INTRODUCTION

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Fiscal indicators are at the centre of the fiscal policy debate. In recent decades much research has been done along three main lines: i) estimating the structural position of public finances and evaluating the impact of discretionary policies; ii) assessing the impact of fiscal policy on the economy; and iii) evaluating the sustainability of current fiscal policies. In parallel, an extensive literature has examined the role of fiscal indicators in fiscal policy frameworks.

The assessment of structural budget balances is essential to understanding budgetary results and prospects. It involves netting out the effects of the cycle and of other temporary factors. A closely related issue is that of assessing the role of discretionary policies, since the change in structural budget balances largely reflects the impact of policy measures. These issues were examined in the workshop on *Indicators of Structural Budget Balances* (November 1998). The papers in this volume make significant contributions to the enhancement of cyclical adjustment techniques, address the specific issues involved in assessing fiscal performance in oil-producing countries, and highlight the progress made in measuring the effects of other temporary factors and of policy changes.

The role of fiscal policy in influencing economic activity has long been at the centre of the policy debate. The discussion has focused on the short-term impact of fiscal policy on output and its effectiveness in stabilising the economy, as well as on its medium and long-term effects on growth and capital accumulation. These issues were investigated in the workshop on *The Impact of Fiscal Policy* (March 2002). The papers in this volume underline the progress in theoretical and empirical research work on the measurement of the effect of fiscal policy, the impact of shocks and the role of public investment.

While for a long time the issue of fiscal sustainability was addressed only in terms of the effect of public debt on the economy, in recent decades it has become increasingly associated with the future implications of current budgetary policies. Several studies have defined the concept of sustainability and evaluated the implications of current policies in terms of expenditure, tax, deficit and debt trends. New techniques have been developed, such as generational accounting. The issue was examined in the workshop on *Fiscal Sustainability* (January 2000). The papers in this volume focus on new theoretical developments and empirical analyses. They consider the progress made in carrying out long-term fiscal projections, developing the generational-accounting approach, dealing with uncertainty and risks, and assessing the impact of structural reforms.

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Fiscal indicators play a crucial role in the definition of fiscal policy. They are used in evaluating budgetary trends and the need for policy action, setting targets and assessing fiscal outcomes. They are particularly important in rule-based fiscal frameworks. Both at the national and the international level efforts have been made to develop indicators that measure the budgetary stance and performance in the short, medium and long term. Some of these issues were examined in the workshop on *Fiscal Rules* (February 2001). The papers in this volume focus on recent developments concerning the role of fiscal indicators within national fiscal rules and the European Union fiscal framework. They also point to the statistical and accounting issues underlying the estimation of indicators.

The papers presented at the workshop were divided among four sessions, which are mirrored by the sections in this volume. Section 1 examines cyclical adjustment. Section 2 considers discretionary policy and the effects of fiscal policy on the economy. Section 3 examines long-term fiscal sustainability. Section 4 deals with the role of indicators in fiscal policy.

1. Cyclical adjustment

Session 1 deals with cyclical adjustment. The first three papers propose technical refinements or entirely new approaches to the assessment of the effects of cyclical developments on the budget. The last four papers build upon existing methods or estimates of cyclical adjustment and focus on the evaluation of fiscal policy in general or in a specific group of countries.

Girouard and André present the work done to re-estimate and re-specify the elasticities used by the OECD in calculating cyclically-adjusted budget balances (CAB). The new estimates, as well as taking into account the tax reforms introduced since the previous updating exercise (carried out in 1999), reflect a number of technical improvements. In particular, the new approach considers the existence of lags between economic activity and tax collection, something that was largely neglected in the previous OECD methodology. Overall, the differences between the old and the new elasticities are generally quite small and only in a very few cases do the new elasticities significantly modify the assessment of the CABs of the OECD countries. The elasticities estimated by the OECD are also used by the European Commission when computing CAB figures; in this respect, the new improved estimates contribute to enhancing multilateral budgetary surveillance in Europe.

Mohr proposes an extension of the Hodrick-Prescott filter which involves explicitly modelling the cycle component. The new filter has the advantage of removing the end-of-sample bias in the decomposition of macroeconomic time series into trend and cyclical components. The paper is important because the HP filter (and alternative approaches having similar drawbacks) are widely used in many areas of economic analysis, with direct implications for economic policy. This is the case, for instance, in estimating the output gap and derived indicators such as the CAB.

