Session 4

NATIONAL FISCAL FRAMEWORKS: THE WAY FORWARD

SHOULD LATIN AMERICAN COUNTRIES ADOPT STRUCTURAL BALANCE-BASED FISCAL RULES?

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1 Introduction and overview

As well documented in the literature,[1] Latin America (henceforth LA) has a long history of pro-cyclical fiscal policies, reflecting the region's exposure to a range of exogenous shocks, tight financial constraints and relatively weak fiscal institutions. Pro-cyclicality declined during the last decade, as most countries saved part of the fiscal dividends of stronger growth and high commodity prices. The resulting improvement in fiscal balances and debt positions allowed most of the region to accommodate the decline in revenues induced by the global financial crisis of 2008-09, and in a number of cases to finance active counter-cyclical fiscal expansions. However, fiscal policies remained largely expansionary in 2010, despite a rapid recovery of output and emerging signs of overheating in some countries.

Against this background, this paper discusses the role that structural balance-based fiscal rules (SFRs) could play in moderating pro-cyclicality, ensuring longer-term debt sustainability, and facilitating the coordination of fiscal with other macro-economic policies in the LA region. It also focuses on the necessary ingredients for a sound design and successful implementation of SFRs. The fact that these conditions are rather demanding, and unlikely to be adequately fulfilled in many LA countries at the present time, suggests that a gradualist approach may be more realistic in these countries, beginning with a systematic and transparent calculation and dissemination by the authorities of structural indicators to assess the fiscal stance and inform budgetary policy, and moving to more formal rules over time as the relevant pre-conditions are put in place.

The paper begins with a discussion of pros and cons for SFRs in the LA context (Section 2); it then discusses various issues in their design (Section 3) and implementation (Section 4), including their applicability at the sub-national level (Section 5). Section 6 reviews the experience of Chile with its SFR; and briefly discusses the recently enacted SFR for Colombia, and whether a SFR would be appropriate for Brazil, where reportedly it is currently under consideration. Section 7 presents some concluding thoughts.

2 Pros and cons of structural fiscal rules in the Latin America context

Pro-cyclical fiscal responses to recurring external shocks – such as sudden stops in capital inflows, and boom and bust cycles in commodity prices, that were so endemic in LA during the "lost decade" of the 1980s and in the1990s – entailed a range of costs for the region:

- they aggravated macro-economic volatility, with adverse effects on employment, business climate, and FDI;
- they frequently included cutbacks in social programs during periods of rising unemployment and poverty;

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This paper draws in part on a chapter prepared by the author for a forthcoming book by the Inter-American Development Bank (IDB) on the same subject. Helpful comments were received from, among others, S. Clavijo, G. García, M. Marcel and R. Ossowski. The views put forward in it are not necessarily those of the IDB.

[1] Among the many studies that have documented fiscal pro-cyclicality in LA, see, e.g., Perry *et al.* (2008) and Daude *et al.* (2010).

- they also involved cuts or postponements in planned public investments during crises, contributing to persisting large infrastructure gaps; or sprees on inefficient spending ("white elephants" or overmanned civil services) during booms; and finally,
- due to asymmetric responses (stronger expansions than retrenchments) over the cycle, they undermined debt sustainability in some of the countries.

Fiscal pro-cyclicality during those decades reflected a range of factors, in particular the tightness of financing constraints during adverse shocks; and political and social pressures linked to the democratization process, as well as weaknesses in the institutional frameworks for fiscal policy and management, during "good times".

The first decade of the 2000s saw significant progress in fiscal management throughout the region, as most countries took advantage of stronger revenues to reduce the public debt, improve its structure, and/or accumulate assets. As a result, pro-cyclicality was substantially reduced (albeit not eliminated in most countries), and several were able to respond to the global financial crisis of 2008-09 with substantial fiscal stimulus packages.

However, fiscal policy remained expansionary in most countries in 2010, despite the recovery in activity and the emergence of initial signs of overheating and rising inflationary pressures in some of them. Moreover, although public debt levels in LA are on average much lower than in advanced countries, it is unclear how much capital markets' debt tolerance for the region has increased in recent years. Thus, a timely tightening of fiscal policies would contribute to promoting both near term macro-economic stabilization and longer-term fiscal sustainability.

Against this background, the adoption of well designed and effectively implemented fiscal rules targeting a structural balance (adjusted for the cycle and, in countries highly dependent on commodity revenues, for deviation of the relevant commodity prices from their medium term trend) would help LA countries avoid pro-cyclicality and the attendant macroeconomic, efficiency and social costs discussed above. It would also facilitate better coordination of monetary and fiscal policies, reducing the upward pressures on interest rates and exchange rates that are currently evident in many countries of the region (especially Brazil, Chile, Colombia and Mexico).

However, as the subsequent sections of this paper will argue in more detail, a sound design and an effective implementation of SFRs are no easy tasks, and require a number of demanding political, institutional, as well as economic, pre-conditions, which are only partially (and to varying degrees) met in most countries of the region. Moreover, while a SFR is superior to a rule targeting an unadjusted budget balance in preventing fiscal pro-cyclicality, it shares with the latter the risk of hindering active counter-cyclical fiscal responses to a crisis, even when there exists adequate fiscal space for such responses. Even during boom periods, a SFR may constitute a hindrance to a needed fiscal tightening, if it lulls a government into believing that, by meeting the SFR's target, it has done all it needs to do on the fiscal front to stabilize the economy.

There are a number of possible approaches to combining the benefits of constraining discretion through a SFR with those of maintaining an adequate degree of flexibility in macro-fiscal management:

- The SFR may include escape clauses to deal with unpredictable exogenous shocks. Such clauses should specify as clearly as possible the nature and magnitude of the shocks to be accommodated; the length of the period during which the rule would be relaxed or put into abeyance; a path of return to full observance of the rule; and the responsibility for activating the clause and monitoring its implementation. This specification requires careful consideration of country-specific circumstances, such as the type of shocks the country is most exposed to and the sensitivity of the main fiscal aggregates to such shocks; and the foreseeable fiscal space to accommodate them, or to at least spread the adjustment to them over time. In all cases,

credibility can be enhanced by the use of independent "fiscal watchdogs" responsible for assessing the correct use of the clause, or at least by a stipulation that the activation of the clause must be approved by a qualified majority of Parliament. The recent global financial crisis has highlighted the shortcomings of fiscal rules that do not include adequate escape clauses. According to a survey conducted in 2009 by IMF staff, only about half of countries operating under a fiscal rule were able to accommodate a countercyclical policy response within the rule's framework. The others had to either explicitly modify the rule, or put it into temporary abeyance.

- While escape clauses are intended to deal with the consequences of large but temporary shocks, more permanent ones would require a lasting revision of the rule's target (or, in some circumstances, even of the rule's basis). There would be, in principle, benefits from incorporating *ex ante* provisions for such revisions in the legislation introducing a fiscal rule, not least to avoid reopening political debates on the whole framework of the rule when the need for such revisions materializes. In practice, however, it may be difficult to anticipate from the outset the range of factors that may require a revision of the rule.
- The target for the rule could be specified as a range, rather than a point value. This should be accompanied by a requirement that deviations from the midpoint of the range, to accommodate a counter-cyclical fiscal response during a given phase of the cycle, be recorded in a notional account and be offset by an equivalent deviation in the opposite direction during the subsequent phase of the cycle. This would avoid the above-mentioned common asymmetry in active counter-cyclical fiscal policies.
- Finally, the target could be specified as a function of the phase of the cycle, possibly with a threshold value:

$$T^t = T^* + a*(b*(Y^p - Y)/Y^p)$$

where T stands for the target at time t; T^* for a pre-specified target in cyclically neutral conditions; a takes a value of 0 if the output gap falls below a pre-specified threshold level, and 1 otherwise; b is a parameter between 0 and 1 indicating the desired strength of allowed countercyclical responses to the output gap; Y^p stands for potential output and Y for actual output.[2]

3 Main issues in the design of structural fiscal rules

Countries considering the adoption of a SFR face a number of issues regarding the choice of the basis of the rule and the level of its target.

3.1 Choosing the basis of a SFR

The main choices regarding the basis of a SFR are as follows:

i) To use a cyclically-adjusted balance (CAB);[3] a growth-based balance (GBB);[4] or a balance over the cycle?[5]

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[2] This formula is suggested in the recently released report of the Advisory Committee for reform of the Chilean SFR (Corbo, 2011).

[3] A cyclically-adjusted balance (CAB) aims to approximate the budget balance that would prevail if the economy was operating at its full potential, *i.e.*, if the output gap was zero. Therefore, typically it is calculated by excluding from revenues and expenditures those components which are due to a positive or negative output gap.

[4] A variant of the CAB is a growth-based balance (GBB), which excludes from budgetary revenues and expenditures those components that reflect the difference between the actual and the trend growth rate of the economy.

ii) The non-interest (primary) or overall balance?

iii) The current or the overall balance?

iv) To adjust for gaps in absorption, rather than output?

v) To adjust for commodity prices fluctuations?

i) As is well known, obtaining robust estimates of a CAB is not an easy task, as all existing methods of estimation of potential output (HP and other filters; or production functions) suffer from technical problems, especially significant in the presence of structural breaks, limited observations, and/or frequent significant revision in the GDP estimates.[6] The difficulties of obtaining reliable estimates of the output gap in many LA countries may argue for using an (easier to calculate) GBB instead in those countries. However, it should be recognized that a GBB can give misleading signals, e.g., during the early phase of a recovery, when actual GDP may be growing well above trend but still remain below potential.

   Both a CAB and a GBB require reliable estimates of elasticities of tax revenues and certain categories of expenditures to the cycle. The well-established methodologies (by the OECD, IMF, and the EC, among others) to carry out these estimations[7] are relatively demanding in terms of data availability. The alternative approach of targeting a given average budget balance over the cycle, while in principle equivalent to a CAB-based one, in practice can give different results if the length and intensity of the cycle is not correctly anticipated at the outset. It is also more prone to political manipulation by, e.g., overestimating the length of the downturn phase of the cycle, thereby pushing forward in time the required fiscal tightening.

ii) As regards the choice between a primary and an overall balance as basis for SFRs, the advantages of the former are that it is more controllable by the fiscal authorities and it better reflects current, rather than past, decisions. It also avoids possible incentives for the authorities to meet an overall balance target through a loose monetary policy. These considerations are especially relevant in most LA countries, given the structure of their public debt (relatively short average maturities, and high proportions of instruments with variable rates) which implies a quick transmission of volatility in interest rates to the overall budget balance. Indeed, most LA countries that already use fiscal rules formulate them in terms of the (unadjusted) primary balance.

   However, a primary balance-based SFR would need to include a debt feedback mechanism, to ensure longer term fiscal sustainability in the event of sustained shocks to interest rates or to the debt stock. A complementary debt rule would be useful also when targeting the overall balance, to avoid temptations to use below-the-line or quasi-fiscal operations that do not affect the budget balance but increase the public debt. Such operations are quite common in LA countries. Debt-based rules also have the advantage of requiring the fiscal stance to be adjusted in the event of a lasting shock, such as a devaluation, impacting the foreign exchange-denominated component of the debt. However, they need to be formulated carefully, e.g., by including escape clauses that would allow such adjustments to be distributed over an adequate period of time, to avoid either low quality measures or an outright violation of the rule in the event that the shock is unexpected and large.

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5 A further variant of a CAB-based rule is one that targets a given balance (generally expressed as a percentage of GDP) over the cycle. Rules of this type were adopted by Sweden and by the UK during the last decade.

6 See, e.g., IMF (2009) and EC (2010) for details.

7 See, e.g., Girouard and André (2005); Larch and Turrini (2009); Fedelino *et al.* (2009); and EC, (2010).

iii) As concerns the choice between the current and the overall balance as basis for a SFR, some have argued in favor of the former, given the large infrastructure gaps prevailing in LA.[8] However, golden-type rules do not seem advisable in the region because:

- they may be inconsistent with debt sustainability (still an important issue in several countries of the region);
- they privilege investment in physical over human capital (lack of which is still a major constraint to growth in the region);
- they do not provide incentives to improve the systems for evaluation and selection of public investment program (that are frequently poor in LA); and
- they are open to manipulation through misclassification of spending programs (a not uncommon practice in the region).

Infrastructure spending needs would be better safeguarded through complementing a SFR based on the overall (or primary) balance with expenditure rules and/or the use of medium-term expenditure frameworks.

iv) The EC has recently advocated the use of an alternative fiscal indicator, *i.e.*, a cyclically- and absorption-adjusted budget balance (EC, 2010). Its analysis shows that such an indicator can give significantly different signals about a fiscal stance than the CAB in countries with large current account deficits. Given the high dependence on consumption taxes (more related to absorption than to output) and the volatility of external financing in LA countries, in principle it would be desirable to adjust the fiscal target for cyclical fluctuations in absorption, rather than output. But, the difficulties of estimating and especially monitoring CAABs on a timely basis in most of the region advise against it in practice.

v) Most LA countries are highly dependent on revenues from commodities. The high degree of volatility of commodity (especially energy products) prices makes the overall fiscal balance of resource revenue-dependent countries also very volatile. A rule that would require stabilizing the overall balance at a given level over time would result in large (and often disruptive) swings in public expenditures; moreover, it would be pro-cyclical, as expenditures would rise during boom periods and have to be cut back during commodity price slumps, or during periods of declining external demand that also have adverse repercussions on domestic activity. In contrast, a rule targeting the non-resource component of the fiscal balance (possibly adjusted for the domestic cycle as well) would smooth spending and avoid pro-cyclicality**.**

An alternative approach would be to target the overall balance adjusted not only for the output cycle, but also for deviations of the prices of main resource revenues from their long-term trend, as is done in the Chilean SFR. In contrast to the one targeting the non resource-balance, this approach does not correct for cyclical changes in external demand for the relevant commodities, except to the extent that they are reflected in the commodity price swings. It also requires a transparent and analytically sound methodology for assessing long-term trends in such prices, an especially difficult undertaking in the case of fuel prices, which many experts view as akin to a random walk.[9]

3.2 Choosing an SFR's target

The choice of the target level under a SFR should be guided by a number of considerations:

i) the country's initial fiscal conditions and its expected medium-term public debt dynamics;

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[8] See, e.g., Perry *et al.* (2008).

[9] See Barnett and Vivanco (2003), for a discussion of statistical properties of oil prices.

ii) any long-term savings needs; and

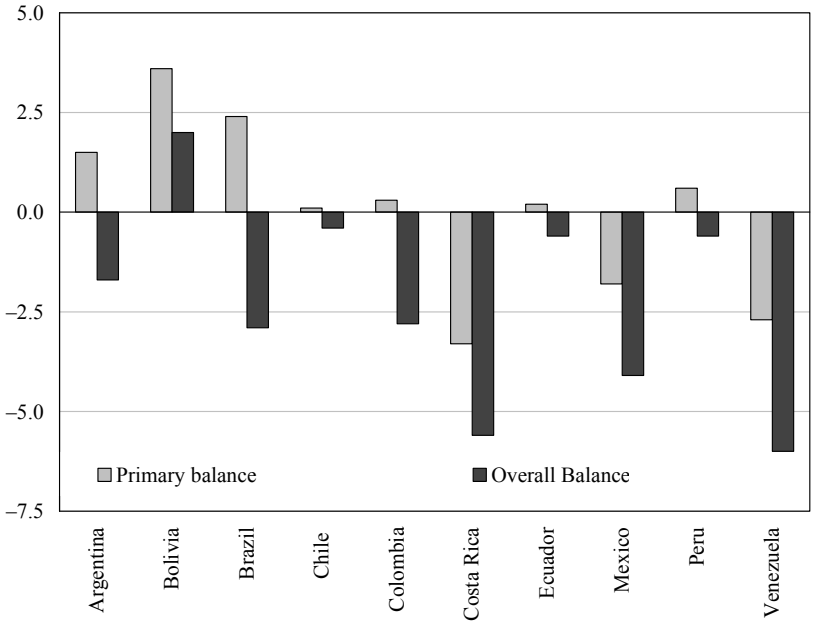
iii) whether the target is fixed or variable over time.

i) In principle, a fixed target for the SB should be set at a level that is expected to be consistent with a desired (declining or stationary) path of the public debt, under a prudent set of baseline assumptions for the relevant macro-economic variables (the growth of trend or potential real GDP, inflation, interest rates, exchange rates, and the probability of realization of contingent liabilities). The choice of the baseline assumptions should be based on a comprehensive sensitivity analysis, and be more cautious the worse the fiscal conditions of the country (higher deficit and debt levels) are at the time of introduction of the rule. Particular focus should be placed on analyzing whether actual (as opposed to structural) deficits may occur during the application of the rule that could not be financed (or could be only at very high interest rates). This analysis requires a careful assessment of the likely amplitude of the cycle in the country in question. It also requires reliable information on the country's public and external debt structure, and its vulnerability to changes in market sentiment (in particular the likelihood of sudden stops in capital flows).

As Figure 1 shows, initial conditions vary widely within the LA region, both as concerns budget balances and public debt. Financing constraints have eased in most countries, but could tighten again in an adverse external scenario. Also, the factors influencing the debt dynamics, in particular growth and interest rates vary significantly across the region.[10] In many countries, however, the average real cost of the public debt tends to exceed the growth rate, pointing to a need to target structural primary surpluses.

Figure 1

Fiscal Balances in Selected LA Countries, 2010
(percent of GDP)



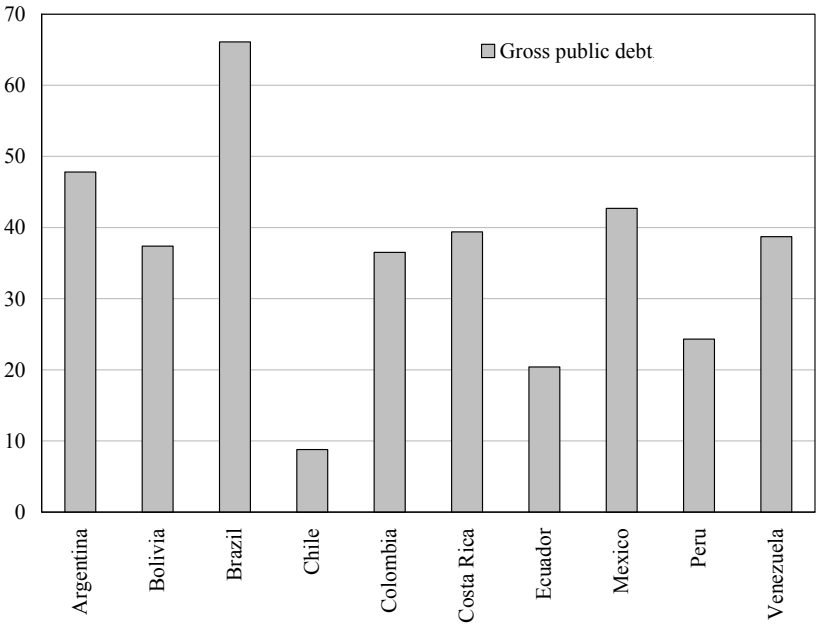
Source: IMF, Western Hemisphere Regional Outlook, April 2011.

ii) Long-term savings needs in the majority of LA countries are less related to population aging than is typically the case in advanced countries. Most countries in the region have still relatively young populations, although some

[10] Estimated growth rates in 2010 ranged between –1.3 per cent in Venezuela to over 8 per cent in Paraguay, Peru and Uruguay (IMF WHD REO, October 2010).

Figure 2

Gross Public Debt in Selected LA Countries, 2010
(percent of GDP)



Source: IMF, Western Hemisphere Regional Outlook, April 2011.

(e.g., Brazil and Uruguay) are aging at a faster rate than many industrial countries. In LA countries, the main spending needs relate to investment in physical (infrastructure) and human capital (education and training) and to improvements in the coverage of social safety nets (health, pensions and social assistance). Some countries have also sizable contingent liabilities.

In countries heavily dependent on revenues from non renewable natural resources, the choice of medium-term fiscal targets should be guided by the goal of accumulating sufficient wealth to smooth income and consumption across generations before and after the exhaustion of the resources. However, the translation of this broad principle into operational guidelines is far from simple, and different authors have argued for different rules.[11] One conceptually appealing such rule call for stabilizing the non-resource primary balance (as percent of non-resource GDP) at a level that ensures sufficient assets accumulation by the time the resource wealth is exhausted to allow the same balance to be financed subsequently through the return on the assets (Ossowski and Barnett, 2003). The translation of this principle into an operational rule requires a number of difficult predictions of such variables as the size and speed of depletion of the natural resources, the long-term outlook for their prices, and the rate of return on the financial wealth being accumulated.[12]

Countries may prefer to specify a time-variant path for their SFR target if they need to establish market credibility with a stronger up-front adjustment, or if they can credibly project "structural breaks" (related, e.g., to the coming on stream of substantial natural resource revenues) in their public debt dynamics. In general, however, a rising time path for the SFR target would not be advisable, as it is likely to be seen by markets as a political expedient to postpone adjustment.

Finally, countries facing relatively high uncertainty about the relevant macro-economic factors may choose to limit the time horizon for the specification of the target (to, say, 3 to 5 years), or

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[11] For example, (i) the permanent income model (PIM) calls for equalization of per capita consumption across generations, taking into account both resource and non-resource revenues; (ii) the permanent resource income model (PRIM) argues for redistribution of only the resource wealth across generations; (iii) the so called bird-in-hand rule requires government to limit its non-resource deficit to the annual stream of revenues from accumulated financial assets (See Maliszewski, 2009, for a comparison of such rules).

[12] See Villafuerte *et al.* (2010) for a discussion of fiscal rules and fiscal policies in LA oil-producing countries.

to give it a rolling character (as is the case, e.g., in Brazil).[13] Of course, the disciplining and signaling effect of a rule based on rolling targets would depend very much on the demonstrated commitment of the government to avoid large year-to-year changes in the targets, and to transparently and convincingly motivate them, when unavoidable.

4 Implementing SFRs in the Latin America context

Countries considering the adoption of a SFR face a range of issues in the implementation of the rule, in particular regarding:

i) the timing of introduction of the rule;

ii) its legal basis; and

iii) its public financial management (PFM) requirements.

i) As regards timing, SFRs (like all rules) are unlikely to work if introduced in periods of unusual political and economic uncertainty/turmoil. This is not the case currently in LA. A further consideration in favor of the adoption of SFRs in LA at the present time is the current phase of the cycle. Clearly, the credibility of a SFR tends to be greater if it is adopted during a cyclical expansion. Financial markets and other economic agents may view its adoption during a downturn as dictated by political expediency (as a SFR would allow a higher level of spending than an overall deficit target), and question its sustainability under favorable cyclical circumstances. But, as Chile's experience suggests, a country with adequate fiscal space (low debt and low probability of emergence of financing constraints) could more easily gain market acceptance of its accommodation of the automatic stabilizers during a downturn, if at the same time it was committing to allowing them to operate during future expansions.

ii) A strong legislative basis is not necessarily a pre-condition for the introduction of a fiscal rule. A government can in principle announce its commitment to the achievement of certain values for the targeted fiscal variables for an extended period ahead, without seeking to enshrine it into a law. The credibility of such an announcement would be of course greater the longer the expected life of the government, the stronger the role of the executive in the budget process, and (at least in a democratic regime) the broader the perceived political and social consensus on the rule.

   That said, a robust legal foundation for a fiscal rule can significantly enhance the prospects for its effective and sustained observance, because it raises the cost of its non-enforcement or abandonment, thereby enhancing its credibility. The question is: how robust should that foundation be? The higher the level of the law establishing the rule, the more difficult it is to change it. There is thus a trade-off between the objective of strengthening the commitment to the rule, on the one hand, and that of preserving an adequate degree of flexibility, on the other hand. While the appropriate balance of these objectives should reflect the specific political, institutional, and economic circumstances of each country, in practice in most countries fiscal rules are established through legal instruments stronger than ordinary laws that could be modified by a subsequent budget law. The experience in this respect with existing fiscal rules varies across LA. Some countries (e.g., Brazil and, since 2006, Chile) have enshrined their fiscal rule in a higher-level Fiscal Responsibility Laws. Others use ordinary laws.

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[13] The Fiscal Responsibility Law in Brazil mandates fixed ceilings for the public debt and for government payroll in relation to net revenues, but requires the government to set in the annual Law on Budget Directives three-year rolling targets (compulsory for the first year and indicative for the subsequent two) for the (unadjusted) primary balance.

iii) As is well known, sound PFM institutions[14] are important for an effective conduct of fiscal policy, whether rules-based or not. These requirements are made more stringent by a country's adoption of numerical fiscal rules, because of the reputational and possible other costs entailed by a violation of the rule. Moreover, as mentioned above, the adoption of a SFR poses special statistical and computational requirements. At the same time, however, the adoption of a rule often provides impetus for implementing needed reforms in the PFM system, as the experience of Chile demonstrates (see Section 6 below). Thus, the decision of whether to introduce a fiscal rule requires a careful assessment (necessarily country-specific) of whether the existing PFM system conforms to the minimum requirements for an effective implementation of that rule.

Specifically, the preparation of a budget under a SFR requires robust estimates of: potential output; the medium-term trend of relevant commodity prices; and the elasticities of main revenues and selected spending to the cycle and to commodity prices. Several countries in LA have sufficiently developed statistical bases and adequate technical capacity to undertake such estimates. Transparency in the methodology and assumptions used to calculate structural balances is essential for credibility. Delegating the calculations to an independent fiscal watchdog could also strengthen credibility and social acceptance of the rule.

Although the adoption of a SFR does not per se require the elaboration of a full-fledged medium-term fiscal framework (MTFF)**,** lengthening the time horizon of the budget formulation process can be very helpful in promoting effective observance of the rule, particularly by highlighting trends that, in the absence of corrective action, would threaten the achievement of the fiscal targets. At the same time, the existence of a rule can facilitate the formulation of a MTFF by providing more certainty about the medium- term budget balance target. A comprehensive and realistic MTFF can also facilitate a more strategic approach to priority setting among competing demands for budgetary resources, and allow line ministries to plan sectoral policies (and especially investment projects) over a longer horizon, with potentially significant gains in efficiency. In LA, a number of governments are currently working on developing or strengthening MTFFs, although in most cases significant progress remains to be made in this area.

Effective controls of the budget execution process are crucial for the successful implementation of fiscal rules. So are well-developed, transparent and firmly enforced budgetary accounting and reporting rules.

Under a SFR, during budget execution, budget managers need timely and reliable information on all phases of the expenditure process, and on developments affecting the estimates of structural revenues, to identify and appropriately react to risks to the observance of the structural balance target. They also need, however, to monitor developments in actual revenues, to avoid the emergence of financing constraints. Most countries in LA have already developed reasonably effective controls of the budget execution, supported by modern financial management information systems (FMIS), at least at the central government level.

The importance of sound accounting systems cannot be over-emphasized. A number of accounting risks can threaten the effective operation of fiscal rules. Some are common to all types of rules, and basically relate to the boundaries between the parts of the public sector covered and not covered by the rule, and between the public and the private sector.[15] Some of

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[14] These include, among others: a strong role of the ministry of finance in the preparation and implementation of the budget; adequate capacity in the ministry to forecast revenues and endogenous components of expenditures; a transparent and comprehensive documentation of proposed budgets; a parliamentary budget approval process that limits the scope for amendments inconsistent with the overall budget stance proposed by the government; effective expenditure control mechanisms during the budget execution; comprehensive and firmly enforced accounting and reporting requirements, capable of generating timely and reliable fiscal statistics; and sound internal and external auditing procedures.

[15] They include extra-budgetary operations; quasi-fiscal operations; provision of guarantees in lieu of explicit subsidies or capital transfers to public or private enterprises; unfunded mandates for sub-national governments, if the coverage of the fiscal rule is

(continues)

these risks can be mitigated if a country's fiscal responsibility law or organic budget law require that various types of contingent liabilities be disclosed, quantified to the extent possible, and adequately provisioned for in the budget. Other accounting risks are more specific to certain types of rules, e.g., the overestimation of potential GDP growth under a SFR; the above-mentioned misclassification of current expenditures as capital ones under a golden rule; resort to tax expenditures, in lieu of subsidies and transfers, under an expenditure rule; and the accumulation of liabilities (e.g., to suppliers) not recorded in the debt statistics, under a debt rule. Effectively containing these risks is a difficult task, requiring not only the enactment and enforcement of comprehensive and detailed accounting regulations, with appropriate penalties for non compliance for the responsible officials, but also adequate external scrutiny through an independent Audit Court, or an external watchdog/fiscal council.

Finally, a transparent and timely reporting of the accounting information is also important for the effective implementation of fiscal rules. This is needed to facilitate both corrective action by the government, when needed, and the external scrutiny mentioned above. The reporting should be sufficiently detailed to allow interested outside observers to assess not only past compliance with the rule, but also the risks of future non-compliance.

The quality of accounting and reporting systems has improved significantly in recent decades in LA, often with the assistance of international organizations and MDBs. Nevertheless, some of the accounting risks mentioned above remain quite pervasive, and there has been some regress in the more recent years towards non transparent or heterodox accounting practices in several countries, including some like Brazil that had been previously viewed as models of sound budgetary accounting. The effectiveness of a newly introduced SFR in these countries would hinge crucially on eschewing such practices in the future.

5 Structural fiscal rules for sub-national governments in Latin America?

The extent of fiscal decentralization and its potential impact on macro-economic management vary significantly across LA. Specifically:

- In a number of unitary countries (e.g., Chile, Uruguay, and the Central American countries) decentralization is still limited, and does not pose significant macro-economic risks. In Bolivia, Mexico, and Peru, growing decentralization has not significantly affected fiscal sustainability so far, due to relatively tight limits on sub-national borrowing. In Brazil and Colombia, substantial progress has been made since the mid-1990s in tightening controls on sub-national debt and reducing it. Progress has also been made in reducing sub-national debt in Argentina, mainly as a result of bailouts by the federal government, as well as of the buoyancy of the provinces' own and shared revenues.
- In most countries, however, sub-national fiscal responses to shocks have tended to be pro-cyclical, albeit less so in the more recent years. Pro-cyclicality has reflected (to different degrees in different countries) a mix of factors:
  - fiscal rules or other borrowing controls with targets unrelated to the cycle; and even in the absence of such rules, pro-cyclical fluctuations in the availability of financing for most sub-national governments (SNGs) throughout the region;
  - the lack of significant sub-national revenue-raising autonomy in most countries (with the exceptions of Brazil, and to a lesser extent, Argentina) especially at the state/regional level, which has severely constrained the scope to sustain sub-national spending during recessions;

limited to the central government; and engagement in public-private partnerships (PPPs) not justified by efficiency considerations.

- the (full or partial) assignment to SNGs of some highly cyclical revenues, especially from non-renewable resources, in some countries (e.g., Bolivia, Ecuador and Peru);
- inter-governmental transfer systems based on revenue-sharing formulas invariant over the cycle, which propagate quickly to the sub-national finances cyclical fluctuations in the central government's (CG) revenues (Colombia being an exception in this respect);[16] and finally
- pervasive rigidities (including earmarking of revenues and/ or transfers to certain categories of expenditure) which reduce the scope for reassignment of sub-national resources to changing expenditure needs/priorities over the cycle.

These considerations point to a number of possible options for reforms in the inter-governmental systems of the region that could facilitate less pro-cyclical sub-national fiscal policies, while safeguarding debt sustainability, in the future.

In particular, specifying sub-national rules in terms of cyclically-adjusted budget balances should in principle help avoid pro-cyclicality, while safeguarding fiscal sustainability (provided of course that the rules' targets are chosen on the basis of appropriately cautious debt dynamics scenarios). There are, however, a number of factors that would limit the effectiveness of such an approach in practice, and even advise against its adoption in some circumstances:

- First, the difficulties of estimating cyclically-adjusted fiscal aggregates are even more significant at the sub-national than at the national level. Most countries do not have reliable and timely estimates of regional or local output, even less of output gaps. Using national indicators of the cycle as a proxy can be appropriate when the cyclical shocks are evenly distributed across the national territory, but, as evidenced by the recent global financial crisis, this is not always the case.

  An alternative approach might be to use changes in labor market indicators (such as the unemployment rate, for which timely sub-national-level measures are generally available) as triggers for allowing deviations from the fiscal rule's target up to a pre-specified limit. However, this approach is clearly more suitable for advanced countries, characterized by high degrees of labor market formality, than for the LA countries, where labor market adjustments to cyclical shocks mainly occur in the informal sector and therefore are inadequately captured by changes in the official unemployment statistics.

  Moreover, such an approach would be more effective in avoiding a pro-cyclical fiscal tightening during a large negative output shock, than in avoiding a pro-cyclical fiscal expansion by resource-rich regions during a commodity price boom. For the latter, an alternative approach would be to require adjustments of the target balance for deviations in commodity prices from their medium-term trend. Given, however, the above-mentioned difficulties of obtaining reliable estimates of the medium term trend of commodity (especially oil) prices, it may be preferable to utilize sub-national rules that target the budget balance excluding resource revenues.
- Second, financing constraints tend to be tighter at the sub-national than at the national level, as market access is typically lower and more expensive for SNGs than for their corresponding CG. This suggests that the use of a sub-national fiscal rule allowing cycle-related deviations from a balanced-budget (or other sustainable balance) target should be accompanied by a requirement that SNGs use their budget surpluses during booms to accumulate liquid assets to be drawn down during downturns. This is for example the case in the US, where a number of state constitutions require the accumulation of so-called rainy day funds (Balassone et al., 2006). It is crucial that arrangements for the governance of such funds be very transparent, and that their use be guided by clear criteria, specified in advance of the crisis, leaving little room for

[16] A transfer reform in Colombia in 2001 stipulated that CG transfers to SNGs would grow at a fixed annual real rate until 2016.

discretion, for example in the decision to start drawing on the fund, and the speed of its rundown.

- Third, consideration should be given to increased use of expenditure rules at the sub-national level. Such rules, while not necessarily avoiding pro-cyclicality during downturns (since they set ceilings, not floors, for public expenditures) help moderate it during upswings and, by promoting sub-national savings and asset accumulation during such periods, can help cushion the impact of subsequent recessions on spending.
- Fourth, broader reforms are likely to be needed in the system of inter-governmental fiscal arrangements, to effectively reduce the risk of pro-cyclicality at the sub-national level. In particular, one criterion for the choice of revenues to be assigned to SNGs should be a low elasticity to cyclical developments. This (as well as equity considerations) argues against the assignment of revenues from natural resources and from company taxes to the sub-national level, as well as against a derivation-based revenue sharing mechanism for such revenues. As regards other shared revenues, it may be desirable to use a sharing formula based on moving averages, rather than current values, of CG revenues, to help smooth cyclical fluctuations of SNGs' resources. Consideration could also be given to the use of automatic triggers for pre-specified changes in sharing formulas (symmetric over the cycle) when cyclical indicators reach certain threshold values. Finally, it would be preferable not to devolve to the sub-national level certain expenditures (such as unemployment benefits) that are both cyclically and socially sensitive (or at least their funding).
- More generally, CGs that want to ensure that their own (passive or active) counter-cyclical fiscal policies are not frustrated by pro-cyclical policies of their SNGs should endeavor to: strengthen the institutional arrangements for policy coordination with the latter; provide incentives (sticks and carrots) to them to build up adequate financial cushions during boom periods to withstand subsequent downturns; and help them improve their capacity to implement CG-funded stimulus measures (whether in the social or the infrastructure area) when needed.

6 Selected country experiences

6.1 Chile

Chile's 10 year experience with a structural budget balance-based rule provides a useful illustration of both the advantages of such a rule, and the relatively demanding pre-conditions for its successful design and implementation.

The rule was adopted in May 2000, at the outset of a new presidential mandate. It called for the achievement of an annual surplus equivalent to 1 per cent of GDP in the budget, adjusted for the effects of both the cycle and deviations of the price of copper from its long-term trend on revenues. All the variables and parameters used in the calculation of the structural balance were initially estimated by the Ministry of Finance, but within a year or so, with a view to strengthening the credibility of the estimates, the government appointed panels of independent experts to vet them.

The methodology of calculation of the structural balance was revised on several occasions in the subsequent years. Some of the changes represented useful refinements (e.g., the exclusion of deviations of actual from trend prices of molybdenum, a significant and volatile source of revenue for the state-owned mining company, CODELCO; a disaggregation of total revenues into main categories, and the estimation of the related elasticities; a separate treatment of tax revenues from private copper mining enterprises; and the exclusion of expenditures of a newly created unemployment fund). However, other changes (such as the inclusion in revenues "above the line" of valuation changes in the financial assets of the Pension and Economic and Social Stabilization

Funds; and the classification "below the line" of some expenditures to support certain public enterprises) were less defensible.

The choice of the initial target (a 1 per cent of GDP structural surplus), despite a low level of the public debt, was justified by a number of considerations, related in particular to: the existence of a significant quasi-fiscal deficit of the Central Bank; the desire to accumulate financial assets, as counterpart to the ongoing gradual depletion of copper resources; and concern about various known or contingent future liabilities. In 2008, the government decided to revise downward the target (to 0.5 per cent of GDP), in line with the recommendations of a panel of experts which had highlighted the significant improvement in the fiscal position since the introduction of the rule, following the recapitalization of the Central Bank and a decline in contingent liabilities. This revision was effected in a transparent and well explained manner, with no adverse repercussions on the credibility of the fiscal management of the country. In contrast, neither the rationale for, nor the planned duration of, a subsequent reduction of the structural surplus target to 0 in early 2009 – in conjunction with the announcement of a substantial (around 4 per cent of GDP) fiscal stimulus package – were spelled out by the government, raising some concern about the future of the rule.

