveness gains are largely captured by workers in the form of a smaller decline of gross real wages.

4. CONCLUSIONS

High tax burden on labour and increasing economic integration imply substantial challenges for public finances in general and, more specifically, for tax policy. Revenue-neutral tax reforms that shift the tax burden from labour to other tax bases are an important element that can help to improve labour market outcomes and foster growth. For such a strategy to be successful, alternative tax bases have to be considered. These tax bases have to be broad and stable, and should not ultimately shift the burden to labour again.

A proposal that has received much attention is a tax shift from labour to consumption, typically in the form of a reduction of payroll taxes or social security contributions financed by an increase in VAT. Such a tax shift can have positive effects on employment. The size of the effect will depend on various factors. First, given that VAT falls on labour income as well, the long-run effects will depend on the extent to which accumulated wealth and profit income that are also taxed by the VAT can increase the tax base. This enlargement of the tax base allows a reduction in the tax rate, with positive effects on labour supply. Second, the effect of the tax shift on the level of unemployment benefits will be another important factor. If these levels fall in real terms, there will be stronger incentives to take up work. Moreover, if transfers are lower in real terms, the financing requirements of the government are reduced, which can allow a reduction in rates. Whether these effects will be short-lived, or even exist in the longer run, depends on the institutional details that determine the adjustment of benefits. If benefits are not fully adjusted automatically, there may be rising political pressure to maintain the real level of benefits.

Given the existence of nominal rigidities in the labour market, there will be a reduction in labour costs that can have substantial positive short-run effects on employment. The size and persistence of these effects will depend on the institutional characteristics of the economy, as well as on its degree of international integration. The international effects will be quite different, depending on whether the tax shift is carried out by a single Member State in isolation or whether it is a joint shift by the entire euro area.

Tax shifting from labour to consumption often gives rise to concerns about equity. While a closer analysis suggests that distributional objectives need not necessarily be missed, if the government relies more heavily on consumption taxes, recent evidence supports the traditional regressive view of the VAT. There is also a question of inter-generational equity, since the tax shift towards consumption taxes will improve the situation of the younger generation at the expense of the older generation.

Simulation results using the Commission's QUEST III model suggest that a co-ordinated euro-area wide tax shift of 1% of GDP has positive effects on employment and growth, although these are quantitatively limited. The benchmark simulation implies that such a shift, in large country (Germany), will increase real GDP by about 0.1% in the first year and by about 0.25% in the long run. Employment increases by about 0.14% in the first year and by 0.25% in the long run. Thus, while tax shifting from labour income taxation to VAT can contribute to more employment and growth, there are also clear limits to what can be achieved through such measures. The effects are larger if labour supply is more elastic or if transfer payments are not indexed, in line with the theoretical reasoning. The quantitative results need to be interpreted with care and in the light of the corresponding model assumptions. It should also be stressed that the nature of the QUEST model does not allow considering more targeted tax shifts that use the additional revenues from higher VAT to target labour tax reductions of groups that face particularly strong disincentives to work. Such more sophisticated targeting of labour tax reductions could substantially increase the employment effects of the reform. Similarly, the model abstracts from potential positive effects that could arise from bringing undeclared work back into the official economy in response to a lower tax burden on labour.

The simulations also consider the possibility of a unilateral tax shift of either a small or a large country within the euro area. The results show that small and large countries could profit from a unilateral shift. The positive effects on growth and employment are somewhat bigger for a large country compared to a small country. The

spillover effects that are generated by such unilateral shifts on the rest of the euro area, are typically negative, but small. This is intuitive for the small country acting alone, but the simulations reveal that also in the case of a large country moving alone the spillover effects are only slightly negative. While the large country gains competitiveness compared to the rest of the area, its expansion also creates positive demand effects that are beneficial to its trading partners. Thus, it appears that the beggar-thy-neighbour aspects of unilateral tax shifting policies from labour to consumption are rather limited.

Considering both options, the coordinated and the unilateral shift, it should be stressed that the positive long-run effects on employment and growth of countries acting alone are always smaller compared to the case of a coordinated policy shift, although short-run effects are slightly larger when acting alone. Thus, while euro-area countries can gain from unilateral action, they can gain more from a coordinated policy. However, also in case of such a coordinated policy, the positive effects remain modest.

The main conclusion from the analysis is that tax shifting from labour to consumption can be a potentially useful but also limited instrument for governments to react to short-run country specific shocks or to achieve long-run improvement of the structural conditions for increasing employment and growth in Europe. An effective strategy to revitalise European economies needs to rely on a comprehensive approach, using a wide set of policy instruments and emphasizing a resolute implementation of structural reforms in line with the Lisbon Strategy.

Part V

Member State developments

1. BELGIUM

Recent developments and medium-term prospects

In 2007, the budgetary outturn was a deficit of 0.2% of GDP compared to a surplus target of 0.3% of GDP in the December 2006 stability programme update[1]. The difference between the outturn and the target can be largely explained by the non-execution of a package of deficit-reducing one-off measures, including further property sales and pension fund take-overs, for 0.4% of GDP[2]. Furthermore, a number of unexpected deficit-increasing one-off measures of about 0.2% of GDP led to additional expenditure. Expenditure growth also turned out higher than planned. In particular, consumption and subsidies to companies, i.a. under the service voucher scheme to increase employment, exceeded the budget target. However, this expenditure overrun was partially compensated by slightly higher-than-expected revenue. The structural balance improved by 0.3% of GDP to -0.3% of GDP, with one-offs reducing the deficit by 0.9% of GDP in 2006 and increasing it by 0.1% of GDP in 2007. The debt-to-GDP ratio stood at 84.9% at the end of 2007.

The budget for 2008 could only be agreed by the end of February, once a new interim Government had been formed, and still needs to be approved by the Parliament. The Government targets a balanced budget, in line with the update of the stability programme submitted in April, but markedly below the 0.5% of GDP surplus target in the December 2006 update. The budget includes expenditure-increasing measures for 0.1% of GDP, mainly aiming at increasing households' purchasing power. They concern i.a. a revalorisation of the lowest pensions and an extension of the measures to cushion the impact of rising heating fuel prices for the most vulnerable households. On the other hand, expenditure should be contained by the decision not to spend part of the health care budget, the agreement that the Regions and Communities will achieve a 0.1% of GDP surplus and the introduction of further measures that aim at improving the activation of the unemployed. The two main revenue-increasing measures in the budget are a specific tax for the energy sector and a plan for the reinforcement of tax fraud detection. The Commission services' spring 2008 forecast foresees a headline deficit of 0.4% of GDP in 2008. The difference with the official target is mainly explained by the less benign macroeconomic projections in the spring forecast and the exclusion of a number of measures that were not sufficiently documented in order to be taken into account in the forecast[3]. According to the Commission services' forecast, the structural balance improved by 0.1% of GDP in 2008.

For 2009, the Commission services' forecast expects, on a no-policy-change basis, a further slight deterioration of the deficit to around 0.6% of GDP, reflecting the further weakening economic environment. The April 2008 update of the stability programme targets a surplus of 0.3% of GDP for 2009, but in a more optimistic macroeconomic scenario and without specifying all the measures envisaged to reach the surplus target. After 2009, the programme update foresees a further build-up of surpluses up to 1.0% of GDP in 2011.

The debt-to-GDP ratio is forecast to remain on a downward path, falling from 84.9% in 2007 to 79.9% in 2009, which is slightly higher than foreseen in the stability programme (78.1%) on account of the higher deficits projected by the Commission services. By 2011, the stability programme foresees a debt ratio of about 71%.

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[1] The 2007 update of the stability programme was submitted in April 2008. The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

[2] This is because the outgoing Government, which following the federal elections of 10 June 2007 stayed in office in a caretaker capacity, did not consider itself in a position to go ahead with these operations.

[3] These include the above-mentioned specific tax on the energy sector and the collection of additional corporate taxes following more effective fraud detection.

Table V.1.1:

Budgetary developments 2006-2011, Belgium (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009		
General government balance ([2])	0.3	-0.2	-0.4	-0.6		
- Total revenue	48.8	48.7	48.7	48.6		
Of which : - taxes on production and imports	13.2	12.9	13.0	13.0		
- current taxes on income, wealth, etc.	16.5	16.4	16.4	16.5		
- social contributions	15.7	15.9	16.0	16.0		
- Total expenditure	48.4	48.8	49.0	49.3		
Of which: - compensation of employees	11.8	11.8	11.8	11.7		
- intermediate consumption	3.6	3.6	3.7	3.7		
- social payments	15.5	15.6	15.8	16.0		
- gross fixed capital formation	1.7	1.7	1.7	1.7		
- interest expenditure	4.0	3.8	3.7	3.6		
Primary balance	4.3	3.7	3.3	2.9		
Tax burden	44.6	44.5	44.5	44.6		
One-off and other temporary measures	0.9	-0.1	0.0	0.0		
Structural balance ([3])	-0.6	-0.3	-0.2	-0.1		
Structural primary balance	3.4	3.6	3.4	3.4		
Government gross debt	88.2	84.9	81.9	79.9		
Real GDP growth (%)	2.8	2.7	1.7	1.5		
Stability ([4])	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	0.3	-0.2	0.0	0.3	0.7	1.0
Primary balance	4.3	3.7	3.7	3.8	4.1	4.3
One-off and other temporary measures	0.7	-0.1	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	-0.4	-0.3	0.0	0.5	1.0	1.4
Government gross debt	88.2	84.9	81.5	78.1	74.7	71.1
Real GDP growth (%)	2.8	2.7	1.9	2.0	2.0	2.0

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in April 2008.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Belgium.

Table V.1.2:

Main measures in the budget for 2008, Belgium

Revenue measures ([1])	Expenditure measures ([2])
• Specific tax on the energy sector (0.1% of GDP) • Measures to improve the effectiveness of the fight against corporate tax fraud (0.1% of GDP)	• Increase of the lowest pension (0.1% of GDP) • Agreement not to spend part of the health care budget (-0.2% of GDP) • Measures to step up the activation of unemployed (-0.1% of GDP) • Agreement with regions and communities not to spend part of the transfers received from the federal government (-0.1% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services and Chambre des Représentants de Belgique, Budget des recettes et des dépenses: exposé général.

2. BULGARIA

Recent developments and medium-term prospects

In 2007, the general government surplus in Bulgaria reached 3.4% of GDP, against an official target of 0.8% of GDP set out in the January 2007 convergence programme. The budgetary over-performance was entirely due to higher than expected revenues. The particularly buoyant revenue growth reflects favourable composition effects due to strong domestic demand and improved tax compliance and efficiency of tax collection. Cuts in corporate income tax rates in 2007 and in social contributions in 2006 and 2007 appear to have led to a considerable reduction of the grey economy and a more accurate reporting of profits and wages. However, expenditure control was not fully maintained. Initially envisaged savings of 10% of budgeted primary current expenditures were not implemented, pensions were increased by more than the statutory rate, and an additional spending package, mainly infrastructure investment, of around 2% of GDP was adopted in late 2007. In line with the high budgetary surplus general government gross debt decreased to 18.2% of GDP, down from 22.7% of GDP in 2006.

The 2008 budget was adopted by the Parliament on 20 December 2007. On the revenue side, a 10% flat-rate personal income tax has been introduced from 1 January 2008 abolishing the current system of progressive tax brackets. This has been accompanied by the elimination or reduction of existing tax exemptions. Certain excise tax rates have been increased in line with the EU harmonization requirements. On the expenditure side, wages in the general government sector are projected to increase between 5% and 10% as of 1 July, while a 12% cut in public sector employment is to be implemented by mid-year. Pensions are planned to be raised by 9.5% in line with the pension indexation formula. The practice of freezing the release of part of the budget allocations until the end of the year, used so far to ensure flexibility in meeting the budgetary targets, has been abandoned. Instead, budget contingency reserves

were increased by 0.5% of GDP, adding a 'fiscal sustainability' component to these reserves. The official target for the general government balance in 2008 is a surplus of 3% of GDP, set both in the budget law and in the update of the convergence programme of December 2007 ([1]). This is slightly below the Commission services' spring 2008 forecast which expects the general government surplus to turn out at 3.2% of GDP, mainly reflecting a higher than initially envisaged budgetary outcome in 2007. According to the spring 2008 forecast, the structural balance is set to remain virtually unchanged at around 3% of GDP while the structural primary balance would decrease slightly as compared to 2007. Therefore, the fiscal stance in 2008 is projected to be broadly neutral.

For 2009, the Commission services' spring 2008 forecast foresees the general government budget surplus to remain at around 3¼% of GDP. The projection is based on a no-policy change assumption. In the most recent update of the convergence programme the target for 2009 is set at 3% of GDP. The slight difference is due to a higher base effect in the Commission forecast and a more conservative assumption in the programme on the tax intensity of economic activity in 2009. In 2010, the general government surplus in the programme is projected to remain unchanged compared to 2009.

On the back of strong nominal GDP growth and continued high primary fiscal surpluses, the Commission services' spring 2008 forecast foresees the general government gross debt to fall to 14.1% and 10.8% of GDP in 2008 and 2009, respectively. According to the programme, this decrease in public debt would be somewhat lower reflecting substantial debt-increasing stock-flow adjustments linked to an accumulation of net financial assets.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

Table V.2.1:

Budgetary developments 2006-2010, Bulgaria (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	3.0	3.4	3.2	3.2	
- Total revenue	39.4	41.2	40.9	40.9	
Of which : - taxes on production and imports	19.0	17.4	17.3	17.1	
- current taxes on income, wealth, etc.	5.4	6.5	6.6	6.7	
- social contributions	8.7	8.7	8.4	8.4	
- Total expenditure	36.4	37.8	37.7	37.7	
Of which: - compensation of employees	9.0	9.0	8.7	8.4	
- intermediate consumption	7.9	8.0	8.0	8.0	
- social payments	11.4	10.9	10.7	10.7	
- gross fixed capital formation	4.2	4.9	5.5	6.0	
- interest expenditure	1.4	1.0	0.9	0.8	
Primary balance	4.4	4.4	4.1	4.0	
Tax burden	33.2	34.1	33.9	33.9	
One-off and other temporary measures	-0.1	-0.1	0.0	0.0	
Structural balance (^{3})	2.5	3.1	2.9	3.2	
Structural primary balance	3.9	4.1	3.8	4.0	
Government gross debt	22.7	18.2	14.1	10.8	
Real GDP growth (%)	6.3	6.2	5.8	5.6	
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	3.2	3.1	3.0	3.0	3.0
Primary balance	4.6	4.3	4.0	4.0	4.0
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	2.9	2.9	3.0	3.1	3.1
Government gross debt	22.8	19.8	18.3	17.4	16.9
Real GDP growth (%)	6.1	6.4	6.4	6.8	6.9

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Bulgaria.

Table V.2.2:

Main measures in the budget for 2008, Bulgaria

Revenue measures (^{1})	Expenditure measures (^{2})
• Introduction of 10% flat-rate personal income tax (-¼% of GDP)	• Increase of contingency reserves (½% of GDP)
• Increase in maximum and minimum insured income levels for social security contribution payments (¼% of GDP)	• Indexation of pensions by 9.5% from 1 July 2007 (½% of GDP)
• Increase in excise rates on certain fuels, cigarettes, electricity and coal and removal of the excises on coffee beans (½% of GDP)	

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and December 2007 convergence programme.

3. THE CZECH REPUBLIC

Recent developments and medium-term prospects

In 2007, the general government deficit stood at 1.6% of GDP, which is significantly below the target of 3.4% of GDP set in the November 2007 update of the convergence programme ([1]). The much better-than-expected outturn appears to mainly reflect containment of social expenditure, which was projected to rise by about 1% of GDP. Other elements of public expenditure including compensation of employees and intermediate consumption were also contained. In addition, growth turned out at 6.5% of GDP compared to 4.9% of GDP, as expected in the March 2007 convergence programme, and tax elasticities were better than predicted. Both revenues and expenditures were positively affected by a stronger than expected rise in employment. Social contributions grew more than anticipated and social transfers only increased marginally, as a percentage of GDP.

Compared to 2006, the headline deficit declined by 1.1% of GDP, of which about one half is due to measures taken, as illustrated by the improvement in the structural balance, and the other half is thanks to stronger growth. Total expenditures decreased by 1.2% of GDP while total revenues decreased by 0.2% of GDP. Government debt fell from 29.4% of GDP in 2006 to 28.7% of GDP in 2007.

The 2008 budget was adopted on 5 December 2007. The budget incorporates a wide range of revenue and expenditure measures contained in the stabilisation package, adopted on 19 September 2007. In broad terms, the budget shifts the tax burden from direct to indirect taxation by lowering personal and corporate income taxes and raising the lower band of VAT rate, excise duties and energy taxes. The target for the 2008 budget is 1.5% of GDP based on the overall expenditure ceiling and estimated growth of 4.9% of GDP. The Commission services' spring 2008 forecast estimates a deficit of 1.4% of GDP in 2008 based on the expectation of a positive fiscal impact from the stabilisation package, and the anticipation of a moderation in growth to 4.7% of GDP. The fiscal stance as determined by the structural primary balance will be mildly restrictive according to the Commission services' spring 2008 forecast as it is predicted to improve from a deficit of 1.2% in 2007 to 0.8% of GDP in 2008.

According to the spring 2008 forecast, the general government balance in 2009, under the no-policy change assumption, is predicted to improve further to 1.1% of GDP based on the expectation of a positive fiscal impact of the stabilisation package of about 0.3% of GDP. The November 2007 convergence programme set a target of 2.6% of GDP. However, the Ministry of Finance announced in April a target of 1.2% of GDP for 2009 due to the much better-than-expected outturn in 2007 and the government's aim of further fiscal consolidation. The latest convergence programme targeted a structural deficit of -2.5% of GDP in 2010.

On the basis of the Commission services' spring 2008 forecast, the debt ratio is expected to continue on a downward path to below 28% of GDP in 2009, due to continuing fiscal consolidation and sustained macroeconomic growth.

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[1] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm

Table V.3.1:

Budgetary developments 2006-2011, Czech Republic (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	-2.7	-1.6	-1.4	-1.1	
- Total revenue	41.0	40.8	40.7	40.7	
Of which : - taxes on production and imports	10.9	10.7	10.7	10.4	
- current taxes on income, wealth, etc.	9.1	9.2	9.0	9.1	
- social contributions	16.2	16.2	16.4	16.3	
- Total expenditure	43.6	42.4	42.2	41.8	
Of which: - compensation of employees	7.8	7.5	6.8	6.5	
- intermediate consumption	6.5	6.1	6.4	6.3	
- social payments	12.6	12.8	12.8	12.9	
- gross fixed capital formation	5.0	4.8	4.8	4.9	
- interest expenditure	1.1	1.2	1.1	1.1	
Primary balance	-1.5	-0.4	-0.3	0.0	
Tax burden	36.8	36.6	36.7	36.5	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance (^{3})	-2.9	-2.3	-1.9	-1.5	
Structural primary balance	-1.8	-1.2	-0.8	-0.4	
Government gross debt	29.4	28.7	28.1	27.2	
Real GDP growth (%)	6.4	6.5	4.7	5.0	
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-2.9	-3.4	-2.9	-2.6	-2.3
Primary balance	-1.8	-2.3	-1.7	-1.3	-1.1
One-off and other temporary measures	-0.2	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	-3.1	-4.1	-3.4	-2.8	-2.5
Government gross debt	30.1	30.4	30.3	30.2	30.0
Real GDP growth (%)	6.4	5.9	5.0	5.1	5.3

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Czech Republic.

Table V.3.2:

Main measures in the budget for 2008, Czech Republic

Revenue measures (^{1})	Expenditure measures (^{2})
• 15% flat rate of personal tax (-0.6% of GDP)	• Changes to social and health insurance (-0.3% of GDP)
• Reduction of corporate tax (-0.3% of GDP)	• Changes to government welfare benefits (-0.25% of GDP)
• Increase to excise taxes (0.3% of GDP)	• Introduction of health charges (-0.1% of GDP)
• Increase in lower VAT band (0.8% of GDP)	

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and November 2007 convergence programme.

4. DENMARK

Recent developments and medium-term prospects

Continuing the trend from previous years, the general government recorded a budgetary surplus of 4.4% of GDP in 2007, considerably higher than the target of 2.8% of GDP indicated in the November 2006 update of the convergence programme. This overachievement reflects both that the cyclical conditions were stronger than assumed and the effects of a resilient labour market. In addition, certain volatile revenues, e.g. from oil and gas extraction, came out higher than predicted. As a result of continued large surpluses, the general government debt-to-GDP ratio was reduced further to 26% in 2007.

Due to general elections held in November 2007, the adoption by parliament of the 2008 budget was delayed until 17 April 2008. With the incumbent government remaining in power, the tax freeze[1] is maintained and the income tax cuts agreed in September 2007 will take effect in 2008 and 2009 as planned. The 2008 budget agreement focused mainly on enhancing the quality of public services, on alleviating the tight labour market situation by stimulating labour supply, and on temporarily offsetting the demand stimulus provided by central government consumption and investment growth by introducing a compulsory savings measure. In the February forecast, on which the draft budget bill was based, the headline surplus is estimated at 3.7% of GDP in 2008, representing an upward adjustment by ¾% of GDP vis-à-vis the target in the December 2007 update of the convergence programme[2]. The Commission services' spring 2008 forecast is slightly higher primarily due to a higher oil price assumption. The structural balance, adjusted for the one-off compensation payments related to the reform of the pension yield tax, is estimated to improve by close to ¾% of GDP indicating a restrictive fiscal stance.

For 2009, the Commission services' spring 2008 forecast projects a surplus of 2.9% of GDP. It is derived applying a no-policy-change assumption, but incorporates the agreement on the proposed budget bill (prior to the adoption). The projected surplus is marginally higher than the estimate in the forecast accompanying the draft budget bill, but more than ¾ pp higher than the target in the convergence programme update. Part of the difference stems from the fact that the 2009 programme target is based on a medium-term projection determined by technical assumptions rather than a full-fledged forecast (see separate section below).

In view of the sustained surpluses, general government debt is forecast, both by the Commission services and in the convergence programme, to continue being reduced, to well below 20% in 2009.

Ensuring consistency of short-, medium- and long-term strategies

In August 2007, the Danish government presented the so-called 2015-plan, which takes over from the previous 2010-plan. The plan aims at ensuring fiscal sustainability and macro-economic stability and outlines general objectives towards 2015. As with the previous 2010-plan, developments are addressed in the annual updates of the convergence programme. The plan sets specific objectives, targets and requirements guiding fiscal, tax and expenditure policies as well as structural and labour market policies. A second, separate but complementary objective of the plan is the operational target of ensuring structural surpluses every year until 2015. The structure and key elements of the plan, interlinking policy areas over a long time-horizon, are outlined in Table V.4.3 below.

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[1] The tax freeze implies that from 2002 onwards, neither direct nor indirect tax rates can be raised, whether defined in nominal or percentage terms. Subject to specific conditions the tax freeze leaves some, although limited, scope for revenue-neutral adjustments.

[2] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal _policy/sg_programmes9147_en.htm.

Table V.4.1:

Budgetary developments 2006-2011, Denmark (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009		
General government balance (^{2})	4.8	4.4	3.9	2.9		
- Total revenue	56.1	55.1	54.8	53.7		
Of which : - taxes on production and imports	17.8	17.7	17.6	17.4		
- current taxes on income, wealth, etc.	30.0	29.6	29.6	28.9		
- social contributions	1.9	1.9	1.8	1.8		
- Total expenditure	51.1	50.6	51.0	50.8		
Of which: - compensation of employees	16.9	16.7	16.7	16.8		
- intermediate consumption	8.6	8.8	9.0	9.2		
- social payments	15.3	15.0	14.7	14.8		
- gross fixed capital formation	1.9	1.8	1.9	1.9		
- interest expenditure	1.6	1.5	1.4	1.2		
Primary balance	6.4	5.9	5.3	4.1		
Tax burden	49.2	48.8	48.6	47.6		
One-off and other temporary measures	0.0	0.0	-0.5	-0.1		
Structural balance (^{3})	4.1	3.9	4.6	3.7		
Structural primary balance	5.7	5.4	6.0	4.9		
Government gross debt	30.4	26.0	21.7	18.4		
Real GDP growth (%)	3.9	1.8	1.3	1.1		
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**	**2015**
General government balance	4.6	3.8	3.0	2.0	1.2	0.3
Primary balance	6.2	5.2	4.2	3.0	2.1	0.9
One-off and other temporary measures	1.1	-0.4	-0.6	-0.2	-0.3	0.0
Structural balance (^{3})(^{5})	2.7	3.5	3.4	2.5	2.5	..
Government gross debt	30.1	25.6	21.6	19.2	18.6	15.5
Real GDP growth (%)	3.5	2.0	1.3	1.1	0.5	1.7

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme, the definition of which differs from the one applied by the Commission services.

Source: Commission services and convergence programme of Denmark.

Table V.4.2:

Main measures in the budget for 2008, Denmark

Revenue measures (^{1})	Expenditure measures (^{2})
• Lower taxes net of higher transfers (-0.2% of GDP)	• Quality enhancing initiatives in the public sector (0.1% of GDP) • Health care initiatives (0.1% of GDP), as in the agreement on the regional budgets for 2008 • Initiatives concerning care for children, the elderly, social services etc. (0.1% of GDP) , as in the agreement on the economy of the municipalities for 2008 • Globalisation initiatives, concerning research, education, innovation and entrepreneurship (0.1% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services, the December 2007 convergence programme and the proposed budget bill for 2008.

The plan sets out the medium-term objective (MTO) for the general government balance in structural terms on the basis of the projected path which, given the methods and assumptions adopted in the long-term projection, implies that fiscal sustainability is ensured. Sustainability is measured by an indicator similar to the S2 sustainability gap indicator calculated by the Commission services (see Section I.4 for details).

According to the plan, the structural policy measures required for fiscal sustainability correspond to a permanent budgetary

Table V.4.3:
Elements and structure of the 2015-plan

Year	Basis for plan	MTO	Other fiscal targets		
			Revenue	Expenditure [1]	
				Real growth	Share
2007	**Short-term forecast**	3/4 - 1 3/4 % of GDP	*Tax freeze (keeping direct and indirect taxes unchanged whether defined in nominal or percentage terms)*		*26 1/2% of cyclically-adjusted GDP by 2015*
2008				1 3/4%	
2009	**Medium-term projection**			1%	
2010	- normalisation of cyclical and temporary factors towards 2011, neutral cyclical conditions from 2012			1%	
2011		Surplus or balance as a minimum		1%	
2012	- new initiatives to raise employment (+0.7%) and ensure unchanged working hours			1%	
2013				3/4%	
2014	- specified, agreed or adopted policy measures, e.g. quality reform, energy and globalisation strategies			3/4%	
2015				3/4%	
2016 ↓	**Long-term projection** based on technical calculation principles aiming at a "neutral fiscal policies" and including effects of specified, agreed or adopted policy measures and objectives, e.g. the Welfare Agreement (implying higher retirement age), quality reform, energy and climate strategies	**Fiscal assumptions and implications** Deteriorating structural primary balance (between -2 and +1.5% of GDP)	Technical assumption of unchanged tax rates in real terms	Nominal government consumption expenditure follows wages and demographics	Peak near 28% of GDP around 2040

Notes:
[1] General government consumption expenditure
Source: Commission services based on Denmark's December 2007 update of the convergence programme.

improvement of 0.8% of GDP. By way of an example this requirement is assumed to be fulfilled partly by structural employment gains (+20,000 employed), and partly by unchanged working hours (which are presently high due to demographic composition effects). To achieve such structural gains, a Labour Market Commission has been asked to present concrete measures. In parallel, and within the constraints of the 2015-plan, a Tax Commission has been requested to consider tax reforms aimed *inter alia* at enhancing work incentives.