Kiss and Vadas present an innovative approach to computing CABs, which combines features of the two methods currently used, the production function and the disaggregated approach (in which deviations of tax and expenditure macroeconomic bases from their trends are estimated independently), overcoming at least some of their respective drawbacks. They propose extending the production function approach by adding a consumption function and identifying the labour compensation and profit income gaps (instead of relying on the standard assumption of constant labour and capital income shares). The approach takes into account shifts in the composition of aggregate demand and the distribution of income, as in the disaggregated approach, while retaining theoretical relationships and consistency between individual cyclical components.

Balassone proposes a simple "toolkit" for a broad-brush assessment of oil-producing countries' conduct of fiscal policy with respect to both fiscal sustainability and macroeconomic stabilization. The paper looks at the problems involved in assessing sustainability in general and discusses alternative ways to take into account oil-wealth and the high degree of uncertainty of the related estimates. On the basis of different indicators, the paper finds evidence that the attainment of sustainable fiscal positions remains an issue for many oil-producing countries. Another interesting result is that there is no evidence of fiscal policies being relatively more prudent when the number of years to depletion of oil-reserves is smaller. A mixed picture emerges with regard to stabilization.

Martner critically assesses the fiscal rules which have been established in most Latin American countries in recent years, pointing out that, except in the case of Chile, no mechanisms exist to ensure counter-cyclical fiscal policies. For some selected countries the author estimates the cyclical balances, taking into account the cyclical revenue of state-owned oil firms. He finds that, even if the tax burden in Latin American countries is low by OECD standards, the high volatility of commodity prices and GDP causes large fluctuations in the cyclical component of budget balances. This suggests that the potential gains from adopting counter-cyclical rules, such as that introduced in Chile in 2000, are significant. Finally, Martner describes Chile's successful experience with a rule requiring a surplus of 1 per cent of GDP on its structural budget, including the structural income from the extraction of copper, assessed on the basis of its estimated long-term price.

Kremer, Rodrigues Braz, Brosens, Langenus, Momigliano and Spolander present the application to six euro-area countries of a framework for public finance analysis which allows some relatively important factors affecting the budget to be identified and provides a standardized method for evaluating their impact. The analysis focuses on "structural" developments, defined as changes in the ratio of individual budgetary categories to trend GDP, excluding transitory effects of the economic cycle and temporary measures taken by governments. The results indicate that over the period 1998-2005 the ratio of the structural primary balance to GDP worsened in Belgium, Germany, Italy, the Netherland and Portugal and improved in Finland. On the revenue side, the factors identified by the analysis (fiscal drag, differences between the trend growth of GDP and the respective macroeconomic bases and legislation changes) explain a large part of the changes in budgetary ratios.

Brandner, Diebalek and Köhler-Töglhofer assess fiscal policy in Austria over the period 1976-2004 by decomposing the observed budget balance into: i) a core balance, estimated by means of an unobserved components model; ii) the effect of automatic fiscal stabilizers (as calculated by the European Commission); iii) the impact of discretionary policy responses to the business cycle, econometrically estimated; and iv) a residual.

They also provide an updated review of the literature concerning the behaviour of fiscal policy over the business cycle. The empirical results obtained by the authors indicate that the overall effect of fiscal policy in Austria was slightly counter-cyclical, with discretionary policy alone being pro-cyclical. Distinguishing between economic upturns and downturns, they find that during the former the overall effect of fiscal policy was broadly neutral.

In his discussion, Monticelli focuses on two themes: the uncertainty in the evaluation of CABs emphasized in several papers and the temptation for governments to consume oil revenue immediately underlying the results presented in the paper by Balassone. As to the first theme, Monticelli points out that, for the surveillance of budgetary policy, instead of gauging the policy effort by the change in CABs, it is preferable to correct the latter for the effects of changes in potential growth (which could not be foreseen by the policy-maker). As to the second theme, Monticelli stresses the need to create institutional and political constraints to prevent revenues from oil exports from being immediately used to finance consumption instead of investment.

The comments by Perreault focus on the papers by Kremer *et al.* and Brandner, Diebalek and Köhler-Töglhofer. Concerning both papers, he notes that there is a potential bias in the estimation of the cyclical component of the budget balance if the issue of simultaneity between fiscal and economic variables is not addressed as, for instance, in the work by Murchison and Robbins (2002) presented at the fourth Banca d'Italia workshop on Public Finance. Perreault also makes a number of specific comments. In particular, he suggests deepening the analysis in the first paper of the factors affecting the development of structural expenditure by taking into account the effects of population ageing. As to the second paper, the authors' finding that fiscal policy in Austria tightened during downturns makes Perrault wonder whether, contrary to received wisdom, unfavourable macroeconomic contexts do not provide more opportunities than upturns for policy-makers to consolidate.