The adoption of the structural rule in Chile gave impulse to a number of institutional reforms, which have improved the statistical base to monitor government operations (with the adoption in 2004 of the GFS 2001 Manual, and of accrual accounting), as well as the quality of the budget process. In particular, the commitment to a multi-year budget target facilitated a more top-down approach to the definition of overall and ministry-by-ministry spending ceilings, in combination with increased freedom and responsibility of budget managers in the allocation of the resources allotted to them. These changes are in line with modern best practices in budgeting and an essential pre-condition for a more performance-oriented public financial management. Various analyses have found evidence that the rule also contributed significantly to reducing spending volatility in Chile, and had beneficial macroeconomic effects, in terms of reduced output volatility and sovereign risk.

In view of Chile's success in the implementation of its SFR, an obvious question is what were the main factors responsible for the success, and to what extent they can be replicated in other countries considering a Chilean-type rule. Clearly, Chile had a number of conditions in place at the outset of the rule that boded well for its success:

- a fairly diversified productive base, and substantial trade openness;
- relatively flexible monetary and exchange rate policies, and a financial sector that had already undergone substantial restructuring and consolidation;
- an extended record of sound macro-fiscal management, as evidenced by the very low level of its public debt;
- a modern and broad-based tax system and a strong tax administration. Revenues from natural resources accounted for less than 10 per cent of total;
- a long tradition of top-down, disciplined budget management, and a relatively centralized system of intergovernmental fiscal relations; and
- a well-developed statistical base that facilitated the preparation of credible estimates of the structural budget balance, the timely monitoring of their realization, and a transparent dissemination of the relevant information.

Nevertheless, as indicated above, the authorities took a number of steps to strengthen the institutional base of the rule, while selecting an initial structural target that was probably more ambitious than would have been required to ensure both short-term macro stability and medium term debt sustainability. This prudent course of action contributed significantly to the success of an

approach which, while already common in a number of advanced countries, had few precedents among emerging markets, and none at all in LA.

The SFR came under some stress during the global financial crisis of 2008-09 that hit Chile quite hard. Given the absence of an escape clause in the rule, the government's decision to support the economy through a large (4 per cent of GDP) fiscal stimulus package (well justified, given Chile's strong fiscal sustainability indicators) inevitably required a violation of the rule in both 2009 and 2010. The new government that took office in 2010 decided to appoint a Commission of experts to carry out a comprehensive review of the rule and recommend any needed revision. The Commission's report was released in June 2011. Its main recommendations include:

- improvements in the methodology of estimation of some of the rule's parameters;
- relating the choice of the target to the cyclical position;
- inclusion of escape clauses; and
- the creation of a fiscal watchdog.

The government has not yet reacted officially to the Committee's recommendations.

6.2 Colombia

Among LA countries where the introduction of a SFR is currently under consideration, Colombia has made the most progress to date, by formulating a new fiscal responsibility law that includes a SFR, approved by the Congress in June 2011.

The law establishes the framework for the rule, leaving significant details to future regulations. Specifically, it establishes a ceiling of 1.5 per cent of GDP for the overall structural deficit of the central government[17]. The budget balance is adjusted for the output gap and for a (not further specified) transitory component of revenues from non-renewable resources. A transition period to 2015 is proposed for convergence of the structural deficit to the target.

The law allows for a temporary deviation from the structural target in case of a shortfall of actual from potential growth, to accommodate active fiscal stimulus of up to 25 per cent of the gap. Excesses over the target have to be corrected within two years, but there are no penalties for non-observance of the rule. The law includes (rather broadly defined) escape clauses, giving to the Government the power to invoke them. It also proposes various changes in the budget process, to facilitate implementation of the rule. Among them is the creation of a Saving and Stabilization Fund and of a mechanism (*Bolsa Concursable para el Gasto Nuevo*) to allocate the "fiscal space" available under the rule for new spending programs. This is modeled on a similar mechanism used in Chile. The law does not envisage the creation of a fiscal watchdog, but it requires the setting up of an independent expert panel to provide inputs into the estimation of the structural balance.

6.3 Brazil

Following decades during which endemic weaknesses and inadequate control of the public finances contributed importantly to macro-economic instability in Brazil, the country embarked in the late 1990s on a sustained fiscal adjustment, marked by high and rising primary surpluses of the consolidated public sector. The adjustment reflected strengthened policies; institutional improvements; and, especially since the mid-2000s, the beneficial effects on the public finances of a favorable external environment (strong external demand, high commodity prices and low

[17] As mentioned in Section 5 above, sub-national governments in Colombia are subject to relatively strict (not cyclically adjusted) borrowing limits.

international interest rates) and of increased domestic policy credibility. The resulting moderation in the public debt and the improvement in its structure allowed a strongly countercyclical response to the downturn in activity in the wake of the global financial crisis of 2008-09, in sharp contrast with the typically pro-cyclical fiscal responses to crises in the 1980s and 1990s. As a result, the Brazilian economy emerged from the downturn with remarkable speed and relatively small economic and social costs.

Fiscal policy has remained, however, strongly expansionary during the subsequent cyclical upswing, fueling an unsustainable pace of domestic demand growth, a pick-up of inflationary pressures and a significant deterioration of the external current account in 2010. Arresting and ultimately reversing these trends has become an important short-term imperative for macroeconomic, and in particular fiscal policy in Brazil. The adoption of a SFR could contribute to a more cyclically neutral (and ultimately more sustainable) conduct of fiscal policies in the future.

Brazil meets in principle the main pre-conditions for establishment of a SFR, at least for the federal government:

- no significant short-term financing constraints, and sustainable debt dynamics under a range of plausible scenarios;
- flexible exchange rate and monetary policy frameworks;
- a relatively strong budget framework (albeit marred recently by increasing resort to quasi-fiscal operations)[18] and sound PFM systems;
- a well-developed statistical base, and strong technical capacity within and outside the government.

The adoption of a numerical rule, as opposed to the current rolling three year fiscal framework, would strengthen fiscal discipline and increase pressures to address major structural fiscal reform needs in Brazil. But, to be effective, such a rule would require strong political support, the existence of which is unclear at present. Therefore, it may be preferable for the authorities to begin by systematically calculating and reporting cyclically-adjusted fiscal indicators, to inform the choice of the primary balance targets over the cycle.

This approach could be complemented by a number of other institutional reforms to strengthen fiscal management in the years ahead:

- the announcement by the government of its commitment to declining target paths for both the gross and the net public debt over the medium term, and to primary surplus targets consistent *ex ante* with such paths, with a simultaneous commitment to revisit each year (and adjust as needed) the primary surplus targets to ensure compliance with the debt targets. This would represent a strong signal of commitment to medium-term fiscal sustainability;
- a clarification in the budget document of the nature and amount of quasi-fiscal operations (such as funding of financial and non financial public enterprises not included in the budget; and private-public partnerships), with a systematic and transparent analysis of their future costs and risks for the public finances;
- refraining from (or at a minimum transparently disclosing) one-off revenues and/or anticipations of receipts and delays in expenditures that distort the assessment of the budget stance;
- the early passage of the proposed new organic budget law (*Lei de Responsabilidade Orçamentária*) which has been pending in Congress for over two years, and which would

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[18] In recent years, the coverage of the target variable (the primary surplus of the consolidated public sector) has been reduced through the exclusion of some key public enterprises and of a progressively expanding set of budgetary investments. Also, the meaningfulness of the primary balance as an indicator of the fiscal policy stance has been weakened by a significant use of one-off revenues and quasi-fiscal operations.

significantly strengthen and modernize the budget process; and

- the creation of an independent fiscal council/watchdog responsible for vetting budgetary projections and publicly reporting on a timely basis on the consistency of budgetary developments with the fiscal targets.

7 Conclusions

This paper has argued that, given LA's historical tendency towards pro-cyclical fiscal policies, the adoption of well designed and firmly implemented SFRs could in principle help reduce fiscal pro-cyclicality and promote sustainability in the region. This is supported by the fact that an important determinant of past pro-cyclicality (the emergence of tight financing constraints during adverse external shocks) has been significantly reduced (although probably not eliminated). Chile's broadly successful experience with a SFR witnesses to the benefits of such an approach.

However, the paper has also argued that there are several important prerequisites for the effective adoption and implementation of SFRs:

- first and foremost, a strong political commitment to the observance of the rule;
- a reasonably stable macro-economic environment, especially at the outset of the rule;
- a minimum set of PFM requirements, in terms of capacity to: formulate reliable budgetary projections; monitor the execution of the approved budget and respond on a timely bases to developments threatening the achievement of the rule's target; and appropriately account, and transparently report on the budget execution;
- reliable and timely fiscal statistics, and the capacity to obtain robust estimates of the relevant variables (potential output; trend commodity prices; and budgetary elasticities);
- adequate external scrutiny, not only *ex post* (through the traditional audit institutions), but preferably also throughout the budgetary process, through independent fiscal watchdogs; and
- appropriate enforcement mechanisms, including requirements of timely correction of deviations of budget outcomes from the target.

While several LA countries already broadly meet the main technical requirements for the adoption of a SFR, it is unclear at this time how many of them have the necessary political commitment to make a SFR (or for that matter any numerical fiscal rule) work effectively. It is encouraging that Colombia has recently adopted a fiscal responsibility law including a SFR, although with a number of important details still to be fleshed out; and that reportedly countries like Brazil, Peru and Uruguay are actively considering the adoption of a SFR. In these and other countries of the region, it may be appropriate for the authorities to begin calculating and utilizing systematically structural fiscal balances as indicators of the fiscal stance, to inform the choice of the annual or medium-term budget targets, before moving to enshrine them in a fiscal rule. Some countries could also benefit from shadowing a SFR before adopting it formally (as Chile did during part of the 1990s). This would allow refining the technical aspects of the approach and strengthening the relevant institutions, before committing the credibility of fiscal policies to the observance of a formal rule's target.

REFERENCES

Alesina, A., R. Hausmann, R. Hommes and E. Stein (1996), "Budget Institutions and Fiscal Performance in Latin America", IADB, Working Paper, No. 394.

Balassone, F. and M.S. Kumar (2007a), "Cyclicality of Fiscal Policy", in T. Ter-Minassian and M.S. Kumar (eds.), *Promoting Fiscal Discipline*, pp. 19-35, International Monetary Fund, Washington (D.C.).

Barnett, S. and R. Ossowski (2003), "Operational Aspects of Fiscal Policy in Oil-producing Countries", in J.M. Davis, R. Ossowski and A. Fedelino (eds.), *Fiscal Policy Formulation and Implementation in Oil-producing Countries*, International Monetary Fund, Washington (D.C.).

Barnett, S. and A. Vivanco (2003), "Statistical Properties of Oil Prices: Implications for Calculating Oil Wealth", in J.M. Davis, R. Ossowski and A. Fedelino (eds.), *Fiscal Policy Formulation and Implementation in Oil-producing Countries*, International Monetary Fund, Washington (D.C.).

Corbo, V., R. Caballero, M. Marcel, F. Rosende, K. Schmidt-Hebbel, R. Vergara and J. Vial (2011), *Propuestas para Perfeccionar la Regla Fiscal*, Informe Final del Comité Asesor para el Diseño de una Política Fiscal de Balance Estructural de Segunda Generación para Chile, Santiago (Chile).

Daude, C., A. Melguizo and A. Neut (2010), "Fiscal Policy in Latin America: Counter-cyclical and Sustainable at Last?", OECD, Development Center, Working Paper, No. 291, Paris (France).

Debrun, X., D. Hauner and M.S. Kumar (2009), "Independent Fiscal Agencies", *Journal of Economic Surveys*, Vol. 23, No. 1, pp. 44-81.

DIPRES (2005), "Informe de Finanzas Publicas. Proyecto de Ley de Presupuestos del Sector Publico para el Año 2006", available at: http:www.dipres.cl/572/articles-37447doc pdf.pdf

European Commission (2010), "Public Finance Report in EMU 2010", *European Economy*, No. 4/2010.

Fedelino, A., A. Ivanova and M. Horton (2009), "Computing Cyclically Adjusted Balances and Automatic Stabilizers", IMF, Technical Note, published on the IMF.org website.

Girouard, N. and C. André (2005), "Measuring Cyclically-adjusted Budget Balances for OECD Countries", OECD, Economics Department, Working Paper, No. 434.

Hagemann, R. (2010), "Improving Fiscal Performance through Fiscal Councils", OECD, ECO Working Paper, No. 829, Paris (France).

Kopits, G. (2004), "Overview of Fiscal Policy Rules in Emerging Markets", in G. Kopits (ed.), *Rules-based Fiscal Policy in Emerging Markets. Background, Analysis, and Prospects*, pp. 1-11, Palgrave.

"Low-Income Countries", IMF, Working Paper, WP/05/24.

Larch, M. and A. Turrini (2009), "The Cyclically-adjusted Budget Balance in EU Fiscal Policy Making: A Love at First Sight Turned into a Mature Relationship", *European Economy – Economic Papers*, No. 374.

Larrain, F. (2008), "Chile Menos Volátil?", *El Trimestre Económico*, No. 299, July-Sept.

Lefort, G. (2006), "Política Fiscal con Meta Estructural en Experiencia Chilena", Powerpoint presentation offered at the Second Annual Meeting of the LAC Debt Group in Cartagena, Colombia.

Maliszewski, W. (2009), "Fiscal Policy Rules for Oil-producing Countries: A Welfare-based Assessment", IMF, Working Paper, No. WP/09/126.

Marcel, M. (2009), "La Regla de Balance Estructural en Chile: Diez Años, Diez Lecciones", mimeo.

Perry, G., L. Serven and R. Suescun (2008), "Fiscal Policy, Stabilization and Growth", Washington (D.C.), The World Bank.

Stein, E., E. Talvi and A. Grisanti (1998), "Institutional Arrangements and Fiscal Performance: The Latin American Experience", NBER, Working Paper, No. 6358, Cambridge (MA), NBER.

Sutherland, D., R. Price and I. Joumard (2005), "Fiscal Rules for Sub-central Levels of Government: Design and Impact", OECD, Economics Department, Working Paper, No. 465.

Ter-Minassian, T. (2011), "Main Fiscal Challenges for Brazil", in *CESifo Economic Forum*, No. 1, Munich, Germany.

Ter-Minassian, T. and A. Fedelino (2010), "Impact of the Global Crisis on Sub-national Governments' Finances", in IEB (ed.), *Fiscal Federalism Report*, Barcelona (Spain).

Villafuerte, M., P. Lopez-Murphy and R. Ossowski (2010), "Riding the Roller Coaster: Fiscal Policies of Non-renewable Resource Exporters in Latin America and the Caribbean", IMF, Working Paper, No. 10/251, Washington (D.C.).

PUBLIC INFRASTRUCTURE INVESTMENT AND FISCAL SUSTAINABILITY IN LATIN AMERICA: INCOMPATIBLE GOALS?

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Latin American countries exhibit a significant gap in infrastructure stocks, due to low and in many cases inefficient public investment, which is furthermore not compensated by private sector projects. In this paper we analyse trends in public and total infrastructure investment in six large Latin American economies, in the light of fiscal developments since the early eighties. We argue that post-crisis fiscal frameworks, notably fiscal rules which are increasingly popular in the region, should not only consolidate the recent progress towards debt sustainability, but also create the fiscal space to close these infrastructure gaps. These points are illustrated in a detailed account of recent developments in the fiscal framework and public investment in the Peruvian case.

1 Introduction

Low and volatile public investment in infrastructure is one of the most frequently-cited causes of slow long-term output growth in many Latin American countries. Certainly, fiscal adjustments have been quite sharp following economic crises in the region; have these periodic fiscal contractions harmed long-term infrastructure investment? We find that the evidence for this hypothesis is not that strong. Nevertheless, there are links between fiscal sustainability and public investment in infrastructure. Namely, high financing costs due to weak fiscal sustainability seem to have contributed significantly to low levels of infrastructure investment in Latin America. This finding raises the possibility that fiscal consolidation and public infrastructure investment could be complements, rather than substitutes, given the right policy setting. Accordingly, the paper reviews and discussed how fiscal frameworks in the region can be reformed to create fiscal space for more public infrastructure investment.

Latin America overcame the 2008-09 international crisis with apparently robust macroeconomic health. At the onset of the crisis, most countries in the region had positive budget surpluses, reasonably low debt-to-GDP levels and credible monetary policies thanks, in several cases, to inflation-targeting regimes. As the crisis progressed, policy makers could boast significant fiscal stimulus packages while keeping country risk in check. These solid balances stood in stark contrast to the region's historic performance, in which fiscal fragility had been at the root of protracted crises, including the dramatic debt crisis of the 1980s.[1] Although in the first two quarters of 2009 all countries suffered significant slowdowns – in many cases, recessions – by mid-2009,

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We would like to thank the discussant at that workshop, Sergio Clavijo, and acknowledge comments from George Kopits and Teresa Ter Minassian and other participants. Comments from Rolando Avendaño, Juan Carlos Berganza, Jeff Dayton-Johnson, Nadrew Mold, Sebastián Nieto and Laura Recuero are also appreciated. Nallely Carro and Angela Ruiz-Ucelli provided helpful research assistance. The views expressed herein are the sole responsibility of the authors and do not reflect the opinions of their institutions or the governments of their member countries.

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[1] The region's experience of the crisis is summarised and analysed in OECD (2009). Was this success due to greater policy space that allowed the use of effective countercyclical fiscal policy? The limited information on the actual implemented packages, the uncertainty on the size of fiscal multipliers, and the combined effects of other favourable external factors involved make it difficult to provide a clear answer. Moreover, the debate on the cyclical or structural nature of fiscal improvements in several Latin American economies in recent years remains somewhat polarised (ranging from the more pessimistic views in Izquierdo and Talvi, 2008, to the more positive ones in Vladkova-Hollar and Zettelmeyer, 2008, and Daude *et al.*, 2011).

most economies were already showing solid signs of recovery. After a decline in GDP of 1.9 per cent in 2009, the region grew at 5.9 per cent in 2010 and is expected to perform at above trend-growth levels during 2011 and 2012.

Interestingly, with the exception of Brazil, public investment was the primary vehicle of choice for countercyclical fiscal expansions. Governments in the region announced fiscal stimulus packages ranging in size from around 3 per cent of GDP in Chile and Peru, through 1.5 per cent in Argentina and Mexico to 0.6 per cent in Brazil. Infrastructure investment constituted 2 percentage points of GDP in Peru, more than 1 percentage point in Chile and Argentina and more than half a point in Mexico. To put all these figures in context, governments in OECD economies announced fiscal stimulus packages averaging 3.4 percentage points of GDP from 2008 to 2010, with infrastructure investment accounting for one fifth of this.

Now that the bulk of the crisis seems over, the debate – in Latin America as in OECD countries – is turning to the exit strategy from the expansive/accommodative monetary and fiscal stance. This is notably the case in emerging economies given that domestic demand remains solid and negative output gaps have probably been already reversed, so most international institutions are suggesting the need to withdraw stimulus packages (see, for instance, OECD, 2010, and IMF, 2011). In this situation, in countries where currencies have appreciated and capital inflows remain buoyant, as is the case in Latin America, fiscal adjustment is a quite sensible option.

The discussion regarding fiscal policy in this adjustment phase focuses on three main questions: the timing of the process (*when*), the size of the required fiscal adjustment (*how much*), and its composition both in terms of revenues/expenditure, but also by type of taxes and expenditure items (*what to adjust*). A general agreement seems to be emerging with respect to at least two desirable conditions of the fiscal adjustment. First, it should be "growth-friend" in the short run, which directs attention to the *timing* of the consolidation.[2] Second, it should be "development-friendly" in the medium and long run, where more attention is devoted to its *composition*.[3]

This paper contributes to this second, development-friendly, dimension of the debate on fiscal exit strategies. In particular, we stress the relevance not just of maintaining public investment in infrastructure, but creating more fiscal space to increase it for the case of Latin America. The main institutional arrangements of fiscal frameworks and rules in the region are discussed with an emphasis on how they affect public investment. Our conclusions does not stem from the conventional wisdom which holds that fiscal consolidations have typically led to reduced investment, but rather from long-term factors affecting the cost of financing. This has profound policy implications, since the required policy responses differ. According to our analysis, the priority should be to generate more fiscal space in the long-run, beyond immediate cyclical considerations, rather than simply allowing for more discretionary fiscal space during economic slowdowns.

The paper is organised as follows. In the second section we describe investment trends in infrastructure, both public and private, in six large Latin American economies since the early 1980s, linking them with the observed and structural state of public finances. Additionally, we present estimations of infrastructure patterns and their determinants for the region as a whole, in comparison to other emerging economies. In section three we integrate this diagnosis with the current debate on fiscal exit strategies, based on the theoretical and empirical literature on fiscal policy and public investment. We assess the implementation and reform of fiscal rules which take into account public investment in Argentina, Brazil, Chile, Colombia, Mexico and Peru. We pay

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[2] This discussion ignores for now the possibility that fiscal consolidations have expansionary effects in and of themselves.

[3] For a comprehensive qualitative and quantitative revision for an extended G20 group, see Bornhorst *et al.* (2011).

particular attention to the case of Peru, as a potential benchmark for other developing countries, since it is one of the countries that exhibit both large infrastructure gaps, and some interesting recent experience in setting up fiscal rules that created space for public investment. The main conclusions and references close the paper.

2 Infrastructure trends in Latin America

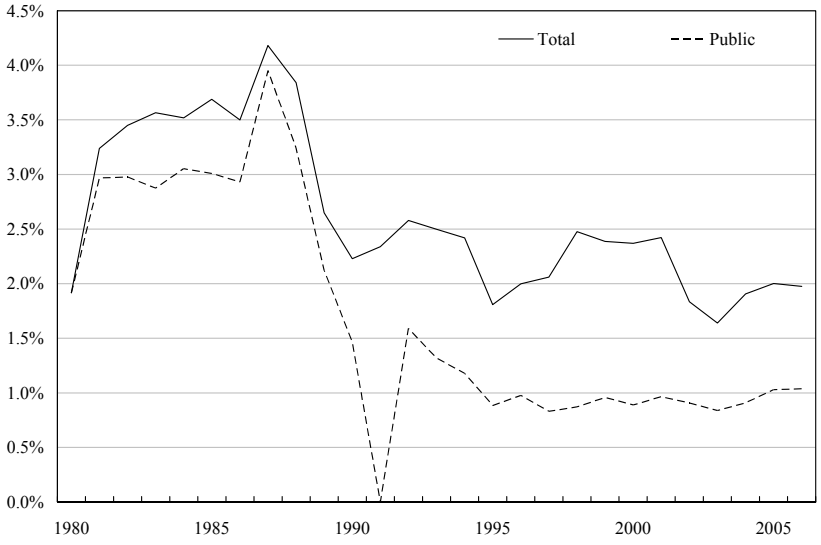
Unfortunately, comparable statistics on public or private infrastructure investment in Latin America are not available for a large group of countries. This reflects probably the problem that "what gets attention gets measured and what gets measured gets attention" (Commission on Growth and Development, 2008). Therefore, rather than giving a comprehensive survey of all countries in the region, we focus on those for which data are available from the World Bank's work on infrastructure in Latin America (e.g., Calderón and Servén, 2010): Argentina, Brazil, Chile, Colombia, Mexico and Peru (LAC-6, henceforth). These six countriesrepresent altogether around 85 per cent of Latin America's GDP, and therefore a significant share of total investment in the region. Furthermore, this sample covers a wide range of experiences regarding investment trends, both public and private, as well as budgetary frameworks and fiscal rules.

Latin America exhibits relatively low investment rates in the main infrastructure categories: water, telecommunications (both fixed and mobile lines), land transport (roads and railways), and electricity (generation capacity). While during the 1980s, total investment in infrastructure in the LAC-6 area was on average around 3.3 per cent of GDP, after the adjustment of the 1990s, in the period 2000-06 total infrastructure investment amounted to just 2.0 per cent of GDP (see Figure 1). These investment levels are far below those recommended by the literature to sustain high growth rates. For example, the aforementioned *Growth Report* by the Commission on Growth and Development (2008) highlighted that in fast-growing Asia, public investment in infrastructure accounts for around 5.0 to 7.0 per cent of GDP.

Figure 1

Public and Total Investment in Infrastructure in LAC-6 Countries

(weighted average, percent of nominal GDP)



Source: Authors' calculations based on Calderón and Servén (2010).

Most of the reduction in total infrastructure investment was due to a retrenchment in public investment by the general government, from 2.9 per cent of GDP during the 1980s to 0.9 per cent as of 2000-07. This public reduction was furthermore not compensated by the increase in private investment, which rose from 0.5 to 1.0 per cent of GDP in the same period. Thus, despite the fact that the privatisation of state-owned enterprises in several of these

economies during the 1990s explains, or even justifies, the reduction in public investment, it seems that the private sector was unable to fill the gap as it was expected to do. The spread of Public Private Partnerships (PPPs) in strategic sectors has not changed significantly the picture, stressing the need for high-quality institutions (for the procurement and concession processes) and regulations, and more developed capital markets.

However, it is important to note that there are some important differences within the region.[4] The regional trend is largely driven by the largest of these six economies: Argentina, Brazil and Mexico. For these three economies, public investment in infrastructure fell around two percentage points of GDP, while private flows increase one point in the best cases (Figure 2). In contrast, Colombia and especially Chile have managed to compensate the reduction in public investment, with an increase in private infrastructure investment. Peru represents an extreme case, not only for its low level at the start of the period of analysis, but also for the sudden stop in total investment flows in the late 1980s. Indeed, in Peru as in most of the countries in the region, public investment in infrastructure is not only too low, it is also too volatile.

2.1 Fiscal consolidation and public investment in infrastructure

The conventional wisdom stresses that, leaving aside the long lasting effects of the balance of payment crisis in the 1990s, Latin-American policymakers have been prioritising fiscal discipline to restore macro and financial stability. As shown in Calderón and Servén (2004), Martner and Tromben (2005), de Mello and Mulder (2006) or CAF (2009), improvements in primary structural fiscal balances achieved since the mid-1980s in many countries in the region did not come from retrenching current expenditure, but rather from revenue hikes and declines in public infrastructure investment. Lora (2007) also confirms the negative correlation between public infrastructure investments with the current fiscal balance in seven Latin American economies, while debt increases are associated with higher public infrastructure investment. In particular, IMF fiscal adjustment loans are associated with lower levels of public investment in infrastructure, according to this author.

A simple graphical approach corroborates, but only weakly, this view (see Figure 3 for a regional weighted average and Figure 4 for the national series). From the mid-1980s to the early-mid-1990s, the reduction of public deficit (cumulatively, 6.3 percentage points of GDP in the period 1987-1992 from for LAC-6) has been accompanied by the reduction in public infrastructure investment (–2.4 percentage points of GDP, while private investment in the same period only rose 0.8 percentage points). In other words, one third of the improvement in fiscal accounts can be effectively attributed to lower infrastructure investment.

A closer look at the evolution of investment rates, headline and cyclically-adjusted budget balances and the business cycle provides a more ambiguous image. In particular, during the whole period of analysis, 1980-2006, it does not seem that fiscal consolidations during crises are the key driver of lower investment rates. The correlation of the variation of fiscal balance and investment retrenchment is low (left panel in Figure 5). This correlation is even weaker when the fiscal stance is measured by the cyclically-adjusted budget balance, a more precise indicator of discretionary fiscal decisions (right panel in Figure 5).[5]

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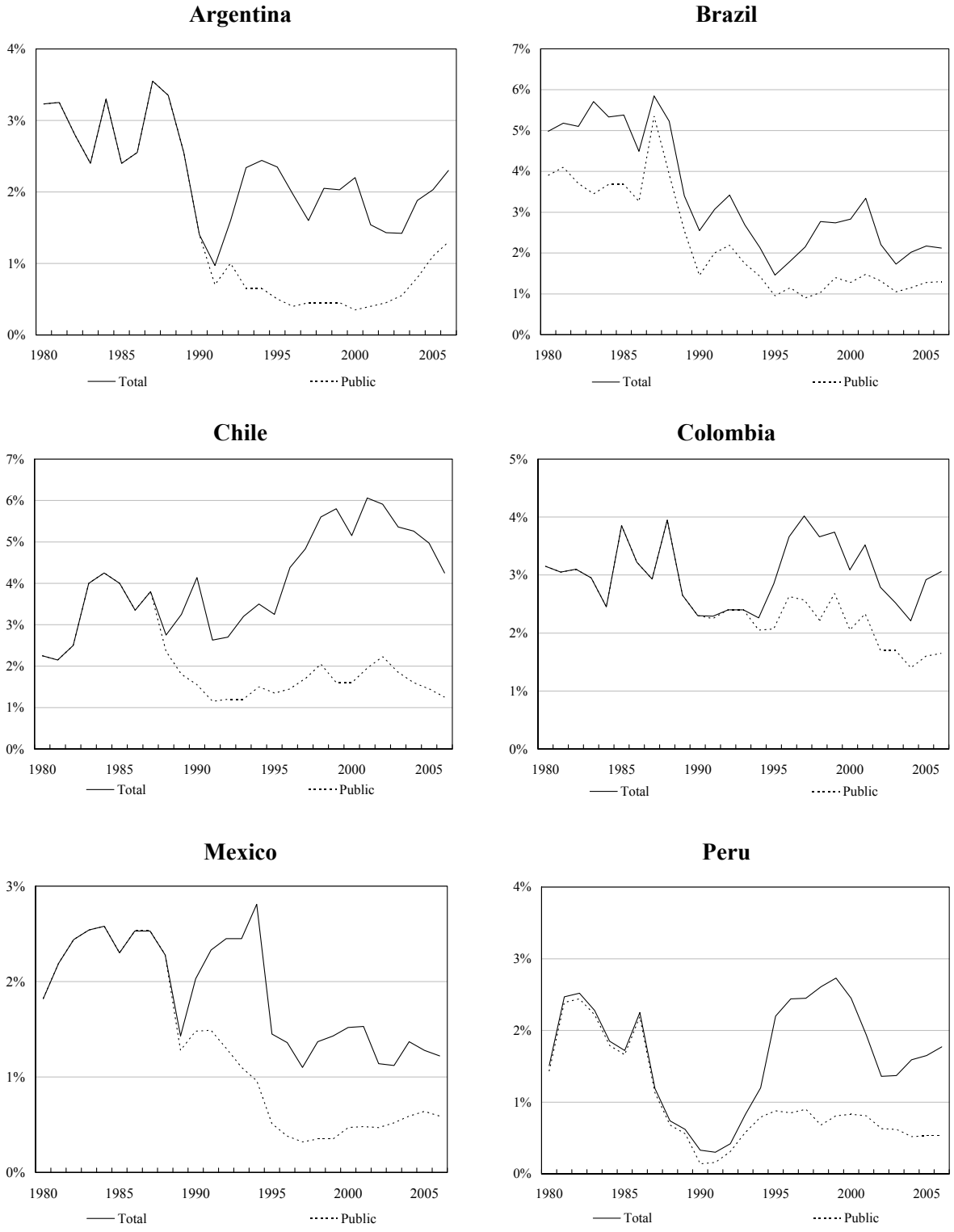
[4] It is important to note that significant heterogeneity is also evident among different infrastructures. The described general trends are dominated by the performance in the electricity and land transportation sectors. By contrast, private investment in telecommunications has more than compensated public investment retrenchment. Finally, public investment in the water sector has been fairly stable, with only marginal contributions from private initiatives.

[5] Similar results are obtained analysing just the episodes of fiscal improvement and investment reduction (first quadrant of these figures). Additionally, results are robust to the definition of the GDP in trends.

Figure 2

Public and Total Investment in Infrastructure
(percent of nominal GDP)



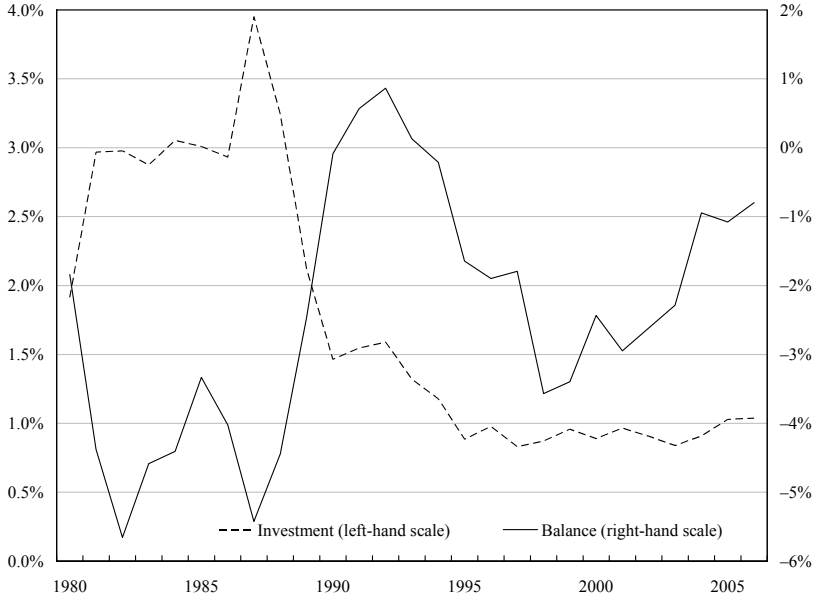
Source: Authors' calculations based on Calderón and Servén (2010).

Additionally, following the exercise by Martner and Tromben (2005), we analysed episodes of sustained fiscal consolidations, defined as those in which budget balance improved for two or more consecutive years. Also for these episodes, irrespective of whether the analysis is done based on observed or on cyclically-adjusted balances, the infrastructure component of fiscal improvements remains limited (Figure 6). For instance, focusing on the latter, only in the cases of Colombia 1999-2004 and Chile 2002-05, and less so Peru 2000-03, investment drove fiscal developments (right panel of Figure 6).

Figure 3

Public Investment in Infrastructure and Budget Balance in LAC-6 Countries

(weighted average, percent of nominal GDP)



Source: Authors' calculations based on Calderón and Servén (2010), ECLAC and IMF databases.

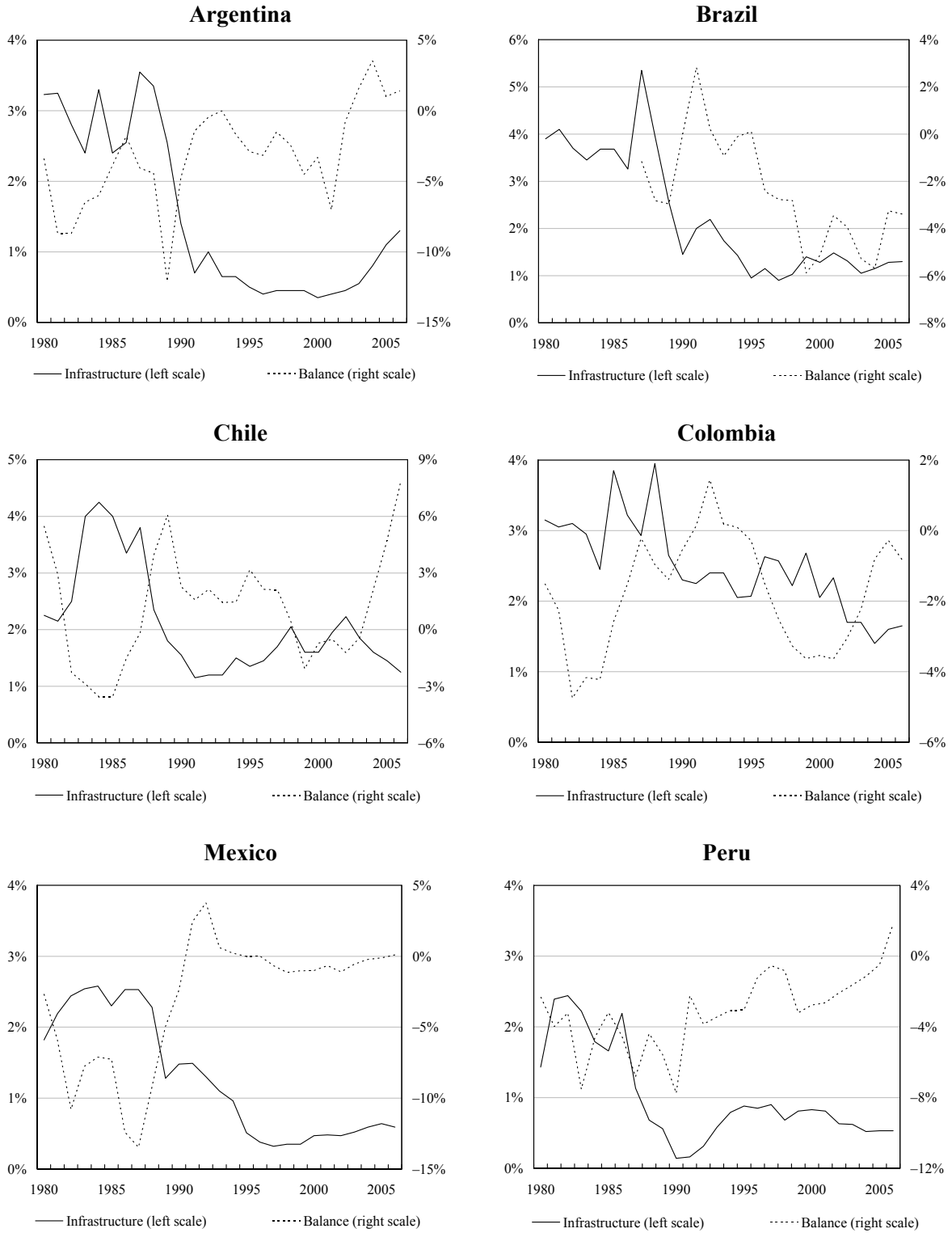
In spite of this, closing the infrastructure gap remains a fiscal issue, whether done jointly with private firms, or by the public sector alone. In particular, as international and regional experience indicates that, due to a combination of flawed contract design, imperfect regulation, deficient institutions and macroeconomic shocks, private provision of infrastructure often involves renegotiations of contracts and consequent changes in contractual conditions that should be accounted for as contingent liabilities of the public sector (for Latin America, see Guasch *et al.*, 2007, for the sectors of transport and water, and Engel *et al.*, 2003, for highways). Therefore, the emerging consensus is that PPPs should be pursued in sectors and activities where the private sector management and execution add value and efficiency relative to the public sector, but not to create artificial fiscal space to increase infrastructure investment (e.g., see OECD, 2008b). Additionally, countries with higher debt-to-GDP levels also exhibit larger infrastructure gaps, as we show in the next section. All of this supports the generation of a significant fiscal space for the next decades.