As indicated in the 2007 update of the convergence programme, the structural balance is foreseen to deteriorate over the 2011-2015 period, but to remain in surplus. This reflects the beginning effects of an ageing population and of the foreseen depletion of oil and gas resources. The Welfare Agreement of 2006 is estimated to reduce age-related expenditure by around 3½% of GDP. In the absence of these agreed reforms (taking effect from 2019), the path for the structural balance would have had to be significantly higher to ensure fiscal sustainability according to the methods and assumptions of the plan.

Elaborating a comprehensive plan based on full-fledged projections has proven useful in several regards. Firstly, it has provided a framework for public debate, highlighting and explaining fiscal sustainability challenges. Secondly, it has served as a tool for analysis, e.g. constituting a benchmark when assessing alternative policy proposals. A technical report has been published, enabling interested parties to scrutinise the government strategy. For instance, the Danish Economic Councils, who monitor economic policy developments, have presented similar projections, questioning the sustainability assessment presented by the government and have analysed the consequences of various assumptions underlying the government projections, e.g. 'healthy ageing'. The complexity and sensitivity to assumptions and specifications are to a certain extent unavoidable drawbacks. Whereas the projections are an asset in evaluating Danish policies, divergences with other methodologies (e.g. for calculating potential growth and assessing long-term sustainability) tend to complicate cross-country comparison and assessment.

The plan is first and foremost an instrument to ensure strong political commitment. Its potential is reflected in the fact that the previous 2010-plan remained unchanged despite the change of government in November 2001. Overall, the plan fosters accountability and consistency both across policy areas and over time.

5. GERMANY

Recent developments and medium-term prospects

In 2007, Germany registered a balanced budget position, which is a significant improvement on a planned deficit of 1½% of GDP foreseen in the end-2006 update of the stability programme. Of that difference, 0.4 percentage points are explained by a base effect, as the 2006 budget deficit turned out lower than expected. In addition, public finances benefited from a buoyant growth in tax revenues, as GDP growth exceeded late 2006 projections by more than one percentage point. The revenue side also benefited from an increase in the relative tax intensity of the economy, with a strong increase in personal income tax revenue. Government expenditure was slightly lower than planned, which was due to higher-than-expected savings in labour market spending. The government debt amounted to 65% of GDP at the end of 2007.

The 2008 federal budget was adopted by the *Bundesrat* on 20 December 2007. The official target of a ½% of GDP deficit was presented in the December 2007 update of the stability programme (¹) and confirmed by the German authorities in the April 2008 fiscal notification. The main measures in the budget are the company tax reform and the reduction in the overall social security contribution rate. The company tax reform, which took effect on 1 January 2008, is projected by the authorities to result in a revenue loss of about 0.3% of GDP, most of which owes to the reduction of the corporate tax rate from 25% to 15% of profits. As from the beginning of this year, the contribution rate to the unemployment insurance has been reduced from 4.2% to 3.3% of gross wages. On the other hand the contribution rate to the long-term care insurance (*Pflegeversicherung*) will be raised by ¼ pp as of July. In addition, public expenditure will be reinforced on childcare facilities and the fight against long-term unemployment. Moreover, the unemployment benefit duration for older workers will be extended to 24 months, after it was shortened in 2006 from a maximum of 32 months to 18 months.

Public finances in 2008 are also affected by action taken well before this budget. The 2006 public sector wage agreement for the *Länder* foresees a rise in the wage rate of just below 3% in 2008. In addition, the recent government wage agreement for employees at the federal and local level implies an effective wage increase of 4½% in 2008.

The Commission services' spring 2008 forecast is in line with Germany's deficit estimate of ½% of GDP. The 2008 budget will be burdened by retroactive tax reimbursements resulting from the ruling of the European Court of Justice on taxation of foreign dividend income. With the structural deficit estimated to widen by 0.5% of GDP, the fiscal stance would be mildly expansionary.

The end-2007 update of the stability programme targets a balanced budget for 2009. The programme foresees no significant new measures that would affect the outcome. Instead, the consolidation would result from the reduced need for social transfers in the wake of a continuously strong labour market. Under the assumption of unchanged policies, including social contribution rates, the Commission projects a deficit of 0.2% of GDP in 2009. Regarding the evolution of the general government balance beyond 2009, the programme foresees a slight surplus of ½% of GDP in 2010 and 2011, respectively.

With still relatively solid GDP growth, the Commission services' spring 2008 forecast projects the debt ratio to decline by about 3½ percentage points from 65% of GDP in 2007 down to 61.6% of GDP in 2009, which is in line with the estimates in the end-2007 update of the stability programme. For 2010 and 2011, the debt ratio is projected by the authorities to decline by 2 percentage points each year.

(¹) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.5.1:

Budgetary developments 2006-2011, Germany (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009		
General government balance ([2])	-1.6	0.0	-0.5	-0.2		
- Total revenue	43.8	43.9	42.8	42.7		
Of which : - taxes on production and imports	12.1	12.5	12.3	12.4		
- current taxes on income, wealth, etc.	10.8	11.2	10.8	10.8		
- social contributions	17.3	16.5	16.1	16.0		
- Total expenditure	45.4	43.9	43.3	43.0		
Of which: - compensation of employees	7.2	6.9	6.9	6.9		
- intermediate consumption	4.2	4.2	4.2	4.2		
- social payments	18.5	17.3	16.9	16.6		
- gross fixed capital formation	1.4	1.5	1.6	1.6		
- interest expenditure	2.8	2.8	2.6	2.6		
Primary balance	1.2	2.8	2.2	2.3		
Tax burden	39.6	39.7	38.7	38.7		
One-off and other temporary measures	0.0	-0.1	-0.2	0.1		
Structural balance ([3])	-1.4	-0.3	-0.8	-0.8		
Structural primary balance	1.3	2.5	1.8	1.8		
Government gross debt	67.6	65.0	63.1	61.6		
Real GDP growth (%)	2.9	2.5	1.8	1.5		
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	-1.6	0.0	-½	0.0	½	½
Primary balance	1.2	3.0	2½	2½	3.0	3½
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	-1.5	-0.3	-0.7	-0.3	0.0	0.7
Government gross debt	67.5	65.0	63.0	61½	59½	57½
Real GDP growth (%)	2.9	2.4	2.0	1½	1½	1½

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in December 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Germany.

Table V.5.2:

Main measures in the budget for 2008, Germany

Revenue measures [1]	Expenditure measures [2]
• Company tax reform (-0.3% of GDP) • Social contribution rates (-0.3% of GDP)	• Labour market, childcare (0.1% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source: Commission services and the December 2007 update of the stability programme.

6. ESTONIA

Recent developments and medium-term prospects

The general government surplus was 2.8% of GDP in 2007 in Estonia. The outcome was considerably better than the official target of a surplus of 1.2% of GDP set in the December 2006 update of the convergence programme, despite reclassification of some companies and foundations inside the government sector having a negative impact on the balance of 0.4% of GDP. The higher surplus reflected carryover from a better-than-expected outcome for 2006, together with revenue growth in 2007 exceeding its target by a larger margin than expenditure growth. In December 2007 a supplementary budget was adopted, increasing planned expenditure by 1.1% of GDP, while attributing 1.5% of GDP to the accumulation of financial assets. However, part of the expenditure measures foreseen by the initial and supplementary budgets remained unimplemented. The general government debt ratio continued to decline, even taking into account the impact of the reclassification noted above, and stood at 3.4% of GDP in end-2007.

The 2008 budget law was passed by Parliament on 13 December 2007. On the revenue side, changes in taxation that entered into force in 2008 – mainly a reduction of the personal and corporate income tax rate and an increase in several excise tax rates – are expected to broadly balance each other. On the expenditure side, the main increase relates to social protection, in particular increases in pensions due to the adoption of a more generous indexation rule. The general government surplus target for 2008 set in the November 2007 update of the convergence programme is 1.3% of GDP ([1]). However, a marked deceleration of the Estonian economy in the last months of 2007 and the beginning of 2008, reflected in low tax returns in the first months of the year, suggests that this target

might not be achievable. This led the government to adopt a restrictive supplementary draft budget on 15 May 2008, reducing revenue target by 2.2% of GDP and expenditure by 1.2% of GDP with a fiscal outlook now close to the one expected in the Commission services' spring forecast. Taking into account Estonia's recent track record of under-spending compared to budgeted expenditure, the Commission services expect a headline surplus of 0.4% of GDP in 2008, while the structural balance is expected to deteriorate from 1¼% of GDP in 2007 to ½% in 2008, implying an expansionary fiscal stance against the background of sharply easing cyclical conditions.

For 2009, the Commission services' spring 2008 forecast, assuming unchanged policy, projects a deficit of 0.8% of GDP. This reflects a combination of slowing tax collection as a result of lower and less tax-intensive growth, as well as increasing social expenditure and the impact of proposed changes to corporate income tax legislation ([2]), expected to reduce revenue in that year by around 0.4% of GDP. In addition, the personal and corporate income tax rate is to be reduced by 1 percentage point every year until it reaches 18% in 2011, with an estimated negative impact in 2009 of around 0.7% of GDP. The November 2007 update of the convergence programme set a headline surplus target of 1.0% of GDP for 2009, slightly declining subsequently towards the end of the programme period in 2011.

The Commission services' spring 2008 forecast expects the general government debt to GDP ratio to stabilise at around 3½% in 2008 and 2009, somewhat higher than the 2-2¼% projected in the 2007 convergence programme update. The difference largely reflects the impact of the statistical reclassification noted above. In addition, the worsened outlook for public

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([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://www.ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm

([2]) The proposed changes involve a switchover from the current taxation of profits at the time of their distribution to a system of advance payment credited against the final tax liability. However, due to some exemptions, implementation of the proposed change will have a negative effect on revenue in 2009.

Table V.6.1:

Budgetary developments 2006-2011, Estonia (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009		
General government balance ([2])([6])	3.4	2.8	0.4	-0.7		
- Total revenue ([6])	36.6	36.9	36.5	35.8		
Of which : - taxes on production and imports	13.3	13.5	13.5	13.4		
- current taxes on income, wealth, etc.	7.1	7.7	7.1	6.6		
- social contributions	10.3	11.0	11.1	11.0		
- Total expenditure ([6])	33.0	33.7	36.1	36.5		
Of which: - compensation of employees	8.8	9.2	9.8	9.8		
- intermediate consumption	6.5	6.5	6.7	7.0		
- social payments	8.8	8.8	9.5	9.6		
- gross fixed capital formation	4.5	4.4	4.4	4.8		
- interest expenditure	0.2	0.1	0.1	0.1		
Primary balance	3.5	3.0	0.5	-0.6		
Tax burden	31.0	32.5	32.0	31.3		
One-off and other temporary measures	0.9	0.3	0.2	-0.4		
Structural balance ([3])	1.0	1.3	0.4	0.6		
Structural primary balance	1.2	1.4	0.5	0.8		
Government gross debt	4.2	3.4	3.4	3.5		
Real GDP growth (%)	11.2	7.1	2.7	4.3		
Convergence programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	3.6	2.6	1.3	1.0	0.9	0.8
Primary balance	3.7	2.7	1.4	1.1	1.0	0.8
One-off and other temporary measures	0.7	0.6	0.5	0.0	0.0	0.0
Structural balance ([3])([5])	1.8	1.2	0.8	1.4	1.3	1.2
Government gross debt	4.0	2.7	2.3	2.0	1.8	1.6
Real GDP growth (%)	11.2	7.4	5.2	6.1	6.7	7.0

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

([6]) General government balance reflects sectoral reclassification in the 2007 spring fiscal notification. However, this reclassification is not yet reflected in government total expenditure and revenue, which thus cannot be compared directly with the general government balance.

Source: Commission services and convergence programme of Estonia.

Table V.6.2:

Main measures in the budget for 2008, Estonia

Revenue measures ([1])	Expenditure measures ([2])
• Reduction of personal and corporate income tax rate from 22% to 21% (-0.8% of GDP) • Increase in personal income tax basic exemption (-0.1% of GDP) • Increase in excise taxes for alcohol, tobacco and fuels and introduction of excise tax for electricity (0.7% of GDP) • Increase in social tax minimum contribution basis from 2000 to 2700 EEK (0.2% of GDP)	• Increase in pensions, including due to change in indexation (1.4% of GDP) • Increase in family benefits (0.4% of GDP) • Wage increase for domestic security services (0.3% of GDP) • Increase in R&D expenditure (0.2% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source: Commission services, November 2007 update of the convergence programme and 2007 and 2008 budget laws.

finances is likely to result in local governments financing deficits by new debt issuance, whereas any central government deficit is likely to result in recourse to existing gross financial assets (which for the central government amounted to over 11% of GDP at the end of 2007).

7. IRELAND

Recent developments and medium-term prospects

In 2007, a general government surplus of 0.3% of GDP was recorded and a debt-to-GDP ratio at 25¼% was estimated. These figures compare with projections of 1.2% and 23.0% respectively contained in the December 2006 Stability Programme update ([1]). The worse than projected outcome for the general government balance, reflects both higher spending and weaker revenue in 2007 than planned, which more than offset the base effect of an upward revision of the 2006 surplus. Notably, revenues were affected by the deterioration in taxes linked with the housing sector towards the end of the year.

The budget for 2008 was presented on 5 December 2007, together with the 2007 stability programme update for 2007-2010 ([2]). The budget and the programme were based on a significantly worse macroeconomic outlook than previously, with growth in 2008 projected to be particularly affected by a further decline in the residential construction sector. Among the specific revenue measures announced, the personal income tax package in the 2008 Budget was limited to indexation of the key tax parameters in line with wage inflation. Other measures included: additional tax relief for mortgage holders; changes to taxation of motor vehicles in order to better reflect CO2 emissions; reform of stamp duty so as to simplify and reduce the effective rate of duty on residential property transactions. On the expenditure side, the budget announced further increases in social transfer payments, funds for a new residential elderly care scheme and increased capital spending in line with the national development plan.

The stability programme update projected a deficit of 0.9% of GDP in 2008. However, economic and fiscal indicators since then have tended to point to lower growth and to a higher deficit. In particular, with weak tax revenues in the first quarter, the Commission services' spring 2008 forecast projects a higher headline deficit, at 1.4% of GDP. This points to an estimated deterioration of the structural deficit by about 1% of GDP and an expansionary fiscal stance. An updated official projection for the general government balance in 2008 is not expected until the October 2008 EDP reporting of general government deficit and debt levels.

For 2009, the Commission's spring forecast projects that, under no-policy change assumptions, the headline deficit in 2009 rises to 1.7% of GDP ([3]), implying a further slight deterioration in the structural deficit. Using a slightly more optimistic growth forecast, the stability programme projected a lower deficit of 1.1% of GDP which now appears achievable only with significant restraint in current spending. The higher Commission forecast reflects base effects from 2008 as well as somewhat higher projected spending growth in the absence of specific information on spending measures for 2009. The national authorities project that the headline deficit improves slightly in 2010, mainly owing to further spending restraint and a recovery in revenue growth.

The government debt ratio is projected to increase to about 28¾% by end of 2009. The main drivers are the projected primary budget deficits, the accumulation of non-general government assets in the National Pensions Reserve Fund and a denominator effect of lower nominal GDP growth.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm.

([2]) Budget 2008 marked the introduction of a 'unified budget' whereby all expenditure and revenue decisions were announced simultaneously, unlike earlier years when many spending changes were announced before budget day.

([3]) The no-policy-change assumption for 2009 is made operational by allowing average tax rates to return gradually toward long-term values and adjusting social transfer payments by forecast inflation plus an additional amount to reflect the actual policy stance in recent years.

Table V.7.1:

Budgetary developments 2006-2011, Ireland (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	3.0	0.3	-1.4	-1.7	
- Total revenue	37.2	36.7	36.7	36.8	
Of which : - taxes on production and imports	14.1	13.5	13.5	13.6	
- current taxes on income, wealth, etc.	13.2	12.9	13.0	13.0	
- social contributions	6.3	6.5	6.6	6.6	
- Total expenditure	34.2	36.4	38.1	38.5	
Of which: - compensation of employees	9.7	9.9	10.2	10.2	
- intermediate consumption	5.0	5.4	5.6	5.7	
- social payments	9.3	9.7	10.3	10.5	
- gross fixed capital formation	3.7	4.2	4.5	4.5	
- interest expenditure	1.0	0.9	1.0	1.1	
Primary balance	4.0	1.2	-0.3	-0.6	
Tax burden	32.6	32.0	32.1	32.3	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance (^{3})	2.9	0.2	-0.8	-0.9	
Structural primary balance	4.0	1.2	0.2	0.2	
Government gross debt	25.1	25.4	26.9	28.8	
Real GDP growth (%)	5.7	5.3	2.3	3.2	
Stability programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	2.9	0.5	-0.9	-1.1	-1.0
Primary balance	3.9	1.4	0.0	-0.1	0.0
One-off and other temporary measures	0.1	0.2	0.0	0.0	0.0
Structural balance (^{3})(^{5})	2.9	0.5	-0.4	-0.5	-0.7
Government gross debt	25.1	25.1	25.9	27.6	28.7
Real GDP growth (%)	5.7	4.8	3.0	3.5	4.1

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Ireland.

Table V.7.2:

Main measures in the budget for 2008, Ireland

Revenue measures (^{1})	Expenditure measures (^{2})
• For personal incomes, more generous tax-exempt thresholds, widening of standard rate tax bands (-0.2% of GDP) • Reform and effective reduction in stamp duty on sale of residential properties (-0.1% of GDP)	• Increased social welfare payments (0.3% of GDP) • New long-term residential care scheme (0.1% of GDP) • Other health sector spending (0.1% of GDP) • Security and defence (0.1% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and Department of Finance Budget 2008 booklet.

8. GREECE

Recent developments and medium-term prospects

The general government deficit outcome for 2007 was 2.8% of GDP ([1]), which compares with the December 2006 ([2]) stability programme of 2.2% ([3]). The deviation of more than ½ % of GDP reflects an expenditure overrun of almost ¼% of GDP and a net one-off deficit increasing impact of the same amount. This net one-off impact is the combination of deficit-increasing measures of 1 percentage point and deficit-reducing measures of ¾ of a percentage point of GDP. The outcome is slightly higher than the estimation in the December 2007 update of the stability programme. The debt-to-GDP ratio is moving downwards slowly, from an average of 99% of GDP over the period 2001-2006 to around 94½% of GDP in 2007.

The 2008 budget was adopted by the Greek Parliament on 20 December 2007. According to the Budget Law, the budgetary target for 2008 is a deficit of 1.6% of GDP. Deficit-reducing one-off measures of 0.1 percentage points of GDP are included. On the revenue side, the budget includes the effects of a reform in personal-income taxation, an increase in the excise tax on fuel, the new tax scheme for heating oil, the increase of real estate taxation, along with a simplification of the system, a restructuring of the tax administration and auditing services, and an increase of penalties associated to tax evasion and fraud. On the expenditure side, the budget includes the effects of an increase of the armed forces staff's wages, increases of public sector's pensions, an improvement of social benefits to low-income households and significant cutbacks in intermediate consumption. According to the Commission services' spring 2008 forecast, the general government deficit for 2008 is projected to be 2% of GDP. The deviation between the spring 2008 forecast and the official target is

explained by a slightly less favourable growth scenario foreseen by the Commission services' and a prudent assessment of the economic impact of measures undertaken on the revenue side, which imply clearly above the historical level tax elasticity. Moreover, the effects of the reforms undertaken to improve the efficiency of tax administration and compliance appear optimistic, especially when taking account of past outcomes of policies against tax evasion and fraud. In 2008, total revenues are projected to increase by some ¼ percentage point, as higher indirect and property taxes would more than compensate for the decline in one-off revenues and personal income tax cuts. In parallel, expenditure is projected to fall by around ¾ of a percentage point of GDP, on the back of the non-repetition of sizeable temporary hikes in intermediate consumption and other current expenditures. This contraction should only be partly offset by social transfers' increases and by an increase of public sector's real wages. Overall, measured by the cyclically-adjusted balance net of one-offs, the structural balance would improve by more than ½% of GDP in 2008, pointing to a restrictive fiscal stance.

Based on a no-policy-change assumption, the projection for 2009 is a deficit of around 2% of GDP. This compares with the targets set in the December 2007 update of the stability programme of Greece of 0.8% of GDP for 2009 and a balanced budget for 2010, which are not underpinned by with corresponding measures.

The Commission services' spring 2008 forecast projects a general government debt-to-GDP ratio at just below 92½% in 2008, which is some 1¼ percentage points higher than the target shown in the update of the stability programme, due to a favourable official growth projection and, on account of the associated risks, on optimistic deficit targets. Increasing primary surpluses, privatisations and decelerating but robust nominal GDP growth contribute to a further reduction of the debt-to-GDP ratio in 2009, at around 90%. However, stock-flow adjustments are still high. According to the update, the debt-to GDP-ratio is foreseen at 87¼% in 2009.

([1]) Eurostat news release on 18 April 2008.
([2]) http://ec.europa.eu/economy_finance/netstartsearch/ pdfsearch/pdf.cfm?mode=_m2
([3]) As recalculated to take into account the denominator effect of the upward GDP revision by 9.6%.

Table V.8.1:

Budgetary developments 2006-2010, Greece (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	-2.6	-2.8	-2.0	-2.0	
- Total revenue	39.4	40.2	40.4	40.4	
Of which : - taxes on production and imports	12.0	12.1	12.5	12.5	
- current taxes on income, wealth, etc.	7.9	8.0	8.2	8.2	
- social contributions	13.1	13.8	14.0	14.0	
- Total expenditure	42.0	43.1	42.4	42.4	
Of which: - compensation of employees	10.9	11.1	11.2	11.2	
- intermediate consumption	4.7	5.1	4.5	4.5	
- social payments	16.5	17.3	17.9	17.9	
- gross fixed capital formation	3.1	3.0	3.0	3.0	
- interest expenditure	4.1	4.1	3.9	3.9	
Primary balance	1.4	1.2	2.0	1.9	
Tax burden	31.3	32.0	33.1	33.1	
One-off and other temporary measures	0.5	-0.2	0.1	0.0	
Structural balance (^{3})	-3.7	-3.3	-2.6	-2.3	
Structural primary balance	0.4	0.8	1.4	1.6	
Government gross debt	95.3	94.5	92.4	90.2	
Real GDP growth (%)	*4.2*	*4.0*	*3.4*	*3.3*	
Stability programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-2.5	-2.7	-1.6	-0.8	0.0
Primary balance	1.6	1.2	2.4	3.1	3.8
One-off and other temporary measures	0.4	-0.3	0.1	-	-
Structural balance (^{3})(^{5})	-3.2	-2.8	-2.0	-1.2	-0.5
Government gross debt	95.3	93.4	91.0	87.3	82.9
Real GDP growth (%)	*4.2*	*4.1*	*4.0*	*4.0*	*4.0*

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Greece.

Table V.8.2:

Main measures in the budget for 2008, Greece

Revenue measures (^{1})	Expenditure measures (^{2})
• The excise tax on fuel (¼% of GDP) • Reform of the tax scheme for heating oil (½% of GDP) • Simplification of the real estate tax system and the imposition of single property tax (¼% of GDP)	• Wage increases of the armed forces staff and justice (0.2% of GDP) • Increases of public sector's pensions and extension of social benefits to the families with 3 children instead of 4 (0.4% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source: Commission services and 2008 budget law.

9. SPAIN

Recent developments and medium-term prospects

The general government surplus is forecast to have attained 2.2% of GDP in 2007, compared to the target of 0.7% of GDP set out in both the 2007 Budget Law and the December 2006 stability programme. This better result is mainly explained by higher-than-expected revenues in 2007. In structural terms ([1]), the surplus reached 2.4% of GDP, compared to 2% one year earlier.

The Budget for 2008 was adopted by Parliament on 26 December 2007 and projected a surplus of 1.2% of GDP, fully in line with the 2007 update of the Stability Programme ([2]). The Budget Law seems to be based on an optimistic macroeconomic scenario. Nevertheless, favourable growth projections for tax revenues might be largely offset by a better-than-anticipated 2007 outturn. However, when taking into account the spending increase associated with the recently announced discretionary measures, this target does not appear attainable any more and the fiscal surplus might bottom out at 0.6% of GDP. In structural terms, the surplus would be reduced to 1.1% from 1.8% in 2007, implying that the fiscal stance can be considered as expansionary. Specifically, the announced fiscal package contains a tax credit of €400 to be granted to taxpayers (employees, self-employees and pensioners) during the second half of the current year. Total expenditure might grow by about 7¼%, well above the nominal GDP growth. Regarding central government expenditure, the 2008 Draft Budget Law gave priority to R&D spending for the fourth consecutive year.

In 2009, based on the customary no-policy-change scenario, the Commission services' spring 2008 forecast estimates general government finances at a close-to-balance position (in structural terms at a surplus of 0.9% of GDP). These are well below the surplus targets of 1.2% of GDP in nominal terms and 2.0% in structural terms set out in the November 2007 update of the Stability Programme. In a worsened economic situation, the budgetary target for 2009 only appears achievable with a significant adjustment effort. Currently, revenues are projected to grow by around 4%, close to nominal GDP, reflecting mainly declining indirect and corporate tax revenue on the back of contracting housing market and less buoyant corporate profits. Total expenditure is assumed to grow above nominal GDP, by 5½%, mainly explained by the functioning of automatic stabilisers, especially higher unemployment benefits. The Draft Budget Law for 2009 is expected to be presented by the Spanish government to Parliament in September 2008.

The debt-to-GDP ratio is projected to continue on a decreasing path in 2007, at 36¼%, and 2008, at 35¼% of GDP, while remaining at around this level in 2009.

Immigration and public finances

Between 1996 and 2007, the Spanish economy grew at an average annual rate of 3¾%. Employment creation attained 3¼% p.a., pushing the employment rate up to 66% from 48%. Interestingly, the female employment rate increased by 21½ pp, from 33¼% to the current 54¾%. A remarkable feature of the Spanish economy during this period is its relative resilience to the slowdown in world economic activity in 2001, associated to the bust of the dotcom bubble. As shown below, demographic factors have been paramount to keeping up high potential growth during the 2000s.

The Spanish population has grown by around 1% per year since 1996 (in total by 5.2 million inhabitants), with an accelerated growth of 1½% since 2001. This demographic shock can be attributed almost entirely to immigration, as natural growth has remained negligible. Indeed, Spain has received the highest number of immigrants in the euro area and the EU. Non-

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[1] Calculated by the Commission services on the basis of the commonly agreed methodology.
[2] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.9.1

Budgetary developments 2006-2010, Spain (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	1.8	2.2	0.6	0.0	
- Total revenue	40.4	41.0	40.3	40.2	
Of which : - taxes on production and imports	12.4	11.8	11.5	11.4	
- current taxes on income, wealth, etc.	11.7	12.9	12.4	12.4	
- social contributions	13.0	13.0	13.1	13.1	
- Total expenditure	38.6	38.8	39.7	40.2	
Of which: - compensation of employees	10.0	10.2	10.4	10.5	
- intermediate consumption	5.0	5.2	5.4	5.4	
- social payments	11.5	11.6	12.1	12.5	
- gross fixed capital formation	3.8	3.8	3.8	3.8	
- interest expenditure	1.6	1.6	1.5	1.5	
Primary balance	3.4	3.8	2.2	1.6	
Tax burden	36.5	37.1	36.4	36.3	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance ([3])	2.0	2.4	1.1	0.9	
Structural primary balance	3.6	3.9	2.7	2.5	
Government gross debt	39.7	36.2	35.3	35.2	
Real GDP growth (%)	3.9	3.8	2.2	1.8	
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	1.8	1.8	1.2	1.2	1.2
Primary balance	3.4	3.4	2.7	2.6	2.6
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	2.3	2.2	1.8	2.0	1.9
Government gross debt	39.7	36.2	34.0	32.0	30.0
Real GDP growth (%)	3.9	3.8	3.1	3.0	3.2

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in Dec 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Spain.