The comments by Röger focus on the papers by Girouard and André, Mohr, and Kiss and Vada. Concerning the first paper, he questions the realism of the standard practice, which the OECD also follows, of assuming that public expenditure (except for unemployment related items) does not automatically respond to the cycle. He also points out that elasticity estimates may be subject to a bias stemming from endogeneity and omitted variables. As to the second paper, Röger suggests that in the univariate case recourse to the Kalman filter may not imply the difficulties emphasized by the author. Finally, concerning the third paper, Röger points out that the proposal to merge the two current approaches to calculating CABS is a worthwhile endeavour and suggests a number of technical refinements.

2. Discretionary policy and fiscal impact

The ten papers included in Session 2 deal with the analysis of fiscal policy and its effects on the economy. The first three papers are largely concerned with the identification of fiscal policies and their determinants. The following three focus on the relations between fiscal policy, or public investment policy, and growth. The last four papers study the macroeconomic effects of a few fiscal shocks; the first uses a general equilibrium model recently developed by the IMF, while the others use broadly similar methodologies, based on a Vector Autoregressive approach.

Golinelli and Momigliano estimate fiscal policy reaction functions for euro-area countries over the period 1988-2006. Unlike most studies, they explain fiscal policies largely on the basis of the information actually available at the time budgetary decisions were taken and not on the basis of the latest available data. They find that European rules have significantly affected the behaviour of countries with excessive deficits. Apart from these cases, the rules appear to have confirmed preferences that can already be seen in the years immediately preceding the Treaty of Maastricht. They also find a large symmetrical counter-cyclical fiscal policy reaction and strong evidence of a political budget cycle. The electoral manipulation of fiscal policy, however, occurs only if the macroeconomic context is favourable.

Lévy and Ouvrard discuss several problems arising with the production function approach used by international organizations to assess the cyclical component of the budget balance and the CAB. In this respect, their contribution partly overlaps a similar discussion in the paper by Kiss and Vadas in Section 1 of the workshop. On the basis of their analysis, Lévy and Ouvrard draw the conclusion that changes in the CAB are a very imperfect measure of the portion of the change in the budget balance that can be attributed to discretionary decisions by the authorities. To this end, they suggest using "the structural effort", an indicator included in a Report annexed to the 2004 French Budget Bill. In this indicator the impact of discretionary policies is calculated on the basis, for revenue, of the estimates of the effects of the changes in legislation, and, for expenditure, of the gap between the rate of growth in spending and that in potential GDP. The authors conclude by pointing out possible improvements to their proposal, essentially in the direction of reducing the asymmetry in the treatment of the two sides of the budget.

Miyazaki reviews the main backward-looking indicators that are commonly used to assess fiscal sustainability and to measure public indebtedness, *i.e.* the deficit and debt to GDP ratios and the government's balance sheet. He stresses that the definitions of these indicators can vary across countries and that the differences should be taken into account when judging the fiscal position of a country because they could lead to different interpretations and conclusions. The paper examines these differences and their consequences in general and for the Japanese case. The author concludes that governments should avoid using definitions that suit their purposes in specific circumstances. Countries should adopt instead simple concepts and make the corresponding figures available periodically. Fiscal figures based on econometric projections should be used with caution and with clear caveats, since they may change if the model used is marginally changed. Finally, Miyasaki argues that the fiscal indicators used by the euro-area countries appear to be a good example to follow.

Kasek, Laursen and Skrok review the literature on the links between public finance and growth and develop an econometric model to investigate these relationships in the eight Central and Eastern European countries that joined the EU in 2004. The model distinguishes between distortionary and non-distortionary taxes and between productive and non-productive expenditure and reveals a strong negative impact of distortionary taxes on employment and growth and a less robust positive relationship between productive expenditure and growth. The paper also sheds some light on labour market distortions caused by the tax wedge and on the role of corporate taxes in determining foreign direct investment flows. As to policy implications, the authors find that further public finance reforms are needed in the eight countries to support employment and growth rates. They suggest broadening tax bases and shifting taxation away from distortionary income taxes, increasing expenditure on infrastructure and human capital development, and reducing the overall size of the public sector.

The effects of public investment on growth are investigated by Creel, Monperrus-Veroni and Saraceno. The paper proposes a SVAR methodology focused on the effects on growth of the introduction of the “golden rule” in the United Kingdom in 1997. It adds to the existing literature in that the authors propose a model *à la* Blanchard and Perotti, which decomposes public expenditure into investment and current outlays and takes long-run factors into account. The authors find that UK public investment has positive and permanent effects on real GDP and that it was less productive before the implementation of the Code for Fiscal Stability. Furthermore, current outlays are also productive but there is evidence of an asymmetry in the interaction between them and public investment, depending on which has undergone a positive shock.