2.2 Infrastructure gaps, debt and governance

As a consequence of years of low – and probably rather inefficient – investment in infrastructure, many countries in Latin America present significant infrastructure gaps (see Perry *et al.*, 2008; CAF, 2009; or Perroti and Sánchez, 2011). The shortfalls are especially evident in the transportation and electricity sectors. The literature agrees upon the importance of gaps both in quantity and quality of infrastructures in the region.

Figure 4

Public Investment in Infrastructure and Budget Balance
(percent of nominal GDP)

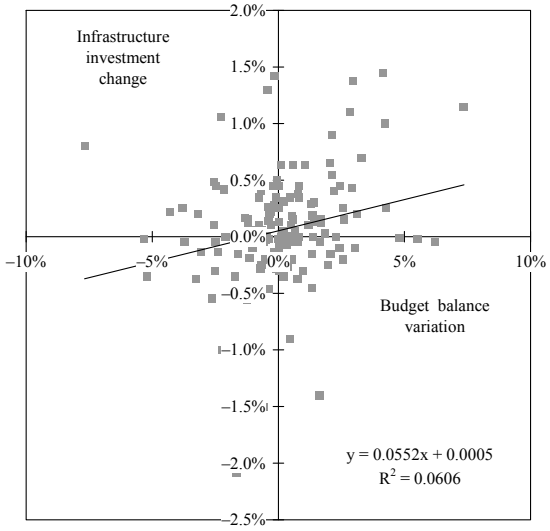


Source: Authors' calculations based on Calderón and Servén (2010), ECLAC and IMF databases.

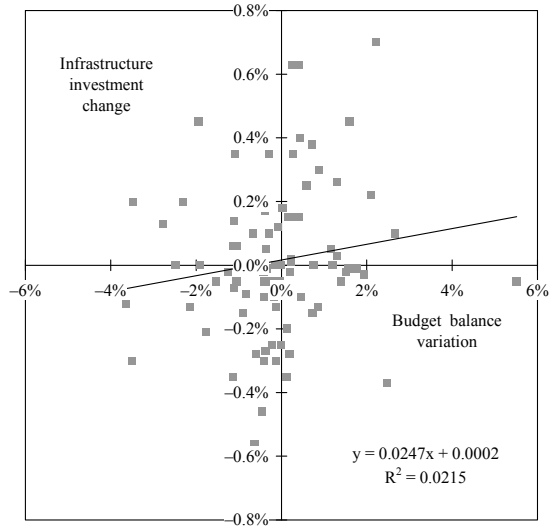
Figure 5

Public Investment in Infrastructure vs. Budget Balance Variations
(surplus increase vs. investment reduction, percent of nominal GDP)

Budget Balance, 1980-2006



Cyclically-adjusted Primary Balance, 1990-2006

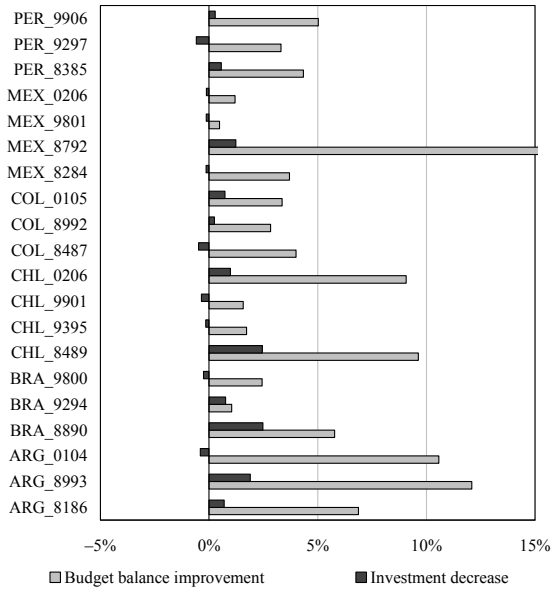


Source: Authors' calculations based on Calderón and Servén (2010), Daude *et al.* (2011), ECLAC and IMF databases.

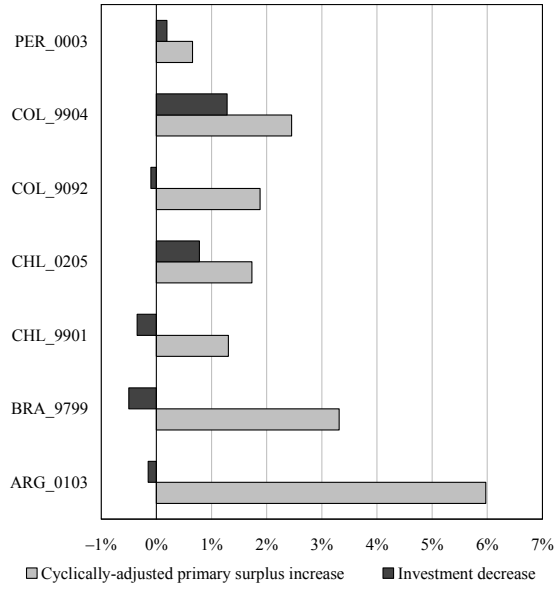
Figure 6

Fiscal Balance Improvement and Investment Reduction
(surplus increase or deficit decrease vs. investment reduction, percent of nominal GDP)

Budget Balance



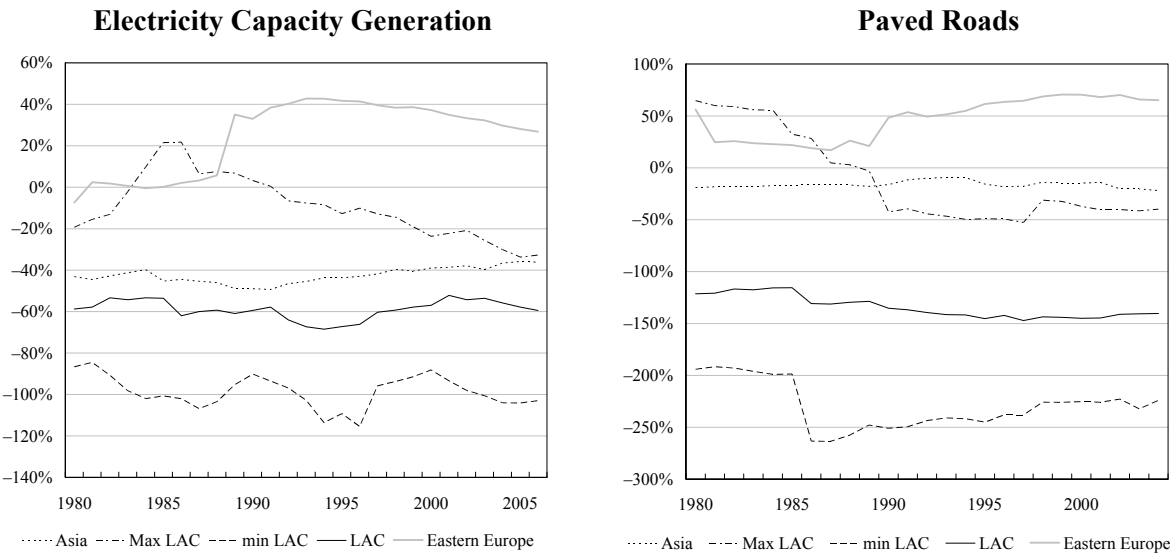
Cyclically-adjusted Primary Balance



Source: Authors' calculations based on Calderón and Servén (2010), Daude *et al.* (2011), ECLAC and IMF databases.

Figure 7

Comparative Degree of Achievement in Transport and Energy Infrastructure



Notes: The degree of achievement is the log difference between the observed pattern and the country-specific expected value according to the contra-factual estimated from a regression on the degree of urbanisation, the sectorial composition of output, population density, GDP per capita, country fixed effects and common time effects.
Source: Balmaseda *et al.* (2011)

However, most papers analyse observed infrastructure stocks across countries. This might be misleading as it does not take into account structural characteristics which determine the optimal level of infrastructure. For example, the degree of urbanisation or geographical dispersion of the population determines the optimal and effective amount of roads and other transport infrastructures.

Compared to a counterfactual based on such country characteristics, Latin American economies perform in general below their expected patterns (see Figure 7). As of 2007, a back-of-the-envelope calculation of the cost of closing these gaps shows that they amount well above 30 per cent of the regional GDP (Balmaseda *et al.*, 2011). The weak performance of Latin America is especially worrisome when contrasted to other developing countries and emerging markets (notably Asia and Eastern Europe). Furthermore, there has been little advancement over the last two decades regarding these gaps in the region.

These large shortfalls in key infrastructure categories are often considered one of the factors that explain Latin America's low levels of economic growth and persistent levels of inequality and poverty. As public infrastructure investment in general is assumed to have growth enhancing properties (see Aschauer, 1989; and Fernald, 1999), these low levels of investments in the region are worrisome. For example, Calderón and Servén (2010) estimate that more adequate investment and infrastructure quality in Latin America could accelerate GDP growth significantly. However, there is also evidence showing that public investment does not translate automatically into more infrastructure and economic growth (see, for instance, Pritchett, 2000). An adequate framework – not only for regulating private infrastructure investment but also implementing and evaluating *ex ante* and *ex post* public projects – is important. Otherwise, it is more likely for public investment to simply crowd-out – at least in part – private investment, and have only a reduced impact on economic growth (Cavallo and Daude, 2011).

What explains quantitatively these infrastructure gaps in Latin America? As discussed above, a prominent explanation has been fiscal consolidation programmes that have cut public investment, as other budget items – current expenditures – are less flexible to postpone or reduce fast. In fact, Balmaseda *et al.* (2011) show that a significant fraction of the cross-country differences in the degrees of achievement in infrastructure is explained by fiscal and institutional factors. The results show that countries with higher public debt-to-GDP ratios tend to underperform in terms of infrastructure. Also, a higher budget balance is correlated with less achievement in transport infrastructure (not so for energy). In both cases, the quality of institutions relevant for the management of public infrastructure projects has a positive and significant impact on the degree of infrastructure achievement.

While on average debt-to-GDP levels have declined and the debt composition has become less risky in terms of currency composition and maturity in the past decade in Latin America, these estimates show that countries with high levels of debt could still benefit from fiscal consolidation, as lower debt levels imply lower financing costs for infrastructure investment (either public or private). However, if such a consolidation is based primarily on a reduction of public investment, it will come at a price of increasing further the infrastructure gaps at least in some sectors. The other important result is that in terms of explaining differences across countries in their infrastructure achievements, the institutional dimension is important. Actually, the quality of the bureaucracy explains by its self almost one fourth of the total variation in the observed infrastructure gaps. A one-standard-deviation improvement in this dimension (e.g., passing from Peru's institutional quality to that of Chile), would on average close the gap in paved roads by around 58 per cent and the gap for electricity generation by around 45 per cent. This shows the importance of adopting complementary reforms in public institutions which would raise the efficiency of public investment more generally (a point emphasised by Isham and Kaufmann, 1999; Fedelino and Hemming, 2005; and Cavallo and Daude, 2011, among others). Of course, other drivers are also relevant, in particular the development of financial markets.

3 Public infrastructure investment, fiscal perspectives and frameworks

At the same time, there is no doubt that Latin America shares the need to pursue fiscal consolidation. According to standard debt sustainability analysis, fiscal positions in most countries in the region during the 2000s were in line with those needed to stabilise the current debt-to-GDP ratios, and much closer that those exhibited among most OECD countries. However, with the exception of Brazil, Latin America has not completely decoupled in this sense, such that in some cases a considerable fiscal consolidation is needed in the years ahead. According to Daude *et al.* (2011), cyclically-adjusted primary balance should increase between 2 and 4 percentage points of GDP to stabilise debt at pre-crisis levels.[6] In a similar exercise, OECD (2010) estimates that the required fiscal adjustment in industrialised economies is higher than 5 percentage points of GDP (Figure 8).

The main difference between Latin America and other regions, especially developed countries, is that fiscal adjustments in the region tend to be required mostly for cyclical reasons, as its strong recovery and high commodity prices are pushing countries in South America into the expansive phase of the business cycle. For example, while Chile would require an improvement of 3.8 p.p of GDP to stabilise its debt-to-GDP ratio, the highest in our sample, this ratio was just around 13 per cent of GDP as of 2009.

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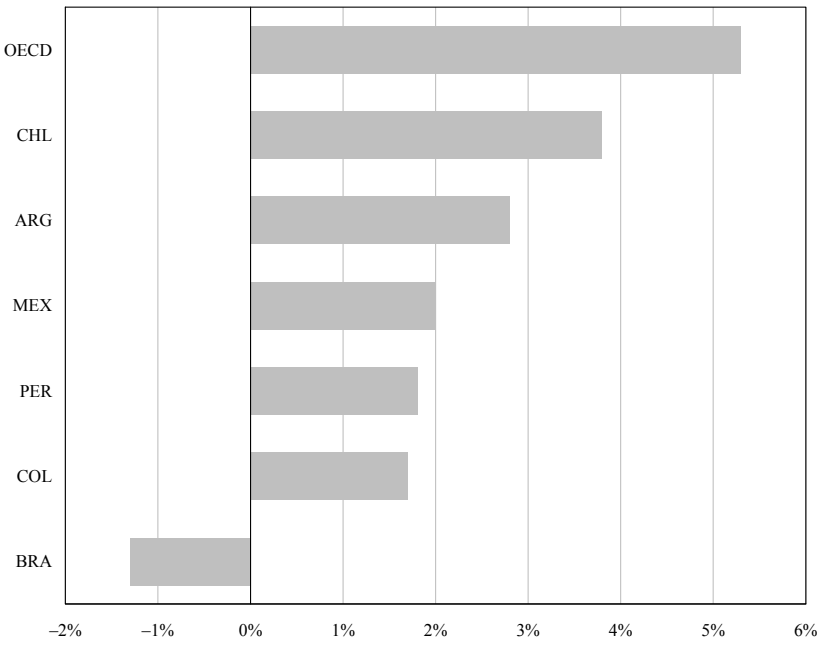
[6] Of course, initial debt-to-GDP ratios differ significantly across countries in the region. For example debt levels in Chile in 2009 were around 13 per cent of GDP, while in Brazil it was around 48 per cent of GDP.

Figure 8

Required Change in Structural Primary Balances to Stabilise debt-to-GDP Ratios

(percent of nominal GDP)



Source: OECD (2010), and Daude *et al.* (2011) for Latin America.

However, as important as the size and urgency of the fiscal adjustment ahead is its composition. The current debate on fiscal frameworks runs the risk of being too limited. This is delicate, since well-defined fiscal frameworks (from budgetary processes and numerical fiscal rules, to fiscal agencies and councils)[7] can both enhance social confidence in the medium-term orientation of fiscal policy and facilitate returning public finances to sustainable positions in the short-term (OECD, 2010). As the IMF clearly put it: "where improvements are needed, reforms to these (fiscal) institutions should be part of the exit strategy" (Bornhorst *et al.*, 2010).

In order to avoid this potential drawback, the debate on fiscal frameworks should complement the usual sustainability focus with at least two other dimensions. First, reforms should address socio-economic challenges in the short-run, leaving enough room for stabilisation policies (automatic and discretionary, at least during severe downturns). And second, they should incorporate medium and long run elements, managing both "assets" (for instance commodity revenues) and "liabilities" (such as poverty reduction, infrastructure gaps, and age-related expenditures).

Focusing on the infrastructure dimension, in order to set an adequate framework in practice, it is important first to review first the trade-off regarding sustainability and public investment. It is often argued that fiscal consolidation programmes based on cutting public infrastructure investments are short-sighted as these investments would increase potential output growth and therefore increase fiscal solvency (Easterly *et al.*, 2008). Thus, if the growth effects would be taken into account in the solvency assessments and the fiscal policy framework more in general, reducing public infrastructure investments would be less attractive.

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[7] Fiscal frameworks, oftentimes regulated though fiscal responsibility laws take into account not only numerical goals, but also procedures, jurisdictional coverage sanctions, escape clauses, and cyclical considerations (see Corbacho and Schwartz, 2007 for a survey). Theoretical and empirical analysis of fiscal rules can be found in Kopits and Symansky (1998) and Kopits (2001). For a recent overview of the experience with independent fiscal councils see Debrun *et al.* (2009) and Hagemann (2010). The relationship between budgetary institutions and fiscal performance in Latin America and OECD countries can be found in Boyer *et al.* (2011). In all cases, the authors stress that each components are necessary but not sufficient conditions for a better fiscal policy, and highlight the need of strong political commitment.

The argument depends on the balance between solvency risks (and probably also liquidity risks) that could trigger a higher financing cost versus the gain in terms of economic growth. In this sense, it is true that public investment reduction during the late 1980s and early-1990s might have set the scene for the low growth performance during the 1990s in Latin America. However, it is also important to remember that most countries were still in default from the 1981-82 debt crisis and that these fiscal adjustments were part of larger packages under the *Brady Plan* to regain access to finance. Clearly, the reliance on privatisation without proper regulation did not create the expected results in terms of private investment in the region. However, it is not clear if at that time countries had many other options given the overall bad state of public finances. Nowadays, especially resource-rich countries in South America are closer to a situation where they have to decide on the optimal mix between reducing debt further – which would allow a lower interest rate and boost private investment – and more public investment in infrastructure.[8]

3.1 Public infrastructure investment and fiscal policy: main policy options

One traditional fiscal framework that in principle allows for more fiscal space to finance public investment are the so-called *golden rules*, which set targets on the current balance and exclude capital expenditures. In theory, they have many advantages if higher public investment translates into higher growth, and therefore more revenues to sustain debt levels (see Blanchard and Giavazzi, 2004). In some sense, this alternative assumes a private-sector approach, in which current revenues finance current expenditures, while borrowing finances capital expenditures. These provisions tend to be used rather often. According to the IMF (2009), around one third of the fiscal rules in emerging and developing countries exclude public investment and other special items from budget targets. However, these paths are not free of practical problems. In addition to the need to run separate (and credible) budgets, the public sector does not usually receive financial returns on its investment, departing from the private sector rationale (Martner and Tromben, 2005).[9] Besides, several authors have pointed out that even if budget policy remains fiscally sustainable (an assumption which is far from evident in this framework) public infrastructure investment has decreasing rates of returns, and that separating the budget may introduce a bias against education, health and other intangible investments (see IMF, 2004; Fedelino and Hemming, 2005; and OECD, 2010 for critical approaches).

Another popular policy option, accepted by several public accounting conventions, is to exclude from the fiscal targets the operations of commercially-run public enterprises. By this means, investment expenditure can be registered along several years. However, once again, it is not straightforward how to identify these public enterprises. The spread of PPPs is a related promising option, if accompanied by good procurement and concession processes, and adequate regulatory frameworks.[10]

Finally, a more general and also promising formula would be to explicitly adopt macro-fiscal rules. They should require, by law, the accumulation of savings during good times, generating the fiscal space to maintain public investment during economic downturns (for a comprehensive analysis of the main issues in defining and implementing structural fiscal rules in Latin America, see Ter-Minassian, 2011). We will devote the next two sections to macro-fiscal rules, adapted to the context of the main Latin American economies.

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[8] For a framework that deals with these trades-offs for resource rich countries see van der Ploeg and Venables (2011).

[9] A variation of this rule, also discussed and dismissed for practical problems in Martner and Tromben (2005), would consist in changing the public accounting principles, and record investment as an increase in non-financial assets.

[10] For an analysis of the different options to increase public investment in Brazil, Chile, Colombia and Peru, see IMF (2004).

3.2 Basic principles for a way forward

Based on previous arguments, fiscal consolidation and infrastructure convergence should be made compatible, taking also into account an additional restriction: the particularly strong association of investment and political cycles in Latin America (OECD, 2008a, chapter 3; Nieto-Parra and Santiso, 2009). A way forward for fiscal policy in Latin American countries (both in the short and the long run) could be based on setting rules and frameworks which incorporate an optimal path towards steady state for an economy with a large infrastructure gap in a very simple way, specifying a debt objective and path, supplemented by a spending and/or deficit rule. A fiscal council could set the scenarios, estimating the gap, defining the deficit/debt and investment trends.

In this context, moving towards a fiscal framework that assesses more the long-term trade-offs between solvency and different government expenditures and investments seem not only feasible, but necessary. Of course, there are many practical questions of implementation to be addressed to achieve a more long-term approach to public finances that includes these growth effects. For example, infrastructure investments are not the only item with potential growth-enhancing effects. Public expenditures on education, health, or public security could also affect growth as well as the reduction of tax expenditures that create misallocations of resources could boost productivity. Furthermore, the estimates of the effects of these growth effects are inherently imprecise and could be subject to manipulation

Nevertheless, these challenges can be resolved and improved through learning-by-doing. For example, advisory fiscal councils can present estimates and simulations of the growth effects of the different budget programmes which could be valuable information for the prioritisation of policies. Estimates provided in a transparent matter by an external council – even if they are not binding – would be subject to less manipulation and could be improved by evaluating existing programmes. Also, reporting tax expenditures in a transparent way might be a helpful by-product of a more sophisticated fiscal framework with emphasis on net worth. In this sense, fiscal rules do not automatically translate in to better fiscal outcomes (see, for instance, Arezki and Ismail, 2010 or Cáceres *et al.*, 2010); they must be accompanied by complementary reforms to the transparency and efficiency of the budget process. A combination of deficit targets and current expenditure limits, supervised by some type of council or independent institutions is probably a good practical option (in a similar line, see Ter Minassian, 2011).

3.3 Infrastructure in fiscal rules in Latin America, with a focus on Peru

Some advances in fiscal policy-making have been significant since the 2000s. According to Daude *et al.* (2011), from a structural perspective, both cyclically-adjusted balances and debt sustainability analysis confirm the better position enjoyed by most countries in Latin America before the crisis. These good practices in the stabilising role of fiscal policy (notably in Chile, Colombia, and Peru), and in general in fiscal sustainability, stem from a combination of well-designed fiscal rules, better institutions, and good policy makers. However, the institutional framework is often weaker than it appears. According to the IMF (2009), only one out of the five countries with fiscal rules during the crisis (Brazil) did not modify the rule (Argentina, Chile, Mexico and Peru did; Colombia is in the process to approve it). In what follows we sketch the treatment of infrastructure investment in Argentina, Brazil, Mexico and Peru.

Chile's fiscal rule (2001) does not include any specific disposition on investment, neither it is discussed (Comité Asesor para el Diseño de una Política Fiscal de Balance Estructural de Segunda Generación para Chile, 2010). In the case of Colombia, the Comité Técnico Interinstitucional (2010) mentions the possibility to earmark royalties to finance high-productivity local infrastructures. Colombia's *Fiscal Responsibility Law* from 2003 does not address explicitly

the issue of targets and the treatment of infrastructure, but it provide budgeting rules for contingent liabilities due to concessions to the private sector.

Argentina's *Fiscal Responsibility Law* (set in 1999) allows excluding social programmes, public investment and projects financed by multilaterals from budget balance requirements. There is also a cap on primary expenditure growth, which should grow less than nominal GDP or remain constant in periods of negative nominal growth. However, the rule has frequently been violated or suspended.

The approach employed in Brazil and Mexico can be thought as a soft version of the golden rule, with all the shortcomings already mentioned. Brazil's *Fiscal Responsibility Law* (2000) allows investment to be excluded from targets for the states. Furthermore, the law imposes certain minimum spending amounts (as a percentage of total revenues and transfers from the federal government) on social issues like heath or education. These earmarked allocations reduce significantly the possibility of changing priorities in the budget, in addition to creating pro-cyclicality in expenditures. In the case of Mexico (the *Fiscal Responsibility Law* was adopted in 2006), the target is set on a cash basis. Since 2009, budget targets exclude investment on behalf of PEMEX, the state-owned oil company. Excess resource revenues can partially be allocated to certain state-level investment projects or to the oil stabilisation fund. If this later fund exceeds 1.5 per cent of GDP, all additional revenue is split between a fund for state-level investment (50 per cent), PEMEX investment (25 per cent) and a fund to finance future pensions (25 per cent) (see Villafuerte and Lopez-Murphy, 2010).

The case of Peru

The case of Peru represents probably one of the best practices in the region. As previously shown, Peru represented an extreme case in public investment in infrastructure, not only for its low level at the start of the period of analysis, but also for the volatility of its infrastructure investment. These characteristics explain the country's very high infrastructure gaps. However, at the same time, recent developments in the design of its fiscal framework may represent a good practice for economies in a similar situation.

At the end of 1999 the *Fiscal Prudency and Transparency Law* was enacted, imposing two numerical restrictions: a ceiling on the consolidated public sector (non-financial public sector plus the central bank) fiscal deficit of 1 per cent of GDP, and a restriction that the annual increase of non-financial expenditures of the general government should not exceed the inflation rate plus 2 per cent. Expenditures included all transfers and credits with government guarantees. For general election years, there were additional restrictions on non-financial expenditures and the fiscal deficit to prevent outgoing administrations from engineering an opportunistic fiscal expansion: the general government's non-financial expenditure during the first seven months of the year could not exceed 60 per cent of the total non-financial expenditure budgeted for the whole year; and the Consolidated Public Sector deficit for the first semester could not exceed 50 per cent of the programmed annual deficit.

The 1999 fiscal law had escape clauses. In case of national emergency or international crisis that may significantly affect the national economy (GDP falling for three consecutive quarters or annual public debt interest payments amounting to more than 0.4 per cent of GDP), the Executive could ask the Congress to suspend for the fiscal year any of the rules described above. Also, given sufficient evidence that real GDP is contracting or could decrease in the following year, based on a report from the Ministry of Economy and Finance, the law authorised a fiscal deficit above the 1 per cent of GDP ceiling, but in no circumstance could it exceed 2 per cent of GDP.

The law also created a Fiscal Stabilisation Fund as a countercyclical expenditure measure. Funding came from the excess of current income (if current income from ordinary resources exceeded its three previous year's average in 0.3 per cent of GDP, the difference would go to the fund) and from privatisation (75 per cent of income from privatisations would go to the fund).

As an accountability and transparency measure, the law mandated the Ministry of Economy and Finance to publish a Multiannual Macroeconomic Framework, which included forecasts for the next three years of the main macroeconomic variables, fiscal balance targets, public investment, public debt, as well as the guidelines for fiscal policy.

As fiscal accounts were still rather weak, especially after the 1997-98 crisis, the law established a convergence process for achieving the 1 per cent fiscal deficit target, imposing ceilings of 2.0 per cent for 2000 and 1.5 per cent for 2001. However, these wider limits were not enough and in 2001 a law was enacted to suppress the limits for the years 2001 and 2002. During the next five years the *Fiscal Prudency and Transparency Law* was modified several times. In 2003, its name was changed to *Fiscal Responsibility and Transparency Law*; the 1 per cent of GDP ceiling for the fiscal deficit was now for the non-financial public sector rather than the consolidated public sector, and the real annual increase of the general government's non-financial expenditure could not exceed 3 per cent using the GDP deflator as the adjustment factor. During electoral years, the limit on the fiscal deficit for the first semester was reduced to 40 per cent, and changed from consolidated to non-financial public sector.

The 2003 modification introduced fiscal rules for regional and local governments as well. They set restrictions for regional governments' debt, such that the ratio of total debt stock over current income should not exceed 1 and that the ratio of annual debt service to current income should be lower than 0.25. Also, the average primary balance of the last three years should not be negative for each local and regional government, and regional governments' debt with state guarantees can only be destined to infrastructure.

Exception rules also changed. Now permission to suspend any of the targets could be granted for a maximum of three years, the maximum allowed fiscal deficit would be 2.5 per cent of GDP instead of 2.0 per cent, and for the years following the exception the fiscal deficit should decrease 0.5 per cent of GDP per annum until it reaches the limit established by the law. Furthermore, the Ministry of Economy and Finance will establish the adequate fiscal rules for regional and local governments.

The Fiscal Stabilisation Fund also went through some minor changes. Since 2001, 50 per cent of liquid income from state concessions would go to the Fund, and the cumulative savings of the Fund could not exceed 3 per cent of GDP. Any difference would go to the Pension Reserve Consolidated Fund or should be used to reduce public debt. Since 2003, the Ministry of Economy and Finance would have to publish a detailed balance sheet of the fund in the official newspaper and on electronic public media.

Thus, during the period 2000-05 fiscal rules had two main achievements: convergence to the fiscal deficit and stabilisation of the debt-to-GDP ratio. However, they failed in limiting public expenditure growth, and Congress always approved waivers solicited by the Executive to increase expenditure above the limits established by law. To worsen the situation, the composition of public expenditure privileged growth in current expenditure (public consumption) rather than public investment.

One of the objectives of the Administration entering in July 2006 was to focus on public investment to close the infrastructure gap. But the rules restrained public expenditure in infrastructure as well, so the Fiscal Responsibility Law had to be adapted. At the end of 2006, the non-financial expenditure limit was modified to exclude maintenance expenses from its calculation, the adjustment factor would now be the price index, and the limit was now over the central

government rather than the general government. In 2007, the 3 per cent real annual increase limit was now put on consumption expenditure – composed by wages and expenditure in goods and services – and the adjustment factor changed to the inflation target set by the Central Bank. By the end of that same year, the rule was modified again by the 2008 Budget Law, as the ceiling was reset to 4 per cent and consumption expenditure included in addition to wages, expenditure in goods and services also pensions. This way, public investment was not restrained, except for the 1 per cent fiscal deficit ceiling.

From 2006 onwards the trends of capital expenditure and current expenditure of the central government changed. While the first increased, the second declined. Public investment over GDP ratio grew significantly, and consumption expenditure was contained, as real growth was zero in 2007 and 2008 (Figure 9). Moreover, between 2006 and 2008 the fiscal balance was positive. There was a political cost though, as during those years wages in the public sector were frozen; however, it was well handled by giving emphasis to infrastructure and its social benefits.

The international crisis hit Peru slightly later and less severely than more advanced economies. However, an economic stimulus plan was designed under which fiscal rules had to be put aside for the years 2009 and 2010. Congress approved the waiver presented by the Executive soliciting a fiscal deficit ceiling of 2 per cent for both years and higher consumption expenditure growth rates. This time the Central Government's consumption expenditure was allowed to grow 10 per cent in 2009 and 8 per cent in 2010, basically in maintenance of roads, schools, and rural infrastructure. The first year the limit was exceeded by 0.2 per cent going up to 10.2 per cent, and the second year expenditure growth was below the limit reaching only 6.4 per cent.

The economic stimulus plan emphasised expenditure in infrastructure mainly for two reasons: first, to encompass a short-term objective of stimulating the economy with a long-term goal of economic and social development by closing the infrastructure gap; and second, because according to studies from the Ministry of Economy and Finance, government expenditure was more effective to stimulate the economy than lowering taxes. Moreover, as it was expenditure in infrastructure, the impact on the output level was permanent and the exit strategy from the stimulus plan was not complicated.

Some caveats remain. The multiyear macroeconomic framework (and consequently the budget planning) is undertaken within the Ministry of Economy and Finance. But the Ministry is also the actor charged with designing and implementing the fiscal policies supposedly regulated by the multiyear framework and the budget planning. Thus there is room for further strengthening of external formal checks-and-balances. (The Central Bank assessment is not binding, and The Budget Committee ultimately rely on Minister's experts).[11] Additionally, improvements are needed in the formal infrastructure policy cycle, ranging from planning and prioritisation stages to investment execution, operation and maintenance, and monitoring and evaluation.

All in all, in the Peruvian case, fiscal rules have been effective in imposing discipline upon governments. However, they had to be fine-tuned along the years, and it is clear sometimes making exceptions and having escape clauses is necessary. Recovering credibility among economic agents and mainly investors was crucial for Peruvian successful economic performance during the last decade – a remarkable one in terms of growth-, and fiscal rules contributed significantly to this purpose.

4 Conclusions and policy recommendations

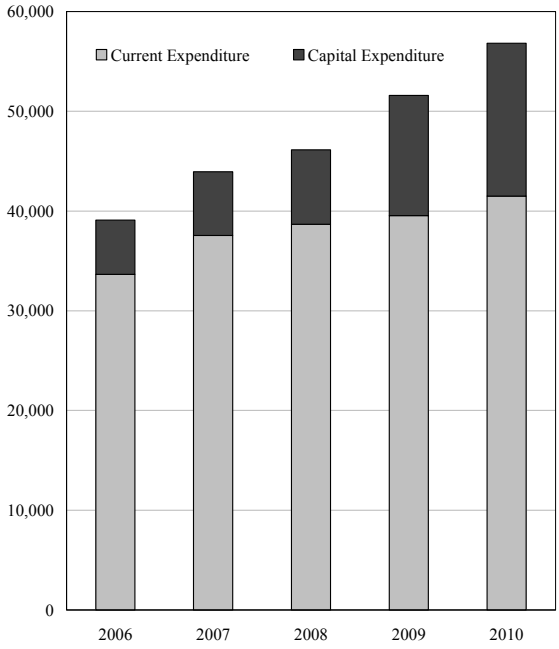
In this paper we documented the size of fiscal consolidation needed in six of the main

[11] See Carranza *et al.* (2009) for a detailed political economy analysis of the Peruvian budget process.

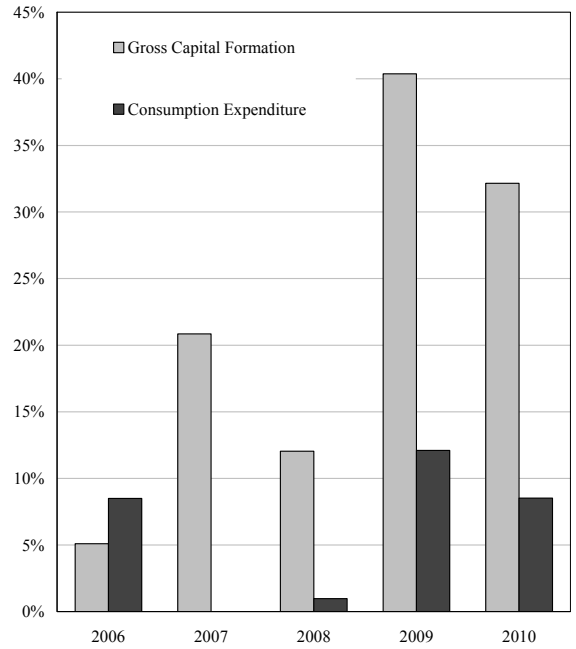
Figure 9

Main Macroeconomic and Fiscal Indicators in Peru, 2006-10

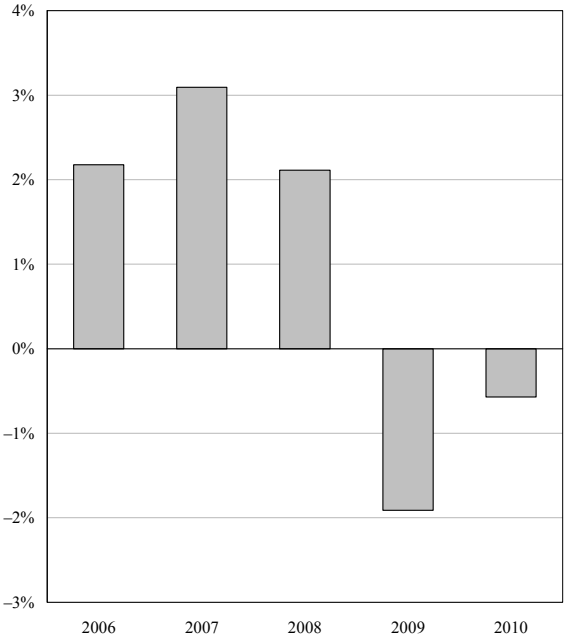
Central Government Non-financial Expenditure
(deflated $ million)



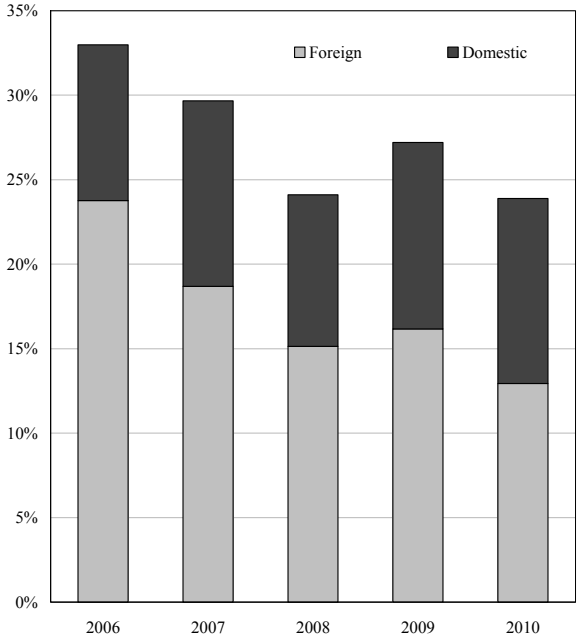
Central Government Gross Capital Formation and Consumption Expenditure
(real annual percentage change)



Fiscal Balance
(non-financial public sector balance, percent of GDP)



Public Debt
(percent of nominal GDP)



Source: Author's calculations, based on data from the Peruvian Ministry of Finance and the Central Bank (BCRP).

economies in Latin America, and the infrastructure gaps in the region, based on original research. We took stock of the debate on second-generation reforms of the fiscal rules and frameworks existing in Latin America, with a particular focus on their treatment of public infrastructure investment in Argentina, Brazil, Chile, Colombia, Mexico, and especially in Peru.