Table V.9.2:

Main measures in the April fiscal package and in the budget for 2008, Spain

Revenue measures ([1])	Expenditure measures ([2])
• Reform of direct taxes (-0.3% of GDP)	
• New allowance for child born (-0.1% of GDP)	• Public R&D (0.1% of GDP)
• Tax brackets full deflation (-0.1% of GDP)	• Infrastructures (0.1% of GDP)
• Income tax rebate of € 400 per taxpayer (-0.5% of GDP)	

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source: Commission services and 2008 Budget Law.

native population grew from 540,000 in 1996 to around 4.5 million in 2007. As a result, the percentage of foreigners has risen from 1.3% of the total population to around 10% in 2007. Most immigrants come from North Africa, Latin America and Eastern Europe and are mainly occupied in agriculture, tourism, construction and domestic services.

Within this framework, the rest of the section tries to analyse the impact of the demographic shock on public finances, which can be affected through increased tax revenues and higher public expenditures. Additionally, a denominator effect associated to an enhanced GDP growth also needs to be taken into account. The rather scarce

available literature ([1]) provides some methodological avenues. However, due to the lack of complete statistical information, simplifying assumptions need to be incorporated, inevitably leading to some uncertainty on the robustness of final conclusions.

Regarding the contribution of immigrants to economic activity and according to the methodology suggested by the Economic Bureau of the President (2006), GDP growth would be decomposed into population increase and per capita growth, which, in turn, can be divided into productivity per unit of labour, employment rate and a demographic factor:

$$(1) \; \Delta GDP = \Delta Population + \Delta(GDP/Population)$$

$$(2) \quad \Delta(GDP/Pop) = \Delta(GDP/Empl) + \Delta(Empl/PWA) + \Delta(PWA/Pop)(^2)$$

The contribution of immigrants to each subcomponent is calculated by the Commission Services on the basis of the active population survey, with the exception of the weight of foreigners in the productivity factor, taken from the Bank of Spain (2007). It can be concluded that, without the demographic shock, Spain might have been much less resilient to the world economic slowdown in 2001. Moreover, in 2008 and 2009, immigrants are expected to still contribute largely to GDP growth (Graph V.9.1).

With respect to the impact of foreigners in tax revenues and public expenditures, in some cases, budgetary statistics, such as those of personal income tax, social contributions, unemployment benefits, pensions or integration policies, include a breakdown between immigrants and nationals. In contrast, disentangling the effects of immigration in other fiscal categories, such as indirect taxes, education and health care spending, requires the introduction of simplifying assumption.

([1]) Dolado and Vázquez (2008); Bank of Spain (2007); Economic Bureau of the President (2006); Carone et al. (2005); and Collado et al. (2004).

([2]) Pop = Population; Empl = Employment; PWA = Population of working age.

Graph V.9.1 : **Impact of immigration on economic growth**
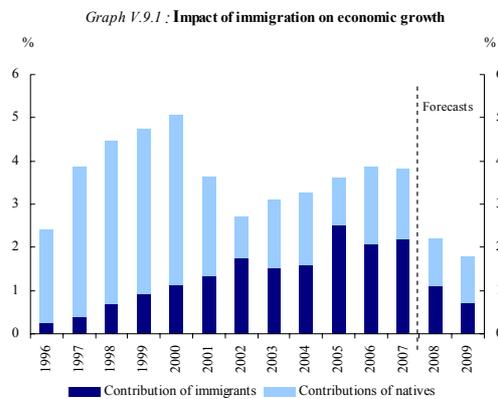
Source: Commission services.

The Commission services' calculations take the weight of immigrants in each budgetary item from the results of the Economic Bureau of the President (2006), which presents the immigrants' fiscal balance for 2005 (estimated at a surplus of 0.5% of GDP). Specifically, in 2007, according to table V.9.3, non-natives would have contributed 0.6% of GDP, representing around one fourth of the general government surplus. This positive outcome can be mainly explained by the immigrants' contributions to social security, well above their granted benefits.

On the basis of the Commission services 2008 spring forecast, in 2008, foreigners, although accounting for around two thirds of the (lower) general government surplus, might reduce their fiscal balance contribution to 0.4% of GDP. Indeed, given that migrants represent around 25% of workers in the construction sector, compared to about 14% for the economy as whole, it can be expected that the adjustment of the housing sector will impact substantially on non-native labour force. In 2009, while with the contribution to the budget of nationals alone, could enter red territory, a close-to-balance position might still be attained when including the positive contribution of immigrants.

Table V.9.3
Migrants' contribution to public finance *(% of GDP)*

	2007	2008	2009
Revenues	**2.7**	**2.6**	**2.5**
Personal income tax	0.3	0.2	0.2
Social security	1.0	0.9	0.9
VAT	0.4	0.4	0.4
Others	1.1	1.0	1.0
Expenditures	**2.1**	**2.2**	**2.3**
Unemployment benefit	0.1	0.1	0.2
Others (Pension, healthcare, education, etc.)	2.0	2.1	2.1
Fiscal balance	**0.6**	**0.4**	**0.2**
Pro memoria: Total fiscal balance	*2.2*	*0.6*	*0.0*

Source: Commission services.

10. FRANCE

Recent developments and medium-term prospects

For 2007, the French authorities had targeted a deficit of 2½% of GDP in the December 2006 update of the stability programme, revised to 2.4% of GDP in spring 2007, under the assumption of 2-2.5% GDP growth. The deficit outturn was 2.7% of GDP, on the back of 1.9% GDP growth. Compared to the target set in the December 2006 update of the stability programme, public finances benefited from unexpectedly strong revenue, notably in corporate taxes and non-fiscal revenue (especially property income), also thanks to a significant base-effect from 2006. However, in contrast with the announcement made in the 2007 update of the stability programme and included in the Finance Act, these revenues were not exclusively allocated to deficit reduction but partially to tax cuts, including the first measures of the TEPA package adopted in summer. Slippages were recorded in social security and local current expenditure was more dynamic than initially envisaged by the authorities ([1]). In addition, the deficit was also increased by a revision in the national account treatment of a customary annual transfer from the financial institution Coface.

The Budget Bill for 2008 was adopted on 18 December 2007. It targeted a decline in the general government deficit to 2.3% of GDP in 2008, after an expected 2.4% in 2007, under the assumption of 2-2½% GDP growth. Given the planned decrease in the tax ratio (notably reflecting the effect of the TEPA package of around 0.4 pp of GDP) by 0.2 pp to 43.3% of GDP, the authorities intend to meet this budgetary objective thanks to strong expenditure restraint, stemming notably from two measures. The first is the revised "0% volume increase expenditure rule" for the State, extended to a broader category of expenditure including the State and now also "*prélèvements sur recettes*" (i.e. most of the transfers to local authorities and to the EU). It appears to be notably backed by cuts in public employment via replacing only two thirds of retired employees in 2008, although the impact of the latter measure appears limited in 2008 (0.02% of GDP). The second is a limited increase in the objective for healthcare expenditure (*ONDAM*) set at 2.8%, backed by the introduction of a new "*franchise de soins*" (minimum payment charged to patients) and a package of measures adopted in July 2007 (e.g. lower prices for certain medical examinations).

In March, on the basis of a scenario of lower GDP growth in 2008, between 1.7 and 2.0%, and a higher deficit in 2007, the official deficit target was increased to 2½% of GDP. In the Commission services' spring 2008 forecast, the deficit is expected to rise to 2.9% of GDP. The difference with the latest official target stems both from (a) lower revenue, in particular non fiscal revenue (including dividends), partly because of the envisaged stronger macroeconomic deterioration, and also from (b) higher expected expenditure, notably in social security transfers, other current transfers and subsidies. With one-off measures of 0.1 pp of GDP, as in 2007, the structural deficit in the Commission' spring forecast is expected to deteriorate by 0.1 pp of GDP, implying a broadly neutral fiscal stance.

The French authorities have set a new deficit target for 2009 at 2.0% of GDP, under the assumption of 1¾-2¼% GDP growth, while November 2007 update of the stability programme ([2]) had set a deficit target of 1.7% of GDP for 2009 in the central scenario based on GDP growth of 2½%, and targeted the achievement of a balanced budget in 2012. Under the customary no-policy-change assumption, the Commission forecasts for 2009 a

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[1] At the level of the State, although the announced reduction in expenditure in volume by 1% was not achieved (due to lower inflation than originally expected), the underlying nominal target for State expenditure was reached.

[2] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

further deterioration in the general government deficit to 3% of GDP. None of the measures recently announced in the context of the global revision of public policies (¹) are included in this forecast. Assuming no one-off measures in 2009, the structural deficit implied by the Commission' 2008 spring forecast is expected to marginally improve by 0.2 pp to 2.6% of GDP.

The debt ratio in the Commission's forecast is expected to increase slightly to 64.4% in 2008, and more significantly, to 65.1%, in 2009. This contrasts with a decreasing debt ratio targeted by the French authorities, to 64.0% in 2008 and 63.2% in 2009. The official debt forecast reflects lower deficit projections in both years, as well as higher debt-reducing stock-flow adjustment.

The framework for public finances two years after the full implementation of the LOLF

The new Constitutional Bylaw on the Finance Acts (*Loi Organique Relative aux Lois de Finances* – commonly called *LOLF*) was adopted on 1 August 2001. It entered into force progressively and was fully implemented only on 1 January 2006. Benefiting from a strong political consensus, it abrogated the *Ordonnance* of 2 January 1959. While the *LOLF* confirmed the key principles of Finance Acts (unity, annuality, universality, specification…) and the leading role of the government in the budgetary process, it also introduced many innovations, among which two appear particularly important:

First, the main purpose of the *LOLF* is to move towards "result oriented" public policies, with credits allocated not to categories of public expenditure but rather to "missions" subdivided into "programmes", designed to match the key objectives of State public services. The aim is to ensure a clear allocation of public resources to each objective and strengthen monitoring. Since the full implementation of the *LOLF*, Finance Acts now include objectives (*projets annuels de performance* or *PAP*) for each programme,

covering the whole range of State policies. Ministries issue reports (*rapports annuels de performance* or *RAP*) on the achievement of these objectives to the Parliament the year after the exercise (t+1) for review in the context of the examination of the *Loi de Réglement* (which closes the budgetary exercise in year t+1, and is necessarily adopted before the discussions on the next Finance Act).

In this context, the definition of relevant, useful and measurable indicators attached to the objectives is one of the main challenges the LOLF has to face. The new budgetary framework set in the *LOLF* could in the medium term increase the efficiency of administrative organisation, and therefore entail expenditure reduction, if administrative structures progressively evolve to match "programmes" and "missions". In this respect, the merger between the *Direction Générale des Impôts* – taxes – and the *Direction Générale de la Comptabilité Publique* – public accounts – is a positive step.

Second, the *LOLF* significantly enhances the role of the Parliament. It notably abolishes the former distinction between new and previously adopted measures (*services votés / mesures nouvelles*), which used to imply that the debate on the budget at the Parliament mostly concerned new measures while existing ones were usually not called into question and mechanically renewed, hence limiting the Parliament's role and responsibility. Moreover, as mentioned above, the *LOLF* also increases reporting and accountability to the Parliament. It introduces further obligations for the government to inform the Parliament of budgetary measures adopted throughout the year. In addition, public accounts as presented to the Parliament are now certified by the *Cour des comptes* (French Court of auditors), and their presentation is now closer to the private sector standards.

One the main criticisms levelled against the *LOLF*, namely the absence of multi-year budgeting, was addressed by the *RGPP*: the implementation of a pluri-annual budget over three years. In December 2007, the Government announced that a 2009-2011 Finance Act is to be adopted this autumn. This would represent a major improvement in terms of public finance management and enforcement of budgetary

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(¹) The *Révision Générale des Politiques Publiques* (*RGPP*), started in July 2007, consists in an exhaustive audit of public missions with the aim of carrying out a major rationalisation of expenditure and an improvement in State services. The measures already announced are expected to be included in the 2009-2011 Finance Act.

Table V.10.1:

Budgetary developments 2006 - 2012, France (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009			
General government balance ([2])	-2.4	-2.7	-2.9	-3.0			
- Total revenue	50.3	49.9	49.6	49.5			
Of which : - taxes on production and imports	15.2	15.1	15.1	15.1			
- current taxes on income, wealth, etc.	11.7	11.5	11.4	11.3			
- social contributions	18.2	18.1	18.1	18.1			
- Total expenditure	52.7	52.6	52.5	52.5			
Of which: - compensation of employees	13.0	12.9	12.8	12.7			
- intermediate consumption	5.1	5.1	5.1	5.0			
- social payments	17.6	17.5	17.5	17.7			
- gross fixed capital formation	3.2	3.3	3.2	3.2			
- interest expenditure	2.5	2.7	2.8	2.7			
Primary balance	0.2	0.1	-0.1	-0.3			
Tax burden	43.9	43.5	43.3	43.2			
One-off and other temporary measures	0.3	0.1	0.1	0.0			
Structural balance ([3])	-2.7	-2.7	-2.8	-2.6			
Structural primary balance	-0.2	0.0	0.0	0.1			
Government gross debt	63.6	64.2	64.4	65.1			
Real GDP growth (%)	2.0	1.9	1.6	1.4			
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
General government balance	-2.5	-2.4	-2.3	-1.7	-1.2	-0.6	0.0
Primary balance	0.0	0.2	0.5	0.9	1.4	2.0	2.5
One-off and other temporary measures	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	-2.5	-2.0	-1.9	-1.4	-1.0	-0.4	0.0
Government gross debt	64.2	64.2	64.0	63.2	61.9	60.2	57.9
Real GDP growth (%)	2.0	2-2.5	2-2.5	2.5	2.5	2.5	2.5

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of France.

Table V.10.2:

Main measures in the TEPA package and in the budget for 2008, France

Revenue measures ([1])	Expenditure measures ([2])
• Tax reform on dividends taxation (+0.1% of GDP)	• Cuts in public employment (-0.02% of GDP)
• Elimination of taxation on overtime (-0.2% of GDP)	• Social security: July 2007 correction and LFSS measures (-0.1% of GDP)
• Suppression of the inheritance tax (-0.1% of GDP)	
• Tax shield and ISF (-0.1% of GDP)	• Reform in healthcare system organisation (-0.1% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services and French Ministry of Finance.

discipline, although the effectiveness of this framework will very much depend on whether it will be adopted through a formal Finance Act or remain at the level of an informative report.

11. ITALY

Recent developments and medium-term prospects

The general government deficit in 2007 was reported at 1.9% of GDP ([1]). This compares with the targeted deficit of 2.8% of GDP set in the December 2006 update of Italy's stability programme ([2]). The better-than-expected result is due to the positive base effect from the 2006 deficit net of one-offs, which turned out 1.5 percentage points of GDP lower than estimated. The corrective measures adopted for 2007 were effectively implemented. In particular, the revenue-to-GDP ratio increased substantially relative to 2006, by 1.2 percentage points. This was achieved mainly through a widening of the income tax bases as well as the receipt of the severance payment scheme flows (TFR - *Trattamento di Fine Rapporto*) that were diverted to the public social security institute ([3]). However, an even better outcome was within reach, as around 0.9% of GDP of additional expenditure was decided in the second half of 2007 and partly implemented in that year. In 2007, the structural balance (i.e. net of cyclical factors and excluding one-off measures) improved by 1 ¼ percentage points of GDP, broadly in line with official projections.

After increasing in the previous two years, the government debt ratio fell by 2.5 percentage points in 2007, to 104% of GDP. The 2006 update of the stability programme had projected a much smaller decline. The difference is explained by a higher debt-reducing contribution of the primary surplus and a less negative "snow-ball" effect. The latter was due to nominal GDP growth turning out higher than assumed in the 2006 update, while interest expenditure was broadly in line with projections.

The 2008 budget was adopted on 21 December 2007. For the first time in many years, the budget law did not foresee a net deficit-reducing impact. It targeted a deficit of 2.2% of GDP, from a trend deficit based on unchanged legislation of 1.8% of GDP, with around 1% of GDP of deficit-increasing measures due to be partly offset by around 0.6% of GDP of corrective measures.

On 12 March, the official deficit projection for 2008 was revised upwards, to 2.4% of GDP. Starting from the favourable base effect acquired with the better-than-expected 2007 deficit outturn, the revision reflects lower expected real GDP growth (0.6% as compared to 1.5% of GDP in the stability programme). It also incorporates budgetary slippages, including some less than 0.1% of GDP deficit-increasing measures approved by Parliament in February 2008.

Taking account of the budgetary measures that had been adopted by the time of the completion of the forecast and with real GDP growth at 0.5%, the Commission spring 2008 forecast anticipates a general government deficit of 2.3% of GDP in 2008. Both the Commission and the official forecasts incorporate the postponement to 2008 of the impact of new social transfers, investments and cuts in the regional taxes on productive activities (IRAP), originally planned for 2007. In the Commission forecast, public investment is projected to rise substantially, but by less than in the official projections, on the assumption that some delays will continue to be experienced in its budgetary execution.

The budgetary impact of one-offs is expected to reduce the 2008 deficit by 0.1% of GDP. In the Commission forecast, the structural balance is projected to worsen by more than ¼ of a percentage point of GDP in 2008, implying a mildly expansionary fiscal policy stance. In contrast, the 2007 stability programme update foresaw an improvement, but of just around ¼ of a percentage point of GDP.

Based on the no-policy-change assumption and real GDP growth at 0.8%, the general government deficit is forecast to rise slightly in

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([1]) The headline deficit in 2007 was affected by 0.2% of GDP deficit-increasing one-offs.

([2]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm.

([3]) See European Commission (2007a) http://ec.europa.eu/economy_finance/publications/publication_summary340_en.htm.

Table V.11.1:

Budgetary developments 2006-2011, Italy (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009		
General government balance ([2])	-3.4	-1.9	-2.3	-2.4		
- Total revenue	45.4	46.6	46.4	46.4		
Of which : - taxes on production and imports	14.9	14.7	14.6	14.6		
- current taxes on income, wealth, etc.	14.4	15.2	15.1	14.9		
- social contributions	12.8	13.3	13.5	13.5		
- Total expenditure	48.8	48.5	48.7	48.7		
Of which: - compensation of employees	11.0	10.7	11.0	10.9		
- intermediate consumption	5.2	5.2	5.2	5.3		
- social payments	17.0	17.3	17.5	17.5		
- gross fixed capital formation	2.4	2.4	2.4	2.4		
- interest expenditure	4.6	5.0	4.9	4.9		
Primary balance	1.3	3.1	2.6	2.5		
Tax burden	42.1	43.3	43.2	43.1		
One-off and other temporary measures	-0.4	-0.2	0.1	0.0		
Structural balance ([3])	-2.8	-1.5	-1.9	-1.6		
Structural primary balance	1.8	3.5	3.1	3.3		
Government gross debt	106.5	104.0	103.2	102.6		
Real GDP growth (%)	1.8	1.5	0.5	0.8		
Stability programme ([4])	2006	2007	2008	2009	2010	2011
General government balance	-4.4	-2.4	-2.2	-1.5	-0.7	0.0
Primary balance	0.1	2.5	2.6	3.4	4.2	4.9
One-off and other temporary measures	-1.2	0.2	0.1	0.1	0.1	0.1
Structural balance ([3])([5])	-2.7	-2.2	-2.0	-1.3	-0.5	0.2
Government gross debt	106.8	105.0	103.5	101.5	98.5	95.1
Real GDP growth (%)	1.9	1.9	1.5	1.6	1.7	1.8

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the EDP.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Italy.

Table V.11.2:

Main measures in the budget for 2008, Italy

Revenue measures ([1])	Expenditure measures ([2])
• Corporate tax reform (0.1% of GDP)	• Higher compensation of employees (0.3% of GDP)
• Rent deductibility (-0.1% of GDP)	• Social transfers and employment measures (0.1% of GDP)
• Cuts to local property taxes (-0.1% of GDP)	• Savings on unspent budgetary carry-overs (-0.1% of GDP)
• Annual extension of special tax provisions (-0.1% of GDP)	

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source: Commission services and Ministry of Economy and Finance.

2009, to 2.4% of GDP. The November 2007 update of the stability programme targeted a deficit of 1.5% of GDP, with real GDP growing by 1.6%. No information on the corrective measures to achieve this target was provided.

The 2009 structural balance is forecast to improve by ¼% of GDP, almost back to the level estimated for 2007. The full implementation of the new tighter requirements for pension entitlement and slowing public wages after the sizeable arrears paid in 2008 will contribute to relatively moderate current expenditure developments. On the other hand, the tax burden

should decline slightly due to lower corporate income taxes. The 2007 stability programme planned a ¾ of a percentage point of GDP structural adjustment.

For the subsequent years, the 2007 stability programme update planned the government balance to continue improving, to become balanced in 2011, but again without spelling out the broad measures backing the adjustment.

In the spring 2008 forecast, the debt ratio is expected to decline by only 0.8% of GDP in 2008, to 103.2% of GDP. The difference

compared with the 1.6 percentage points fall projected in the 2007 update of the stability programme is essentially due to the significantly lower real GDP growth. The primary surplus is forecast to contribute to the debt-to-GDP reduction in line with the programme projections, but less than in 2007. Based on unchanged policies, the spring 2008 forecast anticipates a modest reduction in the government debt ratio also in 2009 (0.6 percentage points). This compares with a 2 percentage points decline projected in the 2007 update that would be achieved essentially thanks to a significantly higher primary surplus.

The spending review for expenditure control

Measured as a share of GDP, total government expenditure in Italy in 2007 was 2 percentage points higher than in the euro area. The steady increase in its primary component since the euro adoption contrasts with the reduction recorded in the euro area. This is not consistent with the need to rapidly reduce the very high government debt, while avoiding further excessive increases in the tax burden. Furthermore, the composition of government expenditure has remained virtually unchanged, reflecting some rigidity in its underlying mechanisms. The high cost of the debt service and high pension spending take their toll on more productive expenditure as well as other social spending. Finally, there is widespread perception, often supported by evidence, that there is large scope for improving the quality of services provided.

Italian policy makers, and public opinion at large, appear increasingly aware of the need to substantially improve the effectiveness and cost efficiency of public expenditure. A Green Book on Public expenditure, published in September 2007 by the Ministry of Economy and Finance and the Advisory Committee for Public Finances, substantiates this awareness. The book analyses the composition and quality of public expenditure with a special focus on five domains - justice, health, tertiary education, compensation of employees and local governments' spending. It is intended to support the formulation of precise guidelines for reform in the context of an ongoing spending review, which was launched in April 2007 with an initial round involving five

ministries on a voluntary basis (Education, Home Affairs, Justice, Infrastructure and Transport).

Spending reviews are a regular feature of the budgetary process in the United Kingdom and some other Anglo-Saxon countries. In the UK, they are an integral part of a multi-annual budgetary approach with fiscal rules that constrain public spending over a three-year cycle. As such, they are part of a strategic approach to the planning of public spending, focusing on public sector performance and public management practices [1].

The Italian spending review has more limited, but nonetheless challenging, ambitions. Starting from an examination of expenditure in the selected areas, it seeks to identify scope for efficiency gains. As stated in the Economic and Financial Planning Document (DPEF) of June 2007, the spending review responds to the need to go beyond a purely incremental approach in decisions on budget allocations, which merely focus on 'additional' resources and neglect to review outstanding expenditure commitments. Hence, it aims at reviewing all the existing spending programmes within the selected domains. If it becomes an integral part of the budgetary process, the spending review will facilitate a results-oriented management of resources. The recent reclassification of the state budget, based on items that bear a clearer relation to the functions of government spending, is also instrumental to this effect.

The spending review has so far resulted in a White Book on Education Spending and in an Interim Report. The former identifies the action required to improve schools' results and pupils' skills, and the necessary rationalization in order to finance the needed reforms. The latter presents broad indications for action. As the Green Book, these documents reveal ample scope for achieving savings in the examined expenditure items by reorganising departments, reviewing priorities, better assigning tasks and establishing criteria for the evaluation of results. However, the guidelines for action still need to be specified in detail and implemented.

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[1] See the Commission assessment of the 2007 convergence programme for the United Kingdom (see footnote 2).

12. CYPRUS

Recent developments and medium-term prospects

The general government balance in 2007 attained a surplus of 3.3% of GDP, which compares with a target 1.6% of GDP set in the December 2006 convergence programme of Cyprus ([1]). The better-than expected outcome reflected an exceptional rise in revenue, mainly due to particularly strong profitability in the financial sector and the booming real estate sector.. Consequently, part of the increase in tax bases and in the associated revenue may prove to be transitory. No one-off or other temporary measures were implemented. The general government debt ratio declined to around 59¾% of GDP in 2007 compared with 64¾% a year earlier.

The 2008 budget law was approved by Parliament on 20 December 2007. According to the Budget Law, the official budgetary target for 2008 is a surplus of ½% of GDP, on the basis of an estimated surplus of 1½% of GDP in 2007. However, as a result of the higher-than-expected surplus in 2007, the 2008 target has been revised upwards to a surplus of about 1% of GDP, in the context of the March 2008 EDP notification. No one-off measures are planned. The budget envisages a reduction in the excise duty levied on heating oil, a VAT rate cut for specific goods and services, and a tax reform reducing personal income, which would reduce revenues by around ¼ of a percentage point of GDP. On the expenditure side, the main measures include the maintenance of a ceiling on the nominal growth rate of expenditure of the central government (3% for current expenditure and 5% of capital expenditure), the gradual extension of the retirement age in the public sector to 63 years and the reduction of interest expenditure by running down the stock of debt financed by deposits held in the Central Bank.

The Commission services spring 2008 forecast projects a government surplus of 1¾% of GDP in

2008. The reduction in the surplus compared to 2007 is entirely accounted for by a reduction in revenues of some 1½ points of GDP, as projected also in the stability programme, reflecting a partial fading out of the temporary composition effects, while expenditure is assumed to remain constant as a percentage of GDP. As a result, according to the Commission services' spring 2008 forecast the primary balance would decline from 6.5% of GDP in 2007 to 4.5% of GDP in 2008. In structural terms, the government surplus is expected to worsen in 2008 by about 1½% of GDP to just below 2% of GDP, but to remain comfortably above the revised MTO of a balanced budget in structural terms. This decline in the structural surplus would imply an expansionary fiscal stance in good times. However, the government's consideration that the rise in revenues in 2007 is only partially permanent reflects a prudent budgetary approach, as it is not accompanied with a concomitant rise (as a percentage of GDP) in projected expenditure.

For 2009, based on the customary no-policy-change assumption, the Commission services spring 2008 forecast projects a surplus of about 1¾% of GDP. This compares favourably with the target set in the December 2007 stability programme of a surplus of ¾% of GDP for 2009 and 2010.

The Commission services' spring 2008 forecast project the debt-to-GDP ratio to continue its downward path reaching 47.3 % in 2008, down from 59.8 % in the previous year, reflecting debt-reducing stock-flow adjustments associated with the planned reduction of deposits with the central bank, and to decline further to 43.2% in 2009. According to the 2007 stability programme, the debt-to-GDP ratio is projected to decline from 60.0% in 2007 to 48.5% in 2009, before gradually improve further and reach 40.5 % in 2010. The difference with the Commission services' forecast is mainly explained by different projections of the primary balance and nominal GDP growth.

([1]) http://ec.europa.eu/economy_finance/netstartsearch/
pdfsearch/pdf.cfm?mode=_m2

Table V.12.1:

Budgetary developments 2006-2011, Cyprus (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009		
General government balance (^{2})	-1.2	3.3	1.7	1.8		
- Total revenue	42.4	47.2	45.6	45.7		
Of which : - taxes on production and imports	17.7	20.1	18.8	18.8		
- current taxes on income, wealth, etc.	10.8	14.0	13.7	13.7		
- social contributions	7.8	8.1	7.8	7.8		
- Total expenditure	43.6	43.9	43.9	43.8		
Of which: - compensation of employees	14.8	14.6	14.6	14.6		
- intermediate consumption	5.6	5.1	5.3	5.4		
- social payments	12.2	12.1	13.2	13.2		
- gross fixed capital formation	3.0	3.1	2.9	2.9		
- interest expenditure	3.3	3.2	2.9	2.7		
Primary balance	2.1	6.5	4.6	4.6		
Tax burden	36.6	42.5	40.6	40.6		
One-off and other temporary measures	0.0	0.0	0.0	0.0		
Structural balance (^{3})	-0.7	3.5	1.9	2.0		
Structural primary balance	2.6	6.7	4.8	4.8		
Government gross debt	64.8	59.8	47.3	43.2		
Real GDP growth (%)	4.0	4.4	3.7	3.7		
Stability programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	1.2	1.5	0.5	0.5	0.7	0.7
Primary balance	2.1	4.7	3.4	2.9	2.9	2.8
One-off and other temporary measures	0.0	1.5	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	-0.8	0.3	0.7	0.7	0.8	0.7
Government gross debt	65.2	60.0	48.5	45.3	43.8	40.5
Real GDP growth (%)	3.8	4.2	4.1	4.0	4.0	4.0

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. The Programme considers revenues in 2007 amounting to 1,5% of GDP as one-offs. Although transitory in nature, this amount of revenues does nto qualify as a one-off. Therefore, it is not considered as such by the Commission services. No other one-off or temporary measures are presented.
Source: Commission services and stability programme of Cyprus.