The paper by Agénor and Moreno-Dodson considers a similar topic. It gives particular emphasis to the indirect channels through which public infrastructure may affect growth. The authors argue that public infrastructure enhances the productivity of workers both directly and indirectly, reduces the adjustment costs associated with private capital formation, increases the durability of private capital and improves health and education levels, thereby compounding their effect on growth. To illustrate the issues involved, Agénor and Moreno-Dodson derive the optimal allocation of government spending between health and infrastructure in developing countries. They consider an endogenous growth framework where public capital is an input in the production of final goods and health services. On the basis of their findings, the authors suggest some policy implications for the design of strategies aimed at promoting growth and reducing poverty in low-income countries.

Botman and Kumar use the recently developed IMF Global Fiscal Model (GFM) to analyse four important issues in fiscal policy: the effects of changes in taxation that lead to changes in government debt; the implications of higher government spending; the distortions created by alternative forms of taxation and the effects of proposals to privatize the pension system. The paper, which is rich in insights and suggestions for further research, is largely devoted to identifying the major factors influencing the size and sign of the effects of fiscal policy. In particular, in the GFM a government spending shock followed by a gradual increase in taxes (to make the shock debt-neutral) leads to a reduction in private consumption, which is about equal to the increase in government consumption. The adverse effects on private consumption are reduced if the increase in taxes is postponed, if taxes on corporate rather than labour income are chosen to make the shock debt-neutral and if the share of non-liquidity-constrained consumers is increased or their planning horizon is extended.

Claus, Gill, Lee and McLellan examine the effects of fiscal policy on New Zealand's GDP in the context of a Vector Autoregressive approach, using the methodology recently proposed by Blanchard and Perotti to identify the fiscal shocks. The results show that, in the short term, an increase in government spending led to an increase in GDP, while an increase in net tax reduced it. The size of these effects depends on whether the authors adopt a deterministic or a stochastic specification to account for the upward trend in the data. In general, the estimated effects are smaller than those found for the US, a feature which most likely reflects the openness of New Zealand's economy. The authors use the structural VAR model to analyse the historical contribution of fiscal policy to business cycles. They also compare their results with those obtained by other researchers using a measure of fiscal impulse defined as the change in the estimated structural primary cash balance, finding a reasonable degree of congruence.

Rezk, Avramovich and Basso examine the effects of fiscal policies carried out in the period 1984-2005 on selected Argentine macroeconomic variables in the context of a Vector Autoregressive approach. The authors find that a public spending shock has a positive impact on economic activity, but also that this effect turns negative as early as the fourth quarter. A net revenue shock has a negative impact on output, which is less short-lived. However, in both cases the estimated effects are relatively small, owing in part to the lack of persistence of the estimated shocks, and have a low statistical significance. The results do not change significantly if capital outlays (characterized by large irregularities) are included in public expenditure. In this case, the small positive impact of public spending on economic activity disappears. The positive responses of spending to a revenue shock and of revenue to a spending shock are interesting results and deserve further investigations.

Restrepo and Rincón also use a Vector Autoregressive approach to examine the effects of fiscal policies in Chile and Columbia. The results suggest that fiscal policy seems to be more effective when public finances are under control, as they are in Chile, than when they lack stability and credibility, as seems to be the case of Colombia. The authors discuss the results for spending and net revenue shocks. They find that the impact of a spending shock is an increase in non-government demand in Chile and a reduction in Colombia. In both countries, the permanent effect on GDP of the spending shock is positive, but not significant; the size of the effect is larger for Chile.

Rodrigues Braz focuses on the papers by Golinelli and Momigliano, by Claus, Gill, Lee and McLellan, and by Rezk, Avramovich and Basso. As regards the first paper, she questions the use of OECD fiscal estimates instead of those included in budget documents, showing that, at least for Portugal, these estimates are available and partly anticipated future statistical revisions. She also suggests checking whether results are robust to the use of the cyclically-adjusted primary balance as a measure of initial conditions instead of the primary balance. As to the second paper, Braz points out that the results obtained using the deterministic specification are not comparable with those based on the stochastic one, as the characteristics of the estimated shocks are different. Finally, with regard to the third paper, she identifies a number of results which require further analysis.