We argued that fiscal exit strategies already debated and in many cases under implementation, should incorporate not only a sizable fiscal retrenchment, but also a fiscal framework favourable to public infrastructure investment. Specifically, the case of Peru was chosen as a potential good practice for the region, since the establishment of a simple fiscal rule that combines deficit and current expenditure ceilings seems to be behind the public investment boom in the last five years.

The analysis focused on fiscal rules, but the effectiveness of fiscal consolidation would be eased by a combination of rules, institutions (from fiscal councils to independent fiscal agencies), and better budgetary procedures. Needless to say, higher infrastructure investment, thanks to more fiscal space, should be accompanied by better spending processes.

Several lines for future research are opened. First, a disaggregated analysis of the different types of infrastructure may shed some light on their relationship with budget balance developments (especially of the telecommunications sector vs. electricity and land transportation). Second, depending on data availability, it may be relevant to include more years (covering the last business cycle) and more countries (notably incorporating good practices from emerging Europe and Asia). Finally, the descriptive analysis may be completed by a simple modelling of the trade-offs between public deficits to close infrastructure gaps, and higher interest expenses with imperfect capital markets.

REFERENCES

Areski, R. and K. Ismail (2010), "Boom-bust Cycle, Asymmetrical Fiscal Response and the Dutch Disease", International Monetary Fund, Working Paper, No. 10/94, IMF.

Aschauer, D.A. (1989), "Is Public Expenditure Productive?", *Journal of Monetary Economics*, Vol. 23, No. 2, pp. 177-200.

Balmaseda, M., C. Daude, A. Melguizo and L. Taft (2011), "Infrastructure Patterns in Emerging Markets: An Empirical Analysis with a Focus on Latin America", OECD, Development Centre, Working Paper, forthcoming.

Blanchard, O. and F. Giavazzi (2004), "Improving the SGP Through a Proper Accounting of Public Investment", Centre for Economic Policy Research, Discussion Paper, No. 4220, CEPR.

Bornhost, F., N. Budina, G. Callegari, A. ElGanainy, R. Gomez, A. Lembruger, A. Schaechter and J. Beom Shin (2010), "A Status Update on Fiscal Exit Strategies", International Monetary Fund, Working Paper, No. 10/272, IMF.

Boyer, P., T. Curristine, J. Ponce, L. Recuero and A. Redonda (2011), *Budgetary Institutions and Fiscal Performance: Latin American and OECD Countries Compared*, OECD, forthcoming.

Cáceres, C., A. Corbacho and L. Medina (2010), "Structural Breaks in Fiscal Performance: Do Fiscal Responsibility Laws Have Anything to Do with Them?", International Monetary Fund, Working Paper, No. 10/248, IMF.

Calderón, C. and L. Servén (2004), "Trends in Infrastructure in Latin America, 1980-2001", Policy Research, Working Paper, No. 3401, World Bank.

Calderón, C. and L. Servén (2010): "Infrastructure in Latin America", Policy Research, Working Paper, No. 5317, World Bank.

Carranza, L. (2011), "Politics of Fiscal Reform in Peru", in J. Dayton-Johnson and J. Santiso (eds.), *Handbook of Latin American Political Economy*, Oxford University Press, forthcoming.

Carranza, L., J.F. Chavez and J. Valderrama (2009), "Success in Sustainability? The Case of Peru", in M. Hallerberg, C. Scartascini and E. Stein (eds.), *Who Decides the Budget? A Political Economy Analysis of Budget Process in Latin America*, pp. 191-224, Inter-American Development Bank, Washington (D.C.).

Cavallo, E. and C. Daude (2011), "Public Investment in Developing Countries: A Blessing or a Curse?", *Journal of Comparative Economics*, Vol. 39, No. 1, pp. 65-81.

Comité Asesor para el Diseño de una Política Fiscal de Balance Estructural de Segunda Generación para Chile (2010), *Informe Comité de Balance Estructural*, Santiago de Chile.

Comité Técnico Interinstitucional (2010), *Regla fiscal para Colombia*, Banco de la República, Ministerio de Hacienda y Crédito Público y Departamento Nacional de Planeación, Bogotá.

Commission on Growth and Development (2008), *The Growth Report. Strategies for Sustained Growth and Inclusive Development*, International Bank for Reconstruction and Development and World Bank, Washington (D.C.).

Corbacho, A. and G. Schwartz (2007), "Fiscal Responsibility Laws", in M. Kumar and T. Ter-Minassian (eds.), *Promoting Fiscal Discipline*, pp. 58-106, International Monetary Fund, Washington (D.C.).

Corporación Andina de Fomento (2009), *Economía y desarrollo RED 2009. Caminos para el futuro: Gestión de la infraestructura en América Latina*, CAF, Caracas.

Daude C., A. Melguizo and A. Neut (2011), "Fiscal Policy in Latin America: Countercyclical and Sustainable?", *Economics e-Journal*, under revision.

Debrun, X., D. Hauner and M.S. Kumar (2009), "Independent Fiscal Agencies", *Journal of Economic Surveys*, Vol. 23, No. 1, pp. 44-81.

De Mello, L. and N. Mulder (2006), "Fiscal Adjustment in Latin America: Trends and Stylised Facts", in OECD (ed.), *Challenges to Fiscal Adjustment in Latin America. The Cases of Argentina, Brazil, Chile and Mexico*, pp. 19-41, OECD, Paris.

Easterly, W., T. Irwin and L. Servén (2008), "Walking Up The Down Escalator: Public Investment And Fiscal Stability", *World Bank Research Observer*, Vol. 23, No. 1, pp. 37-56.

Engel, E., R. Fischer, A. Galetovic, E. Schargrodsky and J.P. Montero (2003), "Privatizing Highways in Latin America: Fixing What Went Wrong", *Economia*, Vol. 4, No. 1, pp. 129-64.

Fedelino, A. and R. Hemming (2005), "A Fiscal Policy Framework to Safeguard Public Investment", in Banca d'Italia (ed.), *Public Expenditure*, papers presented at the Public Finance workshop held in Perugia, 31 March-2 April, pp. 499-516, Banca d'Italia, Rome.

Fernald, J.G. (1999), "Roads to Prosperity? Assessing the Link Between Public Capital and Productivity", *American Economic Review*, Vol. 89, No. 3, pp. 619-38.

Guasch, J.L., J.J. Laffont and S. Straub (2007), "Concession of Infrastructure in Latin America: Government-led Renegotiation", *Journal of Applied Econometrics*, Vol. 22, No. 7, pp. 1267-94.

Hagemann, R. (2010), "Improving Fiscal Performance Through Fiscal Councils", OECD, Economics Department, Working Paper, No. 829, OECD.

IMF (2004), *Public Investment and Fiscal Policy*, Fiscal Affairs Department and Policy Development and Review Department, Washington (D.C.).

——————(2005), *Public Investment and Fiscal Policy – Summaries of the Pilot Country Studies*, Fiscal Affairs Department, International Monetary Fund, Washington (D.C.).

—————— (2009), *Fiscal Rules – Anchoring Expectations for Sustainable Public Finances*, Fiscal Affairs Department, International Monetary Fund, Washington (D.C.).

—————— (2011), *World Economic Outlook Update*, January, International Monetary Fund, Washington (D.C.).

Isham, J. and D. Kaufmann (1999), "The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects", *The Quarterly Journal of Economics*, Vol. 114, No. 1, pp. 149-84.

Izquierdo, A. and E. Talvi (2008), *All That Glitters May Not be Gold: Assessing Latin America's Recent Macroeconomic Performance*, Inter-American Development Bank, Washington (D.C.).

Kopits, G. (2001), "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?", International Monetary Fund, Working Paper, No. 01/145, IMF.

Kopits, G. and S.A. Symansky (1998), "Fiscal Policy Rules", International Monetary Fund, Occasional Paper, No. 162.

Lora, E. (2007), "Public Investment in Infrastructure in Latin America: Is Debt the Culprit", Inter-American Development Bank, Working Paper, No. 595.

Martner, R. and V. Tromben (2005), "Public Investment and Fiscal Adjustment in Latin American countries", in Banca d'Italia (ed.), *Public Expenditure*, papers presented at the Public Finance workshop held in Perugia, 31 March-2 April, pp. 827-58, Banca d'Italia, Rome.

Nieto-Parra, S. and J. Santiso (2009), "Revisiting Political Business Cycles in Latin America", OECD, Development Centre, Working Paper, No. 281.

OECD (2008*a*), *Latin American Economic Outlook 2009,* OECD, Development Centre, Paris.

——————(2008*b*), *Public-private Partnerships: In Pursuit of Risk Sharing and Value for Money*, OECD, Directorate for Public Governance and Territorial Development, Paris.

——————(2009), *Latin American Economic Outlook 2010*, OECD, Development Centre, Paris.

——————(2010), "Fiscal Consolidation: Requirements, Timing, Instruments and Institutional Arrangements", *Economic Outlook*, No. 2010/2, pp. 219-65.

Perry, G., L. Servén and R. Suescun (2008), *Fiscal Policy, Stabilization and Growth: Prudence or Abstinence*, The World Bank, Washington (D.C.).

Perroti, D.E. and R.J. Sánchez (2011), "Measuring the Infrastructure Gap in Latin America and the Caribbean Countries", *Serie Recursos Naturales e Infraestructura*, ECLAC, Santiago.

Pritchett, L. (2000) "The Tyranny of Concepts: CUDIE (Cumulated, Depreciated, Investment Effort) Is Not Capital", *Journal of Economic Growth*, Vol. 5, No. 4, pp. 361-84.

Ter-Minassian, T. (2011), "Should Latin American Countries Adopt Structural Balance-based Fiscal Rules?", paper presented at the 13th Public Finance Workshop of the Banca d'Italia, Perugia, 30 March-2 April, in this volume.

Van der Ploeg, F. and A.J. Venables (2011), "Harnessing Windfall Revenues: Optimal Policies for Resource-rich Developing Economies", *Economic Journal*, Vol. 121, No. 551, pp. 1-30.

Vladkova-Hollar, I. and J. Zettelmeyer (2008), "Fiscal Positions in Latin America: Have They Really Improved?", International Monetary Fund, Working Paper, No. 08/137, IMF.

RUSSIAN FISCAL FRAMEWORK: PAST, PRESENT AND FUTURE. DO WE NEED A CHANGE?

Sergey Vlasov[*]

This study examines Russian public finances system. It provides the description of the main fiscal reforms that were carried out by the Government from the moment of USSR dissolution and allowed to reduce nonrenewable resource dependency of the economy. The study presents the fiscal stabilization analysis. It conducts the fiscal impulse factor analysis as well as the estimation of the degree of the fiscal policy cyclicality for the period of 2000-13. The estimates show that in 2006-08 fiscal policy was procyclical, while over the remaining period it was stabilizing. The study also discusses the fiscal sustainability issues for the period till 2050 under two socio-economic scenarios. The size of necessary fiscal consolidation under the current fiscal strategy is calculated and alternative strategy is investigated.

1 Introduction

Russian public finances system is less than twenty years old. During this period economic conditions and the state of public finances changed substantially several times. As a result of macroeconomic conditions deterioration in 1998 Russian government had to declare itself insolvent. In the succeeding years the government gradually carried out public finances reforms. The following favourable external conditions of the 2000s on the one hand contributed to fiscal policy enhancement, on the other hand made it more dependent on external developments. In order to reduce nonrenewable resource dependency of the Russian economy the government worked out some general fiscal rules. As a result of this policy by the end of the 2000s the state of public finances improved substantially as the Russian government possessed sizeable reserves with small debt liabilities. Still under negative conditions of financial crisis the state of the Russian public finances took a turn for the worse. Thus it seems worthwhile to investigate the efficiency of the Russian fiscal policy by means of stabilizing function and fiscal sustainability analysis.

The remainder of this paper is organized as follows. The second section contains the main facts of the Russian public finances system including brief characteristic of the main fiscal reforms from the moment of USSR dissolution. The third section is devoted to fiscal stabilization analysis. It presents the fiscal impulse factor analysis as well as the estimation of the degree of the Russian fiscal policy cyclicality for the period of 2000-13. The fourth section discusses Russian fiscal sustainability in the medium and long run under two possible socio-economic scenarios. The size of necessary fiscal consolidation under current fiscal strategy is calculated and alternative strategy is investigated. The final section concludes.

2 The evolution of the Russian public finances system

USSR dissolution became a catalyst for moving from planned to market economy and for creating a new public finances system. However, during the 1990s because of a low level of public finances organization and tax discipline the government expenditures were under financed and the

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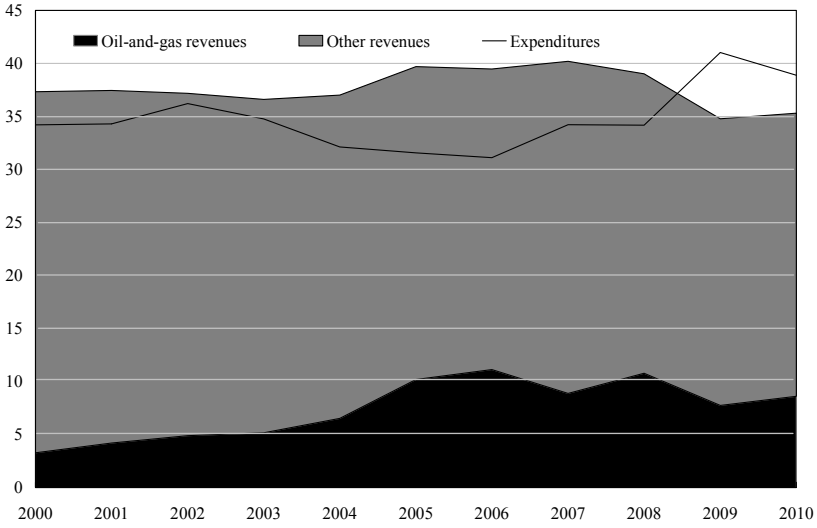
The author would like to thank participants of the 13th Banca d'Italia Public Finance Workshop on *Rules and Institutions for Sound Fiscal Policy after the Crisis* for their comments.

general budget deficit was from 6 to 10 per cent of GDP (MFR, 2008). This led to a significant increase in the public debt level and in 1998 as a consequence of deterioration of external conditions and considerable reduction of budget revenues resulted in the sovereign default. Until the 2000s under conditions of unstable macroeconomic situation accompanied by high inflation as well as the lack of proper budget legislation there was no opportunity to introduce the medium-term budget forecasting.

Figure 1

Dynamics of the Main General Budget Indicators and the Structure of the Revenues, 2000-10
(percent of GDP)



In the beginning of the 2000s reasonable steps to restore the macroeconomic stability were taken, the external government debt was restructured, required budget legislation was created. For example, in 2000 the Budget code of the Russian Federation was introduced. It allowed to set up the rules preventing excessive government spending, growing budget deficit and increasing public debt (MFR, 2008). At the same time as government continued to pursue a policy of annually balanced budget, the volume of expenditures highly depended as before on the volume of revenues, which in its part more and more depended on nonrenewable resources extraction and exportation revenues (see Figure 1). Presumably, the consequence of this was not just the growing dependence of fiscal policy effectiveness on highly volatile revenues but also facing the negative effects of the so-called Dutch disease.[1]

In 2004 the Russian government established Stabilization fund based on the rule of the base oil price (the revenues under the base oil price are used on spending, the difference is saved). Although at that time only oil revenues were related to nonrenewable resource revenues, it allowed to solve the denoted problems to a large extent as well as to contribute to the equal distribution of nonrenewable resource revenues.[2] Moreover accumulated funds allowed to pay off the most of the external public debt in advance making the level of the Russian public debt one of the lowest in the world.

From 2004 the Russian government also introduced the so-called performance budgeting, which allowed to raise substantially the budget expenditures effectiveness as well as to optimize the structure of budget institutions, especially on the regional level.

From 2007 the budget forecasting time-frame was extended from one to three years and in 2008 the budget strategy for fifteen years was worked out.

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[1] For details see, for instance, Kudrin (2007).

[2] For details relating to Stabilization fund see the Budget code of the Russian Federation, Chapter 13.1 (it lost validity from the beginning of 2008).

From 2008 in accordance with international experience a new conception of non-oil-and-gas budget balance was introduced. This conception brought in the following changes. New fiscal rules imply the separate treatment of oil-and-gas and non-oil-and-gas revenues of the federal budget. The concept of nonrenewable resources was widened to include the revenues from gas and oil products. The spending of the oil-and-gas revenues was to be realized through the mechanism of oil-and-gas transfer fixed as a percentage of GDP in the Budget code of the Russian Federation. The established annual value of the oil-and-gas transfer as well as the limit value of the non-oil-and-gas deficit was based on the estimated long run dynamics of budget indicators. The difference between these two values could be covered by borrowings and/or other sources. Also in accordance with the new concept the Stabilization fund was divided in two new funds: Reserved fund and National wealth fund. The task of the Reserved fund is to minimize the negative impact on the level of government spending of a possible sudden oil price fall while the aim of National wealth fund creation is to save up funds for future generations and to maintain the level of the pensions provisions.[3] New fiscal rules based on the long run socio-economic guiding lines were introduced to solve the problem of the Russian long-run fiscal sustainability. The period of 2008-10 was established as a transitional period (MFR, 2006).

At the end of 2009 because of the necessity to soften substantially current fiscal policy stance in order to cope with crisis consequences the use of fiscal rules was temporary stopped. From 2010 the Russian government has an intention to tighten gradually its fiscal policy in order to return after the transitional period to mentioned fiscal rules.[4]

It is important to note, that the financial crisis consequences revealed the benefits of using the fiscal rules on the nonrenewable resources revenues utilization. Under conditions of substantial decrease of the budget revenues, particularly of the oil-and-gas revenues, sovereign funds accumulated in 2004-08 allowed not just to maintain the level of the government expenditures but also to implement sizeable stimulative fiscal measures almost without the necessity to increase the level of public debt.

3 Fiscal stabilization

3.1 Theoretical aspects

The budget balance is one of the most appropriate indicators for measuring the macroeconomic effects of fiscal policy among those that can be calculated without the use of empirical estimation (Blanchard, 1990). A change in the budget balance, which is called fiscal impulse, is an important indicator to characterize stabilization function of the public finances (see, for instance, ECB, 2009).

The main components of the overall budget balance are cyclical and structural as well as net interest payments. As Russian budget revenues depend considerably on oil-and-gas proceeds, we examine separately oil-and-gas and non-oil-and-gas parts of the budget.

The net interest payments are the difference between interest earnings and interest expenditures. In the Russian general budget interest earnings can be defined as the sum of interest earnings on the Russian government credits and return on the budget funds, including the sovereign funds while interest expenditures are the funds used for debt service.

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[3] For details see the Budget code of the Russian Federation, chapter 13.2.

[4] Initially it was planned to return to the established fiscal rules in the beginning of 2013. In the second half of 2010 one-year extension (probably not the last one) was implemented.

The cyclical component of the non-oil-and-gas budget includes the elements of the budget that depend directly on the changes in economic activity. They raise (reduce) taxes and lower (increase) government expenditures at the time of economic upswing (downturn). In the Russian general budget this component comprises major budget revenues as well as a small part of budget expenditures, such as unemployment benefits.[5] We refer to the changes in the cyclical component of the non-oil-and-gas budget as automatic stabilizers.

The structural component of the non-oil-and-gas budget is the elements that depend not on the changes in economic activity but on the discrete government's decisions. The special part of this component is anti-crisis measures. In the Russian budget system the structural component of the non-oil-and-gas budget comprises all other non-oil-and-gas revenues and expenditures. We refer to the change in the structural component of the non-oil-and-gas budget as discretionary measures.

Although in theory the oil-and-gas budget should contain all revenues and expenditures related to the oil-and-gas sector, we follow the Budget code of Russian Federation defining it as the respective taxes on extracting activities and customs duty.[6] Their size depends on the resources production and export volume, the level of prices and changes in legislation. Production and export volumes as well as changes in legislation are taken to be the part that is under control of the authorities. Taking into account high correlation between oil and gas prices it is possible to divide the oil-and-gas revenues on structural and cyclical components by using the base oil price. Those revenues that are below the base oil price determine the structural component, while the revenues that result from the deviation from the base oil price show the cyclical component of the oil-and-gas revenues (as in Vladkova-Hollar and Zettelmeyer, 2008).

Therefore, fiscal impulse (*FI*) as the changes in overall general budget balance components (*OB*) can be calculated in the following way:

$$\begin{aligned} FI &= -\Delta OB = -(\Delta NINT + \Delta NOG + \Delta OG) = \\ &= -(\Delta NINT + \Delta NOG_C + \Delta NOG_S + \Delta OG_C + \Delta OG_S) \end{aligned} \tag{1}$$

where *NINT* is the net interest payments; *NOG* is the non-oil-and-gas primary balance; *OG* is the oil-and-gas revenues; NOG_C is the cyclical component of the non-oil-and-gas budget; NOG_S is the structural component of the non-oil-and-gas budget; OG_C is the cyclical component of the oil-and-gas revenues and OG_S is the structural component of the oil-and-gas revenues.[7]

3.2 Methodology

The cyclical and structural components of the non-oil-and-gas budget were calculated by using the methodology of Fedelino *et al.* (2009). The cyclical component was estimated as:

$$NOG_C = \sum_{i=1}^{N} T_i \varepsilon_{T_i} gap \qquad i=1\ldots N \tag{2}$$

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[5] As there is no available data on expenditures that depend on the changes in economic activities as well as because their share in the total expenditures is insignificant, we do not model them in this study.

[6] Although in theory several other earnings such as the part of profit taxes and excises are related to the oil-and-gas revenues, it is impossible to make such calculations because of the lack of the required data. The data on the volume of budget expenditures related to the oil-and-gas sector are also not available. Moreover these expenditures are insignificant. We therefore do not model them explicitly.

[7] Here and hereinafter the components of the fiscal impulse are in per cent of GDP.

where T_i is the nominal values of the general budget revenues that depend on the changes in economic activity; ε_{T_i} is the elasticity of the type of revenue *i* with respect to the output gap and *gap* is the output gap.[8] The output gap was estimated by Kalman filtering in the context of Quarterly projection model (QPM) of the Bank of Russia. The elasticity of the type *i* with respect to the output gap was calculated in the following way:

$$\varepsilon_{T_i} = \varepsilon_{T_i,TB_i} \cdot \varepsilon_{TB_i,y} \tag{3}$$

where ε_{T_i,TB_i} is the elasticity of the revenues with respect to the tax base and $\varepsilon_{TB_i,y}$ is the elasticity of the tax base with respect to the output gap.

The value of the elasticity of the revenues with respect to the tax base depends on the tax rate scale (in case of proportional taxation the elasticity is equal to 1; in case of progressive taxation is larger than 1; in case of regressive taxation is less than 1). Social taxes are the only one type of not proportional (regressive) revenues in the Russian budget system. Calculations were made for the period of 1999-2008 excepting the crisis years of 1998 and 2009. The values of nominal GDP and of its components were used as proxy variables for the tax bases.[9] Calculations showed the elasticity value of social taxes equal to 0.86. Other elasticity estimates were close to 1 (1.0-1.1) allowing us to set them equal to unity.

The elasticity of the tax base with respect to the output gap was estimated using the methodology of Girouard and André (2005). Using the data for the period of 2000-08 we estimate the elasticity of wages bill with respect to the output gap equal to 0.4 and the elasticity of the gross profit and total income with respect to the output gap equal to 1.73. The elasticity for GDP was set equal to 1.

The Vladkova-Hollar and Zettelmeyer (2008) methodology was also used to calculate the structural and the cyclical components of the oil-and-gas revenues. The structural component was defined as:

$$OG_S = OG\left(\frac{p^*}{p}\right)^{\gamma} \tag{4}$$

where p^* is the base oil price; p is the actual oil price and γ is the elasticity of the revenues with respect to the oil price.

Following standard practice, we assumed that commodity revenues are proportional to commodity prices and set γ=1.

Following Vladkova-Hollar and Zettelmeyer, we used predicted values as the base oil price. Because of the high volatility of the world oil price as well as for having the opportunity to use comparable values we took the values used in Federal budget laws on the forthcoming years ($p_t^* = E[p_{t+1}]_t$).

As the actual oil price we used the reported annual data on Urals brand oil price for the period of 2000-10 and applied the forecast of the Ministry of economic development of the Russian Federation prepared in January 2011 for the period of 2011-13.

Fiscal impulse components analysis also allows to assess the cyclicality of fiscal policy. Countercyclical or stabilizing fiscal policy requires government to tighten fiscal policy at the time

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[8] Positive output gap is defined as the volume of the actual output level above the potential.

[9] For details see Vasilieva *et al.* (2009).

of economic "overheating" and to ease it at the time of economic downturn. Discretionary measures can show the degree of fiscal policy rigidity while the change in output gap can be used as an indicator characterizing the phase of economic cycle (see, for instance, Abdih *et al.*, 2010, Villafuerte *et al.*, 2010).[10] Consequently, the degree of the fiscal policy cyclicality (k_C) can be calculated as the relation between the structural component of the non-oil-and-gas budget and the change in output gap:

$$k_C = -\Delta NOG_S / \Delta gap \quad (5)$$

Positive value of k_C indicates countercyclicality of the fiscal policy, negative value of k_C shows procyclicality of the fiscal policy and the value of k_C close to 0 means that fiscal policy is neutral.

3.3 Results and resume

Figures 2 and 3 present the Russian general budget balance components structure analysis and fiscal impulse structure analysis for 2000-13 (2000-10 is the reported data, 2011-13 are budget projections). The analysis allowed us to come to the following conclusions.

General budget balance is affected mainly by the structural components. The cyclical component of the oil-and-gas revenues, apart from the crisis year of 2009, had the significant positive impact on budget balance value as actual oil price usually exceeded the base oil price. On the contrary, the cyclical non-oil-and-gas component has relatively weak impact. Also it is necessary to underline the strong negative impact of the net interest payments in the first half of the 2000s as a result of large sovereign debt.

Main components affecting the fiscal impulse are discretionary measures and the changes in the cyclical component of the oil-and gas revenues. Automatic stabilizers are relatively small in Russia what can be explained by proportional taxation and relatively small size of the government. Over the reviewed period the increases of the budget balance value resulted mainly from the growth in the oil-and-gas revenues, while the decreases were the consequence of the discretionary measures. The only exception is substantial tightening of fiscal policy in 2004 resulted from the contraction of government expenditures. In 2008-10 discretionary policy was mainly determined by the anti-crisis measures. In the medium run the reversed situation is expected. The amount of the oil-and-gas revenues in per cent of GDP and their role in the budget balance dynamics is expected to decline while the planned fiscal policy tightening will take place by means of the discretionary measures.

The dynamics of net interest payments was mainly positive during the reviewed period. This was a result of the improvement in the Russian public finances from the early 2000s due to the contraction of the sovereign debt and the accumulation of the reserves mainly in the oil-and-gas funds. In the following years the need to finance the budget deficit will considerably reduce the reserves and increase the sovereign debt what will adversely affect the dynamics of the net interest payments.

Figures 2 and 3 show that financial crisis consequences forced to ease noticeably the fiscal policy and to abandon established fiscal rules. The return to these fiscal rules would take time and demand efforts from the authorities (for instance, to exit from the sizeable anti-crisis measures).

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[10] The level of output gap can also be used as the indicator of the economic cycle phase (see, for instance, Alberola and Montero, 2006), although we find the estimations of the direction of changes in output gap more reliable.

Figure 2

General Budget Balance Decomposition for 2000-13
(percent of GDP)

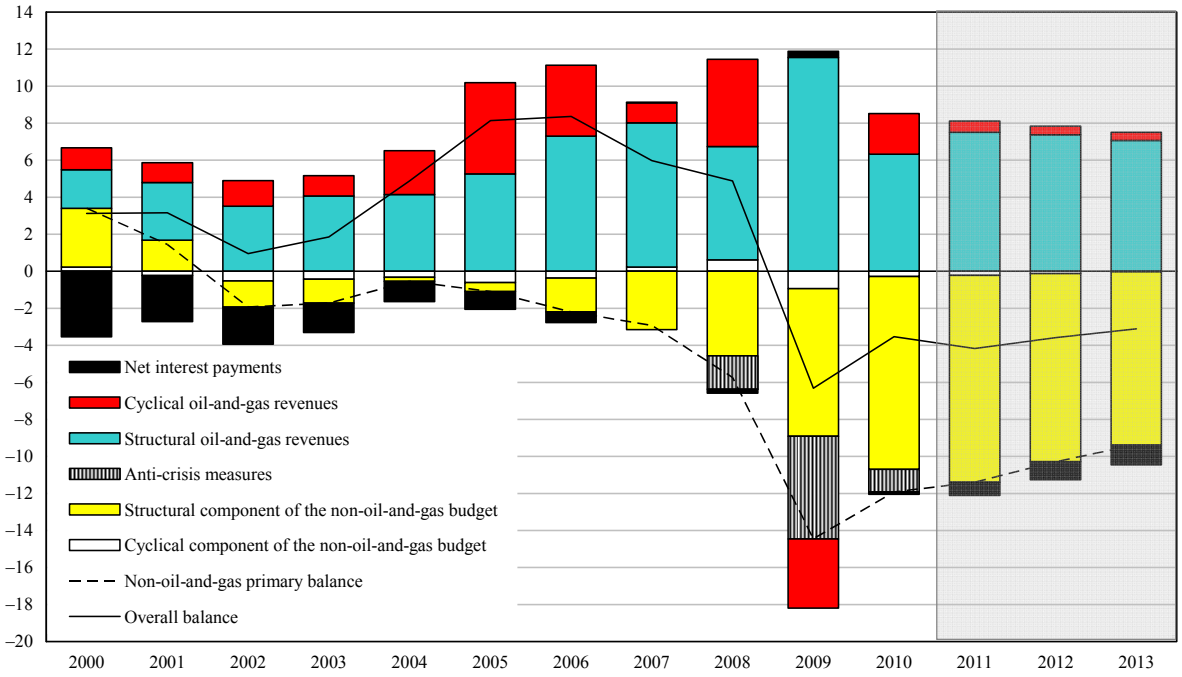
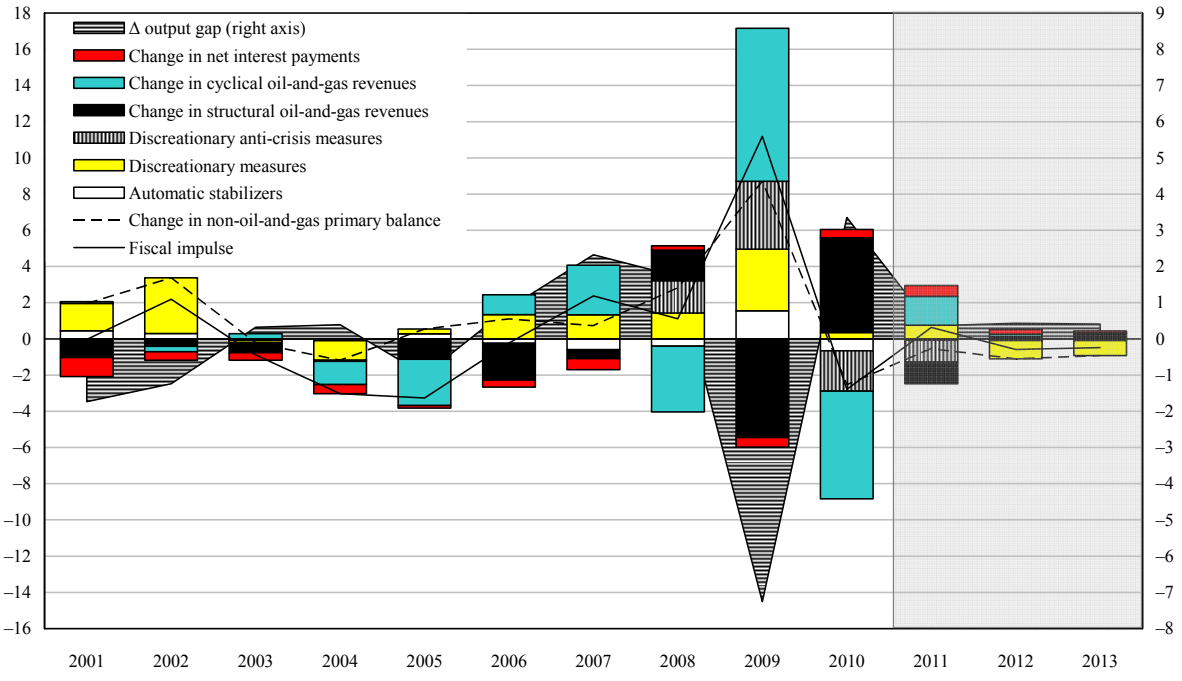


Figure 3

Fiscal Impulse Decomposition for 2001-13
(percent of GDP)



Also it is important to note that calculations show small decline of the budget balance value in 2011. However this is the result of the fact that in 2010 the actual value of the budget balance substantially exceeded its projection value, partly because of the more favourable economic conditions. Accordingly it is possible to assume that the government would revise the budget projections for 2011-13 towards lower budget deficit indicator.

Figure 4

Russian fiscal policy cyclicality in 2001-13

(percent of potential GDP)

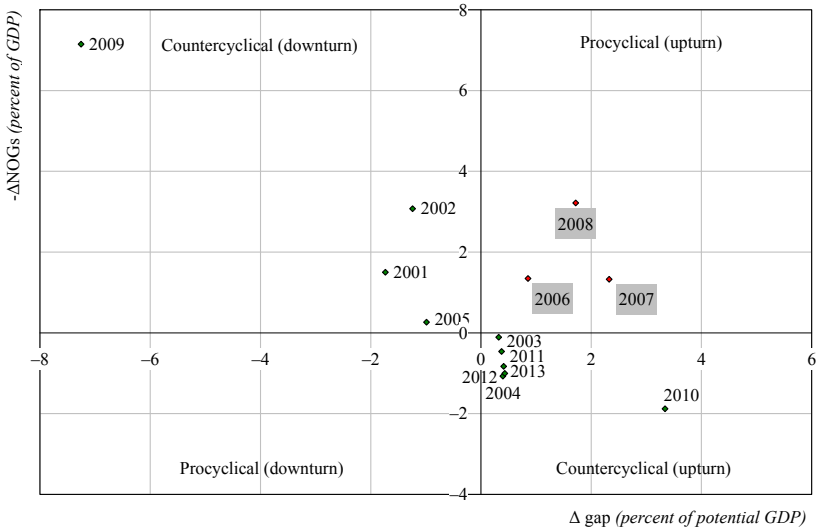


Figure 4 presents the estimation of the degree of the Russian fiscal policy cyclicality in 2001-13.

Calculations show that Russian fiscal policy was stabilizing in 2001-05. On the contrary, in 2006-08 it was procyclical as discretionary measures contributed to economic "overheating". In 2009 fiscal policy easing was justified and stemmed from the need to mitigate the impact of the financial crisis on the Russian economy. The countercyclical fiscal policy is expected to continue till 2013. As Russia is exiting from the crisis and switching to the sustainable development the government is expected to cut discretionary policy measures.