Table V.12.2:

Main measures in the budget for 2008, Cyprus

Revenue measures (^{1})	Expenditure measures (^{2})
• Reduction in the excise duty levied on heating oil (-0.05% of GDP)	• Application of expenditure ceilings on current and capital expenditures
• Application of the reduced VAT rate of 5% on specific goods and services such as products of bakeries and confectioneries, entrance fees to cultural and sport events (-0.05% of GDP)	• Gradual extension of the retirement age in the public sector to 63 years of age
• Increase of tax-free income for individuals and alignment of tax brackets (-0.05% of GDP)	• Reduction of net interest payments by running down stock of debt financed by sinking fund deposits

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.
Source : Commission services and 2008 budget law.

13. LATVIA

Recent developments and medium-term prospects

For 2007, the December 2006 convergence programme targeted a budget deficit of 1.3% of GDP, while the estimated outturn indicates a balanced budget position. The better outcome reflected higher than expected revenues - especially in case of direct tax revenues where the annual increase was 38.7% - partly offset by higher-than budgeted expenditure growth. A strong contributor to expenditure growth was a 43% increase in the public sector compensation bill. The aim of the March 2007 anti-inflation plan to tighten fiscal policy resulted in a supplementary budget which introduced less additional expenditure than such exercises in preceding years. The debt to GDP ratio declined to 9.7% in 2007 from 10.7% in 2006.

On 8 November 2007 the Latvian parliament adopted the 2008 state budget, projecting a surplus of 1.0% of GDP according to national methodology and corresponding to an ESA general government surplus of 0.7% of GDP, as reported in the November 2007 update of the convergence programme([1]). The main fiscal measures in the 2008 budget include raising the rate of contributions payable into the funded pension scheme from 4% to 8%, increasing excise tax rates for oil and tobacco products to comply with agreements made upon accession to the EU, and raising the non-taxable minimum threshold and the minimum wage for natural persons. The budget introduced a medium-term budgetary framework, setting expenditure ceilings for public institutions for three years starting from 2008. The concept of a long-term stabilisation reserve was also established in order to accumulate potential surplus revenues and privatization receipts.

The Commission services' 2008 spring forecast's projections for the general government balance diverge significantly from the official targets set in the convergence programme, projecting a deficit of 1.1% of GDP for 2008. The main reason for this difference is that the spring 2008 forecast projects lower GDP growth. With the credit-financed, domestically-driven growth slowing significantly, the headline budget is likely to come under strong pressure, as the programme's revenue projections are based on the assumption of continuing high consumption growth and, accordingly, a high rate of growth of indirect taxes. Higher inflation than assumed in the budget is expected to compensate to some extent the impact of lower real growth; on the other hand, higher inflation puts pressure on the expenditure side, especially on pensions and public sector wages. Finally, the programme counts on substantial revenues related to privatization, which are surrounded by uncertainties. According to the Commission services' spring 2008 forecast, the fiscal stance in 2008, as measured by the change in the structural balance, is expected to be broadly neutral.

For 2009, under a no policy change assumption, the spring forecast projects a deficit of around 2% of GDP. The deterioration from 2008 is mainly explained by the projected decrease in the revenue growth, due to lower and a less favourable composition of economic growth. However, given the possibility of economic stimulation measures being taken, risks are skewed towards a higher deficit. In contrast, the November 2007 convergence programme update has set the 2009 target for general government balance at a surplus of 1.0% of GDP and the 2010 target at a surplus of 1.2% of GDP.

The debt to GDP ratio – in line with the projected general government budget deficits in 2008 and 2009 - is set to increase to 10.0% in 2008 and to 11.2% in 2009, which would still be one of the lowest in the EU.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.13.1:

Budgetary developments 2006-2010, Latvia (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	-0.2	0.0	-1.1	-2.1	
- Total revenue	37.7	38.0	37.2	36.4	
Of which : - taxes on production and imports	12.8	12.8	12.4	12.1	
- current taxes on income, wealth, etc.	8.5	9.4	9.0	8.9	
- social contributions	9.0	9.5	9.0	8.9	
- Total expenditure	37.9	38.0	38.2	38.5	
Of which: - compensation of employees	10.0	11.5	11.6	11.5	
- intermediate consumption	6.8	6.9	7.0	7.0	
- social payments	8.1	7.6	7.6	7.8	
- gross fixed capital formation	4.7	5.7	5.4	5.6	
- interest expenditure	0.5	0.5	0.5	0.6	
Primary balance	0.3	0.5	-0.5	-1.5	
Tax burden	30.4	31.8	30.5	30.0	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance (^{3})	-1.1	-1.4	-1.3	-1.1	
Structural primary balance	-0.6	-0.8	-0.8	-0.6	
Government gross debt	10.7	9.7	10.0	11.2	
Real GDP growth (%)	12.2	10.3	3.8	2.5	
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-0.3	0.3	0.7	1.0	1.2
Primary balance	0.2	0.7	1.0	1.2	1.5
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	-0.9	-0.5	0.4	1.1	1.7
Government gross debt	10.6	9.4	8.3	7.2	6.4
Real GDP growth (%)	11.9	10.5	7.5	7.0	6.8

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Latvia.

Table V.13.2:

Main measures in the budget for 2008, Latvia

Revenue measures (^{1})	Expenditure measures (^{2})
• Social security contributions revenue: raising the rate of contributions payable into the funded pension scheme (-0.8% of GDP)	• Co-financing for EU and other financial instruments (2.4% of GDP)
• Personal income tax revenue: raising the non-taxable minimum, relief for dependents and minimum wage and salary (-0.5% of GDP)	• Indexation of pensions (0.9% of GDP)
	• Increase of salaries for public sector employees (0.6% of GDP)
• Excise tax revenue: raising the rate on oil and tobacco products (0.3% of GDP)	• Completion of administrative and territorial reform (0.3% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and the November 2007 convergence programme.

14. LITHUANIA

Recent developments and medium-term prospects

In 2007, the general government deficit was 1.2% of GDP, compared with a deficit target of 0.9% of GDP set in the 2006 update of Lithuania's convergence programme. Revenue grew more strongly than expected due to higher GDP growth rates and improved tax collection. A weaker than budgeted increase in collection of personal and corporate income tax was more than offset by higher growth of VAT and excise tax revenues. However, although no supplementary budget was adopted, general government expenditure also increased more than planned. Thus, additional revenues were spent, mainly by increasing social payments and public investment, the latter partly supported by EU funds. The government's decision in November 2007 to compensate pensions underpaid in 1995-2002 (such compensation accruing in 2007) added 0.6% of GDP to the deficit. The gross debt ratio decreased from 18.2% in 2006 to 17.3%, thanks to strong nominal GDP growth.

The budget for 2008 was approved by parliament on 7 December 2007. The general government deficit target, confirmed in the December 2007 update of the convergence programme ([1]), is 0.5% of GDP in ESA 95 terms. Compared to the 2007 budget, revenue is planned to increase by 31% in nominal terms and expenditure by 28%. Main measures on the revenue side comprise a cut in the personal income tax rate from 27% to 24%, the abolition of a temporary 3% tax on corporate profits and increases in excises duties on fuel, alcohol and tobacco. VAT revenues are assumed to increase strongly (by 43% compared to the 2007 budget), despite slower consumption growth, against the background of improved tax administration. The budgeted increase on the expenditure side reflects wage increases for public sector employees, including those for

teachers, and a significant rise in social transfers. Wage increases for teachers as voted by parliament in spring 2008 were significantly more generous than those proposed by the government in the budget; the additional cost from the spring decision is 0.2% of GDP in 2008 and 1.0% of GDP in 2009. In 2008 the continuing pension reform which started in 2004 is estimated to reduce revenue by about an additional 0.8% of GDP.

In the Commission services' spring 2008 forecast the projected general government deficit in 2008 is expected to widen further to 1.7% of GDP. Taking into account the substantial direct tax cuts, this reflects a markedly more cautious assessment of revenue prospects compared to the budget, given the latter's heavy reliance on improved tax administration leading to higher revenues. Planned higher spending for social transfers and rises in public sector salaries might thus not be offset by higher revenues. The above mentioned decision to increase teachers' wages more than planned in the 2008 budget adds significantly to expenditure in 2008 and 2009. There are also risks that additional expenditure will be planned in the run-up to the parliamentary elections in October 2008. Setting aside such risks, the effect of tax cuts and expenditure increases in 2008 contributes to an expansionary fiscal stance, with the structural primary balance deteriorating by about ¾% of GDP.

In 2009, based on a no-policy change assumption, the spring 2008 forecast projects the general government deficit to improve slightly to 1.5% of GDP, despite a weakening in domestic growth, helped by a build-up of EU funds inflow financing high expenditure growth. The most recent update of the convergence programme foresees the general government to achieve a surplus of 0.2% and 0.8% of GDP in 2009 and 2010 respectively.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.14.1:

Budgetary developments 2006-2010, Lithuania (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	-0.5	-1.2	-1.7	-1.5	
- Total revenue	33.4	34.3	34.7	35.1	
Of which : - taxes on production and imports	11.2	11.8	12.3	12.4	
- current taxes on income, wealth, etc.	9.7	9.4	8.9	8.9	
- social contributions	8.8	9.1	9.2	9.2	
- Total expenditure	33.9	35.6	36.4	36.7	
Of which: - compensation of employees	10.5	10.1	10.2	10.6	
- intermediate consumption	6.0	5.4	5.2	5.2	
- social payments	8.6	9.3	10.7	10.8	
- gross fixed capital formation	4.2	5.2	5.2	5.2	
- interest expenditure	0.7	0.7	0.7	0.7	
Primary balance	0.3	-0.5	-0.9	-0.8	
Tax burden	29.7	30.3	30.4	30.4	
One-off and other temporary measures	0.0	-0.6	0.0	0.0	
Structural balance ([3])	-1.0	-1.4	-2.0	-1.3	
Structural primary balance	-0.2	-0.6	-1.3	-0.6	
Government gross debt	18.2	17.3	17.0	16.8	
Real GDP growth (%)	7.7	8.8	6.1	3.7	
Convergence programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-0.6	-0.9	-0.5	0.2	0.8
Primary balance	0.2	-0.1	0.3	0.9	1.4
One-off and other temporary measures	0.0	-0.6	0.0	0.0	0.0
Structural balance ([3])([5])	-1.0	-1.2	-0.9	0.3	1.1
Government gross debt	18.2	17.6	17.2	15.0	14.0
Real GDP growth (%)	7.7	9.8	5.3	4.5	5.2

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in December 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme (0.6% of GDP in 2007; deficit-increasing).

Source: Commission services and convergence programme of Lithuania.

Table V.14.2:

Main measures in the budget for 2008, Lithuania

Revenue measures ([1])	Expenditure measures ([2])
• Reduction of personal income tax from 27% to 24% (-0.5% of GDP)	
• Abolition of the temporary tax on corporate income (-0.3% of GDP)	• Increases in public sector wages (1.1% of GDP)
• Ongoing pension reform (2nd pillar) (-0.8% of GDP)	• Higher social transfers other than in kind (0.8% of GDP)
• Increase in excise duties on fuel, tobacco and alcohol (0.3% of GDP)	

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services, convergence programme of Lithuania and the Ministry of Finance.

The spring 2008 forecast projects the general government debt ratio to remain low at about 17% over the forecast period.

Size and composition of public expenditure

On the back of rapid GDP growth in recent years, Lithuania has reached or exceeded its fiscal targets. However, the budget has remained

in deficit and budgetary improvement has been mainly due to revenue surprises rather than expenditure restraint. Government expenditure has increased at a similar pace as GDP. It is therefore important to look at the size and composition of government expenditure and possible ways of improving its efficiency.

After peaking in 1997 at around 50% following the Russian financial crisis, the ratio to GDP of government expenditure decreased gradually and stood at around 33% over the period 2003-2006. However, it started to increase again in 2007 as a consequence of strong increases in social transfers and public investment.

With a spending ratio of below 40% of GDP over the period 2000-2007 as a whole, Lithuania is considered to have a relatively small government sector. However, despite this relatively small size, the share of productive spending such as investment and education has been relatively high. Investment expenditure has increased both as a share of total expenditure (from 6.0% in 2000 to 14.7% in 2007) and as a share of GDP (from 2.4% in 2000 to around 5.2% in 2007). This significant acceleration over the recent years can mainly be attributed to an increase in EU-funded projects. At the same time, social expenditure has been gradually reduced relative to total spending and the government wage bill proportion has remained relatively stable; public sector wages have increased somewhat less than private sector wages in recent years.

The composition of public spending has an impact on the output of the public sector and of the whole economy, with expenditure for education and R&D being particularly growth-enhancing. However, in Lithuania expenditure on education has been increasing at a slower rate than GDP, the ratio to GDP having dropped from 6.2% in 2002 to 5.5% in 2006. Spending on R&D has been increasing and reached 0.8% of GDP in 2006, about 80% of it financed by government.

Graph V.14.1: **Lithuania - General government expenditure and revenue (% of GDP)**
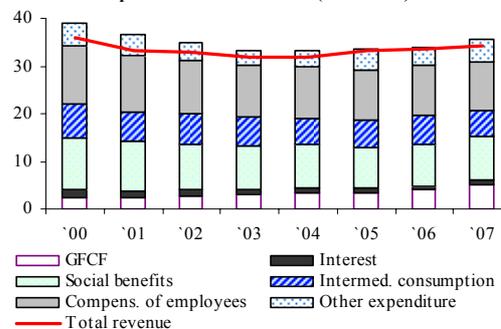
Source: Commission services' spring 2008 forecast.

In the light of the ongoing catching-up process, there is a continuously high need for public spending to improve the public administration capacity and the social situation, to increase (efficient) investment in R&D and human capital, as well as to contribute to an improved infrastructure. Several studies (Varoudakis et al, 2007; Afonso et al., 2006) suggest that in Lithuania similarly to other new EU member states there is significant scope for enhancing the efficiency of various expenditure programmes. So as to increase the efficiency of public spending, prioritising growth-enhancing public investment and holding back projects with less importance for real catching-up would be a prudent way of managing expenditure in this situation. Furthermore, as the budget is formed based on institutional rather than programming principles, it currently lacks an evaluation of the efficiency of expenditure. A more prudent approach to expenditure planning would also help to preserve the flexibility necessary to manage a turn in the economic cycle than solely relying on over-performing revenues in periods of strong economic growth.

Given the limited range of policy instruments to curb domestic demand, improving supply-side conditions will be central to achieve high and sustained economic growth while at the same time reducing economic imbalances. Public finances should play an important role in this, by re-directing public spending to growth-enhancing areas, easing labour market pressures through investment in education and by generally improving the efficiency of public spending in key sectors.

15. LUXEMBOURG

Recent developments and medium-term prospects

General government balances for 2005 and 2006 were recently revised upwards by 2 to 3 percentage points of GDP with respect to the initial estimates (see special topic below). The 2007 outturn was subject to the same kind of revision: it was revised upwards from a deficit of 0.9% of GDP in the 2006 stability programme first to a surplus of 1.0% of GDP in the 2007 stability programme and then to a surplus of 2.9% of GDP with the April 2008 EDP notification. Out of the cumulative 3.8 percentage points of GDP revision with respect to the initial target, 2.5 points are due to a base effect. The rest is due to much higher than expected revenues, which rose by 1.2 percentage points of GDP instead of decreasing by the same percentage as the 2007 programme projected. Although the expenditure ratio declined less than planned by the programme (by 0.5 percentage points of GDP instead of 1.5), the combined impact of these deviations with respect to the programme projections improved the government balance by an additional 1.3 percentage points of GDP.

The 2008 budget was adopted by Parliament on 21 December 2007. The target for the general government balance was a surplus of 0.8% of GDP, down from an expected outcome of 1.0% in 2007. This objective was based on the assumption of a slowdown in GDP growth to 4.5%, from an estimated 6% for 2007. The projected decline in the surplus in 2008 was chiefly due to a 6% increase in income tax brackets aiming at compensating for their non-indexation since 2001 and to the replacement of the current system of tax reductions for households with children by a tax bonus. The *ex ante* cost of these measures was estimated at about 0.8-0.9% of GDP but their impact on the general government balance was supposed to be for the largest part offset by other factors, especially the still strong projected GDP growth. The surplus planned for 2008 has since been revised upwards by half a percentage point to 1.3% of GDP in the April 2008 reporting.

However, this figure is still chiefly based on the 2008 budget and only partially takes into account the upward revision in the 2007 surplus. Based on the assumption of decelerating real GDP growth in the Commission services' spring 2008 forecast (3.6% in 2008 compared with 4.7% in the autumn forecast) and taking into account the revision in the 2007 government balance, the Commission services project the surplus to decline to around 2.4% of GDP in 2008. This decrease will be due for a part to the tax cuts foreseen in the 2008 budget but also to the deceleration in growth, although the effects of this slowdown are likely to be felt only gradually, as corporate tax receipts generally reflect fluctuations in companies' profits with a significant lag. Based on these new GDP growth and government balance forecasts, the structural surplus is projected to decline only marginally in 2008, indicating a broadly neutral fiscal policy stance.

Under a no-policy change assumption, the Commission services forecast the budget surplus to broadly stabilise at about 2.3% of GDP in 2009: growth is projected to decelerate only marginally with respect to 2008 and, despite the lagged impact of the slowdown of growth in 2008, the rise in revenues is expected to be stronger than in 2008, when it will be significantly reduced by the tax cuts. This stabilisation in the headline surplus would result in a slight increase in the structural balance, from 2.7% of GDP to 2.9%, signalling a continued broadly neutral fiscal policy stance. For comparison, the 2007 update of the stability programme projected the general government surplus to rise from 0.8% in 2008 to 1.0% in 2009 and to 1.2% in 2010. As explained above, the latest data revision has radically modified this scenario.

Table V.15.1:
Budgetary developments 2006-2010, Luxembourg (% of GDP)

Outturn and forecast ([1])		2006	2007	2008	2009	
General government balance ([2])		1.3	2.9	2.4	2.3	
- Total revenues		39.9	41.2	41.2	41.7	
Of which :	- taxes on production and imports	12.6	12.9	12.9	12.8	
	- current taxes on income, wealth,	13.0	13.6	13.1	13.2	
	- social contributions	10.8	11.1	11.5	11.8	
- Total expenditure		38.6	38.2	38.8	39.4	
Of which:	- compensation of employees	7.4	7.4	7.5	7.7	
	- intermediate consumption	3.1	3.0	3.1	3.2	
	- social payments	22.9	22.5	22.9	23.2	
	- gross fixed capital formation	3.6	3.9	4.0	4.1	
	- interest expenditure	0.2	0.2	0.2	0.2	
Primary balance		1.5	3.1	2.6	2.5	
Tax burden		36.3	37.5	37.4	37.8	
One-off and other temporary measures		0.0	0.0	0.0	0.0	
Structural balance ([3])		1.4	2.8	2.7	2.9	
Structural primary balance		1.6	3.0	2.9	3.1	
Government gross debt		6.6	6.8	7.4	7.6	
Real GDP growth (%)		6.1	5.1	3.6	3.5	
Stability programme ([4])		**2006**	**2007**	**2008**	**2009**	**2010**
General government balance		0.7	1.0	0.8	1.0	1.2
Primary balance		0.9	1.2	1.1	1.2	1.5
One-off and other temporary measures		0.0	0.0	0.0	0.0	0.0
Structural balance ([5])([2])		0.6	0.7	0.8	0.9	1.6
Government gross debt		6.6	6.6	7.1	7.2	7.0
Real GDP growth (%)		6.1	6.0	4.5	5.0	4.0

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in October 2007

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Luxembourg.

Table V.15.2:

Main measures in the budget for 2008, Luxembourg

Revenue measures ([1])	Expenditure measures ([2])
• Increase by 6% in personal income tax brackets in order to compensate for their non-indexation since 2001-2002 • Replacement of the current system of tax reduction for households with children by a tax bonus. Motivation: households with an income below the taxable minimum could not benefit from the previous tax reduction system *Ex ante* cost of the two measures together estimated by the budget and the stability programme at 0.8%-0.9% of *GDP.*	• Wage agreement in the government sector: effect quantified by STATEC at slightly less than 0.05% of GDP in 2008 and 0.1% in 2009 • Gradual increase of public R&D expenditure from 0.25% of GDP in 2006 to 0.4% in 2009. Effect in 2008 not quantified by the programme

Notes:
[1] Estimated impact on general government revenues.
[2] Estimated impact on general government expenditure.
Source : Commission services and 2008 Budget of Luxembourg.

The Commission services' spring 2008 forecast projects the general government debt ratio to rise from 6.9% of GDP in 2007 to 7.4% and 7.6% in 2008 and 2009, respectively. Public debt dynamics in Luxembourg are totally disconnected from developments in the general government balance: from 1990 to 2007, the debt ratio fluctuated between 4% and 8% of GDP, while the recurrent surpluses recorded during that period would have allowed repaying it

completely several times. However, a reduction in the debt was not necessary as its very low level did not raise any concern. In absolute value, the debt increased fivefold from 1990 to 2007 and in percentage of GDP it rose from 4.7% to 6.9%. However, simultaneously, the social security system used the totality of its surpluses (which constituted the bulk of the general government surpluses since 1990) to build up sizeable reserves, estimated by the 2007 programme at about 34% of GDP in 2006.

Public finances in 2005 and 2006 revisited

As indicated above, Luxembourg's public finance data were subject to a series of major revisions in recent years, the last one to date in the April 2008 EDP notification. These successive revisions resulted in a large upward shift of the government balances since 2005: the 2005 deficit was revised by 2.2 percentage points of GDP from the initial estimate of 2.3% of GDP in the 2005 stability programme to 0.1% in the 2007 programme ([1]). Similarly, the government balance for 2006 was revised by 3.1 percentage points of GDP from the target set by the 2005 programme, a deficit of 1.8% of GDP, to a surplus of 1.3% in the April 2008 reporting.

The origin of these revisions is essentially a large overestimation of expenditure in 2005 and 2006 in those years' programmes. While the 2005 programme projected total government spending to increase by 1.4 percentage points of GDP, it actually decreased by 0.8 points. This fully explains the 2.2 percentage points of GDP difference between the initial estimate of the deficit in 2005 and the actual revised data ([2]). By contrast, the estimation of revenues was accurate: they rose by 0.4 percentage point of GDP, close to the 0.2 point increase projected in the 2005 programme. Like in 2005, the main reason for the revision of the 2006 data were developments in expenditure, which the 2006

programme projected to decline by 1.2 percentage points of GDP, while, according to the latest data, it actually fell by 3.2 percentage points. This divergence is probably due to an overestimation of government spending, but it possibly also reflects the first effects of the adjustment measures decided in April 2006. Moreover, also like in 2005, the estimation of revenues in 2006 was very accurate: the 2006 programme projected them to decline by 1.7 percentage points of GDP, while they actually decreased by 1.8 points. Combined with the fact that the 2006 programme only partially revised the 2005 balance (from a deficit of 2.3% of GDP in the 2005 programme to a deficit of 1.0% of GDP, compared to the revised outcome of 0.1% of GDP), the overestimation of expenditure by 2 percentage points of GDP is the main reason for the difference between the initial estimate of the general government balance for 2006 (a deficit of 1.5% of GDP) and the latest revised outturn (a surplus of 1.0% of GDP).

Based on these revised data, it now appears that the deficit peaked at 1.2% of GDP in 2004 and not at 2.3% of GDP in 2005, as previously estimated, and that the objective of a balanced budget, which the 2006 stability programme planned for the period 2007-2009 was already nearly achieved in 2005. Moreover, Luxembourg has always respected its MTO, which is a structural deficit of 0.8% of GDP, except for a minor deviation in 2004, when the structural deficit reached 0.9% of GDP.

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[1] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

[2] GDP levels were also substantially (sometimes by about 10%) revised upwards for the whole period, which complicates the comparison of expenditure and revenue ratios over time.

16. HUNGARY

Recent developments and medium-term prospects

In 2007, the general government deficit was 5.5% of GDP, sharply down from 9.2% of GDP in 2006. It was substantially lower than the original deficit target of 6.8% of GDP set in the December 2006 update of the convergence programme. The overachievement of the deficit target by 1.3 pp of GDP is primarily explained by better-than-expected tax receipts and social security contributions of around 1½% of GDP; about one-third of this positive surprise was thanks to the better-than-expected revenue-generating effect of a series of measures addressing tax evasion. In addition, interest expenditure were 0.3% of GDP lower than expected, and savings of 0.2% of GDP on other expenditure items were achieved compared to budgeted figures. However, the improvement could have even been larger without some within-the-year additional spending measures. This includes ¼% of GDP additional spending on pensions due to the obligatory adjustment to higher-than-expected inflation and net wages, but also around ½% of GDP of discretionary spending. The debt ratio slightly increased (from 65.6% to 66% of GDP in 2007), with the privatisation revenues and EU pre-financing (debt reducing impact of 1% of GDP) largely contributing to its broad stabilisation.

The 2008 budget adopted by Parliament on 17 December 2007 sets a general government deficit target of 4.0% of GDP, in line with the envisaged adjustment path of the November 2007 convergence programme[1], but 0.3% of GDP lower than the target set in the December 2006 convergence programme. On the revenue side, the moderate changes are aimed at simplifying taxation and at increasing preferential tax measures to SMEs. On the expenditure side, the biggest improvement comes from the elimination of one-off deficit increasing measures of 0.9% of

GDP. In addition, a further slowdown in the increase of public wage expenditure (although by less than originally planned) and further cuts in price subsidies also contribute to the foreseen deficit reduction. The Commission services' spring forecast projects a deficit of 4% for 2008, fully in line with the official target[2]. The forecast assumes that the positive base effect stemming from the overachievement of the 2007 deficit target will be offset by higher pension and interest expenditure as well as by increased spending on railway subsidies. The fiscal stance as measured by the change in the structural balance remains restrictive in 2008.

For 2009, the Commission services forecast, on the basis of a no-policy-change assumption, a deficit of 3.6% of GDP against the official target of 3.2% of GDP. The forecast does not take into account any future structural measures and follow-up reform steps the Hungarian government may approve in the coming months, especially in the context of the 2009 budget bill. Furthermore, the forecast assumes that not all the planned further savings in government consumption will be achieved, since it may be difficult to continue to restrain spending. It should also be noted that the deficit and debt projections do not incorporate any possible takeover from the debt of the state-owned railway company (around 1% of GDP). For 2010 and 2011, the 2007 update of the convergence programme plans further reductions in the headline deficit by 0.5% of GDP, to 2.7% and 2.2% of GDP, respectively.

The Commission services' spring 2008 forecast projects the debt-to-GDP ratio to continue to moderately increase to 66.5% in 2008, before declining to 65.7% in 2009. According to the most recent update of the convergence programme, the general government debt ratio is expected to continuously decrease from 65.8% in 2008 to 61.8% in 2011.

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[1] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

[2] The deficit target for 2008 was confirmed in the April 2008 EDP progress report of the Hungarian authorities.