In his comments, Jedrzejowicz focuses on the papers dealing with the impact of fiscal policy on economic growth. With respect to the paper by Kasek, Laursen and Skrok, he agrees with the main finding concerning a negative impact of the tax wedge on labor demand and supply but wonders whether the estimated effect is not too large compared with other studies. A possible reason is that the estimation could be affected by some extraordinary factors such as the distortions in the labor market that Eastern European countries experienced before the economic transition, which is not fully caught in the paper that covers a relatively short period of time. As to the paper by Creel, Monperrus-Veroni and Saraceno, the discussant is somewhat sceptical about the conclusion that the positive impact of public investment on growth has been strengthened in the United Kingdom by the introduction of the golden rule, given that it was introduced only 10 years ago. Finally, Jedrzejowicz agrees with Botmar and Kumar that one of the benefits of a shift to a mandatory public funded pension system is the increase in public and political awareness of future pension liabilities.

The comments by Schratzenstaller focus on the papers by Miyazaki and by Restrepo and Rincón. As to the first paper, she agrees that a correct answer to the question about the size of the overall indebtedness of the public sector is important from a democratic point of view but recognises two problems. First, the indicators highlighted by Miyazaki may give an incomplete answer to the question of fiscal sustainability or furnish distorted information in the event of cyclical fluctuations or one-off measures. She suggests supplementing these indicators with the cyclically-adjusted deficit, as is commonly done in the European Union. Second, Miyazaki’s indicators neglect future developments, whereas projected future debt levels may well serve as a useful orientation for policy-makers trying to overcome short-sighted budget policies. As to the paper by Restrepo and Rincón, Schratzenstaller enucleates some country-specific factors not captured by the model proposed in the paper that could explain the sizeable differences in the effects of fiscal policy shocks in Chile and Columbia, namely the type of taxes involved in the shocks, the composition of government expenditure, the degree of openness of the economy, the general economic conditions and expectations of households and private firms. She also suggests some interesting topics for future extensions of the paper.

3. Fiscal sustainability

The nine papers included in Session 3 tackle the topic of fiscal sustainability from different angles: some papers focus on theoretical issues, others are more empirically oriented. Backward and forward-looking indicators commonly used to assess fiscal sustainability are reviewed and discussed. New indicators are proposed in order to overcome some drawbacks or to improve the quality of the analysis. Some papers deal with long-term projections of expenditure, which are particularly dependent on the age structure of the population, and their role in evaluating the implications of current policies in terms of deficit and debt dynamics. Two papers discuss the aspect of the revised Stability and Growth Pact concerning the possibility of temporarily breaching the 3 per cent deficit limit if a structural reform is implemented.

Giammarioli, Nickel, Rother and Vidal stress that preservation of the soundness of the public finances is a necessary condition for macroeconomic stability and becomes even more important in a monetary union. The authors emphasise that the practical assessment of fiscal soundness needs to combine the analysis of the long-term sustainability of the public finances with that of their short-term stability. The former concept, which refers to the fulfilment of the government's present value budget constraint, is necessarily uncertain and does not provide a clear policy prescription as corrections of fiscal imbalances can be postponed indefinitely without violating the sustainability condition. The authors conclude that the greater the uncertainty about the long-term sustainability of the public finances, the greater the need for an assessment of the financial situation in the short term.

The paper by Debrun, Celasun and Ostry focuses on the assessment of debt sustainability and stresses the need to overcome one of the main drawbacks of debt sustainability analysis, *i.e.* the fact that it is usually based on a deterministic approach in which uncertainty is dealt with by simulating alternative scenarios in which only one key variable at a time is hit by an adverse shock. The paper proposes a methodology that improves the understanding of the risks surrounding debt dynamics and acknowledges the probabilistic nature of debt sustainability analysis exercises. The approach, which preserves a certain degree of standardisation while allowing for country-specific risk factors, uses estimates of the joint probability distributions of economic shocks to construct a large number of scenarios capturing covariances among disturbances and the dynamic response of the economy. The methodology provides for fiscal policy to adjust to shocks according to a pattern observed in emerging market economies and to be itself a source of risk. The proposed assessment of debt sustainability is probabilistic and can help policy-makers to: capture country-specific features relevant for debt dynamics; have clearer signals of the risks from delaying fiscal adjustment or undertaking fiscal expansions; and improve medium-term fiscal planning given the more complete information on the debt risk profile.