4 Fiscal sustainability

4.1 Theoretical aspects

Sustainability has become one of the most widely used aspects in the fiscal policy assessment. In general by sustainable fiscal policy is meant the policy that can be pursued without any negative impact on the consumption of future generations. Although there is no generally accepted definition of fiscal sustainability (see, for instance, definitions by FASAB, IPSASB, OECD etc.), usually sustainable fiscal policy is illustrated as a standard equation of intertemporal budget constraint (see, for instance, Krejdl, 2006). In the Russian case one part of this equation can be presented as the present value of future budget balances while another one as the difference between the values of government net worth on a given and initial moment of time:[11]

$$\sum_{t=1}^{T} \frac{OB_t}{(1+y)^t} = \frac{N_t}{(1+y)^t} - N_0 \qquad (6)$$

[11] We define government net worth as the difference between net overall reserves and net overall debt. The use of this indicator instead of the common indicator of public debt is explained by considerable reserves in national and foreign currency possessed by the Russian government that can be used on the deficit financing and should be taken into account.

where OB_t is general budget balance of the year t; y is the nominal GDP growth rate; N_0 is the government net worth on initial moment; N_t is the government net worth on a given moment t;[12] T is the projection horizon (in special case $T=\infty$).

Fiscal sustainability analysis implies invariability of the current legal and political framework, *i.e.*, current policies.[13]

The choice of the projection horizon depends on the aim, restrictions and the type of the economy. The longer the period, the more future events are captured, but the less precise and potentially less verifiable the assumptions become.[14] The uncertainty is perhaps particularly high in the case of the economy highly dependent on revenues from the nonrenewable resources.

The fiscal sustainability analysis can be carried out both for the case of the ability for the authorities to have negative value of the government net worth ($N_t<0$) and for the case of no such ability ($N_t=0$). The first case on the conditions that the projection horizon is finite and N_t is on the level of prudent indebtedness is explained by the fiscal policy expansion. The second case is the analogue of no Ponzi game condition.[15] Many regional unions and individual countries adopted the debt ceilings (see Topalova and Nyberg, 2010, p. 8). Although such values should be considered rather as possible reference points they can be used in the analysis as fiscal sustainability criterions.

In order to meet (6) governments develop special fiscal rules. Nowadays because of the negative impact of the financial crisis many countries had to stop for a while the use of these rules (for example, on a period till 2013 the member-countries of the European Economic and Monetary Union temporary stopped the use of Stability and Growth Pact regulations providing a reference value for the annual budget deficit and the national debt). Some countries have developed new fiscal rules or such process is under way (for details see, for instance, IMF, 2010, p. 50). These rules should provide guidance to fiscal policy making and set constraints during the consolidation path.

The main task of the fiscal sustainability analysis is to reveal the risks of the necessity of any major interventions in tax and spending patterns and to estimate the scale of such interventions. Special fiscal sustainability indicators are used for such purpose. Basing on the results obtained for the long run it is possible to determine the tasks of the fiscal policy for the short and medium run.

4.2 Methodology

4.2.1 Initial conditions and prerequisites

Although in accordance with the Russian legislation the oil-and-gas revenues are entirely collected on the federal level and the authorities of different levels of the Russian budget system are independent in the budgetary process decisions and are not responsible for each other's liabilities, we study fiscal sustainability problem for the Russian general budget. Potentially these results can be used for decision making on each level of the Russian budget system.

In this study we assume the invariability of current policies, including all the decisions that have already authorized. So, for the period till 2013 expenditures are assumed in accordance with the budget legislation. Moreover, to avoid any discontinuous hikes of the estimated indicators we assume transitional period of 2014-15, *i.e.*, the budget rules would be fully employed from 2016.

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[12] Here and hereinafter the indicators are in per cent of GDP.

[13] For a discussion of definition of the current policies see, for instance, Gokhale (2008).

[14] See Gokhale (2008) for a detailed discussion of the projection horizon choice problem.

[15] O'Connell and Zeldes (1988) proved that on an infinite time horizon none of a finite number of the rationally acting economic agents holds government bonds infinitely long.

The period until 2050 was chosen as the projection horizon. This is explained by the desire to consider the limited nature of the oil-and-gas resources. In accordance with the estimates of the Russian Ministry of finance the maintenance of current oil extraction level would lead to the exhaustion of its proved reserves approximately in 40 years (www.minfin.ru). However, as at present the annual growth of the resources reserves is comparable with the extraction volumes and in accordance with the Guidelines for the fiscal policy in 2011 and for 2012 and 2013 the same tendency is foreseen for the medium run, it is possible to assume that the current oil extraction level could be maintained after 2050 as well. Consequently, there is an uncertainty about the ability to extract oil after 2050, which increases with the projection horizon's extension. In any case, the period till 2050 can be considered as a good example to investigate any possible risks for the Russian long run fiscal sustainability. At the same time in this study we attempt to make rough estimates of the Russian fiscal sustainability after 2050 as well.

We examine two scenarios differed by initial conditions. Both scenarios are based on the variants of socio-economic development forecast prepared by the Russian Ministry of economic development in January 2011. The so-called resource-dependent scenario assumes the maintenance of the high dependency on the oil-and-gas extraction and exporting, while the so-called innovative scenario assumes the balanced development of the national economy sectors. Switching to the innovative scenario should allow to raise the growth rates of the main macroeconomic indicators. Under the innovative scenario the most part of the projection horizon is characterized by the real GDP annual growth of 4-5 per cent, while under alternative scenario by 3-4 per cent growth. Anyway the level of the prices for the oil and the gas as well as for other exported goods would continue to influence significantly the socio-economic development of Russia. Both scenarios assume the same level of oil prices and substantial oil price cyclical fluctuations every eight-ten years.

4.2.2 Main fiscal indicators calculation

When calculating the value of the government net worth it is important to determine which assets and liabilities should be taken into account. Economic theory allows to use all financial and non-financial assets held by the government to finance the budget deficit. But in practice non-negotiable financial assets and non-financial assets are difficult to value as well as to use for repaying debt.[16] That is why in the study for this purpose we use only liquid and negotiable financial assets.[17] Basing on this principle the net overall reserves are defined as the government funds in national and foreign currencies at the Bank of Russia and credit institutions with the deduction of the corresponding liabilities. Defining the net overall debt in a similar manner we do not include the value of the quasi-sovereign debt, *i.e.*, the debt of the corporations partly or fully owned by state. The net overall debt is defined as all government net liabilities. However, as according to the international rating agencies estimation the substantial part of the foreign countries debt to the Russian Federation is regarded as a bad debt, its value is taken with the conventional coefficient of 0.2.

The safe value of the Russian government net worth indicator was determined basing on the estimates for the public debt indicator made by IMF and the Russian Ministry of finance experts. IMF studies show that in the developing countries the effectiveness of fiscal policy as a countercyclical tool is smaller with the public debt above 25 per cent of GDP (IMF, 2003,

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[16] For a discussion of the government assets and liabilities that can be used for the public finance sustainability analyzing see Krejdl (2006).

[17] In accordance with the Russian Guidelines for the fiscal policy in 2011 and for 2012 and 2013, in the medium run revenues from the privatization would be an important source of the budget deficit financing. However, this should be rather considered as the exception to the rule.

IMF, 2008). Reinhart *et al.* (2003) found that a critical value of public debt for countries with a history of default is 15 per cent of GDP. In accordance with the estimates of the Russian Ministry of finance the critical value for the Russian public debt is 30-40 per cent of GDP (www.minfin.ru). Basing on these estimates we chose the level of (–)30 per cent of GDP as the safe level of the Russian government net worth indicator on the finite time horizon. Hence:

$$N_t \geq -30 \tag{7}$$

The change in the size of the sovereign funds (the Reserved fund and the National wealth fund) depends on the incoming and the outgoing cash flows. The incoming flows are the oil-and-gas revenues above the value of the oil-and-gas transfer as well as the return on the funds, which depends on the yield indicator. We assume that the yield of the funds in 2011 will remain on the level of 2010 (1.5 per cent for the Reserved fund and 2.5 per cent for the National wealth fund), then it will gradually increase by 2015 (up to 2.0 and 3.0 per cent correspondingly) and after that would not change any more. The reason why we expect the increase of the yield during the first half of the 2010s is the prospective creation of the Russian financial agency and the resulting increase in the financial investment efficiency (www.minfin.ru). The outgoing flow is the amount of funds needed to finance the oil-and-gas transfer in case the current amount of the oil-and-gas revenues is insufficient. The change in the size of the sovereign funds also results from the revaluation of the funds in accordance with the existing currency composition.

To forecast the general budget revenues we apply the spreadsheet-based methodology (see, for instance, Keene and Thomson, 2007). This methodology comprises the following phases: determining the nominal revenue for the last available year (2010); its adjusting by removing any known anomalies to establish the true underlying position; applying the forecast growth rates of relevant proxy variables[18] to forecast with the use of the elasticities if required (for the social taxes); adjusting the forecasts for anomalies such as tax policy changes, including any judgmental forecasting adjustments that may be considered appropriate. We do not assume any additional increases in tax collection for the medium and long run because of its uncertainty.

The value of the general budget expenditures is determined by the fiscal rules, *i.e.*, by the value of the revenues used on spending as well as the borrowings ability.

4.2.3 Main features of the current strategy

The current fiscal strategy is based on the fiscal rules stated in the Budget code of the Russian Federation. The use of these rules was temporary stopped. They are to be fully employed again from 2016.

In compliance with the current strategy of public finances total revenues of the Russian general budget (R_t) can be presented as the sum of total revenues of the regions and the extra-budgetary funds ($NOGR_t^{1-f}$), the non-oil-and-gas revenues of the federal budget ($NOGR_t^f$), the oil-and-gas revenues (MR_t) and the return on the sovereign funds (FR_t):

$$R_t = NOGR_t^{1-f} + NOGR_t^f + MR_t + FR_t \tag{8}$$

General budget total expenditures (E_t) are financed by the sum of total revenues of the regions and the extra-budgetary funds, the non-oil-and-gas revenues of the federal budget, the

[18] We use the proxy variables from the forecast of the Russian Ministry of economic development made in January 2011. This forecast takes into account all prospective changes in Russian governmental policy.

oil-and-gas transfer[19] (Tr_t) as well as the internal and external borrowings on the federal level (B_t^f) and other levels of the budget system (B_t^{1-f}) within the limits fixed in the legislation:

$$E_t = NOGR_t^{1-f} + NOGR_t^f + Tr_t + B_t^f + B_t^{1-f} \quad (9)$$

In accordance with the Budget code of the Russian Federation the size of the oil-and-gas transfer is fixed as 3.7 percent of GDP ($Tr_t = 3.7$), while the size of the non-oil-and-gas deficit[20] is not allowed to be more than 4.7 percent of GDP ($NOGB_t = 4.7$). The difference between the values of these indicators can be covered by the borrowings. In this study we use two more prerequisites. The first one is the balanced budgets of the regions and the extra-budgetary funds at the expense of interbudget transfers from the federal level ($B_t^{1-f} = 0$). The second one is the maximum value of the non-oil-and-gas deficit ($B_t^f = B_t = 1{,}0$).[21]

We examine this strategy's conformance to (6)–(7).

4.2.4 Fiscal sustainability indicators

A good indicator of fiscal sustainability is one that sends clear and easily interpretable signals when current policy appears to be a rapidly growing debt-to-GDP ratio (Blanchard *et al.*, 1990) (in our case government net worth-to-GDP ratio) as well as allows to indicate the magnitude of the adjustment needed, *i.e.*, the gap between the sustainable level of the fiscal variable and its level under current policies.

The set of exploitable indicators depends on the current policies and the necessity to conform to the condition (7). As it was already mentioned above, the Russian budget can be divided on the oil-and-gas and the non-oil-and-gas parts. Spending of the oil-and-gas revenues is regulated by the value of the oil-and-gas transfer in per cent of GDP determined by the purpose of equal distribution of these revenues during the period of nonrenewable natural resources extraction (www.minfin.ru), in our case till 2050. The corresponding sustainability indicator, or the oil-and-gas gap (*OG_gap*), can be determined as the difference between the level of the oil-and-gas transfer allowed to reach this purpose (Tr^*) and the level stated in the legislation (Tr):

$$OG\_gap = Tr^* - Tr \quad (10)$$

The ability to spend the funds exceeding the value of the non-oil-and-gas revenues, *i.e.*, the net borrowings[22] in per cent of GDP, determines another part of the budget. Thus, the sustainability indicator for the non-oil-and-gas part of the budget, or the non-oil-and-gas gap (*NOG_gap*), can be determined as the difference between the sustained level of the net borrowings (B^*) allowing to conform to the condition (7) and the level according to the legislation and the prerequisites made above (B):

$$NOG\_gap = B^* - B \quad (11)$$

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[19] Oil-and-gas transfer represents the oil-and-gas revenues used on spending in the corresponding year.

[20] Non-oil-and-gas deficit is defined as non-oil-and-gas revenues minus total expenditures.

[21] It should be noted that these prerequisites are close to the facts. In accordance with the Guidelines for the fiscal policy in 2011 and for 2012 and 2013 the aggregate deficit of the regions and the extra-budgetary funds would decrease gradually from 0.6 per cent of GDP in 2011 to 0.2 per cent of GDP in 2013. In 2010 the corresponding indicator was positive (0.5 per cent of GDP).

[22] Here and thereafter we define the net borrowings as the funds above the oil-and-gas transfer value that can be used on non-oil-and-gas deficit financing.

To calculate the budget gap (*BUDG_gap*) we should sum up the oil-and-gas and non-oil-and-gas gaps:

$$BUDG\_gap = OG\_gap + NOG\_gap \quad (12)$$

The budget gap allows to assess the degree of the fiscal sustainability. Negative budget gap shows the necessity to adjust the current policies.

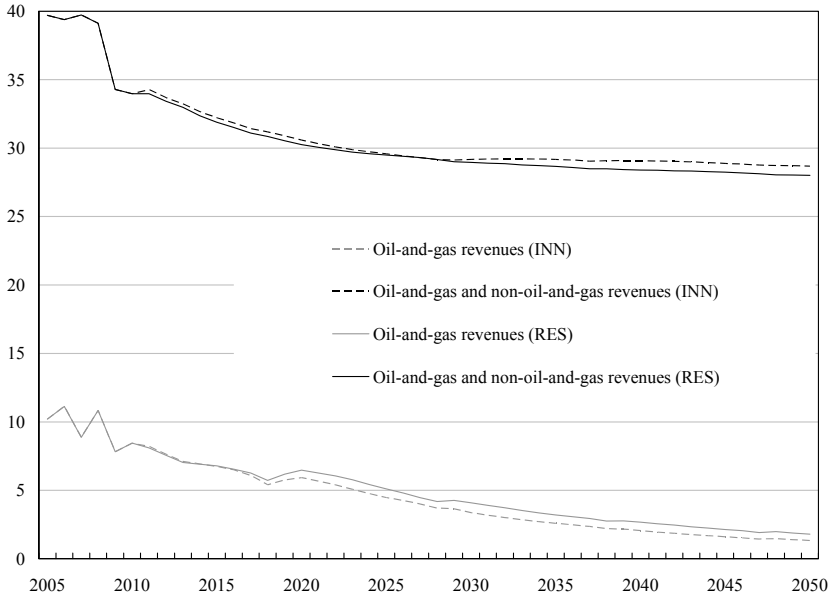
4.3 Results and estimates for the current strategy

4.3.1 General budget revenues forecast

Our estimates show that in the long run the value of the oil-and-gas revenues in per cent of GDP will go down, while the value of the non-oil-and-gas revenues in per cent of GDP should rise. But as the growth rate of the non-oil-and-gas revenues is smaller than the decline rate of the oil-and-gas revenues, the sum of both indicators would decrease. Figure 5 represents this dynamics. Depending on the scenario of socio-economic development the value of the oil-and-gas revenues could fall substantially from 8.6 per cent of GDP in 2010 to 1.3-1.8 per cent of GDP in 2050, the value of the non-oil-and-gas revenues would increase from 26.0 per cent of GDP in 2010[23] to 26.2-27.3 per cent of GDP in 2050 and the sum of both indicators could decline from 34.6 per cent of GDP in 2010 to 28.0-28.7 per cent of GDP in 2050. Thus, over the period of 2010-50 the overall decrease of the oil-and-gas revenues and of the sum of both indicators would amount to 6.8-7.3 and 5.9-6.6 percentage points of GDP correspondingly.

Figure 5

Dynamics of the General Budget Revenues in 2005-50 for Innovative (INN) and Resource-dependent (RES) Scenarios
(percent of GDP)



Considerable reduction in per cent of GDP of the oil-and-gas revenues, especially in 2010-20s, accounts for lower growth rates of the resources production and export volumes and the level of their prices in comparison with GDP growth rate as well as for national currency appreciation. The rise in per cent of GDP in the non-oil-and-gas revenues can be explained by the increase in the share of non-oil-and-gas GDP in total GDP value.

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[23] In accordance with the legislation in 2010-13 non-oil-and-gas revenues include the return on the sovereign funds.

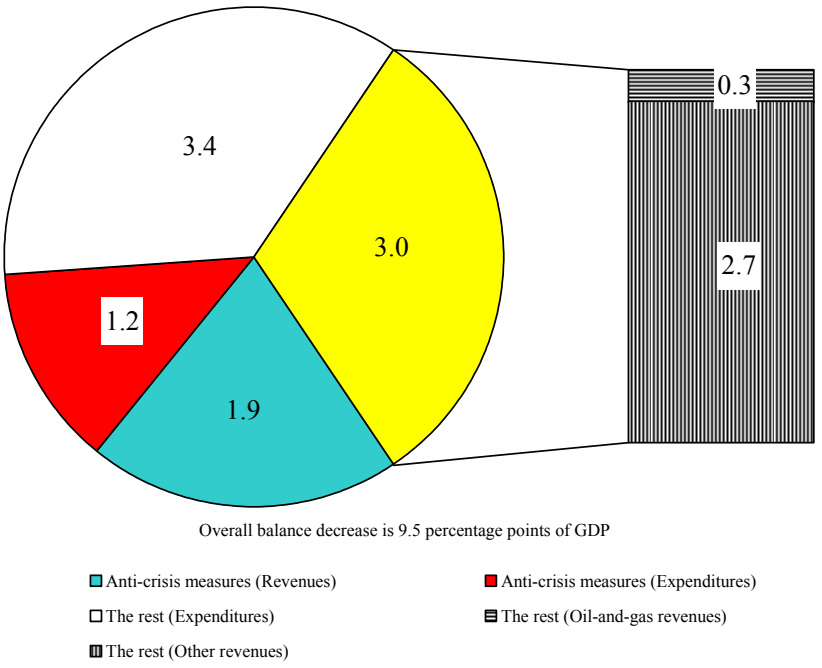
The return on the sovereign funds depends on the chosen strategy. It will be discussed later.

4.3.2 Deterioration during the financial crisis

During the financial crisis the budget balance indicator decreased substantially from the stable proficit to the sizeable deficit. It was the result of the direct financial crisis effects, including the deterioration of external conditions, as well as the changes in the fiscal policy. For example, the pension reform carried out in 2009-10 increased the level of budget spending approximately by 2.5 percentage points of GDP. Mainly, however, fiscal policy easing was the result of the sizeable fiscal stimulative measures implemented in 2008-10.[24] In accordance with the preliminary data, the general budget balance in 2010 in comparison with the pre-crisis year of 2007 decreased by 9.5 percentage points of GDP. Figure 6 shows the composition of the decrease.

Figure 6

Composition of General Budget Balance Decrease in 2007-10
(percent of GDP)



Although fiscal policy easing was justified, it led to the serious fall of the government net worth value. At the end of 2010 as a result of the budget deficit financing the government net worth value amounted to 1.3 per cent of GDP, while during the 2000s it increased gradually: became positive in 2006 and reached its peak of 12.8 per cent of GDP in 2008.

4.3.3 Estimates for the medium run

The medium-term period till 2015 presumably will be characterized by the transition to sustainable development and the return to the use of the fiscal rules stated in the legislation. This should be achieved by the substantial decrease of the budget expenditures from 38.9 per cent of GDP in 2010 to 31.9-32.0 per cent of GDP in 2015 depending on the scenario of socio-economic development as the result of the use of the program of budget spending efficiency increase (see Figure 7). Russia should return to the positive budget balance in 2015. According to the calculations the general budget balance will rise from (–)4.2 per cent of GDP in 2010 to 0.1-0.4 per cent of GDP in 2015, *i.e.*, by 4.3-4.6 percentage points of GDP. At the same time the

[24] For the comparative analysis of the size and the composition as well as the effect on GDP growth of the Russian fiscal stimulus see Ponomarenko and Vlasov (2010).

Figure 7

Dynamics of the General Budget Expenditures in 2005-50 for Innovative and Resource-dependent Scenarios Under the Current Strategy

(percent of GDP)

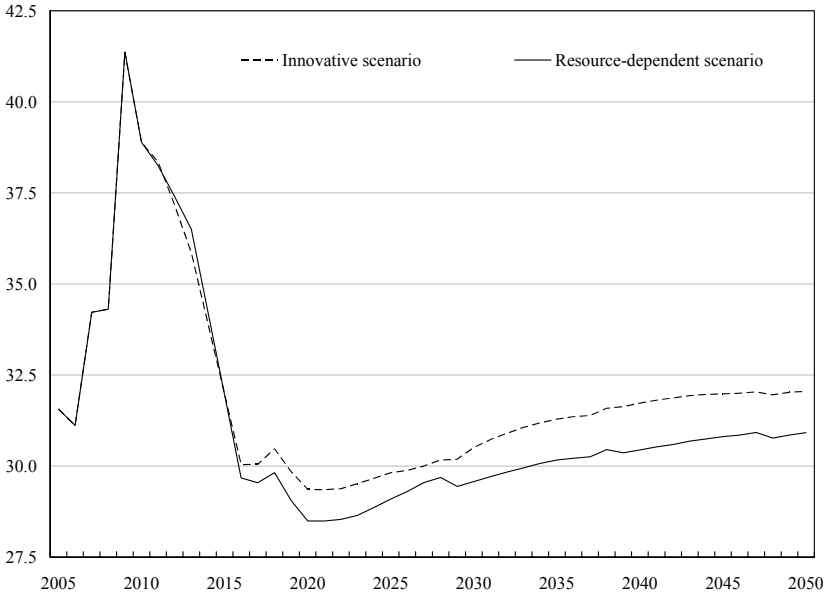
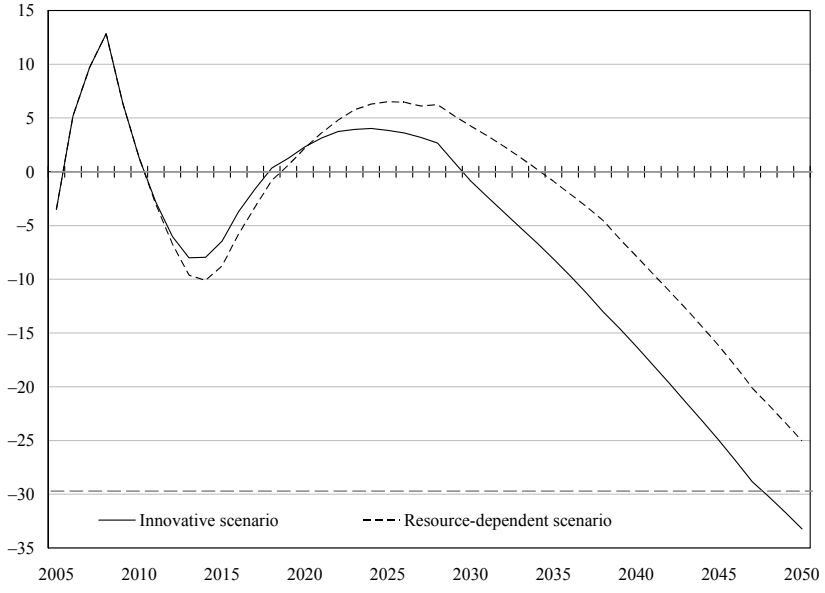


Figure 8

Dynamics of the Government Net Worth in 2005-50 for Innovative and Resource-dependent Scenarios Under the Current Strategy

(percent of GDP)



necessity to finance the budget deficit in the first half of the 2010s will further reduce the government reserves and increase the public debt. It would lead to the decrease of the government net worth down to negative values: from 1.3 per cent of GDP in 2010 till (–)6.5-(–)8.8 per cent of GDP in 2015 (see Figure 8). However, the condition (7) will not be violated. Moreover, the level of the public debt should remain one of the lowest in the world. Even taking into account the possible fiscal risks that would be covered in 4.3.5, it is possible to assert the high degree of the Russian fiscal sustainability and the low risk of the default in the medium run.

4.3.4 Estimates for the long run

In the long-term period, the Russian fiscal policy will presumably be based on the fiscal rules stated in the legislation. In accordance with these fiscal rules and the budget revenues forecast, general budget expenditures depending on the scenario will first decrease to 28.5-29.4 per cent of GDP and then gradually rise up to 30.9-32.0 per cent of GDP by the end of 2050 (see Figure 7).

Our calculations show that the level of the oil-and-gas transfer stated in the legislation will not allow to distribute equally on the projection horizon the oil-and-gas revenues. From 2028 under the innovative scenario and from 2033 under the resource-dependent scenario the government will have to spend the oil-and-gas funds in order to finance fully the oil-and-gas transfer. Depending on the scenario the funds will be fully depleted in 2038 or 2045. Therefore, from this period the government will have to use borrowings of more than 1.0 per cent of GDP to co-finance the non-oil-and-gas deficit. It would lead to the substantial decrease of the government net worth indicator. Under the fiscal rules at the end of 2050 the government net worth will amount to (–)33.2 per cent of GDP in case of the innovative scenario and (–)25.0 per cent of GDP in case of the alternative scenario (see Figure 8).

Thus, on the period till 2050 under the current fiscal rules the condition (7) is maintained in case of the resource-dependent scenario and the deviation is within the reasonable error in case of the innovative scenario. At the same time it should be noted that the value of the government net worth will admittedly continue to decrease after 2050 and will stabilize noticeably below (–)30 per cent of GDP. Moreover, additional fiscal risks should be taken into account. This allows to conclude that the levels of the oil-and-gas transfer and the net borrowings stated in the legislation have to be corrected in order to raise the Russian long run fiscal sustainability.

4.3.5 Additional fiscal risks

There are several fiscal risks that can deteriorate the Russian fiscal sustainability on the medium and long run and, therefore, should be taken into account. The main risks relate to the budget spending. They are caused by the necessity to maintain the fiscal policy efficiency under conditions of coming negative tendencies:

- Considerable increase in the social budget spending. The Russian government has the firm intention to meet fully its social obligations as well as to increase them annually by the rate of no less than the inflation rate. However, with the rate exceeding on average the nominal GDP growth rate (what is observed in the recent years) the social spending will rise as per cent of GDP as well. Moreover, additional risks will create the coming population ageing;
- Substantial increase in the interest expenditures as per cent of GDP and as the share of the overall budget expenditures. The main risk is related to the dynamics of this indicator in the long run, which will depend on the government policy and its ability to restrain the growth of the debt value;
- Rise in the spending related to natural disasters and extraordinary emergency situations. The recent climate developments in Russia allow to suggest that in the long run this part of the budget expenditures could rise greatly;
- Decrease in the budget spending efficiency or increase in the budget expenditures value. In the medium run and in the long run as well the government has the intention to reduce gradually the budget expenditures, mainly by increasing their efficiency (The program of budget spending efficiency increase on a period till 2012, 2010). However, if the steps that will be taken by the authorities do not bring the expected result, partly because of the risks mentioned above, partly because of the coming reforms,[25] the government will have to choose either to target the expenditures value at the expense of the efficiency decrease or to target the efficiency level by increasing the expenditures value. In the second case there will be an additional decline of the government net worth.

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[25] The reforms of the army and of the Ministry of Internal Affairs are planned on the following years. According to the preliminary estimates this would increase the level of the budget spending in comparison with 2010 approximately by 1.0 percentage point of GDP.

The main risk for the budget revenues value is related to the reduction of the prices on exported goods, mainly on oil. Although the government is trying to reduce such risk by using for the budget projections the conservative mineral resources price forecast, the effectiveness of the fiscal policy still highly depends on these revenues. At the same time on the long run as the share of the oil-and-gas GDP in total GDP value decreases this risk loses its significance.

Finally, it is important to emphasize the possibility of a new wake of the crisis. It is mostly dangerous in the short and medium run under the conditions of unsustainable development. This could lead to a new fall in the budget revenues and increase in the budget spending as well as the necessity to implement new fiscal stimulative measures.

4.4 Fiscal sustainability improvement

It is possible to increase the Russian fiscal sustainability both under the current strategy and by moving to alternative strategy. The degree of necessary adjustment can be estimated with the use of fiscal sustainability indicators.

4.4.1 Current strategy adjustment

In order to estimate the fiscal sustainability indicators under the current strategy it is necessary to determine the sustainable levels of the oil-and-gas transfer (*Tr**) and the net borrowings (*B**). For this purpose the following system of the equations based on (6), (8) and (9) under the condition (7) should be solved:

$$\begin{cases} \sum_{t=1}^{T} \dfrac{MR_t + FR_t - Tr_t - B_t}{(1+y)^t} = \dfrac{N_t}{(1+y)^t} - N_0 \\ Tr_1 = Tr_2 = \ldots = Tr_T = Tr^* \\ B_t = B_2 = \ldots = B_T = B^* \end{cases} \quad (13)$$

The results show that in order to distribute the oil-and-gas revenues equally during the period till 2050 the value of the oil-and-gas transfer should be set equal to 2.6 per cent of GDP under the innovative scenario ($Tr_{INN}^* = 2.6$) and 3.3 per cent of GDP under the resource-dependent scenario ($Tr_{RES}^* = 3.3$). Therefore, in comparison with the stated in the legislation ($Tr = 3.7$) the value of the oil-and-gas transfer should be decreased by 0.4-1.1 percentage points of GDP ($OG\_gap_{INN} = -1.1$; $OG\_gap_{RES} = -0.4$).

Since the condition (7) is the interval, it allows us to make several estimates for different possible values of the government net worth at the end of 2050. If the government wishes to expand at most its fiscal policy ($N_{2050} = -30$), than the level of the net borrowings could amount to 2.0 per cent of GDP under the innovative scenario ($B_{INN}^{-30*} = 2.0$) and 1.7 per cent of GDP under the alternative scenario ($B_{RES}^{-30*} = 1.7$). Hence, in comparison with the level determined basing on the current legislation and the above made suppositions ($B = 1.0$) net borrowings value can be increased by 0.7-1.1 percentage points of GDP ($NOG\_gap_{INN}^{-30} = 1.0$; $NOG\_gap_{RES}^{-30} = 0.7$).

According to these calculations the budget gap depending on the scenario amount to (–)0.1-0.3 per cent of GDP ($BUDG\_gap_{INN}^{-30} = -0.1$; $BUDG\_gap_{RES}^{-30} = 0.3$). However, as it was already mentioned in 4.3.4., since in this case the value of the government net worth will

admittedly continue to decrease after 2050 and will stabilize noticeably below (–)30 per cent of GDP, this fiscal rule should be corrected.

In case the government chooses the conservative aim for its fiscal policy ($N_{2050} = 0$), *i.e.*, the value of the government net worth by the end of 2050 will return approximately to those of 2010, it has to abstain completely from the net borrowings ($B^0_{INN}* = B^0_{RES}* = 0.0$; $NOG\_gap^0_{INN} = NOG\_gap^0_{RES} = -1.0$).

In this case depending on the scenario the budget gap amounts to 1.4-2.1 percentage points of GDP ($BUDG\_gap^0_{INN} = -2.1$; $BUDG\_gap^0_{RES} = -1.4$).

Figures 9 and 10 represent the dynamics of the general budget expenditures and the government net worth indicators for $N_{2050} = -30$ and $N_{2050} = 0$ for both scenarios of the socio-economic development.

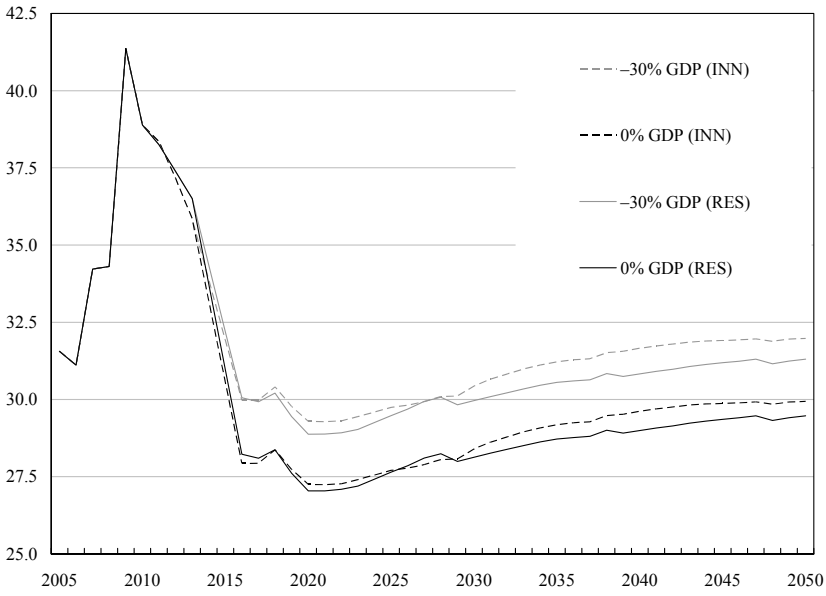
It is possible to surmise that the value of the net borrowings indicator allowing to stabilize in the long run the government net worth on the level above (–)30 per cent of GDP lies within range of those estimated for $N_{2050} = -30$ and $N_{2050} = 0$. At the same time it may be worthwhile to set the most rigid fiscal rule allowing also to take into account the possible fiscal risks covered in 4.3.5.

In the nearest future it seems also worthwhile to switch from the actual budget balancing to the structural budget balancing for the purpose of managing the non-oil-and-gas part of the budget. Targeting the structural budget balance value allows the government to respond automatically to the business cycle as well as to better control the value of the government net worth since it is assumed that in the long run the cyclical component stabilizes symmetrically over the business cycle. Hence, it contributes to the fiscal sustainability more than the current strategy.[26] It

Figure 9

Dynamics of the General Budget Expenditures in 2005-50 for Innovative (INN) and Resource-dependent (RES) Scenarios Under the Current Strategy Adjustment

(percent of GDP)

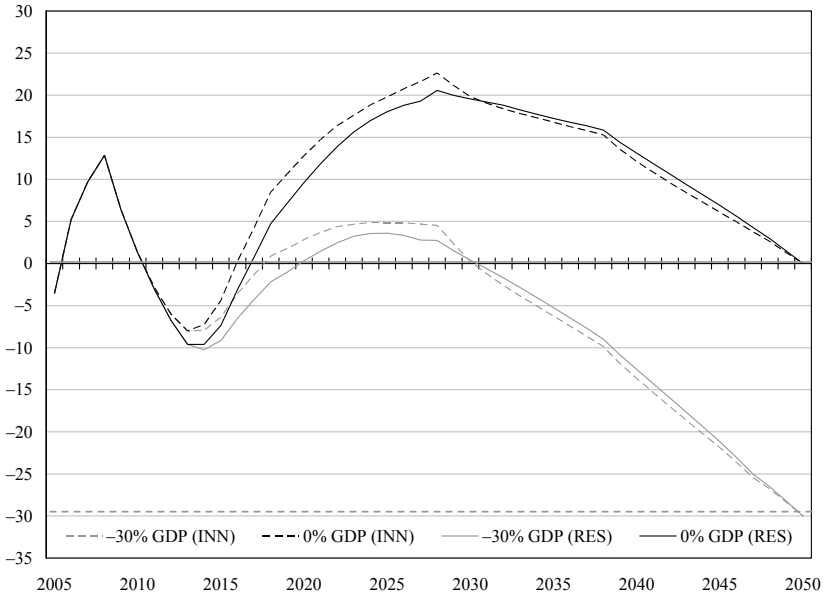


[26] In the post-crisis period several countries introduced structural balance rules. For example, in 2009 in addition to the restrictions imposed by the Stability and Growth Pact Germany adopted its own national rules that will be fully implemented from 2020 after the transitional period. In accordance with these rules the structural deficit is limited to maximum 0.35 per cent of GDP for the central government (Federation) and 0.0 per cent of GDP for the regions (Länder). This gives sufficient scope for automatic

(continues)

Figure 10

Dynamics of the Government Net Worth in 2005-50 for Innovative (INN) and Resource-dependent (RES) Scenarios Under the Current Strategy Adjustment
(percent of GDP)



is necessary to note that the estimates for the current strategy presented earlier in this section are relevant for the strategy based on the structural balance rules.

At the same time it is important to underline that in order to raise the quality of the non-oil-and-gas budget management it is necessary to fully disentangle the oil-and-gas part of the budget, *i.e.*, all the revenues and expenditures related to the oil-and-gas sector of the economy. Besides the taxes on extracting activities and customs duty it is necessary to take account of the respective part of the profit taxes, excises and dividends of the oil-and-gas corporations as well as the budget expenditures related to the oil-and-gas sector.