Table V.16.1:

Budgetary developments 2006-2011, Hungary (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009		
General government balance (^{2})	-9.2	-5.5	-4.0	-3.6		
- Total revenue	42.6	44.6	45.1	44.8		
Of which : - taxes on production and imports	15.0	15.6	15.6	15.3		
- current taxes on income, wealth, etc.	9.3	10.2	10.5	10.7		
- social contributions	12.6	13.6	13.7	13.6		
- Total expenditure	51.9	50.1	49.1	48.4		
Of which: - compensation of employees	12.2	11.4	11.2	11.3		
- intermediate consumption	7.0	6.4	6.1	5.8		
- social payments	15.0	15.2	15.4	15.4		
- gross fixed capital formation	4.4	3.6	3.6	3.3		
- interest expenditure	3.9	4.1	4.2	4.1		
Primary balance	-5.3	-1.4	0.2	0.5		
Tax burden	36.9	39.4	39.9	39.6		
One-off and other temporary measures	-0.3	-0.9	0.1	0.0		
Structural balance (^{3})	-9.7	-4.7	-3.7	-3.3		
Structural primary balance	-5.8	-0.6	0.5	0.8		
Government gross debt	65.6	66.0	66.5	65.7		
Real GDP growth (%)	3.9	1.3	1.9	3.2		
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	-9.2	-6.2	-4.0	-3.2	-2.7	-2.2
Primary balance	-5.3	-2.2	0.1	0.6	0.8	1.1
One-off and other temporary measures	-0.7	-1.1	0.1	0.1	0.0	0.0
Structural balance (^{3})(^{5})	-8.9	-4.8	-3.5	-2.8	-2.5	-2.3
Government gross debt	65.6	65.4	65.8	64.4	63.3	61.8
Real GDP growth (%)	3.9	1.7	2.8	4	4.1	4.2

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Hungary.

Table V.16.2:

Main measures in the budget for 2008, Hungary

Revenue measures (^{1})	Expenditure measures (^{2})
• Increase in the limit on investment related spending to be exempt from corporate taxation from 25% to 50% up to a maximum of HUF 0.5 bln (-0.05% of GDP)	• Increase in EU funds co-financing expenditures (0.2% of GDP), overcompensated by the reduction in motorway investment projects (-0.3% of GDP)
• Extension of the preferential corporate tax rate (10% instead of the standard 16%) for small and micro companies that invest and/or create jobs (-0.08% of GDP)	• Indexation of pensions through the Swiss-indexation mechanism and the implementation of the long-term pension correction programme (+0.2% of GDP)
• Merger of two different types of personal income tax credits (-0.12% of GDP)	• Savings on the operational expenditures of public administration (-0.3% of GDP)
• Broadening of the base for social security contributions by more rigorously enforcing the insurance principle in the provision of health-care services (+0.15% of GDP)	• Cuts in public education expenditure as a result of the new financing mechanism encouraging school mergers (-0.15% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services; Draft budget for 2008; 'Annual report on the budget proposal' by the State Audit Office.

The reform of fiscal governance

Since the transition process started, a strong deficit bias has been evident in the formulation of fiscal policy in Hungary. This and the recurrent deterioration of public finances as election years approached (^{1}) has been largely

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(^{1}) In Hungary, up to present, the national and local elections have always been held in the same year, which further intensified the working of the electoral cycle.

possible due to the weakness of fiscal governance (see graph below).

Graph V.16.1: **Past evidence of electoral cycle in Hungarian public finances**

Note: 1991-1995: cash flow figures, 1996-2007: ESA figures.
Source: Commission services.
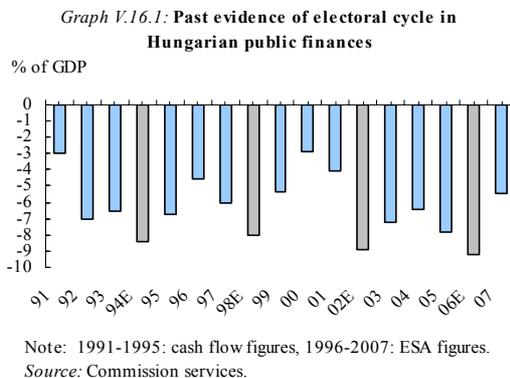
In recent years, there have been some modest improvements as regards the transparency of budgetary developments (e.g. on-budget recording of quasi-fiscal activities) as well as steps to solidify control over line ministries' budgetary execution. More importantly, in November 2007 the Government adopted and submitted to Parliament a package of bills aiming at a wide-ranging reform of public finances, which is similar to a so-called Fiscal Responsibility Framework ([1]).

The new set-up would be embedded in the Constitution by defining fiscal sustainability as a new constitutional principle. As regards the medium-term budgetary planning for the central government, it stipulates that the central government's gross debt may not increase faster than inflation and the primary balance targets must be consistent with the former objective. During the adoption of the annual budget law, the necessary adjustment for compliance with the numerical rules must be made in the discretionary budgetary items, which are subject to direct government control as opposed to mandatory items. These rules are foreseen to be backed by stringent procedural rules: regular reporting and review of accounting practices, the introduction of mandatory offsetting, and the establishment of a new fiscal body (Legislative Budget Office, LBO) to provide independent macroeconomic and budgetary forecasts as well as fiscal impact assessments.

The proposed reform is a coherent rule-based system, which would be able to greatly enhance fiscal governance in Hungary. The introduction of the planned set of numerical fiscal rules could be instrumental in generating a truly multi-annual budgetary framework and improving budgetary control. Through the circumscription of mandatory and discretionary items in the budgetary planning, the proposed new set-up allows for the operation of automatic stabilisers to a large extent; therefore the application of the rules does not seem to lead to pro-cyclical fiscal policy. The establishment of the LBO and the regular publication of budgetary reports could increase the transparency of budgetary accounting and fiscal developments. The new fiscal office could serve as a prudential supervisor through the entire budgetary process being an institutional counterbalance to the Government. The risk of expenditure overruns at local government level could be mitigated by the introduction of a 'golden rule'-type of fiscal regime as envisaged.

On the other hand, the proposal could be strengthened by designing an adequate mechanism for positive budgetary surprises, giving more autonomous profile to the new fiscal body and ensuring that well-defined enforcement mechanisms are put in place. The envisaged framework should be conducive to improving the sustainability of public finances, in particular if strengthened as explained above. The Government intends to seek a two-thirds majority in Parliament for the entire package, which is important not only because it is the required quorum for adoption, but also because a broad political consensus could be instrumental to ensure the credibility and durability of the reform.

([1]) For details see the Commission services' assessment of Hungary's most recent (November 2007) convergence programme update. http://ec.europa.eu/economy_finance/publications/publication_summary11856_en.htm

17. MALTA

Recent developments and medium-term prospects

In 2007, the general government deficit is estimated at 1.8% of GDP, against a target of 2.3% of GDP in the 2006 update of the convergence programme (^{1}). Revenue is estimated to be around 3.2 percentage points of GDP lower than planned in the 2006 update. Of this, 2.4 percentage points are accounted for by a lower-than-anticipated absorption of EU structural funds. The remainder is mainly due to lower-than-planned revenue from direct taxes and social contributions. The expenditure-to-GDP ratio in 2007 is estimated to be 3.7 percentage points lower than targeted in the 2006 update. Of this, 2 percentage points relate to lower investment spending, reflecting the lower EU capital transfers. An additional 1.2 percentage points are due to lower consumption expenditure, whilst the remaining 0.5 percentage points are explained by higher one-off transactions (i.e. sale of land, which is conventionally recorded as lower expenditure). The general government debt is estimated at 62.6% of GDP, substantially lower than the target in the programme of 66.7% of GDP. The deviation is mainly due to a base effect as a result of an upward revision of GDP for 2006.

The 2008 Budget was approved by the Maltese Parliament on 2 November 2007. The main measures presented in the 2008 Budget include a reform of the personal income tax regime (more favourable personal income tax bands effective in 2008), increases in the amount of cash benefits granted to children as well as improved social entitlements given to specific social groups including pensioners and first-time property buyers. The 2008 Budget targets a general government deficit of 1.2% of GDP for 2008. According to the Commission services' spring 2008 forecast, the general government deficit for 2008 is projected at 1.6% of GDP. The

Commission services' higher headline deficit reflects lower social contributions in line with the projected lower employment growth. In addition, the Commission's spring 2008 forecast projects the current expenditure-to-GDP ratio to fall by less than expected by the Maltese authorities. Specifically, the deviation concerns the evolution of compensation of employees by accounting for the increased remuneration and higher recruitment in certain sections of the public sector in the beginning of 2008. Furthermore, the Commission services' projections reflect higher expenditure as a result of the Maltese authorities' decision in December 2008 to cap utility prices until mid-2008 by providing increased subsidies on fuel procured for electricity generation. The fiscal stance can be characterised as restrictive in 2008, as the Commission's spring 2008 forecast projects an improvement in the structural deficit of around ¾ of a percentage point of GDP. For 2008, the reliance on one-off operations, estimated at ¼% of GDP, is expected to be significantly lower than in the previous years.

Under the no-policy-change scenario, the Commission services' spring 2008 forecast projects a decline in general government deficit to 1% of GDP for 2009. The 2007 stability programme targets a deficit-to-GDP ratio of 0.1%. The deviation is mostly accounted for by the programme's assumption of a larger decline in the public sector wage bill. Moreover, consistent with the customary no-policy change scenario, the Commission services' spring 2008 forecast assumes that other items of current expenditure, such as intermediate consumption and social transfers, move in line with GDP growth (in contrast, the stability programme assumes that these items fall as a share of GDP), whilst excluding deficit-reducing one-off measures. By 2010, the programme envisages that the general government balance turns into a surplus of around 1% of GDP.

According to the Commission services' spring 2008 forecast, the debt-to-GDP ratio is forecast at 60.6% of GDP in 2008. For 2009, under the no-policy-change scenario, the general

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(^{1}) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

government debt is projected to fall below 59% of GDP. The 2007 stability programme also projects a decline in the debt-to-GDP ratio, from 60% of GDP in 2008 to 57.2% of GDP in 2009 and around 53¼% by 2010. The main drivers of the decline in the general government debt, according to the programme, are a growing primary surplus and nominal GDP growth. Falling interest expenditure as a ratio of GDP also leads to the reduction in debt, while stock-flow adjustments are insignificant over the programme period.

The efficiency of public expenditure in Malta

Fiscal adjustment plays a very important role in strengthening macroeconomic stability. Nevertheless, in order to last, the quality of budgetary adjustment should be adequate. A pertinent aspect of improving the quality of public finances is the efficiency with which inputs are transformed into desired social outcomes. Identifying and tackling inefficient expenditure categories could thus enhance the quality of fiscal consolidation. This section focuses on the efficiency of public healthcare and education spending in Malta relative to EU Member States.

The literature proposes two main non-parametric techniques ([1]) to measure the efficiency of government expenditure: the Full Disposal Hull (FDH) and the Data Envelopment Analysis (DEA) ([2]). In evaluating the efficiency of public spending, both methodologies try to establish a production frontier representing efficient cross-country input-output combinations. The degree of efficiency of each country is then measured as the radial distance of an observation from the frontier and a ranking is computed. The FDH and DEA techniques allow for the computation of

both input and output efficiency scores which indicate by how much more output could be increased with the same input level.

In order to assess the efficiency of public spending in Malta, the FDH technique has been applied to both education and healthcare expenditure items ([3]). In the case of education, input efficiency scores are estimated using primary level student-teacher ratio, secondary level enrolment and tertiary level enrolment as output. Input is measured by public expenditure per student as a percent of per capita GDP corresponding to each level of education. The results indicate that the efficiency of primary and secondary education in Malta is high. This reflects both a relatively low spending per primary school student as a ratio of GDP and also an above-average student-teacher ratio. However, tertiary education in Malta displays less efficient outcomes. The score of 0.77 denotes that at least the same level of output could be achieved with 77% of the present level of expenditure per student, suggesting important scope for improving efficiency at this level of education. Given the importance of tertiary education in the context of the goals set in the renewed Lisbon strategy, it would be interesting to assess efficiency from the output side. In other words, compared to the relatively more efficient countries, by how much could tertiary education output in Malta increase if spending was fully efficient. The output efficiency score for Malta is 0.65 or only 65% of what it could be if spending was efficient. This implies that if educational spending was efficient, the tertiary enrolment rate would rise to around 90%, instead of the current 59%. This suggests that a more efficient allocation of spending in tertiary educational output could lead to higher attainment levels in Malta.

For public healthcare expenditure, estimates for input efficiency scores along with the respective ranking are computed using life-expectancy at birth, infant deaths and standardised death rates

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([1]) Parametric techniques assume a specific functional form for the relationship between inputs and outputs and are based on econometric methods. Non-parametric techniques do not impose specific functional restrictions and use mathematical programming techniques. Since previous analyses of public spending in education and health have found no conclusive justification for assuming a specific functional form, this section is based on non-parametric techniques.
([2]) See Gupta, Honjo and Verhoeven (1997) for further elaboration on the differences between the two approaches.

([3]) Despite some limitations in the FDH approach, a comparison of efficiency estimates using the DEA approach generate similar trends to those suggested by the FDH methodology for Malta.

Table V.17.1:

Budgetary developments 2006-2011, Malta (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	-2.5	-1.8	-1.6	-1.0	
- Total revenues	41.3	40.7	40.9	40.9	
Of which : - taxes on production and imports	15.0	14.8	14.9	14.9	
- current taxes on income, wealth, etc.	11.8	13.3	13.3	14.0	
- social contributions	7.7	7.4	7.3	7.1	
- Total expenditure	43.9	42.5	42.5	41.8	
Of which: - compensation of employees	13.4	13.1	12.8	12.6	
- intermediate consumption	5.8	5.5	5.8	5.8	
- social payments	12.5	12.4	12.7	12.7	
- gross fixed capital formation	4.2	4.1	3.9	3.3	
- interest expenditure	3.5	3.4	3.2	3.0	
Primary balance	1.0	1.6	1.7	2.1	
Tax burden	33.7	34.9	34.9	35.5	
One-off and other temporary measures	0.7	0.7	0.2	0.0	
Structural balance ([3])	-2.9	-2.4	-1.7	-1.0	
Structural primary balance	0.7	0.9	1.5	2.1	
Government gross debt	64.2	62.6	60.6	58.8	
Real GDP growth (%)	3.4	3.8	2.6	2.5	
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-2.5	-1.6	-1.2	-0.1	0.9
Primary balance	1.0	1.7	2.0	2.9	3.8
One-off and other temporary measures	0.7	0.8	0.2	0.2	0.1
Structural balance ([3])([5])	-2.5	-2.1	-1.4	-0.5	0.1
Government gross debt	64.7	62.9	60.0	57.2	53.3
Real GDP growth (%)	3.2	3.5	3.1	3.2	3.4

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Malta.

Table V.17.2:

Main measures in the budget for 2008, Malta

Revenue measures ([1])	Expenditure measures ([2])
• Income tax reform (-0.5% of GDP) • Duty on documents amendments (-0.1% of GDP)	• Restraint on public service wage bill (3) (-0.4% of GDP) • Increases in children & family benefits (0.2% of GDP) • Increases in benefits to pensioners (0.1% of GDP)

Notes:

(1) Estimated impact on general government revenue.

(2) Estimated impact on general government expenditure.

(3) On-going measure, not specific to 2008 Budget

Source : Commission services and 2007 stability programme and the Budget for 2008.

(SDR) ([1]) as three output measures. Input is measured by per capita public expenditure expressed in purchasing power parity (PPP) terms. The results show that for the three indicators, input efficiency in Malta is low amounting to a score of less than 0.4. Put differently, this means that the same level of output could be achieved by reducing expenditure by three-fifths of the current level. This suggests ample scope for improving efficiency in healthcare expenditure.

([1]) SDR is a weighted average of age-specific mortality rates.

18. THE NETHERLANDS

Recent developments and medium-term prospects

In 2007, the general government balance came out at a surplus of 0.4% of GDP, marginally below the surplus of 0.5% of GDP in 2006. The November 2006 update of the stability programme had targeted a general government surplus of 0.2% of GDP for 2007, which was revised in September 2007 in the context of the budget preparation to a deficit of 0.4% of GDP. The main source of these changes in the budgetary estimates was the variation in the assessment of non-tax gas revenues, which was related to weather conditions. Other factors that explain the better budgetary outcome as compared to the November 2006 update of the stability programme include a higher local government balance and higher tax receipts, related to better-than-expected GDP growth in 2007 (3.5%, compared to a forecast of 3% in the November 2006 update of the stability programme). These factors outweighed expenditure overruns that were concentrated in health care. The debt-to-GDP ratio fell to 45.4%, from 47.9% in the year before.

The draft budget for 2008 was adopted in parliament on 23 November 2007. Both the draft budget and the November 2007 update of the stability programme ([1]) targeted a general government balance surplus of 0.5% of GDP for 2008, which was based on an expected deficit of 0.4% of GDP in 2007. The budget set out to introduce new taxes on packaging and aviation and raised several existing taxes and levies. Furthermore, it planned an increase in health care contributions. These factors are partly offset by additional expenditure in the fields of health care and education. In the Commission services' spring 2008 forecast, the headline balance is expected to turn out better in 2008 and improve to 1.4% of GDP. This is based on a better starting position carried over from 2007, higher

economic growth that supports tax revenues and gas receipts that are expected to be slightly higher, in response to the recent strong increase in global energy prices. In the Spring note on budgetary implementation, sent to parliament on 23 May, the target for 2008 has been revised up to a surplus of 0.9% of GDP on account of higher tax revenues and social premiums, while gas receipts have remained virtually unrevised. The Spring note specifies increased spending on disadvantaged neighbourhoods and child care.

Based on the spring forecast, the structural balance is projected to improve from a surplus of ¼% of GDP in 2007 to a surplus of around 1% in 2008, mainly on account of the envisaged revenue-based fiscal tightening and the expected increase in gas receipts. The fiscal stance as measured by the change in the structural balance is thus planned to be contractionary.

On a no-policy-change basis, the Commission services' spring 2008 forecast projects the headline budgetary balance to improve by 0.4 % of GDP in 2009 to reach a surplus of around 1¾% of GDP. The improvement compared with 2008 is explained by an expected slight increase in gas receipts and the reduction of the Dutch contribution to the EU own resources by ½% of GDP. This is partly offset by lacklustre economic growth which is expected to lower tax elasticities. Planned budgetary measures for 2009 such as the envisaged VAT increase were not taken on board in the forecast as final budgetary decisions were pending. The November 2007 update of the stability programme set a nominal budgetary target of a surplus of 0.6% of GDP for 2009, implying a marginal improvement over the budget target of 0.5% in 2008. After correcting for the better starting position in 2008, the difference with the spring forecast mainly lies in the measures that are planned for 2009. For 2010, the stability programme update targets a further slight improvement in the headline balance, to a surplus of 0.7% of GDP.

The government debt-to-GDP ratio is forecast to fall from 45.4% in 2007 to 39% in 2009. The fall

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([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm.

Table V.18.1:

Budgetary developments 2006-2010, the Netherlands (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	0.5	0.4	1.4	1.8	
- Total revenue	46.6	46.3	47.3	47.6	
Of which : - taxes on production and imports	12.8	12.7	12.7	13.0	
- current taxes on income, wealth, etc.	11.7	12.2	12.7	12.9	
- social contributions	15.1	14.6	14.7	14.5	
- Total expenditure	46.1	45.9	45.9	45.7	
Of which: - compensation of employees	9.4	9.3	9.4	9.4	
- intermediate consumption	7.2	6.9	6.9	7.0	
- social payments	11.0	10.6	10.7	10.5	
- gross fixed capital formation	3.3	3.4	3.5	3.4	
- interest expenditure	2.2	2.3	2.0	1.9	
Primary balance	2.7	2.7	3.4	3.7	
Tax burden	39.5	39.5	40.1	40.0	
One-off and other temporary measures	0.0	0.0	0.0	0.3	
Structural balance ([3])	1.1	0.3	1.0	1.3	
Structural primary balance	3.3	2.6	3.0	3.2	
Government gross debt	47.9	45.4	42.4	39.0	
Real GDP growth (%)	3.0	3.5	2.6	1.8	
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	0.1	-0.4	0.5	0.6	0.7
Primary balance	2.8	1.8	2.7	2.8	2.9
One-off and other temporary measures	0	0	0	0.3	0
Structural balance ([3])([5])	1.1	-0.3	0.4	0.4	0.8
Government gross debt	47.9	46.8	45	43	41.2
Real GDP growth (%)	3	2¾	2½	1¾	1¾

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of the Netherlands.

Table V.18.2:

Main measures in the budget for 2008, the Netherlands

Revenue measures ([1])	Expenditure measures ([2])
• Increase in duties on tobacco, alcohol and fuels (0.1 % of GDP)	
• Introduction of a tax on disposable packaging and airport tax (0.1% of GDP)	• Higher health care expenditures (0.1% of GDP) • Increase in disability benefits (0.1% of GDP) • Increase in education expenditures (0.1% of GDP)
• Increase in health care premiums (0.4% of GDP)	
• Changes to the wage and income taxes, e.g. reduction of first tax bracket rate and increasing the rate of the second tax bracket (0.2% of GDP)	

Notes:
([1]) Estimated impact on general government revenue.
([2]) Estimated impact on general government expenditure.
Source : Commission services and 2008 Budget.

in the debt ratio can be mainly attributed to the primary surplus and the growth of nominal GDP.

19. AUSTRIA

Recent developments and medium-term prospects

At 0.5% of GDP, the general government deficit for 2007 turned out lower than the initial 0.9% of GDP targeted in the March 2007 update of the stability programme. The favourable outturn was mainly due to higher-than-expected revenue from wage and corporate taxes as well as capital yields taxes, which more than offset slightly higher-than-planned expenditure growth. The latter resulted to a large extent from stronger-than-foreseen growth of spending on subsidies and a heavier interest burden. The debt-to-GDP ratio amounted to 59.1% in 2007, falling under the 60% threshold for the first time since 1992.

The federal budget for 2008 was adopted (together with that for 2007) by the new parliament in May 2007. Revenues, on the one hand, will benefit from the increase in fuel duties introduced in mid-2007. On the other hand, the recently agreed rules exempting low-wage workers from paying unemployment insurance contributions will take their toll. In terms of expenditure, like in 2007, the budget will be burdened by the spending on military aircraft amounting to about 0.2% of GDP. Additional cost of about 0.1% of GDP will be incurred because of the introduction of two new variants of the childcare allowance, whereby parents will be allowed to opt for higher monthly payments but for a shorter period of time than previously. The continued reform of public administration is expected to result in savings of around 0.1% of GDP. Originally, the budget for 2008 targeted a deficit of 0.7% of GDP. Later on, in November 2007 update of the stability programme ([1]), it was marginally revised down to 0.6% of GDP. The authorities confirmed this goal in their fiscal notification of 31 March 2008. As the central government deficit is envisaged to increase significantly, mainly due to slackening tax revenue growth, the plan hinges strongly on a significant improvement in the budgetary situation of the Länder and social security funds. In their spring 2008 forecast, the Commission services foresee a marginally higher deficit of 0.7% of GDP, since given the recent track record of the Länder and social security funds, it remains to be seen whether such a consolidation is realistic. The fiscal stance in 2008, as measured by the change in the structural balance, is anticipated to be mildly expansionary. According to the Commission services spring 2008 forecast, the structural deficit will increase by ¼% of GDP, while it is estimated to be broadly unchanged in the most recent update of the stability programme ([2]). Austria does not take advantage of the better-than-expected budgetary outcome in 2007 to make further headway in terms of achieving its MTO.

Under the no-policy-change assumption, the Commission services spring 2008 forecast foresees a general government deficit of 0.6% of GDP in 2009. By contrast, the most recent update of the stability programme targeted a 0.2% of GDP deficit. The difference between the two numbers is firstly due to the fact that the stability programme expects GDP growth to be 0.7 percentage point higher than the Commission services' spring forecast. Secondly, since the measures underlying the planned consolidation remain largely unspecified in the programme, under the non-policy-change assumption they were not incorporated in the Commission services' forecast. The budget for 2009 will benefit from the phasing-out of expenditure on new military equipment. However, it is likely to be slightly burdened by growing spending on unemployment benefits due to decelerating job creation in the face of a strongly growing labour force.

For 2010, the most recent update of the stability programme foresees a government balance of 0.4% of GDP, i.e. an improvement of 0.6 percentage point. However, at the same time the government plans tax cuts amounting to about

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([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm

([2]) According to the Commission services' recalculation based on the information in the programme

Table V.19.1:

Budgetary developments 2006-2010, Austria (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	-1.5	-0.5	-0.7	-0.6	
- Total revenue	47.6	47.5	47.0	46.8	
Of which : - taxes on production and imports	14.1	14.0	13.8	13.8	
- current taxes on income, wealth, etc.	12.9	13.4	13.3	13.2	
- social contributions	16.0	15.7	15.5	15.5	
- Total expenditure	49.1	48.0	47.7	47.5	
Of which: - compensation of employees	9.3	9.0	8.9	8.8	
- intermediate consumption	8.6	8.8	9.0	9.2	
- social payments	18.2	17.6	17.4	17.4	
- gross fixed capital formation	1.1	1.0	1.0	1.0	
- interest expenditure	2.7	2.7	2.6	2.6	
Primary balance	1.2	2.2	1.9	2.0	
Tax burden	41.7	41.8	41.3	41.2	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance (^{3})	-1.4	-1.0	-1.2	-0.9	
Structural primary balance	1.3	1.7	1.5	1.7	
Government gross debt	61.8	59.1	57.7	56.8	
Real GDP growth (%)	3.3	3.4	2.2	1.8	
Stability programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-1.4	-0.7	-0.6	-0.2	0.4
Primary balance	1.5	2.0	2.1	2.3	2.8
One-off and other temporary measures	0.0	-0.2	-0.2	-0.1	0
Structural balance (^{3})(^{5})	-1.2	-0.7	-0.6	-0.4	0.1
Government gross debt	61.7	59.9	58.4	57.0	55.4
Real GDP growth (%)	3.3	3.4	2.4	2.5	2.5

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Austria.

Table V.19.2:

Main measures in the budget for 2008, Austria

Revenue measures (^{1})	Expenditure measures (^{2})
• Increase in fuel duties (0.1% of GDP)	• New childcare allowance (0.1% of GDP)
	• Public administration reform (-0.1% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and the November 2007 update of the stability programme.

1% of GDP in that year. The achievement of the planned surplus would therefore require significant additional saving measures, which are not spelled out in the stability programme.

In its spring 2008 forecast the Commission services expect the debt ratio to fall to 57.8% and 56.7% of GDP in 2008 and 2009, respectively.

This projected improvement is by about ½ percentage points lower than that foreseen in the most recent update of the stability programme.

20. POLAND

Recent developments and medium-term prospects

The general government balance improved to −2.0% of GDP in 2007 compared to the target of −3.4% set in the November 2006 convergence programme ([1]). Much higher real GDP growth (6.5%) than assumed in the programme (5.1%) was the main reason. High profitability of companies allowed for lower subsidies. A favourable evolution of the labour market and the ceiling imposed by the Hausner plan (last year of its operation) resulted in lower social transfers. In addition, higher inflation contributed to lower expenditure ratios for such items as compensation of public sector employees, which are budgeted in nominal terms. Government investment was by 0.5% of GDP lower because of slower absorption of EU funds. Overall, total expenditure was by 1.3% of GDP lower. On the revenue side, despite cuts, social contributions were by about 0.5% of GDP higher than projected in November 2006 thanks to a much higher employment and wage growth. The revenue from indirect taxes also turned out higher. These positive surprises were offset by a weaker performance of non-tax revenue leading to a revenue ratio close to the planned one. As a result of a lower deficit, the 2007 general government debt declined to 45.4% of GDP, 4½ percentage points lower than projected in November 2006.