The paper by Langenus reviews the different theoretical benchmarks and empirical tests for sustainability and assesses the sustainability of public finances in the euro area countries on the basis of the projections of the Ageing Working Group of the EU Economic Policy Committee. The author proposes two operational indicators of fiscal sustainability in place of those adopted by the European Commission and explores appropriate policy options to restore fiscal sustainability. The sustainability indicators quantify the fiscal effort that would be needed to fully pre-fund the budgetary costs of ageing and generate a debt-stabilising budget balance at a specific date. In light of these indicators, given the present macroeconomic and demographic outlook, fiscal adjustments will be needed in nearly all the euro area countries, with considerable variations in size across countries. Furthermore, the pre-funding of ageing costs would lead to the reimbursement of public debt and the creation of net government financial assets in a number of countries. As to the policy options, the paper shows the implications of different budgetary strategies for the fiscal burden of subsequent generations of workers.

The assessment of fiscal sustainability requires long-term projections. Oliveira Martins, de la Maisonneuve and Bjørnerud accordingly propose a comprehensive uniform cross-country framework for projecting public health and long-term care public expenditure, which considers the impact of both demographic and non-demographic factors. Among the former, the authors include death-related costs and the health status of the population. Among the latter, the projection method accounts for income elasticity and a residual effect of technology and relative prices. The framework is used to project these expenditure items for all OECD countries up to 2050 with reference to two main scenarios: the "cost-pressure" scenario, where no policy action is assumed, and the "cost-containment" scenario, which includes the effects of policies aimed at curbing expenditure growth. The authors find that in both scenarios average health and long-term care spending across OECD countries would rise markedly and that non-demographic factors are the most important drivers of this increase.

Gokhale and Smetters put forward some criticisms concerning the indicators currently used to assess the financial sustainability of the U.S. Social Security program. They argue that these indicators create a misleading impression of the program's financial outlook and are biased against potential reforms that could improve the program's finances. The authors propose as alternative indicators: the "open-group unfunded obligations", which measure the imbalance arising from providing benefits to all past, present and future generations in excess of their payroll taxes in present value, and the "closed-group unfunded obligations", which exclude future generations from the calculation.

The paper by Franco, Marino and Zotteri explores two main ways of accounting for implicit liabilities in the assessment of fiscal sustainability: i) by using long-term expenditure projections and ii) by relying on estimates of pension liabilities. As to the former, the paper examines the pension expenditure projections available for EU countries.

After recognising the progress made in recent years, the paper argues that the comparability of projections is still unsatisfactory and that any mechanical use of projections should be avoided. As to pension liabilities, the authors examine the main definitions and their potential role in the assessment of sustainability. They argue that pension liabilities may bring a clearer understanding of the impact of fiscal policies, provide a measure of the cost of terminating pay-as-you-go pension schemes and help in measuring deficits computed on an accrual basis. However, the level of pension liabilities does not provide indications on the sustainability of pension schemes or their effects on public budgets. Therefore, pension liabilities should not be added to conventional debt; instead both pension expenditure projections and estimates of pension liabilities can complement the current deficit and debt indicators in the EU fiscal framework.

Draper, ter Rele and Westerhout argue that in the assessment of fiscal policies understanding the behaviour of economic agents is as important as understanding fiscal institutions and propose a model which integrates the generational-accounting approach with an applied general equilibrium setup. In this way, the authors combine the main advantages of the two approaches: the ability of generational-accounting models to assess the sustainability and the generational impact of fiscal policy and the ability of applied general equilibrium models to simulate the effects of policy reforms. The model proposed in the paper combines age profiles of different expenditure and tax items with demographic projections. Furthermore, the model takes into account not only transfers to and from the public sector but also developments in income earned in the private sector.

The last two paper of the Session discuss one particular aspect of the reform of the Stability and Growth Pact: the possibility of temporarily breaching the 3 per cent deficit limit in the event of an effective but initially expensive structural reform. Höller and Giorno argue that while this principle is underpinned by a clear economic rationale, its implementation is not obvious. Indeed, for it to be properly implemented three conditions, which in practice are hard to fulfil, have to be met: budgets need to clearly identify the structural policy measures that are taken and specify their immediate and future cost and benefit profile; budgets need to be explicit about the cost of inaction, *i.e.* report the budgetary developments in the absence of structural reform; and budgets need to give an indication of the broader economic effects of action or inaction in order to be able to judge the ex-ante effectiveness and efficiency of the proposed measures. The paper provides simulation exercises to highlight the positive budgetary effects of coordinated structural reforms in the euro area and the need for an adequate monetary policy response to make sure that demand adjusts rapidly to the improved supply conditions. The budgetary gains would still depend on the type of reform and their impact on employment and productivity.

Van den Noord and Cournède use econometric techniques to provide evidence that the upfront budgetary cost of structural reform is small compared with the longer-term benefits for expenditure and revenue levels. On the basis of their findings, the authors claim that there is a need for caution when using the greater margins for flexibility provided by the revised Stability and Growth Pact and argue that, since the fiscal costs of successful structural reform tend to be small and short-lived compared with the long-run benefit, any breaching of the 3 per cent deficit threshold should be limited, temporary and conditional on a detailed assessment of the short-term costs and long-term gains of the reform.