However, the methodology mentioned above is not suitable enough for the managing of the oil-and-gas part of the budget. The reason is that it does not pay enough attention to the problem of substantial oil-and-gas revenues decrease in the long run. As it was already mentioned in 4.3.1, because of the relatively lower growth rates of the indicators influencing the value of the oil-and-gas revenues in comparison with the GDP growth rate during the period of 2010-50 the oil-and-gas revenues would fall by 6.8-7.1 percentage points of GDP. Under this methodology it would lead to a similar decrease of the budget spending. Moreover, there is also a challenge of the long run base oil price estimation as well as its regular re-calculation as demonstrated by the Russian experience of 2004-07 and described in Section 2. Thus, for the equal distribution of the oil-and-gas revenues on the long run it is worthwhile to continue using the mechanism of the oil-and-gas transfer.

4.4.2 Alternative strategy assessment

We consider the strategy of "full conservation" as the alternative to the current strategy. It is based on the "bird-in-the-hand" rule, which recommends to target the non-oil-and-gas deficit equal to the real return on the assets accumulated in the sovereign funds by saving fully the oil-and-gas

stabilizers to take full effect and to meet 3.0 per cent deficit criterion in normal cyclical downturns. Also this should allow to decrease considerably the public debt value. With a nominal GDP growth of 3.0 per cent p.a. in the long run the value of the public debt will gradually decrease till 60 per cent of GDP by the end of 2020s, till 40 per cent of GDP by the end of 2040s and will be stabilized on the level below 20 per cent of GDP in the long run (Federal Ministry of Finance, 2009).

revenues. Thus, for the estimation we assume that the oil-and-gas transfer is equal to the return on the sovereign funds and there is no necessity for borrowings:

$$\begin{cases} NOGB_t = Tr_t = FR_t \\ B_t^f + B_t^{1-f} = 0 \end{cases} \quad (14)$$

Accordingly, the equation for the budget expenditures (9) can be determined in the following way:

$$E_t = NOGR_t^{1-f} + NOGR_t^f + FR_t \quad (15)$$

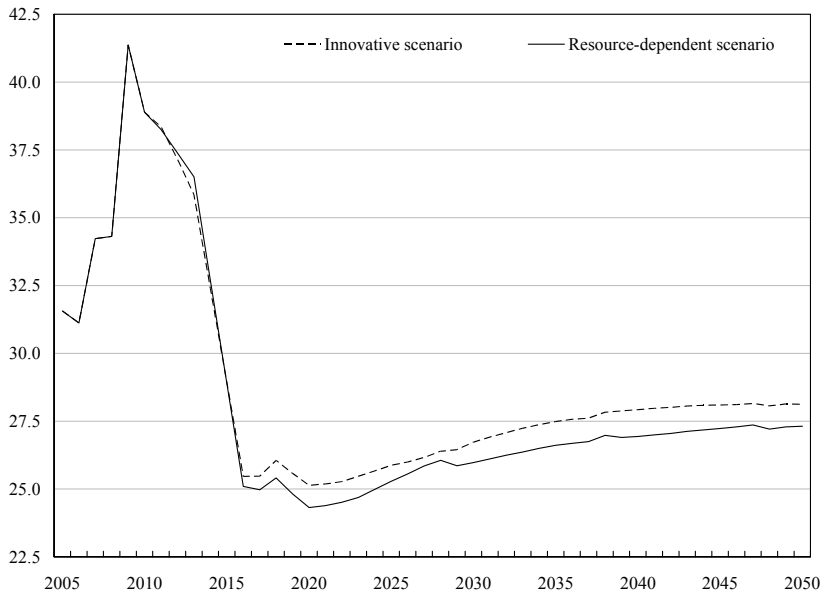
This strategy is an extreme way to deal with the uncertainty about the reserves of oil and gas, their future prices etc. It allows to maintain the long run fiscal sustainability by minimizing the influence on the budget expenditures value and economic development of the possible sudden oil and gas prices fall as well as the scarce resources exhaustion. At the same time the largest possible increase in the oil-and-gas funds allows to get the highest return on the sovereign funds. Since 2001 the "bird-in-the-hand" rule regulates the use of oil revenues in Norway (see, for instance, Bjerkholt and Niculescu, 2004).

According to the calculations this strategy allows to maintain the value of the government net worth highly positive as well as to get the return on the sovereign funds much higher than under the current strategy over the whole projection horizon.

Figure 11

Dynamics of the General Budget Expenditures in 2005-50 for Innovative and Resource-dependent Scenarios Under the "Bird-in-the-Hand" Rule

(percent of GDP)

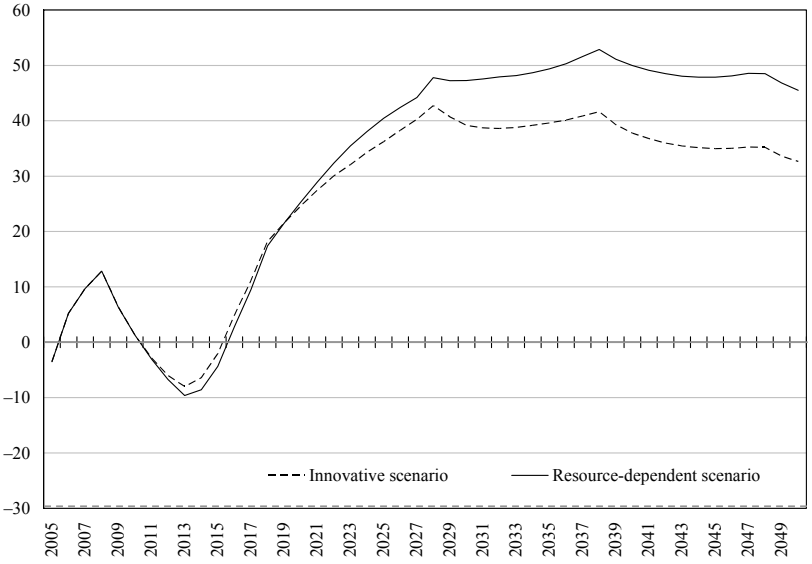


However, switching to this strategy on continuing basis could be found inexpediently. In contrast to Norway, where the size of the oil fund exceeds the GDP value and the return on the sovereign funds is significant (in accordance with the preliminary data for 2010 more than 10 per cent of GDP – www.nbim.no/en/), the size of both oil-and-gas funds in Russia and the annual return are relatively small. These indicators amounted to 7.8 and 0.3 percentage points of GDP at the end of 2010 and depending on the scenario of socio-economic development will not exceed 45-55 and 1.0-1.2 per cent of GDP correspondingly on a period till 2050. Moreover, after reaching its maximum value as per cent of GDP by the end of 2030s the size of the oil-and-gas funds will start

Figure 12

Dynamics of the Government Net Worth in 2005-50 for Innovative and Resource-dependent Scenarios Under the "Bird-in-the-Hand" Rule

(percent of GDP)



to decline as a result of the effect of GDP growth and by the end of the projection horizon will lose approximately 20 per cent of its peak. This tendency obviously will continue after 2050 as well, although the value of the indicator will remain positive. Figure 12 presents the dynamics of the government net worth while Figure 13 shows the government net worth decomposition and the return on the sovereign funds indicator for the innovative scenario.

Switching to the "bird-in-the-hand" rule will also require additional decrease in the budget expenditures value. Depending on the scenario the value of the spending indicator will amount to 25.1-25.5 per cent of GDP in 2016 and 27.3-28.1 per cent of GDP in 2050 (see Figure 11). Under the current strategy the negative budget gap amount to 3.7-4.6 percentage points of GDP in case of the innovative scenario and 3.5-4.6 percentage points of GDP in case of the resource-dependent scenario ($BUDG\_gap_{INN} = (-)3.7 - (-)4.6$; $BUDG\_gap_{RES} = (-)3.5 - (-)4.6$). The budget gaps estimated in section the 4.4.1. will increase correspondingly by 1.6-2.5 percentage points of GDP under the innovative scenario and by 2.0-3.1 percentage points of GDP under the alternative scenario. Moreover, the largest decline of the budget spending and the rise in the budget gap values is expected in the middle of 2010s demanding noticeably greater efforts from the government for the forthcoming budget balance value increase.

Thus, the appropriate way to raise the Russian long run fiscal sustainability is to toughen the current fiscal rules, while switching to the alternative strategy based on the "bird-in-the-hand" rule leads to the additional substantial decrease of the general budget expenditures because of the reduction of the oil-and-gas revenues use efficiency.

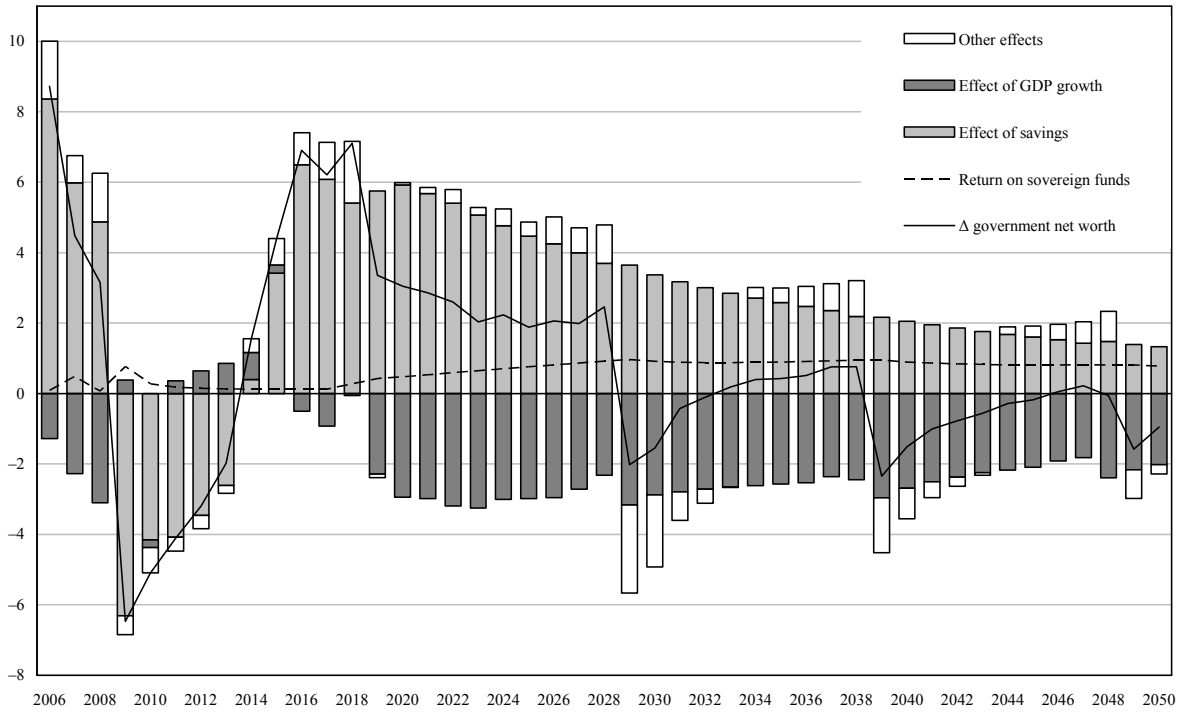
4.4.3 Fiscal consolidation measures

The results of the investigation show that in order to maintain the long run fiscal sustainability the government will have to increase considerably on the medium run the general budget balance. There are several examples in the international practice when the authorities were able to raise substantially the budget balance without a significant negative influence on the economic growth rate (for instance, in Denmark in 1983-86 the value of the primary budget

Figure 13

Government Net Worth Decomposition and Return on Sovereign Funds for 2006-50 Under the "Bird-in-the-Hand" Rule for Innovative Scenario

(percent of GDP)



balance was increased by more than 15 percentage points of GDP (see, for instance, CRFB, 2009; Lilico *et al.*, 2009). The Russian government has several sources of budget expenditures decrease as well as revenues increase. Among the spending measures the following should be noted as most effective:

- most full exit from the anti-crisis measures;
- considerable increase of the budget spending efficiency (for example, approximately by 30 per cent in the public health sector and roads construction, by about 15-20 per cent in defense industry) (www.minfin.ru, www.worldbank.org);
- substantial decrease of the government investment spending (approximately by 20 per cent in real terms on the medium run). This measure developed by the Russian Ministry of finance is explained by the weak effect on the economic growth (www.minfin.ru);
- pensionable age rise. In accordance with the Federal budget act for 2011-13 the interbudget transfer on deficit financing from the federal level to the Pension fund of the Russian Federation would amount to 1.8 per cent of GDP. Without a significant reform of the pension system this negative dynamics will remain and even deepen. According to the forecast of the Russian Ministry of economic development the gradual ageing of the population is predicted for the long run. It will lead to the decrease of the overall population, the able-bodied and the employed citizens (over the period of 2010-30 by 1.9, 12.9 and 9.2 per cent correspondingly). Therefore, the expenditures of the Russian Pension fund should rise while the revenues could fall. With all this going on, the balanced budget of the Pension fund should become one of the main tasks for the government on the medium run. In the absence thereof alternative measures the government

will have to raise the pensionable age even it is unpopular. In order to reduce the so-called political costs this measure should be implemented step-by-step.

There are also several revenue measures that can be implemented:

- Income legalization. According to the data of the Russian Federal state statistics service the share of the Russian shadow economy amounted to 17 per cent in 2007 (www.gks.ru);
- Improvement of the tax administration (on the medium run the evaluated effect is approximately 1 per cent of GDP) (www.minfin.ru);
- The highest possible domestic petroleum refining. It should raise the oil-and-gas revenues of the budget;
- Annual indexation of the social taxes regression thresholds. This should allow to maintain the fixed level of the effective tax rate (the tax proceeds to the tax base ratio) and so, avoid the increase in the extra-budgetary funds budget deficit;
- Annual indexation of the dues and fees rates (such as excises) by no less than inflation rate. It will raise the non-oil-and-gas revenues of the budget;
- Working out the program of budget revenues efficiency increase (by analogy with the corresponding program for the budget spending). This program should aim on finding the inefficient tax remissions as well as studying the possibilities to carry out the tax reforms (for example, moving from the property taxes to the real estate taxation);
- Tax rates increase. Although this measure is unpopular, it can substantially increase the budget revenues. Moreover, such step can be explained by the corresponding use of the tax stimulation at the time of financial crisis (the main measure was the decrease of the profit tax rate from 24 to 20 per cent in 2009 on continuing basis).

In addition to the listed above measures it seems possible to use the revenues from the privatization as the source of budget deficit financing. Furthermore, this usually raises the efficiency of the assets managing.

Thus, on the medium and long run the Russian government has enough opportunities for the decrease in the general budget expenditures and the increase in the revenues. Although there is no enough data to estimate the possible effect of every measure separately, the preliminary calculations show that the use of the most of them should allow to maintain the long run fiscal sustainability in Russia. It would most likely demand of a number of unpopular reforms as well. Also it is important to keep in mind the possible fiscal risks that could demand additional measures.

5 Resume

Since the USSR dissolution the Russian government carried out a number of fiscal reforms aimed at contributing to macroeconomic stability and fiscal sustainability increase. These included adoption of the new conception of the non-oil-and-gas budget balance in 2008 in order to reduce nonrenewable resource dependency of the economy as well as to cope with negative effects of the so-called Dutch disease. The negative crisis consequences of the late 2000s forced to stop temporary the use of the fiscal rules. However, in the medium run the government has an intention to return to these rules after the transitional period.

The fiscal stabilization analysis on the period till 2013 allows to come to the following conclusions. The general budget balance and the fiscal impulse are affected mainly by the structural components as well as by the cyclical oil-and-gas component, while the cyclical non-oil-and-gas component has relatively weak impact. The Russian fiscal policy was countercyclical, *i.e.*, stabilizing in 2001-05. On the contrary, in 2006-08 it was procyclical as

discretionary measures contributed to economic "overheating". In 2009 fiscal policy easing was justified and stemmed from the need to mitigate the impact of the financial crisis on the economy. The countercyclical fiscal policy is expected to continue till 2013. As Russia is exiting from the crisis and switching to sustainable development the government is expected to tighten fiscal policy by cutting the discretionary policy measures.

The fiscal sustainability analysis for the general budget on the period till 2050 draws the following main conclusions. In the long run the value of the oil-and-gas revenues in per cent of GDP will go down, the value of the non-oil-and-gas revenues in per cent of GDP should raise and the sum of both indicators would decrease. Under such conditions the fiscal rules stated in the legislation should allow after the necessary fiscal consolidation of the 2010s to raise gradually the budget expenditures in per cent of GDP in the long run. At the same time depending on the scenario of socio-economic development the value of the government net worth will decrease to (–)25.0-(–)33.2 per cent of GDP at the end of 2050. Since this value will admittedly continue to decrease after 2050 and will stabilize noticeably below (–)30 per cent of GDP as well as several additional fiscal risks in the medium and long run exist, the levels of the oil-and-gas transfer and the net borrowings stated in the legislation have to be corrected. The calculations show that depending on the scenario the level of the oil-and-gas transfer should be decreased by 0.4-1.1 percentage points of GDP. The value of the net borrowings can be increased by 0.7-1.1 percentage points of GDP in case the government wishes to expand at most its fiscal policy and to get the government net worth equal to (–)30 per cent of GDP by the end of 2050. On the contrary, if it chooses the conservative aim for the government net worth of 0 per cent of GDP at the end of 2050 it would have to abstain completely from the net borrowings, so, decrease them by 1.0 percentage points of GDP. It seems worthwhile to set the most rigid fiscal rules.

In the nearest future it seems also worthwhile to switch from the actual budget balancing to the structural budget balancing for the purpose of managing the non-oil-and-gas part of the budget. Targeting the structural budget balance value allows the government to respond automatically to the business cycle as well as to better control the value of the government net worth since it is assumed that in the long run the cyclical component stabilizes symmetrically over the business cycle. At the same time managing the oil-and-gas part of the budget via the mechanism of the oil-and-gas transfer may be more efficient as it contributes more to the equal distribution of the nonrenewable resource revenues.

Switching on continuing basis to the alternative strategy based on the "bird-in-the-hand" rule is inexpedient for the Russian case since it leads to the additional considerable decrease of the general budget expenditures because of the reduction of the oil-and-gas revenues use efficiency.

In the following years the Russian government will have to raise substantially the general budget balance. The preliminary calculations show that for this it has enough sources for the decrease in the general budget expenditures and the increase in the revenues. However, it would most likely demand of a number of unpopular reforms.

REFERENCES

Abdih, Y., P. Lopez-Murphy, A. Roitman and R. Sahay (2010), "The Cyclicality of Fiscal Policy in the Middle East and Central Asia: Is the Current Crisis Different?", International Monetary Fund, Working Paper, No. 68.

Alberola, E. and J.M. Montero (2006), "Debt Sustainability and Procyclical Fiscal Policies in Latin America", Bank of Spain, Working Paper, No. 0611.

Bjerkholt, O. and I. Niculescu (2004), "Fiscal Rules for Economies with Nonrenewable Resources: Norway and Venezuela", in G. Kopits (ed.), *Rules-based Fiscal Policy in Emerging Markets: Background, Analysis and Prospects*, chapter 11, p. 164-79.

Blanchard, O. (1990), "Suggestions for a New Set of Fiscal Indicators", OECD, Economics Department, Working Paper, No. 79.

Blanchard, O., C. Chouraqui, R.P. Hagemann and N. Sartor (1990), "The Sustainability of Fiscal Policy: New Answers to an Old Question", OECD, Economic Studies, No. 15, p. 7-36.

Committee for a Responsible Federal Budget (CRFB) (2009), "Deficit Reduction: Lessons From Around the World", Fiscal Roadmap Project, September.

European Central Bank (ECB) (2009), "Euro Area Fiscal Policies and the Crisis", Occasional Paper, No. 109, p. 22-34.

Fedelino, A., A. Ivanova and M. Horton (2009), "Computing Cyclically Adjusted Balances and Automatic Stabilizers", International Monetary Fund, Technical Notes and Manual, No. 5.

Federal Ministry of Finance (2009), "Reforming the Constitutional Budget Rules in Germany", Deficit Rule Reform Team, September.

Guidelines for the Fiscal Policy in 2011 and for 2012 and 2013 (2010), in Russian.

Girouard, N. and C. André (2005), "Measuring Cyclically-adjusted Budget Balances for OECD Countries", OECD, Economics Department, Working Paper, No. 434.

Gokhale, J. (2008), "Reporting on Federal Fiscal Sustainability in the United States", Banca d'Italia.

International Monetary Fund (IMF) (2003), "Public Debt in Emerging Markets: Is It Too High?", *World Economic Outlook*, chapter 3.

——————(2008), "Fiscal Policy as a Countercyclical Tool", *World Economic Outlook*, chapter 5.

——————(2010), *IMF Fiscal Monitor Series: Navigating the Fiscal Challenges Ahead*, Fiscal Affairs Department, May.

Keene, M. and P. Thomson (2007), "An Analysis of Tax Revenue Forecast Errors", New Zealand Treasury, Working Paper, No. 2.

Krejdl, A. (2006), "Fiscal Sustainability – Definition, Indicators and Assessment of Czech Public Finance Sustainability", CNB, Working Paper, No. 3.

Kudrin, A. (2007), "Stabilization Funds: International and Russian Experience", *Problems of Economic Transition*, Vol. 50, No. 1.

Lilico, A., E. Holmes and H. Sameen (2009), "Controlling Spending and Government Deficits: Lessons from History and International Experience", *Policy Exchange*, November.

O'Connell, S. and S. Zeldes (1988), "Rational Ponzi Games", *International Economic Review*, Vol. 29.

Ponomarenko, A.A. and S.A. Vlasov (2010), "Russian Fiscal Policy During the Financial Crisis", BOFIT, Discussion Paper, No. 12.

Reinhart, C., K. Rogoff and M. Savastano (2003), "Debt Intolerance", Brookings Papers on Economic Activity.

The Budget Code of the Russian Federation, in Russian.

The Ministry of Finance of the Russian Federation (MFR) (2006), "The Methodology of Non-oil-and-gas budget balance estimation", in Russian.

——————(2008), *The Budget Strategy of the Russian Federation till 2023*, in Russian.

The Program of Budget Spending Efficiency Increase on a Period till 2012 (2010), in Russian.

Topalova, P. and D. Nyberg (2010), "What Level of Public Debt Could India Target?", International Monetary Fund, Working Paper, No. 7.

Vasilieva, E., S. Vlasov and A.A. Ponomarenko (2009), "Assessing the Fiscal Stabilization and Fiscal Sustainability Aspects of Public Finance in Russia", *HSE Economic Journal*, No. 3, in Russian.

Villafuerte, M., P. Lopez-Murphy and R. Ossowski (2010), "Riding the Roller-coaster: Fiscal Policies of Nonrenewable Resource Exporters in Latin America and the Caribbean", International Monetary Fund, Working Paper, No. 251.

Vladkova-Hollar, I. and J. Zettelmeyer (2008), "Fiscal Positions in Latin America: Have They Really Improved?", International Monetary Fund, Working Paper, No. 137.

www.cbr.ru – home page of Bank of Russia.

www.gks.ru – home page of the Federal State Statistics Service of the Russian Federation.

www.minfin.ru – home page of the Ministry of Finance of the Russian Federation.

www.nbim.no/en/ – home page of the Norges Bank Investment Management (asset management unit of the Norwegian central bank).

www.roskazna.ru – home page of the Federal Treasury of the Russian Federation.

www.worldbank.org – home page of the World Bank.

THE STORY OF ISRAEL'S NEW FISCAL RULE: THEORETICAL DESIGN MEETS POLITICS

Adi Brender[*]

In 2003, Israel launched a consolidation program that lowered in four years the debt-to-GDP ratio by 20 percentage points, and the share of public expenditure in GDP by 7 percentage points. Following this effort it was decided that the stringent expenditure rule that anchored the stabilization – keeping per-capita real expenditure constant – should be replaced by a more sustainable long-term rule. A new, expenditure ceiling based, rule was designed with these main properties: 1) increasing the ceiling at the long-term growth rate of the economy, calculated as the moving average of growth over the last 10 years; 2) reducing the rate of increase according to the distance of the debt ratio from the intermediate target of 60 per cent; 3) presetting the parameter for the speed of convergence when the rule is adopted; 4) adjusting the ceiling to statutory tax rate changes. In practice, the government decided to exclude taxes from the rule, adopted a long-term plan to cut tax rates and revised the adjustment coefficient to be inconsistent with a prolonged debt reduction. In light of these modifications it was decided to augment the rule by maintaining the existing annual deficit ceilings, hence preserving the pro-cyclicality of the rule that led to its repeated breaching in the past.

1 Introduction and background

In 1991, Israel adopted its first multi-annual fiscal target, which aimed to balance the central government budget by 1995. Despite favorable economic conditions and appropriate initial progress, the rule was soon abandoned, to be repeatedly replaced by new rules. This process continued until the successful implementation of a comprehensive stabilization program during the economic and fiscal crisis of 2003 (Brender, 2008).

Following the 2003 stabilization program, Israel's fiscal position improved markedly. The general government deficit declined from 6 per cent of GDP in 2003 to 0.6 per cent in 2007, the debt-to-GDP ratio fell by 21 percentage points and the share of public expenditure in GDP was reduced by 7 percentage points (Bank of Israel, 2009b). This improvement reflected, for the most part, specific measures that were implemented, or legislated, when the program was launched (Brender, 2009); it was also supported by faster-than-projected economic growth and by increased tax revenues due to the surge of the financial markets. To anchor the consolidation the government adopted, beginning with the 2005 budget, an expenditure ceiling, which restricted the annual real growth of central government spending to 1 per cent in 2005 and 2006. This rate was raised to 1.7 per cent (the population growth rate) since 2007.[1] In parallel, the government maintained a declining deficit ceiling (with a target of 1 per cent of GDP from 2009 onward), although it was not an effective constraint until 2008, due to the faster than projected economic and revenue growth.[2]

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[*] Bank of Israel.

The opinions expressed in this paper are solely mine and do not represent those of the Bank of Israel.

[1] In practice the government augmented the annual expenditure ceilings by "boxes" for special geo-political events that took place during the period. This meant that the expenditure ceiling was effectively raised by 0.4 per cent of GDP in 2005 and grew, more or less, at the rate set by the rule through 2010. In 2011 the expenditure level was reduced to its original path.

[2] The more restrictive of the two rules applies. That is, if the deficit is expected to be below the ceiling the government cannot raise its expenditures more than the expenditure ceiling permits. If the deficit exceeds the target, expenditure has to grow less than the ceiling permits, unless revenues are raised.

Table 1

Main Fiscal Aggregates, General Government, 2002-10
(percent of GDP)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total general government deficit	5.1	6.0	4.1	2.5	1.1	0.6	2.3	5.3	3.8
Total expenditure	50.4	49.8	47.0	45.1	44.4	43.4	42.8	42.8	42.6
Primary civilian expenditure	36.5	35.6	33.8	32.6	32.3	31.9	32.4	32.8	32.7
Gross public debt	96.6	99.1	97.4	93.5	84.5	78.2	76.7	79.2	76.2
Tax Revenue	35.9	35.1	35.2	35.3	35.6	35.9	33.6	31.2	32.3
Cyclically-adjusted deficit*	2.5	2.6	1.3	0.6	0.4	0.8	2.0	3.6	2.7

* Using the Israeli definition, which is based on real interest payments.
Source: Bank of Israel (2011).

The improved fiscal position raised demands to expand public expenditure and cut tax rates. While the expenditure ceiling contributed to the stabilization, it was perceived by many as too tight for "normal" times, since it was too low to meet the "natural" growth of demand for public expenditure as income rises, especially given the speedy reduction in the share of government spending in GDP. As a result, pressures to circumvent the ceiling mounted, reflected mostly in accumulation of expenditure commitments for future years (Bank of Israel, 2009a). Additionally, statutory tax rates were lowered aggressively, taking advantage of the fact that deficits were below their ceiling. Consequently, when financial assets' prices fell in 2008, the deficit rose substantially and exceeded its ceiling. This was followed by the global crisis in 2009 which led to a further large drop in tax revenues, a surge of the deficit to 5 per cent of GDP and a halt of the decline in the debt-to-GDP ratio (Table 1). These developments highlighted the need for a policy framework that will reflect a sustainable long-term fiscal strategy and will guide policy both in peak and in recession periods.

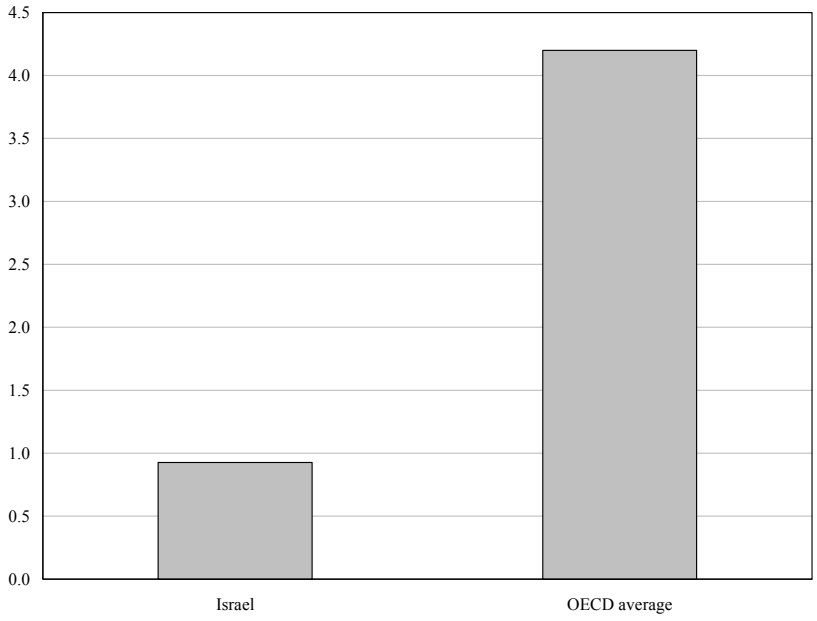
The negative development of the fiscal aggregates during the global crisis (from the 2008 level), *per se*, was not expected to harm the credibility of the government's commitment to reduce the deficit and return to a declining path of the debt ratio, especially against the background of the successful fiscal effort since 2003. The deficit expansion was moderate compared to most OECD countries (Figure 1) and clearly attributable to the automatic stabilizers.[3] Moreover, most of the statutory tax cuts were announced well in advance and were not suspected to reflect a breakdown of fiscal discipline during the crisis. Nevertheless, maintaining credibility when the debt and deficit are high and rising is not trivial; markets and the public need to be assured that when the recession ends the deficit will return to a level which is consistent with the long-term needs of the economy and that the government will not exploit the recovery to adopt programs that will decelerate the deficit reduction. The need to create this confidence added further motivation to adopt a fiscal rule

[3] The 2009 and 2010 budgets did not include significant discretionary measures, and those adopted were offset by tax increases.

Figure 1

Change in the General Government Deficit by the Common International Definitions: Israel and OECD, 2008-10

(percent of GDP)



that would serve as a framework for setting fiscal policy.[4] The new rule was intended to clarify the government's policy goals for the coming years and stress the commitment to sustainable fiscal policies while accounting for the initial conditions.

2 The fiscal position at the outset

Israel's relative fiscal position, as reflected in the current deficit and debt dynamics, improved markedly during the recession. However, this improvement was partly due to the mild slowdown in Israel compared to other developed countries, and partly due to temporary expansionary measures implemented by these countries. The cyclically adjusted deficit in 2010 was not much different from the average among OECD countries (Table 2), where it is well recognized that fiscal consolidation is critically needed. Moreover, the absolute size of the cyclically adjusted deficit – 2.7 per cent of GDP, using the Israeli definition[5] – implied little change in the debt ratio over the long run, given Israel's expected medium-term growth.[6] Taking into account that in the last 20 years the economy operated on average at about 2.5 per cent below potential, the current level of the cyclically adjusted deficit implies convergence to a long-term debt ratio of 70 per cent[7] that is deemed to be too high for a country facing geo-political risks like Israel. However, Israel's improved relative position may be conductive for a more moderate pace of reducing the debt ratio. The trade-off between risk and the pace of consolidation is eventually a political decision that the fiscal rule was supposed to reflect.[8]

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4 For a comprehensive survey of fiscal rules in the developed countries and a discussion of their merits, see Franco and Zotteri (2010), and Kumar and Ter-Minassian (2007).

5 The Israeli measure of the deficit is based on *real* interest payments. When compared to other countries the figures are adjusted to reflect nominal interest payments.

6 The drop in tax revenues in 2009 was well beyond the decline explained by the development of the real and financial macroeconomic variables included in the tax models (e.g., Brender and Navon, 2010). A similar process took place in many developed countries – and was often referred to as "unusually high elasticities". This drop probably reflects non-linearity in taxes' response to the unusual economic and financial conditions. In Israel, most of this unexplained gap closed in 2010.

7 For the purpose of estimating the cyclically adjusted balance, potential output is calculated using the production function approach. Potential GDP is thus a notional ceiling for the level of output. The estimation of the cyclically adjusted balance in Israel is based on the BOI tax model (Brender and Navon 2010) using trend financial assets' price increases.

8 The IMF (2010) now uses an indicative target for the developed countries in the G-20 to converge to a debt ratio of 60 per cent by 2030, much later than was envisaged before the crisis.

Table 2

Fiscal Aggregates: Israel and OECD Average*, 2010

(percent of GDP)

	Israel	OECD average
Total general government deficit (international definition)	4.9	5.3
Total expenditure (international definition)	43.8	47.0
Gross public debt	76.2	76.9
Primary civilian expenditure**	32.7	38.5
Tax revenue**	31.2	33.6
Cyclically-adjusted deficit***	3.6	3.6

* Arithmetic average. ** 2009. *** In Israel using the international definition.
Source: Bank of Israel (2011).

While reducing the deficit was a key motivation for the new rule, an important issue was whether this reduction should continue to be solely based on expenditures. The expenditure rule, used since 2003 as the effective fiscal constraint, brought the expenditure share in GDP to approximately the OECD average (before the global recession). At the same time tax rates were substantially lowered so the tax-to-GDP ratio is well below the OECD average (Figure 2). Moreover, given Israel's high defense and interest expenditures, the primary civilian expenditure (PCE) is among the lowest in the OECD, limiting government's ability to supply public services and intervene in income distribution (Bank of Israel, 2011). Accordingly, persisting with the expenditure ceiling of constant per-capita expenditure over the long run appeared to be politically unsustainable and, perhaps, economically inefficient. As such, expectations for the ceilings' eventual abandonment could create uncertainty about the policies that will replace it, and undermine the policy's credibility.

While the scope for continued erosion of the share of public expenditure in GDP at the rate imposed by the existing rule was limited, some reduction was still possible due to the adoption of a medium-term path for the defense budget, with an annual growth of 1.3 per cent (the Brodet committee), and because interest payments were expected to decline as the debt ratio falls and as old, high-interest, bonds are retired. This left some room for further reduction in total public expenditure relative to GDP, while allowing the ratio of PCE in GDP to stabilize.

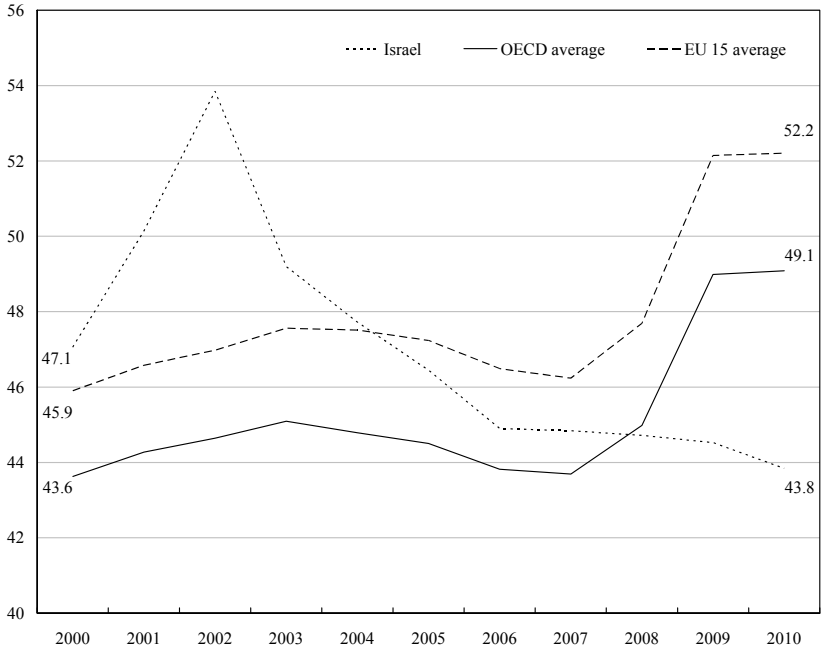
The contemplation of the new fiscal rule took place in a much different environment than the design of the 2003 consolidation program. In 2003, the fiscal position was much worse than in comparable countries and the government suffered from low credibility due to repeated failures to meet its medium-term fiscal targets during the 1990s. This required a front-loaded program. In 2010, the expected post-recession deficit was also too large to allow a sufficiently fast convergence of the debt ratio to levels that are appropriate for the Israeli economy in the long run. However, the acquired credibility since 2003 suggested that a fiscal rule, as a commitment device, could support a more flexible short-term policy and by that moderate the consolidation's negative impact on economic growth, especially if the global recovery slows.[9] Hence, the new rule was expected to better balance a sufficiently ambitious reduction of the structural deficit with a flexible response to changing economic circumstances, while accommodating the demand for public expenditure in a way that is more politically sustainable over the long run.