The 2008 budget was adopted by the previous Polish government on 25 September 2007. The new parliament elected in October 2007 slightly modified the budget, with wage increases in the public sector (mainly for teachers) offset by administrative expenditure cuts, resulting in an improvement of the central government balance by about 0.2% of GDP. The amended budget was finally adopted on 23 January 2008. The 2008 budget includes significant revenue-decreasing measures: the second cut of social contributions

to the disability fund (the first one took place on 1 July 2007) estimated at about 1% of GDP and a pro-family relief (related to the number of children) on the personal income tax, estimated at ½% of GDP. These revenue cuts are only partly offset by excise duty hikes for cigarettes (most of them required under EU tax harmonisation) estimated at less than 0.2% of GDP. The government projects that the budgeted changes would be neutral for the deficit ratio thanks to continuing favourable labour market conditions (steep wage and employment growth) additionally stimulated by the tax wedge cut. On the expenditure side, the 2008 budget reintroduces the annual indexation of pensions and disability benefits, which had been abandoned as part of the Hausner plan. The indexation will be extended with a link to wage growth (i.e. inflation plus 20% of wage growth). In addition, the 2008 indexation will be based on cumulated inflation for 2006-2007, with an overall budgetary cost in 2008 estimated at ½% of GDP. Overall, the current general government balance target is set by the March 2008 convergence programme at 2.5% of GDP, the same as the spring 2008 Commission forecast. The deterioration in the structural balance points to a mildly expansionary fiscal stance in 2008.

Compared to 2.6% of GDP in the spring 2008 forecast, the 2009 deficit target in the convergence programme is 2.0% of GDP and planned to further improve to 1.5% in 2010. In 2009, a personal income tax reform will be the main deficit-increasing measure (estimated at about 0.6% of GDP). The vast majority of tax-payers will be covered by a low marginal rate of 18%. This impact will be cushioned by further improvement in tax compliance and falling inactivity thanks to the lower overall tax wedge. One more round of hikes of indirect taxes, as determined by the EU harmonisation, will have a direct deficit-decreasing effect.

Gross debt is projected to fall to about 44% of GDP in 2009. If privatisation is re-activated, as planned by the new government, the debt ratio may decline faster.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Public finances and the labour market: the case for improving the quality of public finances

The overall spending on social protection reached about 17% of GDP in the recent years, significantly above the average ratio for other new Member States. Such situation not only results in high overall expenditure and fiscal deficits, but also produces distortions in the labour market. Disability benefits being replaced by early pensions and the farmers' social fund are two examples of improperly targeted social benefits, impacting unfavourably on the labour market.

A high inactivity rate: early pensions replace disability benefits

In the 1990s, inactivity was high because of both lenient disability benefits (approximately 3% of GDP) and generous early retirement schemes (about 1.8% of GDP). As a result, Poland had one of the lowest activity rates in the EU: 62.4% (compared to 71.9% for the EU) in 2007. Although rules on the access to disability benefits have been reinforced recently, the potential savings have been offset by an increased use of early pensions, both in the general and in the farmers' social security system. These trends appear to accelerate (Graph V.20.1).

participation in the fund is very high and the eligibility rules are lenient. Farmers contribute less than 5% of gross wage to the KRUS on average, while the non-agricultural worker contributes about 20% of its gross wage to the general social security fund. Moreover, owners of the smallest farms (below 2 hectares) do not have to pay contributions. To qualify for membership in KRUS, one has to possess at least 1 hectare of land over a certain number of years of contribution. As a result, according to the 2007 budget, only 7.7% of KRUS expenditure was covered by contributions and the fund was heavily subsidised from the central budget.

KRUS may have slowed down farm restructuring during transition, resulting in the persistence of a number of low-productive farms of less than 2 hectares ([1]). Despite many calls from different institutions to conduct a fundamental reform of KRUS, the system has remained broadly unchanged since 1990. The general pension reform establishing funded pension schemes did not cover the farmers' social security system. The number of people insured in KRUS has increased in recent years, despite a decline of employment in agriculture (Graph V.20.2). These tendencies not only hamper restructuring of agriculture, but also increase the implicit liabilities weighing on future government balances in Poland.

Graph V.20.1: **Pensions and social benefits in Poland, general system plus KRUS (number of accounts, in millions)**

Note: KhRUS – farmers' social fund.
Source: http://www.mpips.gov.pl/_download.php?userfiles%2FFile%2FAnalizy%2Fraport_2007.pdf

Graph V.20.2: **Employment in agriculture and farmers' social security fund (KRUS) membership (number of people, in millions)**
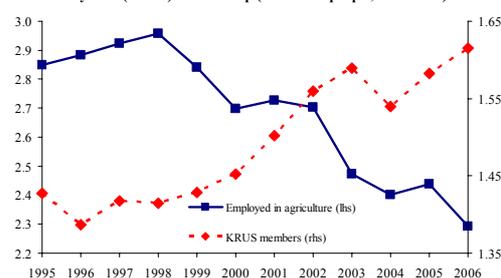
Sources: Polish central statistical office (GUS), Eurostat and the farmers' social fund (KRUS).

Employment and social security in the agricultural sector

A subsidy to the farmers' social security fund (KRUS) constitutes a significant part of social protection expenditure budgeted at more than 1.2% of GDP in 2007. The net benefit from

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([1]) See Latruffe (2006).

Table V.20.1:

Budgetary developments 2006-2010, Poland (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	-3.8	-2.0	-2.5	-2.6	
- Total revenue	40.0	40.4	40.1	39.7	
Of which : - taxes on production and imports	14.2	14.2	14.5	14.8	
- current taxes on income, wealth, etc.	7.5	8.6	8.3	7.9	
- social contributions	12.2	12.1	10.9	10.8	
- Total expenditure	43.8	42.4	42.6	42.3	
Of which: - compensation of employees	9.8	9.6	9.3	8.9	
- intermediate consumption	6.0	5.9	5.7	5.5	
- social payments	15.2	14.4	14.1	14.0	
- gross fixed capital formation	3.9	4.1	4.5	4.8	
- interest expenditure	2.7	2.6	2.7	2.7	
Primary balance	-1.1	0.6	0.2	0.1	
Tax burden	33.8	34.8	33.6	33.3	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance ([3])	-4.0	-2.5	-2.7	-2.3	
Structural primary balance	-1.3	0.1	0.0	0.3	
Government gross debt	47.6	45.2	44.5	44.1	
Real GDP growth (%)	6.2	6.5	5.3	5.0	
Convergence programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-3.8	-2.0	-2.5	-2.0	-1.5
Primary balance	-1.1	0.2	-0.2	0.3	0.8
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	-4.0	-2.4	-2.8	-1.9	-1.1
Government gross debt	47.6	44.9	44.2	43.3	42.3
Real GDP growth (%)	6.2	6.5	5.5	5.0	5.0

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in March 2008.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Poland.

Table V.20.2:

Main measures in the budget for 2008, Poland

Revenue measures ([1])	Expenditure measures ([2])
• Social contribution cut (-1% of GDP)	• Special indexation of transfers (0.5% of GDP)
• Income tax relief for families (-0.5% of GDP)	
• Excise duty hike (+0.2% of GDP)	

Notes:

(1) Estimated impact on general government revenue.

(2) Estimated impact on general government expenditure.

Source: Commission services.

21. PORTUGAL

Recent developments and medium-term prospects

In 2007, the general government deficit amounted to 2.6% of GDP, which compares with a target of 3.7% of GDP in the December 2006 update of the stability programme. This overachievement benefited from the carry-over of a better-than-expected 2006 outcome and was further helped by additional revenue buoyancy. After peaking at 64.7% of GDP in 2006, government debt came down to 63.6% of GDP in 2007, clearly below the original target of 68% of GDP. This better-than-expected outcome was the result of lower budget deficits and higher debt-reducing stock-flow adjustments in both 2006 and 2007; further help came from an upward revision of GDP data which mechanically lowered the debt-to-GDP ratio.

The 2008 budget was approved by Parliament on 23 November 2007 with a general government deficit target of 2.4% of GDP, which was confirmed in the December 2007 update of the stability programme ([1]). The deficit reduction is envisaged to be mainly driven by a containment of current primary expenditure, notably compensation of employees. In 2008, revenue will benefit from the normalisation in VAT net proceeds as they were temporarily lowered in 2006 and 2007 following a reduction of the maximum reimbursement period. Some marginal revenue rise is planned to result from improvements in revenue. In addition, other government revenue is projected to increase somewhat as a share of GDP thanks to rising EU funds, in the context of the implementation of the new National Strategic Reference Framework ([2]). On 26 March, the deficit target was revised to 2.2% of GDP, following the publication of the better-than-estimated 2007 budgetary execution. At the same time, the Portuguese authorities announced a reduction of the VAT standard rate by 1 percentage point (to 20%) as of 1 July 2008. This tax cut is expected to reduce revenues by some 0.15% of GDP in 2008. However, the granting of concessions for the exploitation of dams will provide a one-off deficit-reducing contribution of almost 0.2% of GDP. All in all, for 2008, the Commission services' spring 2008 forecast projects a fiscal deficit of 2¼% of GDP. The fiscal stance is foreseen to be mildly restrictive, with a reduction of the structural balance by about ¼% of GDP. This compares with a more restrictive stance in the stability programme, which plans an improvement of ½% of GDP in the structural balance ([3]). However, in view of the better-than-expected outcome for 2007 the most recent official target seems to be associated with a lower corrective effort.

Under the customary no-policy-change assumption, the Commission services' spring 2008 forecast projects the general government deficit to increase to over 2½% of GDP in 2009. This upturn is expected to be driven mainly by a falling tax burden, reflecting still the impact of the reduction in the VAT standard rate as of July 2008. In addition, unlike in previous years, tax revenue is assumed to evolve in line with the relevant tax bases. The base effect associated with the 2008 one-off operation should push the headline deficit further up. The government deficit target in the December 2007 update of the stability programme is 1.5% of GDP, against a backdrop of GDP growth of 2.8%. However, this does not take into account the impact of the cut in the standard VAT rate in mid 2008. According to the Commission forecasts, on the basis of the no-policy-change assumption, the fiscal stance in 2009 would be mildly expansionary rather than restrictive as projected in the stability programme. For 2010 and 2011, the December 2007 stability programme targets a deficit-to-GDP ratio of 0.4% and 0.2%, respectively.

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[1] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

[2] Concomitantly, these inflows will also imply additional spending, consequently mitigating considerably the impact of those receipts on the overall budget balance.

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[3] Commission services' calculations on the basis of the information in the programme.

Table V.21.1:

Budgetary developments 2006-2011, Portugal (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009		
General government balance (^{2})	-3.9	-2.6	-2.2	-2.6		
- Total revenue	42.4	43.1	43.6	43.3		
Of which : - taxes on production and imports	15.5	15.1	15.1	14.9		
- current taxes on income, wealth, etc.	8.8	9.8	9.9	9.9		
- social contributions	12.5	12.7	12.8	12.7		
- Total expenditure	46.3	45.7	45.7	45.9		
Of which: - compensation of employees	13.6	12.9	12.5	12.3		
- intermediate consumption	4.1	4.1	4.1	4.1		
- social payments	15.1	15.2	15.5	15.8		
- gross fixed capital formation	2.3	2.4	2.4	2.4		
- interest expenditure	2.8	2.8	2.8	2.7		
Primary balance	-1.1	0.2	0.6	0.1		
Tax burden	35.9	36.8	37.1	36.8		
One-off and other temporary measures	0.0	0.1	0.2	0.0		
Structural balance (^{3})	-3.2	-2.2	-1.9	-2.2		
Structural primary balance	-0.4	0.6	0.8	0.6		
Government gross debt	64.7	63.6	64.1	64.3		
Real GDP growth (%)	1.3	1.9	1.7	1.6		
Stability programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	-3.9	-3.0	-2.4	-1.5	-0.4	-0.2
Primary balance	-1.1	-0.1	0.5	1.3	2.2	2.5
One-off and other temporary measures	0.0	0.1	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	-2.8	-2.1	-1.6	-1.0	-0.3	-0.4
Government gross debt	64.8	64.4	64.1	62.5	59.7	56.7
Real GDP growth (%)	1.3	1.8	2.2	2.8	3.0	3.0

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in December 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and December 2007 update of the stability programme of Portugal.

Table V.21.2:

Main measures in the budget for 2008, Portugal

Revenue measures (^{1})	Expenditure measures (^{2})
• Increase in excise taxes on tobacco products • Lowering of allowances for income from pensions	• Reduction in central government employment (-0.3% of GDP) • Savings with redundant staff; revision of overtime pay and wage supplements; reduction of health care benefits for parts of the civil service (-0.3% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source: Commission services, 2008 Budget and December 2007 stability programme update of Portugal.

The Commission services' forecast projects the government debt-to-GDP to rise to around 64% in 2008 and, on a no-policy-change basis, to 64¼% in 2009. This increase reflects low nominal GDP growth in both years, a debt-increasing stock-flow adjustment in 2008 and a reduction of the primary surplus in 2009. The December 2007 stability programme projects the debt-ratio to fall steadily to 64.1% in 2008 and 62.5% in 2009. The differences between the path envisaged in the stability programme and the Commission services' spring 2008 forecast reflect mainly the fact that the latter projects lower GDP growth and a higher budget deficit in 2009.

22. ROMANIA

Recent developments and medium-term prospects

In 2007, the general government recorded a deficit of 2.5% of GDP, compared to a target of 2.7% of GDP set in the January 2007 convergence programme. While the deficit target was undershot only slightly, both revenue- and expenditure- to GDP ratios were substantially lower than planned. On the revenue side, the underperformance is mainly due to lower-than-expected VAT receipts partly compensated by favourable social contributions. On the expenditure side, the lower level mainly stems from less-than-planned public investment. The government gross debt ratio was 13% in 2007.

The 2008 budget was adopted by the Parliament on 20 December 2007. On the revenue side, the main measures relate to social contributions. Social contribution rate is being gradually reduced by 6 percentage points and part of the revenues (2% of the gross wage) is being shifted to a second pension pillar introduced in 2008. However, these reforms will be partly financed by some measures aimed at broadening the base according to which social contribution are paid. On the expenditure side, the budget includes a substantial increase in social benefits, due to a 43% nominal increase in pensions compared to the level in mid-2007. While an important increase in public investment is also planned, the effect is foreseen to be partially offset by a lower wage bill, which in contrast to the past trend is planned to decrease as a share of GDP.

The initial 2008 general government deficit foreseen in the December 2007 convergence programme ([1]) was 2.9% of GDP. Following a budget amendment adopted in March 2008, the target was revised downwards to 2.4% of GDP (as reported in the April 2008 fiscal notification). The lower deficit is to be realised by a planned cut in expenditures. The revised target is lower than the 2.9% of GDP deficit projected by the Commission services' in the spring 2008 forecast. The difference is mainly due to significantly more favourable revenue projections by the Romanian authorities, which more than compensate for their also substantially higher public investment plans. In addition, the government deficit target also assumes a much lower compensation of employees compared to the Commission forecast.

The fiscal stance as measured by the change in the structural balance (cyclically-adjusted balance excluding one-offs and other temporary measures) in the Commission services' spring 2008 forecast is mildly expansionary as the structural deficit is projected to deteriorate from 3.4% of GDP in 2007 to 3.7% of GDP in 2008.

Based on the no-policy change assumption, the Commission services' spring 2008 forecast projects the general government deficit to deteriorate sharply to 3.7% of GDP in 2009. This worsening is driven by an additional substantial increase in pensions (of around 30%), the full impact of the 6 percentage cut in social contributions undertaken in 2008, and an estimated pension reform cost (i.e. the second pension pillar introduced in 2008) of 0.3% of GDP. So far, these extra-costs are not financed by additional measures. The December 2007 convergence programme foresees a general government deficit of 2.9% in 2009 (which does not include the impact of the further hike in pensions in 2009, although it was approved in June 2007) and a tightening to 2.4% of GDP in 2010.

Debt in 2008 and beyond

The Commission services project the debt-to-GDP ratio to increase by around 1¼ percentage points between 2008 and 2009, reaching almost 15% of GDP in 2009.

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[1] The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.22.1:

Budgetary developments 2006-2010, Romania (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	-2.2	-2.5	-2.9	-3.7	
- Total revenue	33.1	34.4	35.6	36.2	
Of which : - taxes on production and imports	12.7	12.8	13.0	12.8	
- current taxes on income, wealth, etc.	6.1	7.0	7.9	8.7	
- social contributions	10.3	10.6	10.8	10.7	
- Total expenditure	35.3	36.9	38.5	39.9	
Of which: - compensation of employees	9.1	9.7	10.0	10.3	
- intermediate consumption	6.4	6.1	5.8	5.5	
- social payments	8.8	9.4	10.8	11.9	
- gross fixed capital formation	5.1	5.5	5.8	6.1	
- interest expenditure	0.8	0.7	0.8	0.9	
Primary balance	-1.4	-1.8	-2.1	-2.9	
Tax burden	28.6	29.8	30.9	31.4	
One-off and other temporary measures	-0.6	-0.1	0.0	0.0	
Structural balance ([3])	-2.7	-3.4	-3.7	-4.1	
Structural primary balance	-1.9	-2.7	-2.9	-3.2	
Government gross debt	12.4	13.0	13.6	14.9	
Real GDP growth (%)	7.9	6.0	6.2	5.1	
Convergence programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-1.9	-2.9	-2.9	-2.9	-2.4
Primary balance	-1.0	-2.0	-2.1	-2.1	-1.6
One-off and other temporary measures	-0.4	-0.2	-0.2	-0.1	-0.1
Structural balance ([3])([5])	-2.2	-3.4	-3.4	-3.4	-2.7
Government gross debt	12.4	11.9	13.6	14.2	14.9
Real GDP growth (%)	7.7	6.1	6.5	6.1	5.8

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in December 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Romania.

Table V.22.2:

Main measures in the budget for 2008, Romania

Revenue measures ([1])	Expenditure measures ([2])
• Broadening of social contribution base (+0.7% of GDP)	• Pension increases (+2% of GDP)
• Social contributions shifted to second pension pillar (-0.2% of GDP)	
• Reduction of social contributions (-0.5% of GDP)	

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services, Romanian Ministry of Finance and the December 2007 convergence programme.

23. SLOVENIA

Recent developments and medium-term prospects

In 2007, the general government deficit amounted to 0.1% of GDP, compared with a deficit target of 1.5% of GDP set in the stability programme submitted in December 2006 ([1]). The better budgetary outcome in 2007 mainly reflects stronger-than-expected revenue growth, which was only partly offset by increased expenditure growth. Revenue developments were supported by the economy's ongoing strong performance, with favourable employment and wage developments contributing to higher social contributions as well as to a lower adverse impact of the changes in direct taxation than estimated earlier. The general government gross debt-to-GDP ratio declined to around 24% in 2007.

The National Assembly of Slovenia adopted the 2008 and 2009 budgets on 28th November 2007 ([2]). On the revenue side, the 2008 budget is marked by the ongoing tax reform. In particular, the corporate income tax rate is being successively lowered from 23% in 2007 to 20% in 2010. Revenues are also expected to decline due to the payroll tax, which is being gradually phased out and completely abolished as from 2009. On the expenditure side, railway investments amounting to 0.4% of GDP stand out. Overall, a general government deficit of 0.9% of GDP in 2008 was planned in the November 2007 stability programme. However, amendments to the budget for 2008 are currently being prepared. The amended budget is likely to reflect the better-than-expected budgetary outturn in 2007 and changes in expected revenue and expenditure due to the updating of the government's macroeconomic projections for 2008, including an upward revision of inflation. Risks include still ongoing public sector wage

negotiations related to the government's efforts to reduce wage disparities in the public sector. Taking into consideration the above-mentioned factors, and anticipating that a large part of the better-than-expected 2007 outturn would be carried over into 2008, the Commission services' spring forecast projects a slightly lower deficit of 0.6% of GDP for 2008. According to the Commission services, the fiscal stance is estimated to be mildly expansionary in 2008, with a deterioration of the structural balance by close to ½% of GDP.

On the basis of a no-policy-change assumption, the Commission services' forecast the government deficit to be maintained at 0.6 % of GDP in 2009. The November 2007 stability programme also projects a general government deficit of 0.6% of GDP in 2009. However, the upcoming parliamentary elections to the National Assembly of Slovenia scheduled for autumn of 2008 imply heightened uncertainty for the 2009 budget. For 2010, the stability programme projects a balanced budget.

The Commission services forecast the debt-to-GDP ratio to continue its gradual decline to around 23½% of GDP in 2008 and 22½% in 2009.

Rigidity and expenditure efficiency of the Slovenian budget

The degree of flexibility of the budget and the efficiency of spending are generally considered important aspects of the quality of public finances. Flexibility provides the government with leeway to restructure its spending in the short run in response to changing policy priorities or macroeconomic circumstances while efficiency is a central aim in itself.

First, as regards flexibility, several indicators point to low flexibility of the budget in Slovenia. For instance, in the Standard and Poor's "Fiscal Flexibility index", Slovenia's index score for expenditure flexibility is slightly worse than the average of the 28 European countries sample,

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([1]) The Programme as well as its Commission assessment can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

([2]) According to the Public Finance Act, the National Assembly of Slovenia has been adopting budgets for two consecutive years on a rolling basis since 2002.

including the EU-25 ([1]). Budget rigidities are also suggested in a recent IMF study ([2]), which highlights that the variability of total spending in Slovenia in 2000-2005 was much lower than in other countries. In particular, the variation was about twice as high in the EU-15 as in Slovenia, while the value for the 10 new Member states was more than three times as high as in Slovenia. Regarding individual expenditure categories, the variation is lower in Slovenia reportedly for social benefits and compensation of employees, suggesting that these expenditures are particularly rigid.

Finally, it is instructive to consider the share of the budget representing expenditure items defined as rigid, insofar as they are not dependent upon the discretion of the authorities in the short-term, i.e. social benefits, subsidies, interest payments and compensation of employees. Over 1997-2006, this share was higher for Slovenia (67.7%) both compared with the unweighted average for the 13 euro area member countries (EA-13) (66.5%) and with the 10 new Member States (EU-10) (64.2%). Moreover, the EA-13 and especially the EU-10 have reduced this share since 2000 by more (-2.2 pp and -3.6 pp, respectively) than Slovenia (-1.2 pp). According to Slovenia's 2007 stability programme update, the share of rigid expenditure in the budget is actually expected to increase by 1 pp. from 2007 until 2010.

Second, as regards efficiency of public spending, various methods show that Slovenia's performance could be improved also in this field. Assessing the efficiency of public expenditure means setting indicators proxying for desired policy outcomes in certain policy areas in relation to public expenditure in the respective areas. These output-input-ratios can be compared either to cross-country averages or to a theoretical efficiency frontier benchmark constructed as the line in input-output space connecting all efficient countries in a sample ([3]).

According to both methods, there seems to be scope for improving public spending efficiency in Slovenia, in particular as regards health and primary education spending ([4]). Recent work by Commission services uses a version of the efficient frontier approach to compare most of the EU-25 countries over 2001-2005 ([5]). It is found that Slovenia ranks among the less efficient 50% of countries with regard to the health outcome indicators life expectancy at birth, standardised death rates and infant deaths per 1000 life births. According to the earlier mentioned IMF study, which uses a similar methodology, Slovenia ranks among the bottom 30% of countries in their sample ([6]). The IMF's results imply that the same level of health outcomes could efficiently be produced with 63% of the resources Slovenia is currently using for this purpose.

The two above-mentioned studies also analyse public spending efficiency in the education sector. When comparing student-teacher ratios in primary education to related public spending, Slovenia ranks 42nd among 45 countries in the IMF sample and last among the 19 countries of the Commission's sample. The observed elevated level of public expenditure could consequently, at least theoretically, be reduced by at least 46% while maintaining the current student-teacher ratio for Slovenia, which is close to the average ratio in the sample.

The analysis reviewed in this section shows that the flexibility of the Slovenian budget could be enhanced, which would imply greater leeway for fiscal policy to quickly react to shocks. At the same time, identifying areas with low spending efficiency highlighted opportunities for fiscal consolidation on the expenditure side, as expenditure in these areas could potentially be reduced without compromising the level of services provided, if measures aimed at

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[1] Standard and Poor's (2007).
[2] Mattina and Gunnarsson (2007).
[3] That means countries whose input-output combinations are not "dominated" by other feasible combinations meaning that there are no feasible combinations that reach the same/higher level of output using a lower level of financial resources.

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[4] A caveat applies insofar as the focus in constructing this efficiency measure is on quantifiable outcomes and only public spending is taken into account. Moreover, by its very nature, the method is sensitive to data quality.
[5] Ebejer and Mandl (forthcoming).
[6] The study is based on 1998-2003 data on a sample including a large number of European countries, relating public health spending to child mortality, maternal mortality and standardised death rates, respectively.

Table V.23.1:

Budgetary developments 2006-2010, Slovenia (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	-1.2	-0.1	-0.6	-0.6	
- Total revenue	44.1	43.2	42.7	41.9	
Of which : - taxes on production and imports	15.2	15.0	14.5	13.9	
- current taxes on income, wealth, etc.	9.3	9.0	9.0	9.0	
- social contributions	14.5	14.3	14.3	14.2	
- Total expenditure	45.3	43.3	43.3	42.5	
Of which: - compensation of employees	11.4	10.9	11.1	11.2	
- intermediate consumption	6.4	6.1	6.0	5.8	
- social payments	15.5	14.7	14.8	14.5	
- gross fixed capital formation	3.7	3.7	3.7	3.6	
- interest expenditure	1.4	1.3	1.2	1.1	
Primary balance	0.2	1.2	0.6	0.5	
Tax burden	39.1	38.5	38.0	37.3	
One-off and other temporary measures	0.0	0.0	0.0	0.0	
Structural balance ([3])	-1.3	-0.7	-1.1	-0.7	
Structural primary balance	0.1	0.6	0.1	0.4	
Government gross debt	27.2	24.1	23.4	22.5	
Real GDP growth (%)	5.7	6.1	4.2	3.8	
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-1.2	-0.6	-0.9	-0.6	0.0
Primary balance	0.2	0.7	0.2	0.6	1.1
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	-1.1	-0.8	-1.0	-0.7	-0.1
Government gross debt	27.1	25.6	24.7	23.8	22.5
Real GDP growth (%)	5.7	5.8	4.6	4.1	4.5

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Slovenia.

Table V.23.2:

Main measures in the budget for 2008, Slovenia

Revenue measures ([1])	Expenditure measures ([2])
• Lowering the payroll tax (-0.65% of GDP) • Lowering the corporate tax (-0.1% of GDP)	• Railway investment (0.4% of GDP) • EU presidency (0.1% of GDP) • Restrictive employment and implementation of agreed wage policy in the public sector (up to -0.1% of GDP) • Streamlining of indexation of social transfers (-0.1% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services and Ministry of Finance of Slovenia .

improving their efficiency were to be implemented.

24. SLOVAKIA

Recent developments and medium-term prospects

The general government deficit dropped to 2.2% of GDP in 2007 which was below the official target of 2.9% of GDP set in the December 2006 update of the convergence programme ([1]). The over-performance was mainly induced by higher-than-foreseen GDP and employment growth, lower-than-budgeted co-financing for the EU funds and a larger-than-expected pre-stocking with cigarettes at the end of 2007, triggered by a hike in the excise tax on tobacco in January 2008 and resulting in additional revenue of ½% of GDP compared to ¼% of GDP expected by the programme. The debt ratio decreased to 29.4% of GDP in 2007.

The 2008 budget targeting a general government deficit of 2.3% of GDP was approved by parliament on 4 December 2007. Revenue-increasing measures included in the 2008 budget such as a broadening of the corporate income tax base and an increase in the maximum ceiling on social contributions are foreseen to generate additional revenue of around ¼% of GDP in 2008. The revenue shortfall induced by the 2007 pre-stocking with cigarettes is likely to be broadly offset by a further hoarding of cigarettes motivated by another excise tax hike planned for the end of 2008. Moreover, a temporary opening up of the second pension pillar in the first half of 2008, allowing all current participants to leave and new participants to join, should result in a one-off revenue of around 0.1% of GDP as savings accumulated in previous years in the second pillar will be transferred to the pay-as-you-go pillar if participants decide to leave. On the expenditure side, farming subsidies are set to continue increasing substantially.