Genorio’s comments focus on the papers by Debrun, Celasun and Ostry and by Oliveira Martins, de la Maisonneuve and Bjørnerud. Concerning the first paper, after highlighting the main technical drawbacks of an approach based on fiscal reaction functions, she stresses that the adoption of a stochastic approach in the analysis of debt dynamics generates more reliable and comprehensive results. As to the second paper, Genorio suggests complementing the projections of public health and long-term care expenditure with a stochastic approach similar to that used by Debrun, Celasun and Ostry.

Referring to all the papers presented in the Session, Schneider concentrates the first part of his discussion on the characteristics that an indicator of fiscal sustainability must have in order to be useful for providing policy advice: timeliness; focus on budgetary relevant accounting parameters; macroeconomic relevance; and comparability across countries for multilateral surveillance reasons. He stresses that commonly used indicators only convey information on the need to enact a reform to avoid unsustainable paths but do not give indications about the urgency of the intervention. He suggests a two-step procedure to assess the urgency condition, consisting in checking whether the cost of fixing the situation today, conditional on not having resolved it before, is lower than that of dealing with it later on. This indicator of urgency would not depend on the specific indicator chosen to assess fiscal sustainability.

In his discussion, Schuknecht stresses that while quite a lot is known about past government behaviour and pension systems and their costs in coming decades under certain assumptions, very little is known about health and long-term care, how to reform them successfully, how economic agents would respond to reforms and the optimal mix of private and public old-age insurance. Even less is known about the financial vulnerability and risks to the demand side for government bonds in industrialised countries. Schuknecht emphasises that social security reform affects the risk-sharing between the private and public sectors and the quality of life of old people. Without reforms, part of the risks would be shifted to the private sector in an unpleasant environment characterised by high taxes, low employment and low growth.

4. The role of indicators in fiscal policy

Section 4 includes six papers examining the role of fiscal indicators in the policy debate. Two papers examine the issue in the context of the European Union fiscal framework. Three papers focus on national case studies: India, Sweden and the United Kingdom. The last paper considers the impact of fiscal performance on election outcomes in OECD countries.

Brender and Drazen examine how fiscal performance may affect voting behaviour and the factors that may influence this relationship. More specifically, they evaluate whether voters in developed countries reward loose fiscal policies that provide them with larger transfer payments and more public goods while postponing payment to the future. They consider information on 23 OECD countries over the period 1960-2003. They find that larger deficits during an incumbent's term decrease the probability of re-election and that voters do not have a systematic preference for expenditure cuts relative to tax hikes or vice versa. These findings, which differ markedly from those obtained for the euro-area in the paper by Golinelli and Momigliano included in Session 1, are consistent with the view that voters in developed countries are rational forward looking individuals who do not fall for "fiscal illusions".

Moulin and Wierts investigate the track record of the multi-year budgetary plans of EU Member States as formulated in the Stability and Convergence Programmes and their updates. After noting that there have been significant divergences between the targets set in the Programmes and the budgetary outcomes, they evaluate what part of these slippages can be attributed to a lack of implementation of planned measures and what part is due to forecast biases in economic growth. The study is based on the analysis of an original database summarising the main macroeconomic and budgetary variables projected by the Member States in their Programmes. Moulin and Wierts show that the failure to achieve the projected reductions in the general government deficit primarily reflects difficulty in adhering to expenditure plans in nominal terms. This does not seem to be due to unfavourable macroeconomic developments, but rather to the difficulty EU countries had in implementing the reforms which would have been necessary to respect the ambitious expenditure targets. Overall, the findings point to a need to strengthen expenditure control mechanisms in most of the EU Member States.

Buti, Nogueira Martins and Turrini note that under numerical fiscal rules, such as those underpinning EMU, governments are tempted to use accounting tricks to meet the fiscal constraints. Given these political incentives, fiscal variables that in the past were regarded as mere residuals acquire a strategic role. This is the case of the so-called stock-flow adjustment (SFA), which reconciles deficit and debt developments. The authors identify distinct SFA components that are associable with accounting gimmicks aimed at embellishing the deficit and at reducing the debt. They develop a simple theoretical model in which deficits and two distinct SFA components (one that could be used to hide part of the deficit and the other to reduce the debt) are determined as a result of a constrained optimization by fiscal authorities. Buti, Nogueira Martins and Turrini provide empirical evidence that the SFA component serving to hide deficits rises with the recorded deficit, while sales of financial assets to keep the debt under control rise with the debt and the deficit.