[9] Mazar (2010) provides estimates for the effects of fiscal policy measures on GDP growth in Israel.

Figure 2

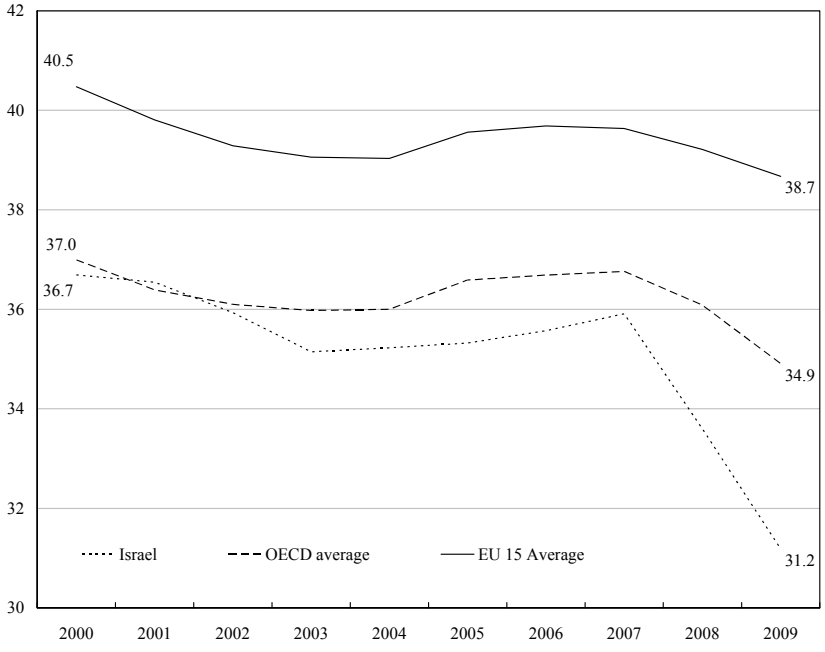
General Government Expenditure: Israel, OECD and EU15, 2000-10

(percent of GDP)



Tax Revenues in Israel, OECD and EU15, 2000-09

(percent of GDP)



Source: Bank of Israel (2011).

3 Key principles of the rule

To fulfill its main function of providing a stable and credible framework for fiscal policy that will anchor expectations and policies, a fiscal rule has to be derived from long-term fiscal targets that are realistic but also sufficiently ambitious (Kopitz and Symanski, 1998). While fiscal discipline used to be anchored in attitudes as "the right thing to do", experience has pushed the focus towards more formal targets (Buchanan, 1997; Balassone and Franco, 2001), where the specific design of the rule depends on the specific goal (Franco and Zotteri, 2010). In light of Israel's fiscal position at the starting point the key fiscal target is preserving and enhancing the credibility of the government's long stated commitment to reduce the debt ratio. Accordingly, the rule should facilitate convergence of the deficit to levels that allow adequately speedy and continuous reduction of the debt-to-GDP ratio in the medium term (Corbacho and Schwartz, 2007). The rule should also be framed in a way that ensures its stability over time by reducing the need for frequent revisions of the target. Such a design enhances

the rule's credibility and transparency and boosts the possibilities for long-term planning of policy measures and reforms.

A possible target is to reduce the debt ratio to 60 per cent within a decade and maintain a sufficiently low deficit thereafter, so that the debt ratio will converge to a pre-specified lower level (see discussion below). Such a target points to a commitment to converge within a pre-specified period to the debt level that is (was?) a norm for the debt ratio among the developed countries, and reflects a commitment to lower the country risk and the burden on future generations. Nevertheless, the rule has to respond adequately to the demand for public expenditure over the medium and long term; otherwise pressures to increase expenditure will lead to its demise. Balancing ambition with political sustainability requires that the rule be based on broad political agreement regarding its targets and the pace of convergence.

An important feature of a fiscal rule is its effect on the response of fiscal policy to cyclical developments in the economy. Rules that lead to pro-cyclical behavior exacerbate business cycles: they accelerate growth in boom periods and depress activity in recessions. Countries that suffer from low credibility are sometimes forced to act in a pro-cyclical form to calm the markets, but in general pro-cyclicality is undesired.[10] Therefore, a fiscal rule that is cyclically neutral – that is, it does not require the fiscal authorities to offset the operation of the automatic stabilizers – is advantageous (Taylor, 2000; Wren-Lewis, 2000).[11] Pro-cyclicality is a characteristic of annual balance targets, a feature that makes them poor candidates to serve as instruments for long-term targets. In the short run, the tax elasticity with respect to GDP is significantly larger than unity[12] so it is possible to raise expenditures or cut tax rates as growth accelerates.[13] However, once these measures are adopted they are politically difficult to reverse, especially during recessions when the economic common-sense calls for fiscal expansion (Hercowitz and Strawczynski, 2004). Therefore, annual deficit targets may build pressures that lead in the medium term to revisions of the fiscal targets and to higher public debt (until a crisis forces a new consolidation). The gained credibility of Israel's policy during the last decade should have allowed avoiding this price.

For a fiscal rule to support credibility it should not only present long-term goals, but also point to road-marks in the convergence process and clarify the correction mechanisms when performance deviates from the planned path. To achieve that, transparency of the rule's targets and of the calculation of the road-marks is essential. Larger reliance on objective calculations and on publicly known figures, rather than on projections and models, increases credibility and clarifies the government's progress towards the preset targets. One way to enhance transparency is to base the rule on pre-announced formulas whose components are final figures published by objective entities, such as the Central Bureau of Statistics. The principal test of a rule's transparency is that bodies interested in tracking its implementation will be able to calculate the fiscal aggregates targeted by the rule and compare them to the published government plans. The recent experience in Israel has shown that even a relatively simple rule may not conform to this criterion when its calculation is based on nontransparent data. The contribution of using known data to transparency would grow should the government act on its intention to begin the budgeting process earlier in the year.

Basing the operational objectives of the rule on predetermined parameters, to enhance credibility, may contrast with sustainability. Too rigid fiscal rules may require repeated adaptations

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[10] The need of fiscal targets to account for cyclical developments was recognized already by Pigou (1928).

[11] In principle, a counter cyclical rule is preferable, but in practice fiscal policy's ability to respond timely and effectively to "normal" cycles is questionable (European Commission, 2001), and the job is typically left for monetary policy.

[12] Brender and Navon (2010) find that in Israel the short-term elasticity of tax revenues to *changes* in the growth rate is about 0.4, in addition to the normal near-unit elasticity of taxes to GDP growth.

[13] Brender (2001) provides evidence that in Israel statutory tax rate cuts are pro-cyclical.

as economic circumstances change; each modification carries the risk of eroding the rule's credibility. This risk can be alleviated if the rule's operational short-term targets automatically adjust to economic circumstances but in a way that is consistent with achieving the long-term goals. Expenditure rules, like the one that was effective in Israel until 2011 – a constant annual rate of increase – overcome the problem of pro-cyclicality and determine a clear intertemporal path for public spending. Based on assumptions about the future growth of GDP and tax policy, they allow a derivation of the long-term debt ratio. But, if GDP deviates in the medium and long run from the expected path, a revision of the rule may be called for. Therefore, despite their advantages, such rules are not robust (Ljungman, 2008). If GDP grows faster than expected the rule will be too restrictive, and pressures for expanding expenditure will hurt its credibility. If growth is slower than expected, debt reduction will be too slow, if debt is reduced at all. To mitigate these risks, while maintaining stability, the rule has to contain a predetermined adjustment mechanism – conditioned on preset parameters – so that policies will automatically adjust to changes that affect the convergence to the long-term goals.

One way to overcome the excess rigidity of preset targets, as well as the pro-cyclicality of short-term road-marks, is to base the rule on cyclically-adjusted aggregates. However, calculations of potential output and cyclically-adjusted balances are notorious for repeated revisions (Larch and Turrini, 2009; IMF, 1997). While more complex tax revenue models that account for a broad set of variables (e.g., Brender and Navon, 2010) may reduce the scope of this problem,[14] this comes at the cost of lower transparency. This is particularly a problem in countries like Israel where GDP revisions are prolonged and a-symmetric. Even if transparency can be preserved by selecting a single measure of potential output there should also be some professional agreement that the measure is reliable, for the rule to be credible. At least in Israel, this is not the case and the estimates vary substantially.

The pros and cons of the various policy options call for some form of a modified rule. Such a rule can be based on an expenditure ceiling, but should provide a transparent, preferably automatic, mechanism for adjustment should trend growth turn different than expected. The rule should cover a sufficiently broad aggregate, but one that the government is able to monitor and control (Deroose *et al.*, 2006). Finally, and quite critically in Israel, the rule should account for statutory tax rates. The focus on tax rates, rather than tax revenues, is warranted because this is the variable that the government controls.

A relevant characteristic of expenditure-based fiscal rules is whether the ceiling is defined in nominal or in real terms. In the Israeli case, expenditures were determined in real terms, with *ex post* correction in the following budget to the deviation of inflation from the budget forecast. This process undermined the transparency of the budgeting process, although this problem had more to do with the specific practices in Israel and is not an inherent feature of ceilings set in real terms. One way to overcome this issue is setting the target in nominal terms, based on the inflation target. This may be consistent with Israel's inflation being on average around the inflation target of 2 per cent during the last decade. It also makes use of fiscal policy as an automatic stabilizer in high inflation periods and helps anchoring inflation expectations. Furthermore, if inflation is close to the target over time there is no need to "compensate" the budget for short-term deviations because the CPI is not the relevant price index for the government. A large share of the budget is derived from multi-annual nominal wage agreements, purchases based on continued contracts and nominal interest payments on long term debt. Nevertheless, if inflation consistently deviates from the target it may create a gap between tax revenues – that co-move with prices – and expenditures. Hence, for the rule to be sustainable it has to ensure the congruence between the two.

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[14] Morris and Schuknecht (2007) show the important effect of asset prices on tax revenues. The Bank of Israel calculation of the cyclically-adjusted balance, which is based on Brender and Navon (2010), accounts for this factor.

The adoption of a fiscal rule raises the long standing question whether it should be based on total expenditure or only on current expenditure (e.g., the "golden rule"). Poterba (1995) and Robinson (1998) discuss the theoretical arguments in favor of excluding capital expenditure from the coverage of a fiscal rule. However, such a separation raises complicated practical issues, such as the definition of capital outlays, as well as moral-hazard and efficiency considerations. On balance it seems that the credibility and consistency of fiscal rules is better served when they apply to total expenditure (Franco and Zotteri, 2010).

4 The proposed rule: adjusted expenditure ceiling

4.1 Structure

Economists from the Bank of Israel designed a fiscal rule to be adopted beginning with the 2010 budget. Similar proposals, with some technical variations were suggested by the National Economic Council at the Prime Minister's Office and the MOF. The key principle was to base the rule on an expenditure ceiling, adjusted for changes in statutory tax rates.[15] The slope of the ceiling was to be set in a way that is consistent with a continuous reduction of the debt-to-GDP ratio and with meeting an intermediate target of 60 per cent.[16] The precise timing for reaching the intermediate target (and the level of the target) was left to be decided by Parliament[17] (although the year 2020 was the reference scenario used in the process). The (very) long-run debt target was contemplated to be 30-40 per cent, based on a steady state deficit of 1-1.4 per cent of GDP.[18] The key principle was that expenditure growth will be negatively related to the distance of the debt-to-GDP ratio from the target, and positively related to the long-term growth of the economy. In this way the expenditure ceiling would self-adjust if growth turns out to be slower the envisaged.[19]

The adjusted expenditure ceiling was to be calculated in the following manner:

i) The baseline real growth rate of government expenditure will be equal to the long-term growth rate of the economy, which will be calculated as the average growth rate of GDP over the last 10 years. In order to use only known outcomes rather than projections, and because the budget for year t is prepared at t–1, the relevant growth rate for each budget is for the decade that ended at t–2.[20]

ii) The expenditure ceiling will be adjusted to changes in *statutory* tax rates and exemptions. This characteristic reflected the evaluation that the size of government in Israel is sufficiently small to make the marginal trade-off between tax cuts and expenditure expansions a political, rather than efficiency, issue. As long as decision-makers observe the allowed ceiling for policy measures there was no need to restrict expenditures more than tax cuts, or vice versa – especially given the experience in recent years where tax-rate cuts were responsible for the increase in the cyclically-adjusted deficit. The costing of the effect of these measures will be

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15 The adjustment to taxes was a key difference between the proposal of the BOI and the other prposals.

16 The annual ceiling was to be determined ex-ante. However, since the baseline for the next year's budget is the current budget, not actual expenditure, there is an automatic self-correction of deviations. In practice, there had been no interim budgets in the past 20 years, so mid-year excess expenditure is not viewed as a significant threat.

17 This is consistent with the spirit of Calmfors (2003).

18 Israel's long-term potential GDP growth is estimated to be between 3 and 3.5 per cent, based on population growth of between 1.5 and 1.8 per cent annually, and an average GDP per-capita growth of 1.7 per cent. The latter is the average over the last 37 years, and has been quite stable in each of the past four decades. It is also quite similar to the long-term growth rates in Europe and the US.

19 This mechanism is a simplified concept of the German and Swiss "control accounts" that specify the need to take "corrective measures" when the "accounts" exceed a predetermined debit level.

20 For example, the 2013 budget, to be prepared in 2012, will be based on data for 2002-11.

carried out by an independent professional council.[21] The impact of the tax measures was to be evaluated and factored into the base in the year of implementation. Additionally, modifications in accounting practices were also to be evaluated by the council.

iii) The baseline expenditure growth rate will be reduced in accordance with the distance of the debt ratio at the end of year t-2 from the target of 60 per cent. The rate of reduction will be determined by Parliament (once and for all) in accordance with the desired speed for reaching the medium-term target. Once this target is attained, the adjusted public expenditure will continue to grow at the baseline growth rate.

iv) The real growth rate calculated above will be augmented by 2 per cent annually to compensate for inflation (the center of the inflation target range). If inflation deviates from the target by more than 1 percentage point, the margin will be added to the next budget.

The components of the calculation are presented in the formula:

$$PE_{gr} = GDP\_POT_{gr} - a*((D/Y)_{t-2}*100 - 60) + 2$$

PE is adjusted public expenditure; GDP_POT_{gr} is the estimated long-term growth rate of the economy; *D* is the stock of gross public debt and *Y* is nominal GDP. The parameter a reflects the magnitude of the reduction in the growth rate of expenditure due to the distance of the debt ratio from the intermediate target. This parameter (as well as the intermediate target of 60 per cent) is where policy makers were requested to set the political preferences for the adjustment process.

4.2 Technical considerations

i) The estimated long-term growth rate of the economy will be based on a 10 year moving average of the growth rate of GDP. In past decades GDP per-capita grew at a pretty steady rate of 1.7 per cent over periods of 10 years, but population growth fluctuated due to immigration and a decline in the natural growth rate. Therefore, it was contemplated to base the estimate of long-term growth on GDP per-capita, with an addition for the growth rate of the population, as projected by the CBS. This idea was abandoned for the sake of simplicity and transparency, noting that the population growth rate stabilized in the last decade.

ii) The rule will apply to a consolidated expenditure aggregate that includes the central government, the National Insurance institution (social security) and the transfers of the health tax to the Health Funds (non-profit organizations that operate the government-funded public health insurance system). Although the deficits of these organizations are already captured in the central government's budget, the extended coverage is needed to prevent the use of this outlet to increase spending during high-growth periods.[22] The rule will not apply to expenditures that are fully-funded from foreign sources (mostly military imports funded by US government transfers). The reason for this exemption is that it made little sense to force the government to cut other expenditures when such grants are awarded, and due to the large volatility of these transfers.

iii) The rule will not cover the locally funded operations of the municipalities. This reflected a

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[21] This point was not fully agreed. In practice, the evaluation of policy measures by the MOF is perceived as credible in most years; the average absolute forecast error is similar to the EU average and the bias to over-pessimism is 0.5 per cent of GDP. Buti and van den Noord (2004) report an overly optimistic bias in EU countries. Nevertheless, to enhance the credibility and fairness of the calculations (the MOF is sometimes perceived to exaggerate the evaluated cost of policies), the role of an external body was thought to be useful in line with the findings of Jounung and Larch (2006).

[22] The current practice is that the total cost of the "health basket" is decided by the government, which supplements the proceeds of the health tax to cover the full cost. In a typical year, higher proceeds are reflected in lower central government expenditure. However, since the ceiling applies only to the central government, it is possible to expand health services in high-growth years, while avoiding increased budgetary spending. If the service expansion is permanent this may then raise the deficit when revenues fall.

practical consideration given the delays in reporting by the local authorities, the fact that they account for only 15 per cent of public expenditure, and since they are subject to a no-net-borrowing constraint. Also, it makes little sense to apply an identical expenditure ceiling to all the municipalities, given their different population trends. In practice during the last decade the debt of the localities has indeed remained constant in real terms. Government transfers to the municipalities, which account for a third of their expenditures, are covered by the rule.

iv) The rule will include escape clauses for wars, natural disasters and periods in which the global economy stagnates or exhibits negative growth rates. In such cases the ceiling can be breached for a maximum of two years, and then return to its original path. At that stage expenditure growth will moderate according to the increase in the debt ratio.

v) The MOF will calculate and publish a five-year trajectory of adjusted public expenditure, calculated according to the rule. This projection will reflect all relevant government decisions, as well as the expected effects of demographic and economic changes. These figures will be compared to the projected expenditure ceiling and corrective measures will be taken as soon as potential overspending emerges.[23] This procedure is needed in order to cut at the bud the development of underlying expenditure dynamics that are inconsistent with the rule, which were a source of missing Israel's previous fiscal targets (Brender, 2008).[24]

5 Characteristics of the rule compared to the theoretical criteria

Consistent with convergence to the targeted debt ratio. The rule ensures that if GDP growth decelerates, expenditure growth will slowdown as well, having a moderate effect on the timing of the debt ratio reduction. Even if growth rates decelerate abruptly for an extended period, compared to the previous decade, the expenditure path will still self-correct and the arrival at the target will not be dramatically delayed (see simulations below). In practice, abrupt continuous decelerations are quite rare in developed economies during peace periods.

Credible during recessions and accelerations. In a recession, the rule ensures an automatic adjustment of expenditures to facilitate a return to a declining debt ratio. In a period of acceleration the rule moderates expenditure growth until it becomes clear whether the acceleration is sustained.

Transparency. Framing the rule in terms of one observable figure (the real increase in public expenditure), which is calculated based on fully observed and highly visible variables (past GDP growth and the debt ratio), makes it transparent and relatively simple to calculate. The extended coverage of the rule compared to the existing targets limits the ability to shift expenditures between the various organs of the public sector. The use of nominal figures, except for periods of high inflation, also makes the rule easy to follow compared to the current system. It also specifies exactly when and by how much the ceiling should be adjusted if inflation accelerates. A simple fixed nominal increase of the ceiling would have been even more transparent, but at the cost of the rule's sustainability.

Politically sustainable. The rule limits the near-term expansion of public expenditure compared to the medium and long run. This property is in line with the need to reduce the deficit quickly when the recession ends, building on the closure of the output gap. In the medium term, as the economy grows, the rule allows public expenditure to respond to the rising demand, and

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[23] The specifics were to be determined before the rule's adoption. It was envisioned that, similar to the PAYGO rule used in the US during the 1990s, once the limit is approached each policy measure will have to be presented with a clear source of financing within the ceiling.

[24] Kopitz and Symanski (1998) stress that fiscal rules need to be supported by consistent reforms.

provides a clear mechanism for policy-makers to share the "fruits of growth". Being dependent on the long-term growth of the economy, the rule also reduces the scope for debates on whether changes in annual growth rates are a "change in trend" or not. If they are, the rule automatically responds with a gradual change in expenditure.

Not pro-cyclical. The pro-cyclical component embedded in annual deficit rules is neutralized for the most part by using an expenditure growth rate that is independent of the economy's current performance, and depends on the lagged debt ratio. By doing so, the rule facilitates the operation of the "automatic stabilizers".[25]

6 Simulations

Figure 3 demonstrates the significance of the political decision about the specific parameters of the rule. The figure is based on three alternatives: 1) setting the a parameter at 0.1; 2) setting it at 0.06; 3) setting a at 0.05 and the intermediate debt target at 50 per cent of GDP, rather than at 60. The trade-off reflected in the first two options is clear: the first reduces the debt ratio faster, reaching the 60 per cent target in 2020 instead of 2025, while the second allows higher expenditure and PCE through the next 15 years. Eventually, after 15 years, the PCE does converge in the two options – due to higher interest payments in the second scenario[26] – but waiting so long is not a trivial decision.

The comparison between the first and third options reveals a different trade-off. The first option forces a stronger initial consolidation through lower expenditure and generates, accordingly, a somewhat faster initial debt reduction (although both reach a debt ratio of 60 per cent by 2020). In return, the third option requires very little initial reduction in the ratio of PCE to GDP. However, this option requires a persistent reduction of expenditures in the long run, so in the next decade it leads to a lower ratio of PCE to GDP and brings the debt ratio to a lower level than the first option.

Figure 4 shows the effects of changes in GDP growth on the fiscal aggregates under option 1 of the rule. The "fluctuating growth" scenario examines a case where GDP growth decelerates by 0.5 per cent for 5 years, then makes up the difference in the next five and returns to the assumed underlying growth rate. The absolute level of expenditure and PCE responds very gradually, leading to an initial increase in the PCE ratio to GDP compared to the baseline scenario (a = 0.1); this increase is also reflected in a higher debt ratio. However, as growth makes up the lost ground, the ratio of PCE to GDP also begins to fall and drops below the baseline level in 2017, beginning to close the gap in the debt ratio as well. By 2020 both debt ratios converge at 60 per cent, and then the debt ratio under the "fluctuating growth" scenario falls below the baseline for a few years.[27] Overall, expenditures respond only moderately to slower economic growth and allow a relatively minor adjustment of per-capita PCE to the five years of deceleration. This stability is much more noticeable when shorter decelerations are examined.

The scenario of "lower growth" depicts a case where growth is slower by 0.5 per cent annually, throughout the period 2011-25. In this case the deviation of per capita PCE from the baseline scenario accelerates, on account of the slower GDP growth, the larger distance of the debt ratio from the 60 per cent target, and due to higher interest payments. On the demand side, a substantial part of the slower increase in PCE is accounted for by lower income (assuming that the

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[25] In Israel the embedded effect of the business cycle on government expenditure is small – about 0.1 per cent of GDP, due to low unemployment benefits. In contrast, estimates of a government reaction function do show a substantial elasticity of public spending to GDP growth (Bank of Israel, 2005; Strawczynski and Zeira, 2009).

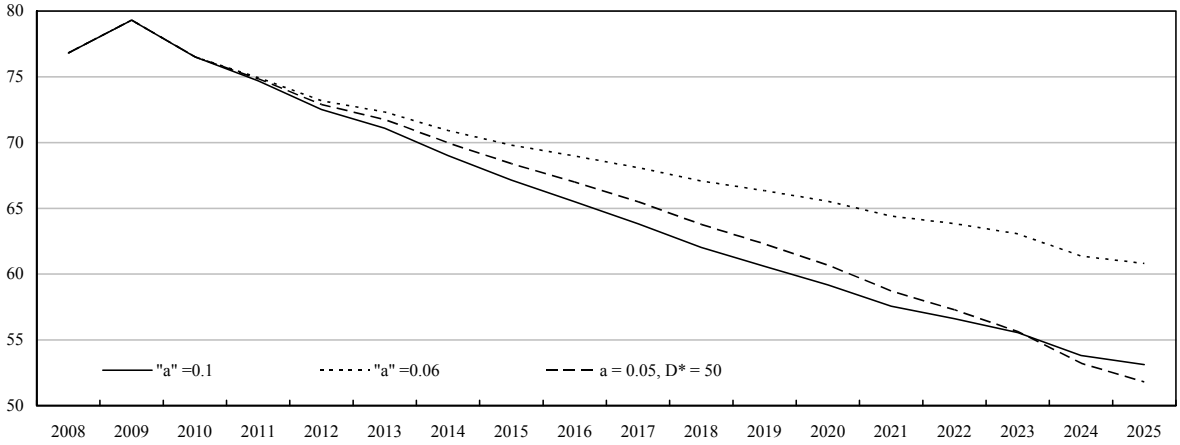
[26] Interest rates are assumed to be identical in all the scenarios, so differences in interest payments reflect only differences in the stock of debt.

[27] This is temporary, while the slow-growth years are phased-out in the calculation of expenditures. The ratios converge around 2030.

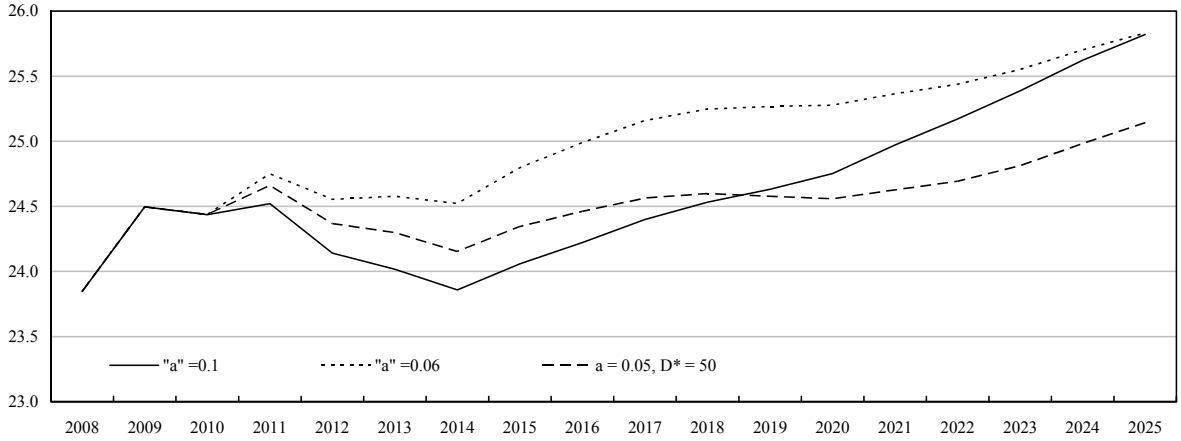
Figure 3

Main Fiscal Aggregates Under the Proposed Rule
(percent of GDP)

a) Public Debt/GDP Ratio, Various Scenarios, 2008-25



b) Primary Civilian Expenditure/GDP Ratio, 2008-25



c) Total Expenditure/GDP Ratio, 2008-25

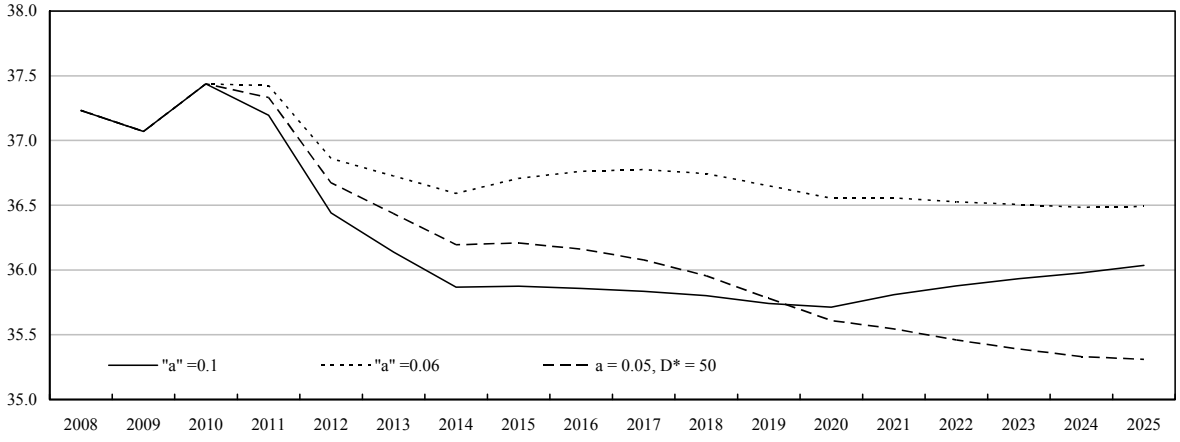
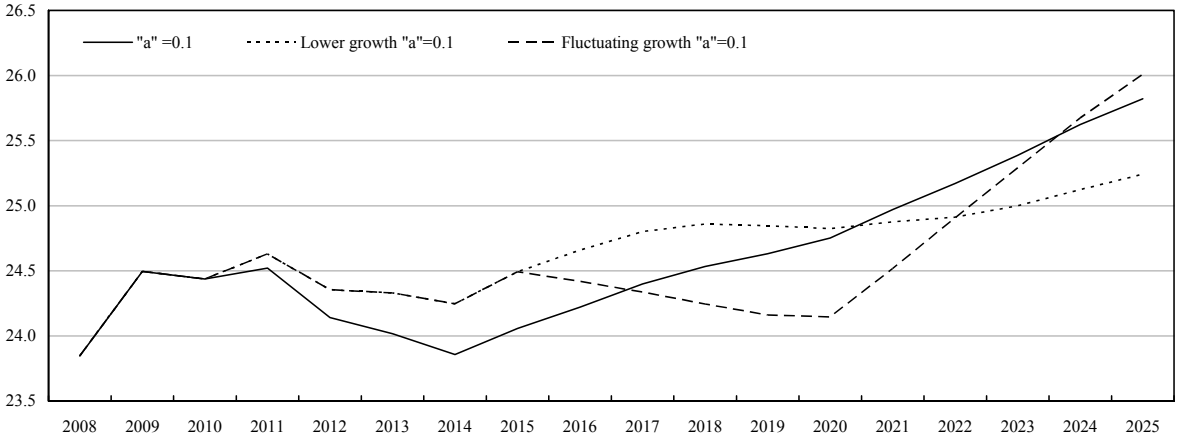


Figure 4

The Sensitivity of the Fiscal Aggregates to Changes in Growth

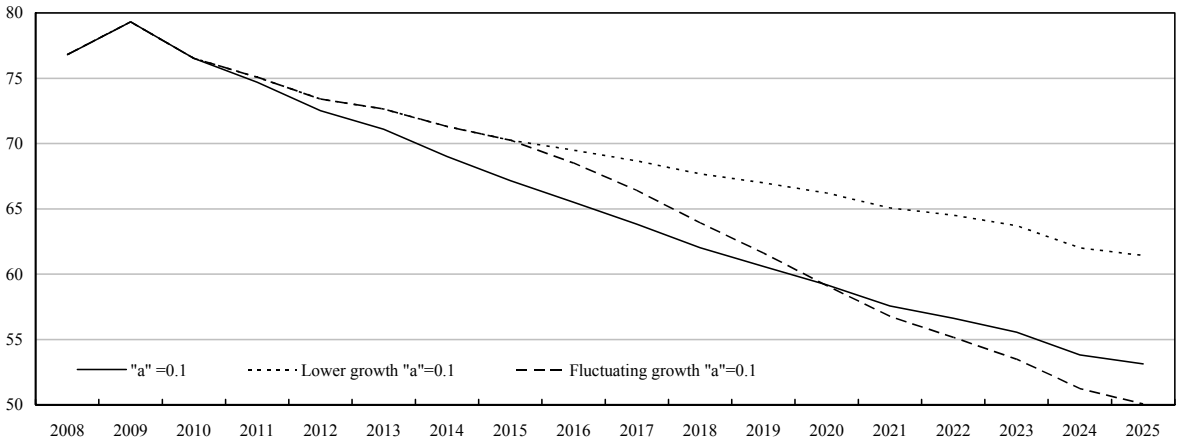
a) Primary Civilian Expenditure, Various Growth Scenarios, 2008-25

(percent of GDP)



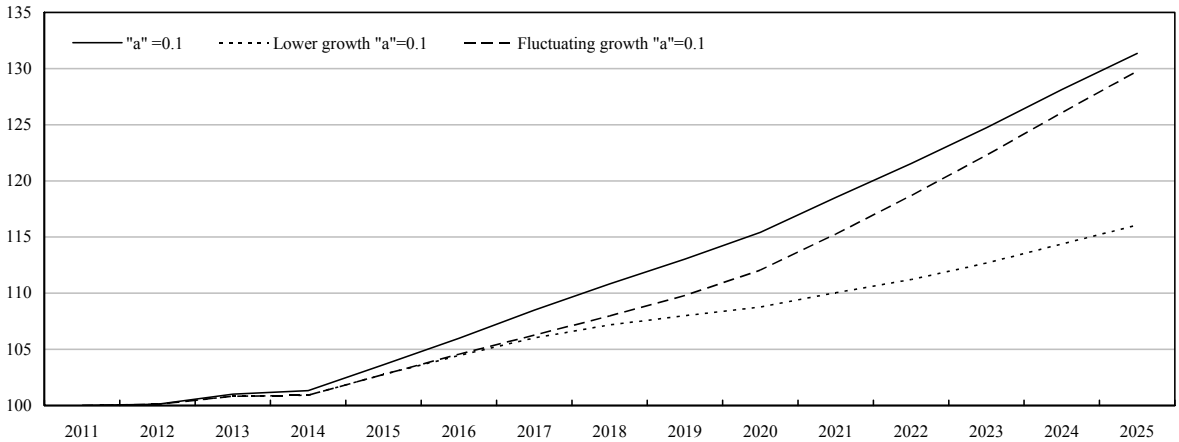
b) Public Debt/GDP Ratio, Various Growth Scenarios, 2008-25

(percent of GDP)



c) Primary Civilian Expenditure Per Capita, 2008-25

(index 2011=100)



deceleration in growth is due to lower productivity) and only the remainder reflects the additional fiscal effort. Despite the slow growth, the debt ratio converges to the 60 per cent target by 2025, a delay of 5 years, constantly maintaining a declining trend. While the rule is initially "wrong" in identifying the slowdown as permanent, it does automatically adjust as the slowdown prolongs.[28]

7 The political turn of events

Work on the new rule was complete in the middle of 2009, when a new government took office and when it was realized that the effect of the global crisis on Israel was milder that initially feared. The rule was presented in a dedicated international conference hosted by the IMF and to the incoming prime-minister and finance minister. However, at that junction the government faced a constitutional constraint that led to the adoption of a two-year budget for 2009 and 2010. It was decided to approve a fiscal rule independently in early 2010, and prepare the 2011-12 budgets in accordance with the new rule.[29] However, concurrently, the government also adopted a tax reform for the years 2011-16 that, once fully implemented, would reduce annual tax revenues by about 1.3 per cent of GDP.

When discussions resumed in 2010 two issues troubled the political decision-makers: the determination of the adjustment speed (the a parameter) and the subordination of statutory tax rate changes to the "adjusted expenditure" ceiling. Additionally, some technical features of the rule were contested by the MOF staff.

The a parameter: the main objection was for leaving the speed of the adjustment to a broad political dialogue. It was argued that the rule should be placed in parliament with pre-fixed figures, otherwise the results cannot be anticipated and the rule may not be sufficiently ambitious. Others argued that *long-term* rules and policies have little significance if they do not reflect broad political agreement and that Israel's past experience shows that the reputational costs of changing an existing fiscal target were ineffective in preserving previous rules; especially if these rules were adopted by prior governments. Eventually the first approach was accepted.

A second comment was that the a parameter complicates the formula too much and makes it too cumbersome and less transparent. This approach gained ground once it was decided to present the rule with a pre-fixed a, because it became harder to justify why a particular value of a is chosen. This difficulty was enhanced as debts and deficits around the developed world surged and the timing of fiscal consolidations around the world postponed. For example, the IMF's proposed fiscal framework for the developed countries was to converge to a debt ratio of 60 per cent by 2030 (IMF, 2010), so presenting a target date of 2020 for Israel as a sole option was problematic.

Accordingly, it was decided to modify the formula:

$$PE_{gr} = GDP\_POT_{gr} * (60/(D/Y)_{t-2}*100) + 2$$

This formula still maintains the key features of the original proposal, but without the a factor it lacked the ability to fine-tune the convergence process at the outset and implied a more expansionary policy path.[30] Even if the effect of the new tax reductions is ignored, the new rule

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[28] The rule was also tested in various other ways including stochastic simulations with 1,000 iterations that were based on the distribution of past Israeli growth rates. The results showed the robustness of the rule with a very high probability of reaching a debt ratio of less than 60 per cent within two years from the target date of 2020.

[29] Israel adopted a system of two-year budgets in 2009-10 and 2011-12. These budgets are formulated as two separate budgets that are approved simultaneously. In 2009, due to the elections, the budget was approved only in July.

[30] In fact, the formula embodies an implicit a. The derivative of PE_{gr} with respect to (D/Y) is $[-0.6 * GDP\_POT_{gr}/(D/Y)^2]$ and it reflects a decreasing marginal effect of the debt ratio on expenditure growth. At the current debt ratio of 75 per cent and given the

(continues)

implies that the deficit will stabilize at more than 2.5 per cent of GDP until 2020 and the debt ratio will be around 70 per cent. This is a substantially less ambitious consolidation than originally envisaged. Moreover, this expansionary path stressed the significance of the pre-legislated tax cuts for 2011-16, that pushed the deficit to even higher levels (see details below).