In reaction to the February 2008 Council opinion on the November 2007 update of the convergence programme, which invited Slovakia exploit the strong growth conditions to strengthen the pace of structural adjustment towards the MTO the Ministry of Finance lowered the 2008 deficit target to 2% of GDP reflecting the improved revenue outlook. This target is in line with the Commission services' spring 2008 forecast which foresees a mildly expansionary fiscal stance with the structural deficit deteriorating from around 2½% in 2007 to some 2¾% of GDP in 2008.

According to the Commission services' spring 2008 forecast the headline deficit is expected to increase to 2.3% of GDP in 2009 (under the customary no-policy-change assumption). The main reason for the 2009 deterioration projected in the spring forecast is a likely revenue shortfall of some ½% of GDP due to the aforementioned expected further substantial pre-stocking with cigarettes in 2008. The projection for 2009 is above the deficit target of 1.8% of GDP set in the most recent update of the convergence programme which foresees the headline deficit to fall further to 0.8% of GDP by 2010.

According to the Commission services' spring 2008 forecast, the debt ratio is expected to remain broadly stable between 2007 and 2009.

The role of fiscal policy in creating favourable conditions for sustained and rapid catching-up

In the years 2003-2005 some major structural reforms were introduced in Slovakia. The labour regulations were made more flexible, the social benefit system became less generous and more targeted, the tax code was simplified shifting the weight from income to consumption taxation and a second funded pension pillar was established. These reforms created the right incentives and promoted growth including through large green-field FDI projects. At the same time, the total tax burden decreased from 31.7% of GDP in 2004 to 29.6% of GDP in 2007 and it is expected to decrease further to 28.8% of GDP in 2009.

The relatively lower share of resources at the disposal of the public sector implies a higher pressure for increasing the quality of public finances and especially the efficiency of public

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([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/sg_programmes9147_en.htm

expenditure. This holds in particular also for the areas of education and R&D where there is considerable scope for improvement.

Although the overall employment rate increased from 57.0% to 59.4% between 2004 and 2006, young people continue to face serious problems on the labour market with the youth (15-24 years) employment rate stagnating at around 26%. Disaggregating by education levels, the unemployment rate for the young Slovaks with only pre-primary, primary and lower secondary education amounted to 74% in 2006 and was thus some 3.5 times higher than the EU27 average. The unemployment rate for young having achieved upper secondary and post-secondary non-tertiary education was much lower, 21.4%, albeit still above the EU27 average of 15.5%. Hence, the performance of the Slovak education sector appears insufficient in terms of providing an adequate skill mix at all education levels.

Primary and secondary education

According to the 2003 OECD PISA study assessing 15-year-olds in 41 countries, Slovak students' overall results were below the OECD average. This was confirmed by the 2007 study which showed that Slovak students' relative performance has further deteriorated. At the same time, student performances were more sensitive to their socio-economic background than in most other countries ([1]).

Public expenditure on education in Slovakia amounted on average to 4.2% of GDP in the period 2000-04 and was thus almost 1 percentage point below both the EU27 average of 5.1% and the recently-acceded Member States' (RAMS12) average of 5%. Moreover, the share of education expenditure in total Slovak public expenditure hovered around 10% in the years 2003-2005, below the RAMS10 (RAMS12 without Bulgaria and Romania) average of 13%.

As a result, the public education sector in Slovakia seems relatively under-financed. Nevertheless, it is clear that higher education expenditure does not automatically guarantee

better educational outcomes and thus higher employability of young labour-market entrants. Hence, apart from reprioritising public expenditure toward education, Slovakia should also try to improve the efficiency of public education spending through curriculum and education methodology reforms (currently under preparation) and the restructuring of the public school network.

Tertiary education, R&D and innovation

The availability of a relatively cheap but skilled labour force helped Slovakia to attract substantial foreign investment into its manufacturing sector in recent years. Similarly, the supply of university graduates familiar with state-of-the-art technologies and research can crucially affect the scale of R&D and innovation activities undertaken in Slovakia in the coming years. Although the share of tertiary graduates in science and technology among the population aged 20-29 increased from 0.8% in 2001 to 1% in 2005 and thus slightly exceeded the RAMS12 average of 0.9%, it was still lagging behind the EU27 average of 1.2%.

Apart from education spending, investment into R&D is also crucial in this context. Gross domestic expenditure on R&D in Slovakia amounted on average to 0.5% of GDP in the period 2001-2006 and was thus below both the RAMS12 average of 0.7% of GDP and the EU27 averages of 1.4% of GDP. The government set an annual R&D investment target of 0.8% of GDP to be reached in 2010 but it has so far not planned any increases in public R&D spending.

To conclude, Slovakia should ensure that sufficient resources are invested into the education system and R&D and innovation and that they are used efficiently. Otherwise, declining productivity growth may limit its potential output growth in the medium and long term and thus impede the catch-up process. Increased financing should be achieved through budgetary reallocation in order not to endanger the foreseen fiscal consolidation path.

([1]) OECD (2007i)

Table V.24.1:

Budgetary developments 2006-2010, Slovakia (% of GDP)

Outturn and forecast (^{1})	2006	2007	2008	2009	
General government balance (^{2})	-3.6	-2.2	-2.0	-2.3	
- Total revenue	33.5	34.7	34.3	33.8	
Of which : - taxes on production and imports	11.3	11.4	11.2	11.0	
- current taxes on income, wealth, etc.	6.1	6.0	6.0	5.9	
- social contributions	11.9	11.9	11.7	11.6	
- Total expenditure	37.2	36.9	36.3	36.1	
Of which: - compensation of employees	7.4	6.8	6.5	6.2	
- intermediate consumption	5.7	4.5	4.5	4.5	
- social payments	11.9	11.6	11.5	11.5	
- gross fixed capital formation	2.2	1.9	1.9	1.9	
- interest expenditure	1.5	1.4	1.4	1.4	
Primary balance	-2.2	-0.8	-0.6	-1.0	
Tax burden	29.5	29.6	29.2	28.8	
One-off and other temporary measures	0.0	-0.1	0.1	0.0	
Structural balance (^{3})	-3.1	-2.6	-2.8	-3.1	
Structural primary balance	-1.7	-1.2	-1.5	-1.7	
Government gross debt	30.4	29.4	29.2	29.7	
Real GDP growth (%)	8.5	10.4	7.0	6.2	
Convergence programme (^{4})	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	-3.7	-2.5	-2.3	-1.8	-0.8
Primary balance	-2.2	-1.0	-0.9	-0.3	0.5
One-off and other temporary measures	-0.4	0.0	0.1	0.0	0.0
Structural balance (^{3})(^{5})	-3.1	-3.0	-3.1	-2.4	-1.2
Government gross debt	30.4	30.6	30.8	30.5	29.5
Real GDP growth (%)	8.3	8.8	6.8	5.8	5.0

Notes:

(^{1}) Commission services' spring 2008 forecast.

(^{2}) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Slovakia.

Table V.24.2:

Main measures in the budget for 2008, Slovakia

Revenue measures (^{1})	Expenditure measures (^{2})
• Broadening of corporate tax bases (0.1% of GDP)	
• Increase in the maximum ceiling on social contributions (0.1% of GDP)	• Limited wage growth in the public sector (- 0.3% of GDP)
• Capital transfer from the second pension pillar (0.1% of GDP)	• Higher farming subsidies (0.6% of GDP)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source : Commission services and the 2008 budget.

25. FINLAND

Recent developments and medium-term prospects

The general government surplus reached 5.3% of GDP in 2007, more than double the surplus of 2.8% projected in the November 2006 update of the Stability Programme (^{1}) and above the MTO of 2% of GDP. The bulk of the difference (almost 2 percentage points) was accounted for by the central government finances, where higher-than-expected economic growth boosted tax and non-tax revenues while expenditure remained contained by the mid-term budgetary ceilings. Also, the social security sector accumulated a stronger surplus than expected. However, this is partly due to statistical revisions arising from the recording of reinvested property income of pension funds, with a positive impact of about 0.3 percentage points for 2007 (slightly less in previous years). The debt ratio declined to 35.4% of GDP in 2007.

The 2008 central government budget was adopted on 21 December 2007. It provides for a sharp rise in expenditure as the new government frontloaded expenditure increases to its first year in office. Expenditure is set to grow by almost 7% in nominal terms compared with the outcome in 2007. The primary focus of the 2008 budget is on various employment measures, and on social and health programmes. Public investment and wage costs will also increase sharply. The original budget targets a general government surplus of 3.8% of GDP in 2008. However, in light of the higher-than-expected surplus in 2007 and its carry-over to the next year, the most recent Ministry of Finance forecast from March 2008 has revised the surplus target up to 4.5% of GDP. This is slightly lower than in the Commission services' spring 2008 forecast of 4.9% of GDP, mainly on account of the Ministry of Finance being more cautious in its assumption on growth of tax revenues. The stability programme update of November 2007 foresaw a

decline in the structural balance in 2008 by about 1% of GDP from the previous year. This was assessed by the Commission and the Council as implying a risk of a pro-cyclical fiscal policy stance in 2008. The recent Commission services spring forecast indicates that the decline in the structural primary balance in 2008 is likely to be only marginal, as well as the risk of a pro-cyclical fiscal stance in 2008.

The Commission services project that in line with slowing economic activity, the general government surplus would continue to moderate in 2009, declining by less than ½ percentage point from the previous year to 4½% of GDP. This forecast is based on a no-policy-change assumption, implying in particular that potential personal income tax cuts (other than the usual adjustment to income tax scales) are not included in the projection because their exact timing and size has not yet been decided by the government. Commission services project a general government surplus 1 percentage point higher than envisaged in the latest stability programme update of November 2007. The latter target seems outdated as it does not include the carry-over from 2007, when the surplus was also almost 1 percentage point higher than expected. The latest Ministry of Finance forecast from March 2008 has revised the 2009 surplus target up to 4.1% of GDP. Beyond 2009, the Stability Programme expects the surplus to maintain a continuous downward trend, declining to 2½% of GDP in 2011, driven by adverse effects from ageing of the population.

Based on Commission services' spring forecast, the debt ratio will continue to decline, falling below 30% of GDP by 2009. The stability programme projections indicate that the debt ratio would diminish further over the programme period up to 2011, albeit at a somewhat slower pace in line with smaller general government surpluses. Because a significant part of the surpluses consists of the accumulation of assets to pension schemes (broadly corresponding to stock-flow adjustment) the decline in the debt ratio is smaller than what could be concluded from the sizeable general government surpluses.

(^{1}) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.25.1:

Budgetary developments 2006-2011, Finland (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009		
General government balance ([2])	4.1	5.3	4.9	4.6		
- Total revenue	52.9	52.7	52.4	52.0		
Of which : - taxes on production and imports	13.6	13.1	12.9	12.6		
- current taxes on income, wealth, etc.	17.2	17.6	17.4	17.3		
- social contributions	12.3	12.1	11.9	12.0		
- Total expenditure	48.8	47.4	47.5	47.4		
Of which: - compensation of employees	13.4	12.9	13.0	12.9		
- intermediate consumption	9.3	9.0	9.1	9.2		
- social payments	15.9	15.3	15.2	15.2		
- gross fixed capital formation	2.4	2.5	2.5	2.5		
- interest expenditure	1.4	1.5	1.4	1.3		
Primary balance	5.5	6.8	6.3	5.9		
Tax burden	43.6	43.3	42.8	42.4		
One-off and other temporary measures	0.0	0.0	0.0	0.0		
Structural balance ([3])	4.2	4.9	4.8	4.9		
Structural primary balance	5.6	6.4	6.2	6.1		
Government gross debt	39.2	35.4	31.9	29.1		
Real GDP growth (%)	4.9	4.4	2.8	2.6		
Stability programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
General government balance	3.8	4.5	3.7	3.6	2.8	2.4
Primary balance	5.3	6.0	5.2	5.0	4.1	3.6
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0	0.0
Structural balance ([3])([5])	4.0	4.2	3.3	3.3	2.8	2.8
Government gross debt	39.2	35.3	32.8	30.4	29.0	27.9
Real GDP growth (%)	5.0	4.4	3.3	3.0	2.5	2.1

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in Nov 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and stability programme of Finland.

Table V.25.2:

Main measures in the budget for 2008, Finland

Revenue measures ([1])	Expenditure measures ([2])
• Income tax cuts by € 500 million (-0.3% of GDP) • Lowering tax on pension income €200 million (-0.1% of GDP) • Increasing energy taxes € 300 million (0.2% of GDP)	• Various health and social welfare projects €224 million (0.1% of GDP) • Education and R&D € 106 million (0.05% of GDP) • Subsidy for employment of young and disabled € 50 million (0.03% of GDP)

Notes:

[1] Estimated impact on general government revenue.

[2] Estimated impact on general government expenditure.

Source: Commission services and the November 2007 update of the stability programme.

26. SWEDEN

Recent developments and medium-term prospects

In 2007, the general government recorded an estimated surplus of 3.5% of GDP. This was significantly better than the 1.2% initially foreseen in the convergence programme of December 2006 ([1]). The better-than-expected general government balance was mainly the result of unexpectedly buoyant revenue growth, reflecting strong labour market developments and higher revenues from capital gains taxes. The significant fall in unemployment also contributed to lower-than-expected expenditures. Thanks to the surplus, government debt is estimated to have fallen to 40.6% of GDP in 2007.

The Budget for 2008 was approved by the Riksdag (Parliament) on 20 December 2007. It contains new reforms aiming at creating clearer incentives to work and to better include groups currently outside the labour market. They mainly take the form of a further reduction of income taxes for low and middle-income earners by means of a strengthened in-work tax credit, but also include lower expenditures for active labour market measures and unemployment as well as sickness insurance. The loss of revenue due to the abolition of the wealth tax as from 1 January 2007 is to some extent compensated in 2008 by a further limitation of the tax deductibility of private pension fund savings. According to the macroeconomic scenario underpinning the spring budget bill presented in April 2008, the government forecasts a general budget surplus of 2.9% of GDP in 2008. This is slightly higher than the 2.8% of GDP envisaged in the 2007 update of the convergence programme, but still represents a narrowing of 0.6 percentage points compared with the surplus of 2007. This is close to the view taken in the Commission spring forecast, which foresees a surplus of 2.7% of GDP in 2008. The slight difference compared to

the government forecast is mainly due to a somewhat less optimistic assumption about employment growth in 2008. On current policies, the fiscal stance is expected to be somewhat expansionary in 2008, as the primary structural surplus is expected to decrease by 0.5 percentage points in the Commission spring forecast.

For 2009, the Commission services projects a further narrowing of the surplus to 2.3% of GDP. This forecast is based on a no-policy-change assumption and, hence, does not take into account announced measures that have not been sufficiently detailed, such as those presented in the spring budget bill. The latter signals the government's priorities for the 2009 Budget to be presented in the autumn. Notably, it foresees a third phase of the in-work tax credit to strengthen the incentives to work. The Commission services' forecast is significantly lower than the surplus of 3.1% of GDP indicated in the most recent update of the convergence programme, which was based on a much more optimistic macroeconomic scenario. It is, however, only slightly more pessimistic than the forecast underlying the spring budget law, which is built on a revised macroeconomic outlook. The remaining difference compared to the Commission forecast is again mainly due to the Commission services taking a slightly less optimistic view on labour market developments. For 2010, the convergence programme foresaw a general government surplus of 3.6% of GDP. In the spring budget bill, the forecast has been lowered to 3.3% of GDP, rising to 4.1% of GDP in 2011.

As a result of continued high general government surpluses, the government debt ratio is projected to decline further. According to the Commission services' spring forecast, the debt ratio is expected to decrease to 35.5% and 31.9% of GDP in 2008 and 2009, respectively. On the back of continued strong surpluses and privatisation receipts, the convergence programme foresees the debt to decline towards 20% of GDP in 2011. The government foresees privatisation receipts of more than 1.5% of GDP a year over the 2008-2011 period.

([1]) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm.

Table V.26.1:

Budgetary developments 2006-2011, Sweden (% of GDP)

Outturn and forecast ([1])	2006	2007	2008	2009	
General government balance ([2])	2.3	3.5	2.7	2.3	
- Total revenue	56.5	56.0	55.5	55.0	
Of which : - taxes on production and imports	16.7	16.7	16.8	16.8	
- current taxes on income, wealth, etc.	19.8	19.0	18.4	18.1	
- social contributions	12.8	12.8	12.9	12.8	
- Total expenditure	54.2	52.5	52.8	52.6	
Of which: - compensation of employees	15.3	15.1	15.2	15.3	
- intermediate consumption	9.6	9.4	9.2	9.1	
- social payments	16.3	15.3	15.1	15.1	
- gross fixed capital formation	3.1	3.1	3.2	3.2	
- interest expenditure	1.7	1.8	1.8	1.7	
Primary balance	4.0	5.3	4.4	4.0	
Tax burden	49.0	48.1	47.7	47.4	
One-off and other temporary measures	0.0	0.3	0.1	0.0	
Structural balance ([3])	1.5	2.8	2.4	2.5	
Structural primary balance	3.2	4.6	4.1	4.2	
Government gross debt	45.9	40.6	35.5	31.9	
Real GDP growth (%)	4.1	2.6	2.2	1.8	
Stability/convergence programme ([4])	**2006**	**2007**	**2008**	**2009**	**2010**
General government balance	2.5	3	2.8	3.1	3.6
Primary balance	4.2	4.6	4.4	4.5	4.8
One-off and other temporary measures	0.5	0.4	0.3	0	0
Structural balance ([3])([5])	1.7	2.4	2.1	2.8	3.4
Government gross debt	47	39.7	34.8	29.8	24.5
Real GDP growth (%)	4.2	3.2	3.2	2.5	2.2

Notes:

([1]) Commission services' spring 2008 forecast.

([2]) Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

([3]) Cyclically-adjusted balance excluding one-off and other temporary measures.

([4]) Submitted in November 2007.

([5]) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of Sweden.

Table V.26.2:

Main measures in the budget for 2008, Sweden

Revenue measures ([1])	Expenditure measures ([2])
• Taxes on labour (-0.6% of GDP) • Taxes on tobacco, alcohol and CO2 (0.1% of GDP) • Other taxes on energy, environment and road traffic (0.1% of GDP)	• Labour market measures; unemploymnet and sickness insurance (-0.2% of GDP) • Grants to local governments (0.1% of GDP)

Notes:

([1]) Estimated impact on general government revenue.

([2]) Estimated impact on general government expenditure.

Source : Commission services and the November 2007 convergence programme.

27. UNITED KINGDOM

Recent developments and medium-term prospects

The general government deficit in 2007/08 (^{1}) is estimated by the Commission services at 2.9% of GDP, up from 2.6% in 2006/07. The estimate for 2007/08 is 0.1 percentage points less than the projection in the UK's convergence programme (CP) of November 2007 (^{2}), reflecting lower current and capital expenditure. Excluding a deficit-neutral accounting adjustment, revenue is expected to reach the level envisaged in the November update. Lower VAT receipts and a drop in stamp duties from property transactions should be offset by higher revenues from income taxation and social security contributions, following strong revenues in January 2008 from tax liabilities accrued on income earned in the previous financial year.

The 2007 budget had announced important, but intended deficit-neutral, changes in the direct taxation regime, which came into effect in April 2008. On 9 October 2007, the Pre-Budget Report (PBR) and the 2007 Comprehensive Spending Review (CSR) were published. The PBR announced with immediate effect deficit-increasing changes in the inheritance tax regime, while the 2007 CSR confirmed a significant slowdown in expenditure growth between 2008/09 and 2010/11. The 2008 budget, presented on the 12 March 2008, included some small discretionary changes that are expected to be fiscally neutral in 2008/09, but which should contribute to a small improvement in the fiscal position in 2009/10. In 2008/09, these include an increase in duties on alcoholic products that will be offset by the deferral of a previously-announced increase in road fuel duty. The budget projects a deficit of 3.2% of GDP in 2008/09, up by 0.3 percentage points from the convergence programme. The increase in the deficit is entirely due to a downward revision to the revenue

projections. In turn, the reduction in the revenue growth forecast in 2008/09 primarily reflects the UK authorities' downgrading of their outlook on asset and property markets. The expected downturn in the property market (relative to what had been assumed in the CP) is expected to cost the government 0.15% of GDP in forgone revenues from stamp duties and capital taxes, whereas lower-than-expected equity prices are expected to reduce receipts by an additional 0.1% of GDP. Indirect tax revenues are also expected to fall short of the programme estimates, due to lower household spending and an increase in the share of expenditure on food, which is not subject to the standard VAT rate.

The Commission services' spring 2008 forecast projects a deficit of 3.3% of GDP in 2008/09. This is 0.1 pp higher than in the 2008 budget, primarily reflecting the effect of the weaker economic context envisaged in the Commission's forecast on direct and, to a lesser extent, indirect tax revenues. According to the spring forecast, the fiscal stance in 2008/09 was expected to be broadly neutral, with the structural deficit projected to increase by 0.1% of GDP. However, subsequent to the cut-off date for the Commission services' forecast, on 13 May the government announced that it would be providing compensation to those negatively affected by the removal of the 10% starting rate on income tax (one of the measures announced in the March 2007 budget). The compensation is expected to raise the deficit ratio relative to the spring 2008 forecast by 0.2% of GDP.

Under a no-policy-change assumption (pre-dating the latest compensation package), the Commission services forecast the deficit in 2009/10 to remain at around 3.3% of GDP, 0.9 percentage points higher than in the programme. This is partly due to the carry-over from the higher deficit forecast in the preceding year 2008/09, but it also reflects differences in revenue growth projections as a result of the weaker economic context underpinning the spring 2008 forecast. On the expenditure side, the Commission assumes that the government

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(^{1}) The UK financial year runs from April to March.
(^{2}) The programme, as well as its assessment by the Commission and the Council, can be found at: http://ec.europa.eu/economy_finance/sg_pact_fiscal_poli cy/sg_programmes9147_en.htm

Table V.27.1:

Budgetary developments 2006/07-2012/13, United Kingdom (% of GDP)

Outturn and forecast (^{1})	2006/07	2007/08	2008/09	2009/10			
General government balance (^{2})	-2.6	-2.9	-3.3	-3.3			
- Total revenue	41.2	40.7	40.8	40.8			
Of which : - taxes on production and imports	12.6	12.4	12.5	12.5			
- current taxes on income, wealth, etc.	16.7	16.5	16.6	16.6			
- social contributions	8.3	8.3	8.4	8.5			
- Total expenditure	43.9	43.6	44.2	44.1			
Of which: - compensation of employees	10.9	10.8	11.0	10.9			
- intermediate consumption	11.8	11.7	11.7	11.6			
- social payments	12.5	12.5	12.8	13.0			
- gross fixed capital formation	1.8	1.9	2.0	1.9			
- interest expenditure	2.1	2.2	2.2	2.1			
Primary balance	-0.5	-0.7	-1.1	-1.2			
Tax burden	37.9	37.4	37.6	37.8			
One-off and other temporary measures	0.0	0.0	0.0	0.0			
Structural balance(^{3})	-2.7	-3.0	-3.1	-2.9			
Structural primary balance	-0.6	-0.8	-0.9	-0.8			
Government gross debt	42.5	43.2	46.2	47.5			
Real GDP growth (%)	3.0	2.9	1.4	1.8			
Convergence programme (^{4})	2006/07	2007/08	2008/09	2009/10	2010/11	20011/12	2012/13
General government balance	-2.6	-3.0	-2.9	-2.4	-2.1	-1.8	-1.6
Primary balance	-0.4	-0.8	-0.9	-0.3	0.0	0.3	0.5
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Structural balance (^{3})(^{5})	-2.5	-3.0	-2.7	-2.3	-1.9	-1.6	-1.5
Government gross debt	43.4	43.9	44.8	45.1	45.3	45.2	44.9
Real GDP growth (%)	3.0	3.0	2.0	2¾	2½	2½	2½

Notes:

(^{1}) Commission services' spring 2008 forecast. The UK financial year runs from April to March. The excessive deficit procedure applies to the UK on a financial year basis. The figures for 2007/08 are Commission estimates based on provisional outturn data.

(^{2}) Total revenues exclude UMTS receipts in line with the decision by Eurostat of 14 July 2000. Interest expenditure, total expenditure and balances include swaps in line with the definitions used in the excessive deficit procedure.

(^{3}) Cyclically-adjusted balance excluding one-off and other temporary measures.

(^{4}) Submitted in November 2007.

(^{5}) Commission services' calculations on the basis of the information in the programme. One-off and other temporary measures taken from the programme.

Source: Commission services and convergence programme of the United Kingdom.

Table V.27.2:

Main measures in the 2007 pre-budget report and the 2008 budget, United Kingdom

Revenue measures (^{1})	Expenditure measures (^{2})
Applicable as from 2008/09 • Inheritance tax threshold raised (-0.1% of GDP) • Deferral of increase in road fuel duties (-0.04% of GDP) • Increase in alcohol duties (0.03% of GDP) **Applicable as from 2009/10** • Tax for non-domiciled UK residents (0.1% of GDP) • Increase in duties on alcohol and motor vehicles (0.1% of GDP)	• Expenditure settlements for government departments (increase in total expenditure by 2.1% p.a. in real terms between 2008/09 and 2010/11 from 4.0% p.a. between 1999/00 to 2007/08)

Notes:

(^{1}) Estimated impact on general government revenue.

(^{2}) Estimated impact on general government expenditure.

Source: Commission services, 2007 pre-budget report and 2008 budget.

will adhere to its non-cyclical primary expenditure plans announced in the budget, which were practically unchanged from those in the 2007 CSR (on which the CP was based).

However, the Commission's higher inflation forecast for the third quarter of 2008 implies upward pressure on index-linked social benefits in 2009/10.

Beyond 2009/10, the programme envisaged a reduction in the deficit by an average of ¼ pp per annum during the following three years, to a deficit of 1.6% of GDP in 2012/13. In the 2008 budget, the programme's deficit projections for 2010/11 and 2011/12 were revised slightly upward, by 0.2 pp and 0.1 pp respectively, implying an average consolidation of 0.4 pp per annum during the three-year period to 2012/13.

According to the spring 2008 forecast, the gross debt-to-GDP ratio is expected to increase by 4 pp during the forecast period, to 47½% at the end of 2009/10, with the replacement of the Bank of England's loan with government financing expected to raise the debt ratio by 1 pp in 2008/09.

Efficiency challenges for the provision of public services

In recent years general government expenditure has grown faster than revenues in relation to GDP, reflecting to a large extent the government's objective to improve public services. The ratio of general government expenditure to GDP has risen by more than 5 percentage points from 39% in 1999/00 to 44% in 2006/07. In the light of the weak current fiscal position there is a growing need to contain overall public spending. In this context, further advancing the effectiveness and efficiency of public spending will be essential so as to ensure value for money and release resources for key priorities.

Graph V.27.1: **Public sector spending by function, 1997/98, 2001/02 and 2006/07 (% of GDP)**
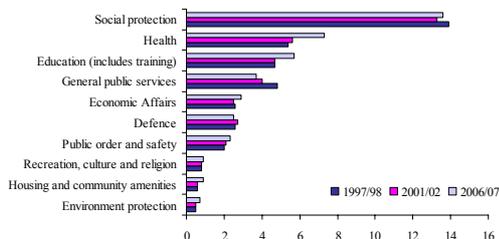
Note: Functional categories are based on the UN Classification of the Functions of Government (COFOG), the international standard.
Source: PESA 2007, HM Treasury.

Since 1997/98, public sector spending on key public services such as health and education has increased substantially. With average annual real growth rates of 5% and 6% respectively, these areas have grown much faster than both total public spending and national income.

Since the early 1990s the UK's budgeting framework has gradually developed so as to take a more strategic approach to the planning of public spending. The UK is today at the forefront of applying performance-based budgeting techniques, including the linking of spending to performance targets [1]. The multi-annual framework allows departments to plan spending over a longer time horizon and reduces the risk of growth-enhancing capital investment being squeezed out by short term spending. However, challenges still remain, including how to ensure better coordination between different levels of government and how to define measurable targets and outcome-focused objectives.