Pattnaik, Raj and Chander examine the role of fiscal indicators in the Indian policy framework, which is essentially based on the Fiscal Responsibility and Budget Management Act of 2003 (FRBM). After surveying the literature on the measurement of structural and cyclical components of budget deficits, they examine public finance developments in India outlining the evolution of deficit measures and fiscal trends since the 1990s. The paper evaluates the impact of permanent and transitory factors in the recent fiscal consolidation phase, which has taken place in a context of fast economic growth. It assesses the effectiveness of the Central Government's fiscal policy stance in terms of its impact on the structural component of the fiscal deficit and the compliance with the FRBM targets. The paper notes that the reduction of the deficit has largely been achieved via increases in revenue and concludes that tax policy changes have significantly contributed to this outcome.

Woods examines the role of fiscal indicators in the UK fiscal policy framework. This includes the golden rule and the sustainable investment rule, requiring public sector net debt as a proportion of GDP to be held at a stable and prudent level over the economic cycle. Woods considers the wide range of fiscal indicators used to underpin fiscal decisions. Backward-looking indicators provide a measure of how successful the government has been in meeting its objectives; projections of the key fiscal indicators can guide fiscal strategy over the medium and long term. The indicators help the government in setting its fiscal policy and provide the public with the evidence required to evaluate government policies. Woods gives a detailed explanation of the approach used to cyclically adjust key fiscal balances and the indicators used in analysing the longer-term fiscal position, including issues of long-term fiscal sustainability and inter-generational fairness. Finally, the paper considers how the various indicators are used in formulating the government's fiscal strategy.

Boije and Fischer examine the role of fiscal indicators in the Swedish rules-based budgetary framework, which requires that the general government budget position show a surplus of 2 per cent of GDP over the cycle. They consider the indicators developed by different institutions for measuring the fiscal stance, the structural budget balance and the discretionary component of budget changes. They also discuss the factors underlying ex post revisions of fiscal indicators. On the basis of the Swedish experience they draw some general conclusions. They note that methodological differences can lead to substantially different results. This can be problematic when indicators are used to assess policy objectives, such as the fulfilment of the Swedish surplus target, and when the assessments lead to short-term policy conclusions. A second lesson concerns the implications of the short-term volatility of public finance figures. Boije and Fischer notice that the magnitude of this uncertainty overshadows any improvements in precision that can be achieved by making more refined methodological changes to budget indicators and that it appears more important to concentrate on how to improve national accounts statistics and forecasting.

Lindh agrees with most of the analysis by Moulin and Wierts, and Boije and Fischer and notes that the two papers provide fertile ground for further research. He notes that the comprehensive dataset compiled by Moulin and Wierts could be used to test the role of differences in the robustness of fiscal frameworks. More specifically, Lindh suggests testing the hypothesis that expenditure overshoots have been smaller in Member States with strict expenditure ceilings. Turning to the paper by Boije and Fischer, he stresses that in the Swedish framework expenditure ceilings do not merely support the surplus target. They also prevent windfall revenues from being used to finance permanent expenditure increases and sharpen the allocation of resources across expenditure programmes.

Wendorff rates the paper by Buti, Nogueira Martins and Turrini a major contribution to the discussion on fiscal indicators. However, he notes that focusing on stock-flow adjustments may not be sufficient: governments may introduce other forms of creative accounting. He also raises some questions concerning the econometric results, which, in his view, only partly prove the authors' conclusions. Wendorff suggests some possible extensions of the analysis, such as including reclassifications in the measure of "hidden deficits" and making use of real-time data for all years. As to the paper by Woods, Wendorff considers that the United Kingdom framework meets the criteria for appropriate fiscal rules. Nevertheless, he points to some critical aspects in the implementation of the rules and concludes that their strength can only be assessed after they have been subject to some stress tests.

St. Aubyn praises Brender and Drazen for their clear presentation of data sources, definitions and methods and points to their important policy-relevant result: politicians who have reduced the deficit are more easily re-elected. He suggests considering a potential cause of bias (politicians may decide to withdraw from the political scene if they expect to be defeated) and a possible alternative explanation (deficit reduction may be considered a "competence signal"). St. Aubyn also suggests extending the analysis to the composition of spending and checking whether the results would be modified if a cyclically-adjusted deficit measure were considered. In commenting on the paper by Pattnaik, Raj and Chander, he notes that the main conclusion concerning the role of government action in reducing the deficit should be tested by using different procedures for computing the cyclical component of the budget.