To support the 2007 CSR spending plans for 2008/09 to 2010/11 a new *performance management framework* was introduced in the form of 30 new cross-departmental Public Sector Agreements setting the government's priority outcomes for the 2007 CSR period as well as a *value for money programme.* The latter, building on the 2004 Efficiency Programme and the Gershon Review approach [2], aims at at least 3% efficiency savings per year over the CSR period across central and local government, releasing £30 billion by 2010/11 [3]. It should be noted that the efficiency savings do not represent an overall fiscal tightening but a measure to increase the effectiveness of public expenditure. Departments and local authorities can thus retain achieved gains, re-directing them to priority areas within the same spending envelope.

It is still too early to judge whether the introduced measures will actually lead to a real improvement in the efficiency and effectiveness of public spending. There is a risk that some of the declared efficiency gains could represent pure cost-savings, entailing lower public service output. Furthermore, the targets are intrinsically hard to evaluate [4].

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[1] OECD (2007j).
[2] For further information see European Commission (2008e).
[3] In comparison the 2004 efficiency programme set a target of achieving annual efficiency gains of around £21bn by 2007/08.
[4] As regards the 2004 efficiency programme, the National Audit Office noted in February 2007 that some good progress in addressing measurement issues and reaching the target has been made, although some projects have found it hard to demonstrate that quality of services has been maintained. See National Audit Office (2007).

Part VI

Resources

1. ABBREVIATIONS AND SYMBOLS USED

Member States

BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EI	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	The Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
EA	Euro area
EU	European Union
EU-25	European Union, 25 Member States (excl. BG and RO)
EU-27	European Union, 27 Member States
EU-15	European Union, 15 Member States before 1 May 2004

EU-10 European Union, 10 Member States that joined the EU on 1 May 2004 (CZ, EE, CY, LV, LH, HU, MT, PL, SI, SK)

Non-EU countries

AU   Australia

CA   Canada

CH   Switzerland

JP   Japan

KO   South Korea

NO   Norway

NZ   New Zeeland

US(A)   United States

Currencies

EUR   euro

ECU   European currency unit

BGL   Bulgarian lev

CZK   Czech koruna

DKK   Danish krone

EEK   Estonian kroon

GBP   Pound sterling

LTL   Lithuanian litas

LVL   Latvian lats

HUF   Hungarian forint

RON   New Rumanian leu

SEK   Swedish krona

SKK   Slovak koruna

CAD   Canadian dollar

CHF   Swiss franc

JPY   Japanese yen

SUR   Russian rouble

USD   US dollar

Other

CAPB   Cyclically-adjusted primary balance

COFOG   Classification of the functions of government

DEA   Data envelope approach

DG ECFIN   Directorate-General Economic and Financial Affairs

DR	Debt requirement
DSGE	Dynamic stochastic general equilibrium
ECB	European Central Bank
ECOFIN	Economic and Financial Council
EFC	Economic and Financial Committee
EMU	Economic and Monetary Union
EPC	Economic Policy Committee
EU KLEMS	European database on capital, labour, energy, material and services
FDH	Free disposable hull
FDI	Foreign direct investment
GDP	Gross domestic product
GLS	Generalised least squares
IBP	Initial budgetary position
ICT	Information and communication technologies
IMF	International Monetary Fund
LTC	Long-term budgetary cost of ageing
MTBF	Medium-term budgetary framework
MTO	Medium-term budgetary objective
OECD	Organisation of Economic Co-operation and Development
OLS	Ordinary least squares
PBB	Performance-based budgeting
PISA	Programme for International Student Assessment
pp	Percentage points
PPS	Purchasing power standard
QPF	Quality of public finances
R&D	Research and development
RAMS	Recently acceded Member States
RoEA	Rest of euro area
RoW	Rest of the world
SCPs	Stability and convergence programmes
SGP	Stability and Growth Pact
SSC	Social security contributions
TFP	Total factor productivity
VAT	Value added tax
WHO	World Health Organization

2. GLOSSARY

Automatic stabilisers Features of the tax and spending regime which react automatically to the economic cycle and reduce its fluctuations. As a result, the budget balance in percent of GDP tends to improve in years of high growth, and deteriorate during economic slowdowns.

Broad Economic Policy Guidelines (BEPGs) Annual guidelines for the economic and budgetary policies of the Member States. They are prepared by the Commission and adopted by the Council of Ministers responsible for Economic and Financial Affairs (ECOFIN).

Budget balance The balance between total public expenditure and revenue in a specific year, with a positive balance indicating a surplus and a negative balance indicating a deficit. For the monitoring of Member State budgetary positions, the EU uses *general government* aggregates. See also *structural budget balance*, *primary budget balance*, and *primary structural balance*.

Budgetary rules Rules and procedures through which policy-makers decide on the size and the allocation of public expenditure as well as on its financing through taxation and borrowing.

Budgetary sensitivity The variation in the budget balance in percentage of GDP brought about by a change in the output gap. In the EU, it is estimated to be 0.5 on average.

Candidate countries Countries that wish to accede to the EU. Besides the *accession countries*, they include Croatia and Turkey.

Close-to-balance requirement A requirement contained in the 'old' *Stability and Growth Pact*, according to which Member States should, over the medium term, achieve an overall *budget balance* close to balance or in surplus; was replaced by country-specific *medium-term budgetary objectives* in the reformed *Stability and Growth Pact*.

Code of Conduct Policy document endorsed by the ECOFIN Council of 11 October 2005 setting down the specifications on the implementation of the *Stability and Growth Pact* and the format and

content of the *stability* and *convergence programmes*.

COFOG (Classification of the Functions of Government) A statistical nomenclature used to break down general government expenditure into its different functions including general public services, defence, public order and safety, economic affairs, environmental protection, housing and community amenities, health, recreation, culture and religion, education and social protection.

Composite indicator Is formed when individual indicators are compiled into a single indicator, on the basis of an underlying model of the multi-dimensional concept that is being measured.

Convergence programmes Medium-term budgetary and monetary strategies presented by Member States that have not yet adopted the euro. They are updated annually, according to the provisions of the *Stability and Growth Pact*. Prior to the third phase of EMU, convergence programmes were issued on a voluntary basis and used by the Commission in its assessment of the progress made in preparing for the euro. See also *stability programmes*.

Crowding-out effects Offsetting effects on output due to changes in interest rates and exchange rates triggered by a loosening or tightening of fiscal policy.

Cyclical component of budget balance That part of the change in the *budget balance* that follows automatically from the cyclical conditions of the economy, due to the reaction of public revenue and expenditure to changes in the *output gap*. See *automatic stabilisers*, *tax smoothing* and *structural budget balance*.

Cyclically-adjusted budget balance See *structural budget balance*.

Data envelope analysis A statistical method to form a production possibility frontier by creating an envelope around the observed input-output (outcome) observations. Efficiency is than calculated as the distance to the frontier.

Defined-benefit pension scheme A traditional pension scheme that defines a benefit, i.e. a pension, for an employee upon that employee's retirement is a defined benefit plan.

Defined-contribution pension scheme A scheme providing for an individual account for each participant, and for benefits based solely on the amount contributed to the account, plus or minus income, gains, expenses and losses allocated to the account.

Demand and supply shocks Disturbances that affect the economy on the demand side (*e.g.* changes in private consumption or exports) or on the supply side (*e.g.* changes in commodity prices or technological innovations). They can impact on the economy either on a temporary or permanent basis.

Dependency ratio A measure of the ratio of people who receive government transfers, especially pensions, relative to those who are available to provide the revenue to pay for those transfers.

Direct taxes Taxes that are levied directly on personal or corporate incomes and property.

Discretionary fiscal policy Change in the *budget balance* and in its components under the control of government. It is usually measured as the residual of the change in the balance after the exclusion of the budgetary impact of *automatic stabilisers*. See also *fiscal stance*.

Discriminant analysis A statistical technique for classifying observations into predefined groups where the purpose is to determine the group to which a particular observation belongs based on a set of variables known as predictors. A discriminant function is calculated and is a latent variable which is created as a linear combination of the discriminating (independent) variables. This method is analogous to multiple regression where the coefficients of the discriminating variables maximize the distance between the means of the dependent variable of two different groups.

Early-warning mechanism Part of the preventive elements of the *Stability and Growth Pact*. It is activated when there is significant divergence from the budgetary targets set down in a stability or convergence programme.

Economic and Financial Committee (EFC) Formerly the Monetary Committee, the EFC is a Committee of the Council of the European Union set up by Article 114 of the. Its main task is to prepare and discuss (ECOFIN) Council decisions with regard to economic and financial matters.

Economic Policy Committee (EPC) Group of senior government officials whose main task is to prepare discussions of the (ECOFIN) Council on structural policies. It plays an important role in the preparation of the *Broad Economic Policy Guidelines*, and it is active on policies related to labour markets, methods to calculate cyclically-adjusted budget balances and ageing populations.

Effective tax rate The ratio of broad categories of tax revenue (labour income, capital income, consumption) to their respective tax bases.

Effectiveness The same concept as efficiency except that it links input to outcomes rather than outputs.

Efficiency Can be defined in several ways, either as the ratio of outputs to inputs or as the distance to a production possibility frontier (see also Free Disposable Hull analysis, Data Envelope analysis, stochastic frontier analysis). *Cost efficiency* measures the link between monetary inputs (funds) and outputs; *technical efficiency* measures the link between technical inputs and outputs. *Output efficiency* indicates by how much the output can be increased for a given input; *input efficiency* indicates by how much the input can be reduced for a given input.

ESA95 / ESA79 European accounting standards for the reporting of economic data by the Member States to the EU. As of 2000, ESA95 has replaced the earlier ESA79 standard with regard to the comparison and analysis of national public finance data.

Excessive Deficit Procedure (EDP) A procedure according to which the Commission and the Council monitor the development of national *budget balances* and *public debt* in order to assess and/or correct the risk of an excessive deficit in each Member State. Its application has

been further clarified in the *Stability and Growth Pact*. See also s*tability programmes* and *Stability and Growth Pact*.

Expenditure rules A subset of *fiscal rules* that target (a subset of) public expenditure.

Externality It arises in a given economic transaction when its participants do not fully internalize (through the price level in particular) all of the costs or the benefits derived from this transaction. Externalities may arise, for instance, for certain productive activities damaging the environment (e.g. pollution) or because all the benefits of a given change in the production process are not fully captured by the innovating firms (e.g. technological innovation).

Fiscal consolidation An improvement in the *budget balance* through measures of *discretionary fiscal policy*, either specified by the amount of the improvement or the period over which the improvement continues.

Fiscal decentralisation The transfer of authority and responsibility for public functions from the central government to intermediate and local governments or to the market.

Fiscal federalism A subfield of public finance that investigates the fiscal relations across levels of government.

Fiscal governance Comprises all rules, regulations and procedures that impact on how the budget and its components are being prepared. The terms fiscal governance and fiscal frameworks are used interchangeably in the report.

Fiscal impulse The estimated effect of fiscal policy on GDP. It is not a model-free measure and it is usually calculated by simulating an econometric model. The estimates presented in the present report are obtained by using the Commission services' *QUEST* model.

Fiscal rule A permanent constraint on fiscal policy, expressed in terms of a summary indicator of fiscal performance, such as the government budget deficit, borrowing, debt, or a major component thereof. See also *budgetary rule, expenditure rules*.

Fiscal stance A measure of the effect of *discretionary fiscal policy*. In this report, it is defined as the change in the *primary structural budget balance* relative to the preceding period. When the change is positive (negative) the fiscal stance is said to be expansionary (restrictive).

Free Disposable Hull analysis A statistical method to form a production possibility frontier by creating a step-wise envelope around the observed input-output (outcome) observations. Efficiency is than calculated as the distance to the frontier.

General government As used by the EU in its process of budgetary surveillance under the *Stability and Growth Pact* and the *excessive deficit procedure*, the general government sector covers national government, regional and local government, as well as social security funds. Public enterprises are excluded, as are transfers to and from the EU Budget.

Government budget constraint A basic condition applying to the public finances, according to which total public expenditure in any one year must be financed by taxation, government borrowing, or changes in the monetary base. In the context of EMU, the ability of governments to finance spending through money issuance is prohibited. See also *stock-flow adjustment, sustainability*.

Government contingent liabilities Obligations for the government that are subject to the realization of specific uncertain and discrete future events. For instance, the guarantees granted by governments to the debt of private corporations bonds issued by enterprise are contingent liabilities, since the government obligation to pay depend on the non-ability of the original debtor to honour its own obligations.

Government implicit liabilities Government obligations that are very likely to arise in the future in spite of the absence of backing contracts or law. The government may have a potential future obligation as a result of legitimate expectations generated by past practice or as a result of the pressure by interest groups. Most implicit liabilities are contingent, i.e., depend upon the occurrence of uncertain future events.

Growth accounting A technique based on a production function approach where total GDP (or national income) growth is decomposed into the various production factors and a non-explained part which is the total factor productivity change, also often termed the Solow residual.

Hodrick-Prescott (HP) filter A statistical technique used to calculate trend GDP and *output gaps* by filtering actual GDP.

ICT (Information and Communication Technologies) investment in ICT usually include three types of assets: computing equipment, communication equipment and software. Investments in these assets have attracted increasing attention during in the recent years due to their potential impact on productivity and growth development in developed economies.

Indirect taxation Taxes that are levied during the production stage, and not on the income and property arising from economic production processes. Prominent examples of indirect taxation are the value added tax (VAT), excise duties, import levies, energy and other environmental taxes.

Integrated guidelines A general policy instrument for coordinating EU-wide and Member States economic structural reforms embedded in the Lisbon strategy and which main aim is to boost economic growth and job creation in the EU.

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

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

Maastricht reference values for public debt and deficits Respectively, a 60 % *general government* debt-to-GDP ratio and a 3 % *general government* deficit-to-GDP ratio. These thresholds are defined in a protocol to the Maastricht Treaty on European Union. See also *Excessive Deficit Procedure*.

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

Medium-term budgetary framework An institutional fiscal device that lets policy-makers extend the horizon for fiscal policy making beyond the annual budgetary calendar (typically 3-5 years). Targets can be adjusted under medium-term budgetary frameworks (MTBF) either on an annul basis (flexible frameworks) or only at the end of the MTBF horizon (fixed frameworks).

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

Minimum benchmarks The lowest value of the structural budget balance that provides a safety margin against the risk of breaching the *Maastricht reference value for the deficit* during normal cyclical fluctuations. The minimum benchmarks are estimated by the European Commission. They do not cater for other risks such as unexpected budgetary developments and interest rate shocks. They are a lower bound for the *'medium-term budgetary objectives (MTO)*.

Monetary Conditions Index (MCI) An indicator combining the change in real short-term interest rate and in the real effective exchange rate to gauge the degree of easing or tightening of monetary policy.

Mundell-Fleming model Macroeconomic model of an open economy which embodies the main Keynesian hypotheses (price rigidity, liquidity preference). In spite of its shortcomings, it remains useful in short-term economic policy analysis.

NAIRU Non-Accelerating Inflation Rate of Unemployment.

Non-Keynesian effects Supply-side and expectations effects which reverse the sign of traditional Keynesian multipliers. Hence, if non-Keynesian effects dominate, fiscal consolidation would be expansionary.

Old age dependency ratio Population aged over 65 as a percentage of working age population (usually defined as persons aged between 15 and 64).

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

Outcome indicator Measures the ultimate results (outcomes) of policy choices (e.g. education attainment, healthy life years, economic growth).

Output gap The difference between actual output and estimated potential output at any particular point in time. See also *cyclical component of budget balance*.

Output indicator Measures the technical results (outputs) of policy choices (e.g. number of university graduates, number of patents, life expectancy).

Pay-as-you-go pension system (PAYG) Pension system in which current pension expenditures are financed by the contributions of current employees.

Pension fund A legal entity set up to accumulate, manage and administer pension assets. See also *private pension scheme*.

Performance-based budgeting A budgeting technique that links budget appropriations to performance (outcomes, results) rather than focusing on input controls. In practice, performance-informed budgeting is more common which basis decisions on budgetary allocation on performance information without establishing a formal link.

Philips-curve Depicts the inverse relationship between the unemployment rate and the inflation rate in a given economy.

Policy-mix The overall stance of fiscal and monetary policy. The policy-mix may consist of various combinations of expansionary and restrictive policies, with a given *fiscal stance* being either supported or offset by monetary policy.

Potential GDP The level of real GDP in a given year that is consistent with a stable rate of inflation. If actual output rises above its potential level, then constraints on capacity begin to bind and inflationary pressures build; if output falls below potential, then resources are lying idle and inflationary pressures abate. See also *production function method* and *output gap*.

Pre-accession Economic Programmes (PEPs) Annual programmes submitted by candidate countries which set the framework for economic policies The PEPs consist of a review of recent economic developments, a detailed macroeconomic framework, a discussion of public finance issues and an outline of the structural reform agenda.

Pre-accession Fiscal Surveillance Framework (PFSF) Framework for budgetary surveillance of candidate countries in the run up to accession. It closely approximates the policy co-ordination and surveillance mechanisms at EU level.

Primary budget balance The *budget balance* net of interest payments on *general government* debt.

Primary structural budget balance The *structural budget balance* net of interest payments.

Principal components A statistical technique used to reduce multidimensional data sets to lower dimensions for analysis. This technique provides a compression of a set of high dimensional vectors (or variables) into a set of lower dimensional vectors (or variables) and then reconstructing the original set summarizing the information into a limited number of values.

Pro-cyclical fiscal policy A *fiscal stance* which amplifies the economic cycle by increasing the *structural primary deficit* during an economic upturn, or by decreasing it in a downturn. A neutral fiscal policy keeps the *cyclically-adjusted budget balance* unchanged over the economic cycle but lets the *automatic stabilisers* work. See also *tax-smoothing*.

Production function approach A method to estimate the level of potential output of an economy based on available labour inputs, the capital stock and their level of efficiency. Potential output is used to estimate the *output gap,* a key input in the estimation of *cyclical component of the budget*.

Public debt Consolidated gross debt for the *general government* sector. It includes the total nominal value of all debt owed by public institutions in the Member State, except that part of the debt which is owed to other public institutions in the same Member State.

Public goods Goods and services that are consumed jointly by several economic agents and for which there is no effective pricing mechanism that would allow private provision through the market.

Public investment The component of total public expenditure through which governments increase and improve the stock of capital employed in the production of the goods and services they provide.

Public-private partnerships (PPP) Agreements that transfer investment projects to the private sector that traditionally have been executed or financed by the public sector. To qualify as a PPP, the project should concern a public function, involve the general government as the principal purchaser, be financed from non-public sources and engage a corporation outside the general government as the principal operator that provides significant inputs in the design and conception of the project and bears a relevant amount of the risk.

Quality of public finances Comprises all arrangements and operations of fiscal policy that support the macroeconomic goals of fiscal policy, in particular economic growth.

Quasi-fiscal activities Activities promoting public policy goals carried out by non-government units.

QUEST The macroeconomic model of the EU Member States plus the US and Japan developed by the Directorate-General for Economic and Financial Affairs of the European Commission.

Recently acceded Member States Countries that became members of the EU in May 2004 and include Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Two additional countries, Romania and Bulgaria joined in January 2007.

Ricardian equivalence Under fairly restrictive theoretical assumptions on the consumer's behaviour (*inter alia* infinite horizon for decision making), the impact of fiscal policy does not depend on whether it is financed by tax increases or by a widening deficit. The basic reasoning behind this statement dates back to Ricardo and was revisited by Robert Barro in the 1970s.

Securitisation Borrowing (issuing of bonds) with the intention of paying interest and capital out of the proceeds derived from assets (use or sale of) or from future revenue flows.

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

Significant divergence A sizeable excess of the budget balance over the targets laid out in the

stability or convergence programmes, that triggers the *Early warning* procedure of the *Stability and Growth Pact*.

Size of the public sector Typically measured as the ratio of public expenditure to nominal GDP.

'Snow-ball' effect The self-reinforcing effect of public debt accumulation or decumulation arising from a positive or negative differential between the interest rate paid on public debt and the growth rate of the national economy. See also *government budget constraint*.

Social security contributions (SSC) Mandatory contributions paid by employers and employees to a social insurance scheme to cover for pension, health care and other welfare provisions.

Stability and Growth Pact (SGP) Approved in 1997 and reformed in 2005, the SGP clarifies the provisions of the Maastricht Treaty regarding the surveillance of Member State budgetary policies and the monitoring of budget deficits during the third phase of EMU. The SGP consists of two Council Regulations setting out legally binding provisions to be followed by the European Institutions and the Member States and two Resolutions of the European Council in Amsterdam (June 1997). See also *Excessive Deficit Procedure*.

Stability programmes Medium-term budgetary strategies presented by those Member States that have already adopted the euro. They are updated annually, according to the provisions of the *Stability and Growth Pact*. See also C*onvergence programmes*.

Stochastic frontier analysis A statistical method to estimate a production possibility frontier by assuming a specific functional form, e.g. a Cobb-Douglas type production function. In contrast to the Data Envelope analysis the frontier will be fit through the cloud of data points rather than enveloping them. Efficiency is calculated as part of the residual with the other part being the error term

Stock-flow adjustment The stock-flow adjustment (also known as the debt-deficit adjustment) ensures consistency between the net borrowing (flow) and the variation in the stock of gross debt. It includes the accumulation of financial assets, changes in the value of debt denominated in foreign currency, and remaining statistical adjustments.

Structural budget balance The actual *budget balance* net of the *cyclical component and one-off and other temporary measures*. The structural balance gives a measure of the underlying trend in the budget balance. See also *primary structural budget balance*.

Sustainability A combination of budget deficits and debt that ensure that the latter does not grow without bound. While conceptually intuitive, an agreed operational definition of sustainability has proven difficult to achieve.

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

Tax gaps Measure used in the assessment of the *sustainability* of public finances. They measure the difference between the current tax ratio and the constant tax ratio over a given projection period to achieve a predetermined level of debt at the end of that projection period.

Tax smoothing The idea that tax rates should be kept stable in order to minimise the distortionary effects of taxation, while leaving it for the *automatic stabilisers* to smooth the economic cycle. It is also referred to as neutral *discretionary fiscal policy*. See also *cyclical component of fiscal policy*.

Tax wedge The deviation from equilibrium price/quantity as a result of a taxation, which results in consumers paying more, and suppliers receiving less. When referring to labour tax wedge more specifically, the tax wedge is usually regarded as the difference between the difference between the salary costs of an average worker to their employer and the amount of net income that the worker receives in return, the difference being represented by taxes including personal income taxes and compulsory social security contributions.

Total factor productivity Represents the share of total output not explained by the level of inputs (labour, capital or primary product). It is generally considered as a measure of overall productive efficiency.

UMTS Third generation of technical support for mobile phone communications. Sale of UMTS licences gave rise to sizeable one-off receipts in 2001.

Wagner's law Theory according to which public spending – since it comprises 'luxury goods' with high elasticity to income – would tend to rise as a share of GDP as per-capita income increases.

Welfare state Range of policies designed to provide insurance against unemployment, sickness and risks associated with old age.

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4. USEFUL INTERNET LINKS

European Union

European Commission	ec.europa.eu
Directorate-General for Economic and Financial Affairs	ec.europa.eu/economy_finance/index_en.htm
Eurostat	epp.eurostat.ec.europa.eu
European Council	consilium.europa.eu
European Parliament	www.europarl.europa.eu

Economics and Finance Ministries

Belgium	www.treasury.fgov.be/interthes	Ministère des Finances - Ministerie van Financen
Bulgaria	www.minfin.bg	Ministry of Finance
Czech Republic	www.mfcr.cz	Ministry of Finance
Denmark	www.fm.dk	Ministry of Finance
Germany	www.bundesfinanzministerium.de	Bundesministerium der Finanzen
Estonia	www.fin.ee	Ministry of Finance
Ireland	www.irlgov.ie/finance	Department of Finance
Greece	www.mnec.gr/en/	Ministry of Economy and Finance
Spain	www.mineco.es/	Ministerio de Economía y Hacienda
France	www.finances.gouv.fr	Ministère Économie, Finances et l'Industrie
Italy	www.tesoro.it	Ministero dell'Economia e delle Finanze
Cyprus	www.mof.gov.cy	Ministry of Finance
Latvia	www.fm.gov.lv	Ministry of Finance
Lithuania	www.finmin.lt	Ministry of Finance
Luxembourg	www.etat.lu/FI	Ministère des Finances
Hungary	www.p-m.hu	Ministry of Finance
Malta	finance.gov.mt	Ministry of Finance and Economic Affairs
Netherlands	www.minfin.nl	Ministerie van Financien
Austria	www.bmf.gv.at	Bundesministerium für Finanzen
Poland	www.mofnet.gov.pl	Ministry of Finance
Portugal	www.min-financas.pt	Ministério das Finanças
Romania	www.mfinante.ro	Ministry of Finance
Slovenia	www.gov.si/mf	Ministry of Finance

Slovak Republic	www.finance.gov.sk	Ministry of Finance
Finland	www.vn.fi/vm	Ministry of Finance
Sweden	finans.regeringen.se	Finansdepartementet
United Kingdom	www.hm-treasury.gov.uk	Her Majesty's Treasury

Central Banks

European Union	www.ecb.int	European Central Bank
Belgium	www.nbb.be	Banque Nationale de Belgique / Nationale Bank van België
Bulgaria	www.bnb.bg	Bulgarian National Bank
Czech Republic	www.cnb.cz	Czech National Bank
Denmark	www.nationalbanken.dk	Danmarks Nationalbank
Germany	www.bundesbank.de	Deutsche Bundesbank
Estonia	www.eestipank.info	Eesti Pank
Ireland	www.centralbank.ie	Central Bank of Ireland
Greece	www.bankofgreece.gr	Bank of Greece
Spain	www.bde.es	Banco de España
France	www.banque-france.fr	Banque de France
Italy	www.bancaditalia.it	Banca d'Italia
Cyprus	www.centralbank.gov.cy	Central Bank of Cyprus
Latvia	www.bank.lv	Bank of Latvia
Lithuania	www.lb.lt	Lietuvos Bankas
Luxembourg	www.bcl.lu	Banque Centrale du Luxembourg
Hungary	www.mnb.hu	National Bank of Hungary
Malta	www.centralbankmalta.com	Central Bank of Malta
Netherlands	www.dnb.nl	De Nederlandsche Bank
Austria	www.oenb.at	Oestereichische Nationalbank
Poland	www.nbp.pl	Narodowy Bank Polski
Portugal	www.bportugal.pt	Banco de Portugal
Romania	www.bnro.ro	National Bank of Romania
Slovenia	www.bsi.si	Bank of Slovenia
Slovak Republic	www.nbs.sk	National Bank of Slovakia
Finland	www.bof.fi	Suomen Pankki
Sweden	www.riksbank.com	Sveriges Riksbank
United Kingdom	www.bankofengland.co.uk	Bank of England

EU fiscal surveillance framework

Stability and Growth Pact:

ec.europa.eu/economy_finance/sg_pact_fiscal_policy/index_en.htm?cs_mid=570

Excessive deficit procedure:

ec.europa.eu/economy_finance/sg_pact_fiscal_policy/fiscal_policy554_en.htm

Early warning mechanism:

http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/fiscal_policy1075_en.htm

Stability and convergence programmes:

ec.europa.eu/economy_finance/sg_pact_fiscal_policy/fiscal_policy528_en.htm

Sustainability of public finances:

http://ec.europa.eu/economy_finance/sg_pact_fiscal_policy/fiscal_policy546_en.htm

Quality of public finances

http://ec.europa.eu/economy_finance/publications/publication_summary12186_en.htm

http://ec.europa.eu/economy_finance/epc/epc_publications_en.htm#Quality%20of%20public%20finances

Lisbon Strategy for Growth and Jobs

http://ec.europa.eu/growthandjobs/index_en.htm