Statutory tax rates: Tax reductions are high on the current government's agenda. In 2003 the minister of finance, who is the current prime-minister, promoted this issue when the stabilization program was launched, introducing a lagged and gradual reform that lowered the PIT and CIT significantly. This reform, which was followed by further opportunistic tax cuts as growth exceeded expectations while expenditure growth was constrained by the expenditure rule (Bank of Israel, 2010), placed Israel's tax-to-GDP ratio below the OECD average (Figure 2). In line with this view, the subjection of statutory tax-rate cuts to the new fiscal rule was opposed. This objection reflected the perception that, if included, any attempt to cut tax rates will surface the tradeoff with expenditure and make such cuts politically difficult. This attitude was enhanced by the shift to two-year budgets that provide more room for tax cuts, which would have been curtailed by the rule.[31]

One intermediate proposal was to exclude the already legislated tax cuts from the rule, while subjecting to it only new ones. While this option would have reflected a clear policy commitment for a continued significant reduction in the size of government,[32] it became irrelevant with the adoption of the revised formula, which meant that the deficit and debt levels under this formula – given the tax cuts – are too high to generate a meaningful consolidation (Figure 5).

It was therefore decided that the rule will be applied only to expenditures, which will rise according to the new formula instead of the fixed rate of 1.7 per cent used between 2007 and 2010. However, because that formula does not constrain the revenue side, it was decided to preserve the existing deficit ceiling as well.[33] Hence, the new rule replaces only the old expenditure ceiling, rather than serve as a new comprehensive rule for fiscal policy.

Technical aspects: objections to three of the technical elements of the proposed rule were adopted during the discussions:

1) It was argued that a nominal target would lead line ministries to treat the overall price coefficient as a baseline, and when specific costs increase they will ask for special supplements. It was therefore decided to retain the "flexibility" of the current system where the adjustment to inflation is not transparent.
2) The National Insurance Institute and the health tax were left outside the rule's framework. It was argued that since a committee is working on the long-term finances of the social security system "it is not the right time" to make such an accounting change that will place its entire operation in the budget.
3) The MOF, emphasizing technical difficulties, did not take on the responsibility to calculate and publish medium-term forward-looking analyses of the budget. Hence there is still no formal monitoring of the consistency of government multi-annual expenditure programs with the ceiling. There is also no formal analysis of the medium-term conformity of the tax schedule with the deficit ceiling.

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average growth of 3.5 per cent during the last decade, the value of the implicit a is 0.037 compared to 0.1 in the proposed rule. I thank Philippe Frouté for raising this point.

[31] A budget represents a ceiling on the amounts that the government is allowed to spend during the budget's period. If economic circumstances turn out to be better than expected expenditures cannot be raised but tax rates can be cut. The scope for deviations from the budget projections is increased in a two-year budget.

[32] The proposal implied no change in per capita PCE from 2011 through 2015, and a reduction in the PCE ratio to GDP by 1.1 percentage points.

[33] The deficit ceiling is 3.0 per cent of GDP in 2011, 2.0 in 2012, 1.5 in 2013 and 1.0 thereafter.

Figure 5 shows that, *prima facie*, the combined fiscal rule is consistent with a strong and sustained consolidation. The debt ratio declines very quickly, reaches 60 per cent of GDP in 2019 and continues to decline rapidly thereafter. In the long run, the deficit target of 1.0 per cent is consistent with a debt ratio of 30 per cent. However, given the legislated tax cuts, the target depends on a substantial and speedy reduction in expenditure – by more than 2 per cent of GDP. It also depends on the cyclical development of the economy which is in a close-to-potential position in 2011. Past experience with deficit ceilings does not bode well for achieving the deficit target under such circumstances (Brender, 2009).

8 Summary

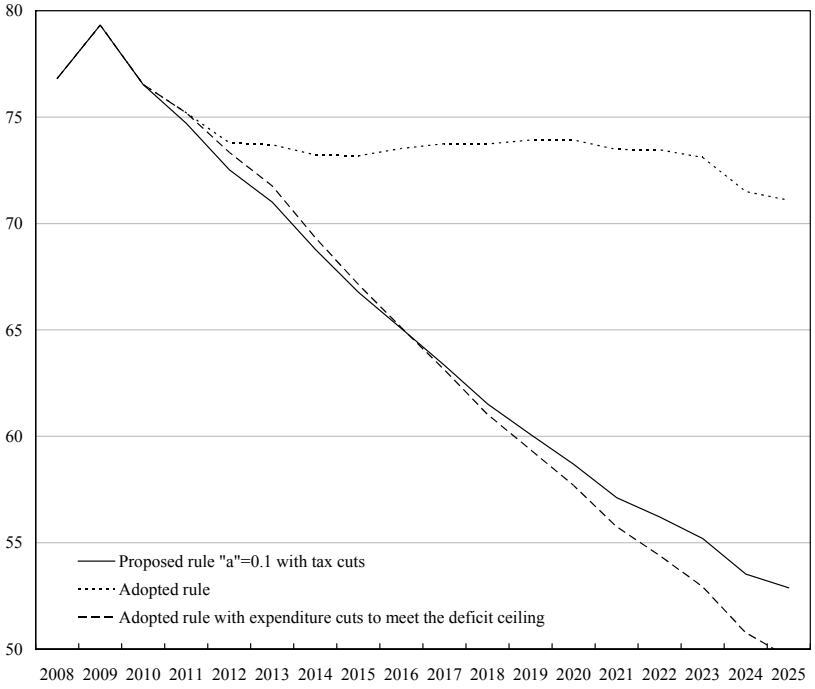
The attempt to develop a new comprehensive expenditure-based fiscal rule was founded on the perception that Israel's fiscal policy gained sufficient credibility following the 2003 stabilization, so further progress could be more gradual and cyclically neutral. This view was further enhanced by the improvement in Israel's

Figure 5

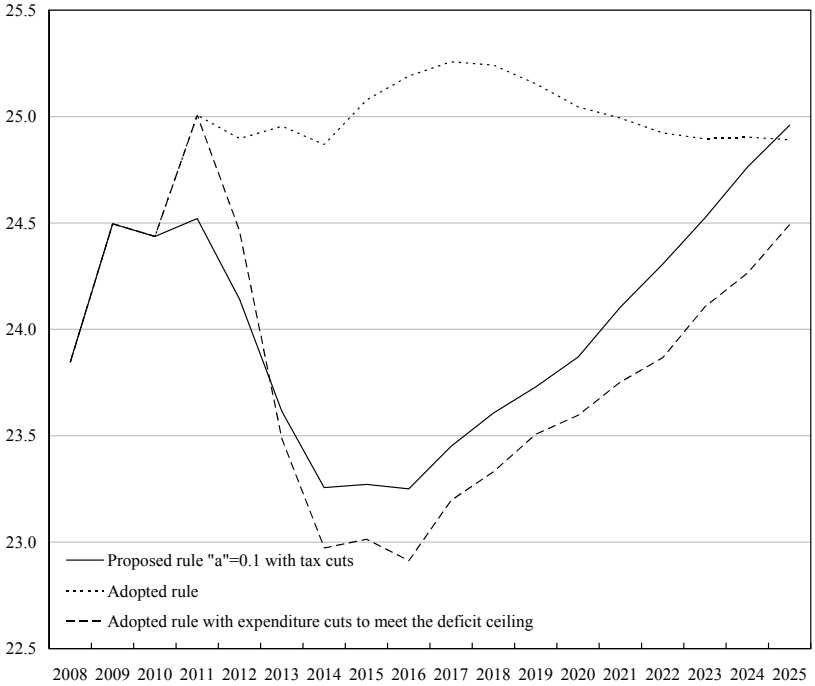
Fiscal Aggregates Based on the Adopted Rule, 2008-25

(percent of GDP)

a) Public Debt/GDP Ratio, Various Policy Scenarios, 2008-25



b) Primary Civilian Expenditure, Various Policy Scenarios, 2008-25



relative fiscal position, due to the mild effect of the global crisis on Israel compared to most of the developed countries.

The proposed rule tried to combine some of the desired properties of fiscal rules discussed in the literature: consistency with a long-term specified target, political sustainability, a-cyclicality, transparency and simplicity. It also accounted for Israel's initial condition with respect to the size of government and the tax burden. Starting in the heat of the global crisis the rule tried to build on a broad consensus that the pace of fiscal consolidation should be moderate, in order to support economic recovery, but with clear and realistic goals.

The rule that was eventually adopted deviates from the original targets in several ways. First, the expenditure rule itself is not consistent with the long-term targets of policy. Second, the deficit rule is based on annual targets and is therefore highly pro-cyclical. Third, transparency is limited given the gap between the deficit and expenditure rules, the use of real variables with backward adjustment to inflation deviations, and the avoidance to track government budgetary decisions on a multi-annual basis. Finally, it leaves important loopholes in the fiscal aggregates that are covered, allowing pro-cyclical expenditure expansions that may undermine the ability to sustain later moderations. Moreover, since the rule was not based on a broad political agreement, and has its dynamics driven significantly by the preemptive reduction of tax rates, its ability to survive political changes is questionable.

What accounts for this result? It appears that political opportunities are rare and passing. Israel's previous two successful medium-term consolidations were launched in times of crises. In the current round the initial position was the opposite – a relative success of the 2003 stabilization. The global crisis provided a sense of urgency to implement a new rule as (once again) the pro-cyclical deficit rule was breached. However, by the time the new government took office it was already clear that Israel escaped the crisis relatively unharmed, so the sense of urgency for collaborative action disappeared.

An ongoing discussion in the fiscal rules literature is whether fiscal rules and their design matter. Ayuso-i-Casals *et al.* (2007) show evidence that fiscal rules support a reduction in the cyclically adjusted primary balance, and so do Guichard *et al.* (2007). Fabrizio and Mody (2006) also show consistent evidence. However, the issue of causality remains open to a large extent (Wierts, 2007): are "good" fiscal rules adopted where there is a strong commitment to consolidation,[34] or do they have an incremental effect? The recent Israeli experience provides some evidence on one aspect of this question: the adoption of "good" rules does depend to a large extent on the political environment, the strength of commitment to consolidation and the initial conditions.

Based on this experience, fiscal rules seem to be less about design; they are predominantly a matter of national consensus on the need to reach common goals and willingness to trust the commitment of others in the country to attain the same goal. Well designed rules can emerge when the surrounding conditions are appropriate for consolidation, but under such circumstances their specific design may be less critical.

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[34] Kopitz (2007) describes fiscal rules as expressing a political will to maintain fiscal discipline.

REFERENCES

Ayuso-i-Casals, J., D. Hernández, L. Moulin and A. Turrini (2007), "Beyond the SGP: Features and Effects of EU National-level Fiscal Rules", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Banca d'Italia workshop held in Perugia, 29-31 March, pp. 651-701.

Balassone, F. and D. Franco (2001), "EMU Fiscal Rules: A New Answer to an Old Question?", in Banca d'Italia (ed.), *Fiscal Rules*, papers presented at the Banca d'Italia workshop held in Perugia, 1-3 February, pp.33-58.

Bank of Israel (2005), *Annual Report 2004*, Chapter 6.

——————(2009a), *Recent Economic Developments 124*, July.

——————(2009b), *Annual Report 2008*, Chapter 6.

——————(2010), *Annual Report 2009*, Chapter 6.

——————(2011), *Annual Report 2010*, Chapter 6.

Brender, A. (2001), "Estimates of Israel's Tax Revenue Function", Bank of Israel, Discussion Paper, No. 2001.02, in Hebrew.

——————(2008), "If You Want to Cut, Cut, Don't Talk: The Role of Formal Targets in Israel's Fiscal Consolidation Efforts 1985-2007", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Banca d'Italia workshop held in Perugia, 29-31 March, pp. 348-76.

Brender, A. (2009), "Targets or Measures? The Role of Deficit and Expenditure Targets in Israel's Fiscal Consolidation Efforts 1985-2007", *The Israeli Tax and Economics Quarterly*, Vol. 33, No. 129, pp. 7-33, in Hebrew.

Brender, A. and G. Navon (2010), "Predicting Government Tax Revenue and Analyzing Forecast Uncertainty", *Israel Economic Review*, Vol. 7, No. 2, pp. 81-111.

Buchanan, J.M. (1997), "The Balanced Budget Amendment: Clarifying the Arguments", *Public Choice*, Vol. 90, pp. 117-138.

Buti, M. and P. van den Noord (2004), "Fiscal Discretion and Elections in the Early Years of EMU", *Journal of Common Market Studies*, Vol. 42, No. 4, pp. 737-56.

Calmfors, L. (2003), "Fiscal Policy to Stabilize the Domestic Economy in EMU: What Can We Learn From Monetary Policy?", CESifo, Economic Studies, Vol. 49, No. 3, pp. 319-53.

Corbacho, A. and G. Schwartz (2007), "Fiscal Responsibility Laws", in M. Kumar and T. Ter-Minassian (eds.), *Promoting Fiscal Discipline*, Washington (D.C.), International Monetary Fund.

Deroose, S., L. Moulin and P. Wierts (2006), "National Expenditure Rules and Expenditure Outcomes: Empirical Evidence for EU Member States", Wirschaftspolitische Blätter, Vol. 53, No. 1, pp. 27-43.

European Commission (2001), "Public Finances in EMU 2001", *European Economy*, No. 3.

Fabrizio, S. and A. Mody (2006), "Can Budget Institutions Counteract Political Indiscipline?", International Monetary Fund, Working Paper, No. WP/06/123.

Franco, D. and S. Zotteri (2010), "Fiscal Rules: What Lessons from Germany", Banca d'Italia, mimeo.

Guichard, S., M. Kennedy, E. Wurzel and C. André (2007), "What Promotes Fiscal Consolidation: OECD Country Experiences", OECD, Economics Department, Working Paper, No. 553.

Hercowitz, Z. and M. Strawczynski (2004), "Cyclical Ratcheting in Government Spending: Evidence from the OECD", *Review of Economics and Statistics*, Vol. 86, No. 1, pp. 353-61.

International Monetary Fund (1997), *World Economic Outlook*, October, Chapter 3.

——————(2010), *Fiscal Monitor*, November.

Jonung, L. and M. Larch (2006), "Improving Fiscal Policy in the EU: The Case for Independent Forecasts", *European Economy – Economic Papers*, No. 210.

Kopits, G. and S. Symansky (1998), *Fiscal Policy Rules*, International Monetary Fund, Occasional Paper, No. 162.

——————(2007), "Fiscal Responsibility Framework", *Public Finance Quarterly*, No. 2, pp. 205-22, Budapest.

Kumar, M.S. and T. Ter-Minassian (eds.) (2007), *Promoting Fiscal Discipline*, Washington (D.C.), International Monetary Fund.

Larch, M. and A. Turrini (2009), "The Cyclically-adjusted Budget Balance in EU Fiscal Policy Making: A Love at First Sight Turned into a Mature Relationship", *European Economy – Economic Papers*, No. 374, Directorate General of Economic and Monetary Affairs, European Commission.

Ljungman, G. (2008), "Expenditure Ceilings – A Survey", International Monetary Fund, Working Paper, No. WP/08/282.

Mazar, Y. (2010), "The Effect of Fiscal Policy and its Components on GDP", Bank of Israel, Discussion Paper, No. 2010.07.

Morris, R. and L. Schuknecht (2007), "Structural Balances and Revenue Windfalls: The Role of Asset Prices Revisited", ECB, Working Paper, No. 737.

Pigou, A. (1928), *A Study in Public Finance*, London, McMillan.

Poterba, J. (1995), "Capital Budgets, Borrowing Rules, and State Capital Spending", *Journal of Public Economics*, Vol. 56, pp. 165-87.

Robinson, M. (1998), "Measuring Compliance with the Golden Rule", *Fiscal Studies*, Vol. 19, No. 4, pp. 447-62.

Strawczynski, M. and J. Zeira (2009), "Cyclicality of Fiscal Policy: Permanent and Transitory Shocks", CEPR, Discussion Paper, No. 7271.

Taylor, J. (2000), "Reassessing Discretionary Fiscal Policy", *Journal of Economic Perspectives*, Vol. 14, No. 3, pp.21-26.

Wierts, P. (2007), "How Do Expenditure Rules affect Fiscal Behavior?", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Banca d'Italia workshop held in Perugia, 29-31 March, pp. 781-97.

Wren-Lewis, S. (2000), "The Limits to Discretionary Fiscal Stabilization Policy", *Oxford Review of Economic Policy,* Vol. 16, No. 4, pp. 92-105.

REFORMING ICELAND'S FISCAL FRAMEWORK

Gunnar Gunnarsson[*]

After being struck by a financial crisis of unprecedented scale, in October 2008, the Icelandic government was faced with a tripling of gross government debt and large budget deficit. Expectations of sustainable government finances became unanchored. A fiscal consolidation effort amounting to more than 10 per cent of GDP was required to reestablish the sustainability of government finances. The deficit bias of the budget framework was widely recognised in the years before the crisis and to ensure the success of the consolidation effort, the fiscal framework needed reforming. With technical assistance from IMF's Fiscal Affairs Department, a reform schedule was laid out for the budget frameworks at the national and the sub-national level. The reforms on the sub-national level are quite extensive and will take the framework from being among the laxest in Europe to one of the more progressive ones. Two new fiscal rules with statutory base will be applied in a multi-year budgeting framework that is subject to external financial oversight. External enforcement through sanctions following the principle of earned autonomy is to ensure compliance with the rules. The sub-national budget framework will be enshrined into law. The reforms to the national budget framework are also extensive but are not nearly as progressive. Medium-term fiscal and expenditure frameworks are established with three fiscal rules or objectives, with one of them still being only an interim one. The top-down sequencing of budget formulation and approval is improved upon and budget execution, importantly, is improved in several respects. What the national level reform lacks is a statutory base for the reformed framework in what could be regarded as progressive fiscal responsibility laws. Also lacking is an external body like an independent fiscal council that monitors and assesses fiscal policy. The national reforms are thus less progressive than they could be. IMF has served as an external monitoring body with its reviews under the Stand-by Arrangement with the Icelandic government. Whether or not the post-crisis fiscal discipline exerted by the Government is only an IMF imposed discipline will have to be seen. But if so imposed then there is high risk that the national framework will regress back to pre-crisis status as soon as external monitoring ceases.

1 Introduction

In the first week of October 2008, Iceland's three major banks, representing 90 per cent of Iceland's banking system in terms of total assets, collapsed. The banks' large foreign currency balance sheets and their size relative to their home base proved a key vulnerability that contributed to their demise in the conditions that arose in the autumn of 2008. Prior to the banks' collapse, their balance sheets had expanded to almost 11 times GDP, with the foreign currency part amounting to ⅔ of that total, or almost 7 times GDP.

The Icelandic economy was already on its way into recession when the banks collapsed as a consequence of the subsiding of the huge macroeconomic imbalances that had built up in the economy during the upswing. Furthermore, a currency crisis had hit several months before the banks collapsed, with the króna depreciating by 40 per cent since the beginning of the year.

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The author would like thank the following colleagues at the Central Bank of Iceland for helpful comments: Anna Benassi, Ásgeir Daníelsson, Bjarni G. Einarsson, Gudjón Emilsson, Hördur Gardarsson, Ólafur G. Halldórsson, Markús Möller and Rannveig Sigurdardóttir. Also, thanks to those who commented on the paper at the 13th Banca d'Italia Workshop on Public Finance, Perugia, 31 March-2 April 2011.

The views expressed herein are those of the author and do not necessarily reflect those of the Central Bank of Iceland.

Following the banks' collapse, the depreciation of the króna continued until capital controls were introduced at the end of November. All in all, the króna depreciated by roughly 50 per cent in 2008, both in trade-weighted terms and against the euro.

With the collapse of the three banks, foreign creditors incurred massive losses, as did the Central Bank of Iceland (CBI) and the Treasury. The sustainability of government finances immediately came into question. The budget balance of the central government went from a surplus of 3.9 per cent in 2007 to a deficit of 13 per cent of GDP in 2008, a reversal amounting to 16.9 per cent[1] of GDP.

Currency reserves had to be increased drastically to stabilise the currency and to prevent sovereign default; thus the government was in urgent need of new foreign funding. At the end of October 2008, the Icelandic government reached an agreement with the International Monetary Fund (IMF) on an economic stabilisation programme, under a two-year Stand-by Arrangement supported by a loan of 2.1 billion US dollars. The Stand-by Arrangement also gave the economic programme increased credibility. The agreement was followed by bilateral loan commitments from other European neighbours.

The three newly established state-owned banks took over domestic activities of the three old banks and needed to be re-capitalised, as did the CBI, which had lost financial assets worth nearly 22 per cent of GDP on collateralised lending to the collapsed banks. The re-capitalisation and the financing of the deficit drastically elevated the gross government debt level.

From 2007 to 2011, general government gross debt rose from 28 per cent of GDP to an estimated peak of 100 per cent of GDP, and the CBI's gross debt rose from 4 per cent of GDP to an estimated peak of 25 per cent of GDP. This increase, however, was due not only to losses on financial assets and deficit spending; it is also attributed to acquisition of financial assets in the form of currency reserves and bank equity amounting to 55 per cent of GDP, leaving net debt to increase by 44 per cent of GDP.

The fiscal impact of all this on the government balance sheet was substantial and, with the budget deficit reaching high single digits as a share of GDP, government finances would have been unsustainable if no action had been taken to return the budget to surplus. To ensure the sustainability of government finances, the Stand-by Arrangement with the IMF required the implementation of fiscal consolidation in excess of 10 per cent of GDP from the fiscal year 2010 to the fiscal year 2013.

Weaknesses in the procedures and controls of the budget cycle had become clear in the pre-crisis years and were most evident in lax budget execution. Therefore, a critical component of the Stand-by Arrangement was a reform of the fiscal framework to ensure successful implementation of the consolidation effort. The government has committed itself to implement a majority of the recommendations made by the IMF in Letters of Intent (LOI) to the Fund's Executive Board. As of May 2011, when more than half of the front-loaded programme schedule has passed, both fiscal consolidation and fiscal framework reforms are broadly on track.

In the years prior to the financial crisis,[2] both the IMF and OECD missions to Iceland had pointed out that the fiscal framework needed stronger reform. Here strength encompasses factors such as (1) the statutory base of fiscal rules, procedures and controls (2-3), the nature of the bodies charged with monitoring and enforcing the rules, (4) enforcement mechanisms and (5) media

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1 Reinhart and Rogoff (2009) report the largest fiscal balance reversals following financial crises. The reversals show the change in central government deficit from a year before the crisis to the peak deficit in following years. At the top of the list is Sweden (1991), with a reversal of 15.4 per cent of GDP, and Finland (1991), with 11.8 per cent (p. 231).

2 See, for example, IMF, Working Paper No. WP/07/235, October 2007; "Strengthening the Fiscal Framework", in OECD Economic Survey: *Iceland*, Chapter 3, Vol. 2008/3, February 2008.

visibility of the rules. But the necessary political constituency required to implement the reforms recommended had not been formed.

The last decade's robust economic growth gave rise to unexpectedly strong tax revenues. Additionally, revenues from the privatisation programme carried out from 1998 to 2005 amounted to 15 per cent of GDP. Repeated surpluses despite expenditure overruns and a strengthening balance sheet masked the deficit bias of the budget framework. The government was under little pressure to consolidate. The weaknesses with regard to expenditures were clear to most, but there were also latent weaknesses on the revenue side. At the time, the Icelandic sovereign was highly rated by rating agencies and by credit markets, as many believed that the strong fiscal position rested on strong fundamentals. Many internal and external observers alike regarded Iceland as a model of economic reform characterised by tax cuts, privatisation and free markets.

The revenue buoyancy, however, was predominantly the product of positive balance sheet effects generated by a credit-driven asset bubble. The result was a consumption boom that greatly amplified the pro-cyclicality of tax revenue elasticity. Underestimation of that elasticity resulted in an overestimation of the structural balance, as the cyclical component of revenues was underestimated. Real-time estimation of elasticity is always difficult, especially in the presence of strong balance sheet effects, but with the benefit of hindsight, the extent of the increase in elasticity became clear. As balance sheet effects have now turned negative, expenditure overruns are now a "luxury" that Iceland can no longer afford.

The fiscal framework was reformed in 1992 with the adoption of top-down "frame budgeting" to enhance the policy-making role of the government and to increase fiscal discipline. The frame budgeting was initially only set for the next fiscal year. Although that was a great improvement, it failed to curb the tendency towards expenditure drift. In 2003, the frame budgeting framework was extended to include medium-term plans, setting four-year revenue and expenditure projections and frames for expenditure growth in real terms. Regrettably, it turned out to be more of a forecasting exercise that served only an illustrative purpose. Also adopted in 2003 was a numerical fiscal rule that stipulated that central government public consumption may not grow by more than 2 per cent per year in real terms and that real transfers may not grow by more than 2.5 per cent. This real expenditure growth rule failed miserably, perhaps not surprisingly, as the framework around it was weak. On the five-parameter strength list enumerated above, the framework of the rule scores almost no points.

Political economy factors in Iceland are not markedly different from other countries. The political economy's bias towards expenditure growth and pro-cyclicality of that growth can be explained to a large extent by the common pool problem. A majority of ministers saw revenue windfalls as common property that feed through to higher spending and tax cuts. These increased appropriations and tax cuts always prove difficult to reverse when the economic cycle turns. The main goal of strong fiscal frameworks is to improve the processes and controls of the budget framework so that the common pool externality can be internalised. Iceland is a commitment-type country,[3] and reforms made to the fiscal framework in EU countries of this type over the past two decades have focused on making fiscal rules more stringent and on establishing fiscal councils or committees that are used, for example, to supply independent forecasts and assess fiscal policy (Hallerberg *et al.*, 2004; Annett, 2007).

Having a strong budget framework with regard to formulation, approval and execution of the budget and reporting of budget positions is at the heart of the fiscal framework and is a prerequisite for the success of national and sub-national fiscal rules. Both the OECD and the IMF have

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[3] A country is of the commitment type when different political parties forming a coalition negotiate on a fiscal contract by setting budget targets. The threat of breaking up the government serves as the main enforcement mechanism.

provided instructive reform recommendations to the government. After the crisis and in the context of the Stand-by Arrangement, the IMF has been instrumental in conveying both what the literature says on fiscal framework design and what the experience has been. Budget frameworks that have proven successful in introducing fiscal discipline of the central government most often include three elements that all work in combination. The elements are (1) a medium-term fiscal framework, (2) a medium-term expenditure framework and (3) a top-down approach to budgeting. This should call for a revision of the legal framework as regards the statutory basis for rule-based processes and controls.

Local governments and the central government have reached an agreement about the adoption of sub-national fiscal rules. There is also an agreement on formal procedures in the coordination of general government fiscal policy. The sub-national fiscal rules are two: (1) a three-year rolling balanced budget requirement and (2) a debt ceiling. There are penalties for violating the rules, which are enforced by the Municipal Fiscal Oversight Committee (MFOC). The fiscal rules, the penalties, and their enforcement are to be enshrined in law by June 2011.

At the national level, there is now an interim general government budget balance rule or objective, as well as a debt level ceiling. But in addition to those two rules, central government now has a fixed two-year nominal expenditure ceiling rule that replaces the pre-crisis real expenditure growth rule. Inflation and output volatility are greater in Iceland than in most other countries, so an important factor to consider is the counter-cyclicality of fiscal policy. Nominal ceilings on expenditures add to the counter-cyclicality of fiscal policy because real expenditures decline in periods of unexpectedly high inflation.

Iceland is currently engaged in accession negotiations with the European Union (EU), with the aim of first joining the EU and ultimately joining the European Monetary Union (EMU). The aim is to put the contract to a referendum. If the *yes* vote wins, Iceland hopes to be fast-tracked into the EU, as it is already a member European Economic Area (EEA). This would require that Iceland adopt the supranational numerical fiscal rules stipulated in the Stability Growth Pact (SGP) and the Maastricht treaty. When the consolidation phase is completed in 2013, Iceland will be in a good position to adopt the supranational fiscal rules.

While no formal governmental policy statement regarding the adoption of fiscal responsibility laws (FRLs) enshrining the entire fiscal framework has been issued, the government has made a formal statement declaring that the Ministry of Finance (MoF) is to dramatically increase its reporting and accountability to the Parliament. This is at the centre of FRL objectives, in addition to elevating rules, procedures and controls to a statutory base. But progressive FRLs are very unlikely to result, and this may prove to be a major weakness.

Iceland's ministers and members of Parliament are still at the early stages in debating the merits of creating an independent fiscal council. The topic has not been put on the government's agenda.

This paper is structured as follows. Section 2 reviews the conduct of fiscal policy in the years leading up to the crisis. Section 3 identifies the major weaknesses that became evident in the pre-crisis period. Section 4 lists the recommended reforms and describes how they have been adopted. Section 5 discusses what is missing from the reform agenda and describes the merits of fiscal councils. Section 6 contains the conclusion.

2 The pre-crisis fiscal policy experience in Iceland

In the months before the financial crisis, the Icelandic sovereign was still highly rated by rating agencies, as it had been for many years. Owing to a strong fiscal position compared to other European countries, fiscal policy was – despite some criticism – regarded as broadly prudent.

Iceland's fiscal position owed its strength primarily to two factors. First, as a result of its privatisation programme, assets worth approximately 15 per cent of 2009 GDP were sold. The proceeds of privatisation were allocated towards reducing government debt and government-funded pension liabilities and building up a cushion of deposits in the CBI amounting to over 10 per cent of GDP. Second, during the boom years, the central government was run with a substantial surplus, as revenues repeatedly exceeded both the MoF's and external observers' projections. As a result, central government net debt declined from roughly ⅓ of GDP in the mid-nineties to zero in the years before the crisis.

Record surpluses generated by revenue buoyancy caused politicians to turn a blind eye to the need to rectify the deficit bias of the budget framework. The Icelandic National Audit Office (INAO) repeatedly reported on spending overruns relative to budgeted values.[4] Despite existing regulations, ministries and agencies frequently overspent their budgets with few repercussions. The counter-cyclicality of fiscal policy, however, was dependent on firm execution of the budget while allowing automatic stabilisers to play their role. The full effect of automatic stabilisation was never realised, as tax rates were discretionarily lowered. However, despite tax cuts and spending overruns, budget surpluses were larger than ever, complicating the debate on the overall fiscal policy stance.

But what was the source of the revenue buoyancy? The pro-cyclical response of tax revenues to the change in real activity was greater than could be expected unless revenue elasticity changed in a pro-cyclical manner at the same time. Estimating the cyclical component of revenues at fixed elasticity would lead to an overestimation of the structural balance. Estimating elasticity in real time is difficult, especially when the source of the pro-cyclicality is, to a large extent, positive balance sheet effects. Morris and Schuknecht (2007) found strong asset price effects on revenue elasticity in Europe; more specifically, they found that a 10 per cent increase in asset prices added half a per cent of GDP to revenues. Earlier, Jaeger and Schuknecht (2004) had found that, in a European context, the cyclical responsiveness of the budget balance doubles in asset price-driven economic cycles. These effects are quite substantial and were undoubtedly prominent in Iceland as well in the pre-crisis boom years.

The appreciation of asset prices in Iceland was sizable. House prices rose by 75 per cent from 2004 to 2008, and stock prices rose by 150 per cent. The asset price-driven real growth, which was fuelled by massive credit expansion, led to a consumption boom. Consumption as a percentage of potential output rose from 53 per cent in Q1/2002 to 66 per cent in Q4/2005. In addition to value-added tax revenues, a large share of consumption consisted of imports subject to excises, as the real exchange rate had risen substantially. Because the ratio of indirect taxes relative to direct taxes was among the highest in Europe, this consumption boom helped produce record tax revenues. But there was also a credit-driven boom in income, which caused direct taxes to jump to record levels as well.

Research shows that there was a much stronger relationship between the private consumption ratio of potential output and total tax revenues than between the output gap and total tax revenues.[5] So, with the change in consumption ratio of potential output being greater than the change in output

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[4] A number of INAO reports touch on this subject: most recently, for example, Implementation of the 2007 Government Budget and Annual Plan for 2008, INAO May 2008. See also Suppanz, H. (2003), "Controlling Public spending in Iceland", OECD, Economics Department, Working Paper, No. 360, June, and "Strengthening the Fiscal Framework", in OECD Economic Survey: *Iceland*, Chapter 3, Vol. 2008/3, February 2008.

[5] A regression model of differenced total tax revenue *(*Δtax) on a constant plus the differenced consumption ratio of potential output *(*Δc_ratio) and the output gap (*gap*) shows that the *c_ratio* is highly significant, while the gap is not, at the 5 per cent significance level.

$$\Delta tax = 0.022 + 0.558\ \Delta c\_ratio - 0.194\ gap;\ R\text{-squared is } 0.53$$

$$t\text{-stat: } (5.80)\ (9.36) \qquad (-1.84)$$

$$\text{Prob.: } (0.000)\ (0.000) \qquad (0.0689)$$

gap, tax revenue elasticity turned highly pro-cyclical with respect to the output gap. The elasticity of tax revenues relative to the output gap thus jumped in a highly pro-cyclical fashion.

During the boom years, many argued that the source of revenue buoyancy rested on strong fundamentals of positive supply-side effects of tax cuts in preceding years and the structural reform of the economy. But even though this may have played a part, the main source of revenue buoyancy was the positive balance sheet effects from a credit-driven asset price boom. The cyclical component of the tax base caused by these effects was underestimated, leading to an overestimation of the structural balance and to the belief that the fundamentals of the budget balance were stronger than they actually were.

In the boom years, there was a pro-cyclical stance on the expenditure side that was mostly driven by fundamentals explained by political economy factors. An upward drift in expenditure was caused by a combination of spending overruns, in-year discretionary initiatives, and excessive reliance on supplementary budgets. Insufficient spending discipline can also be found, in that frame budgeting was not extended to cover binding multi-year budgeting, which would, for example, help address the problem of expenditure base drift. Medium-term plans existed, but they were not discussed in Parliament and were often taken as a projection exercise by the MoF that served an illustrative purpose rather than existing as a firm budget. The budget framework did not hold.

Annett (2007) examined the cyclical properties of the expenditure side in Iceland during the period 1980-2005. Following Lane (2003), the log differenced government expenditure items were regressed on a constant plus a log differenced real GDP on a country-by-country basis. The expenditure variables are translated into constant prices using the GDP deflator. The results are reported in Table 1, where a positive value signals pro-cyclicality. The results show that Iceland's expenditure side is more pro-cyclical than the EU average, except with regard to non-wage consumption. Government wage consumption and transfers have the greatest effect on the policy stance.

Government transfers are highly pro-cyclical in Iceland, while they are intuitively counter-cyclical on average in the EU; the same applies to the government wage bill, which is much more pro-cyclical than in the EU. This indicates that the budget cycle – the execution in particular – is subject to politically motivated expenditure pressures. Government employees and transfer recipients have well-represented constituencies, while non-wage government consumption, the only counter-cyclical expenditure item, has a weak constituency. Thus the common pool problem has been unchecked to some extent in Iceland. Annett (2007) finds, in data from the World Bank, three proxy measures of the intensity of common pool pressures. First, the data show that Iceland's government fractionalisation,[6] a measure of divisions within the government, is high or 0.52 compared to the EU average of 0.30. Second, Iceland's legislative fractionalisation,[7] a measure of divisions within the legislature, is somewhat higher or 0.76 compared to the EU average of 0.69. Most often there is a strong government majority in Iceland, which boosts the value of becoming part of the governing coalition, increasing the potential for politically motivated distortions in fiscal policy. Iceland's coefficient for government majority[8] is 0.64, while the EU average is 0.55. Thus the need to internalise the externalities of the common pool problem is greater in Iceland than in most EU countries. Tying politicians to the mast by reforming the fiscal framework is vital in order to anchor expectations of the sustainability of government finances.

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[6] The probability that two members of Parliament drawn at random from governing coalition members will be from the same political party.

[7] The probability that two members of Parliament drawn at random from the legislature will be from the same political party.

[8] The fraction of seats held in Parliament by the government.

Table 1

Regression-based Cyclicality Coefficients: International Comparison

	Total Expenditure	Primary Current Expenditure	Wage Government Consumption	Non-wage Government Consumption	Government Transfers	Government Investment
Iceland	**0.40**	**0.58**	**1.38**	**–0.31**	**0.60**	**1.51**
Austria	0.16	0.17	0.59	–0.02	–1.18	0.48
Belgium	–0.37	–0.13	0.37	–0.06	–0.22	1.28
Denmark	–0.60	–0.44	–0.36	–0.50	–0.53	1.04
Finland	–0.67	–0.55	–0.05	0.26	–1.39	1.06
France	–0.33	–0.63	–0.30	–0.72	–0.05	1.75
Germany	0.69	0.79	0.39	0.50	–0.52	2.00
Greece	–0.17	0.18	0.86	–0.90	0.16	1.47
Ireland	0.17	0.05	0.24	0.98	–2.53	2.41
Italy	0.32	0.25	0.65	0.41	–0.18	1.04
Netherlands	–0.20	–0.13	0.04	0.05	–0.21	0.75
Portugal	0.83	0.77	1.53	0.83	0.61	2.22
Spain	–0.48	0.08	0.40	0.08	–0.27	0.65
Sweden	–0.54	–0.08	0.29	–0.31	–0.59	1.37
UK	–0.70	–0.66	–0.23	0.06	–2.73	1.58
EU mean	**–0.14**	**–0.02**	**0.32**	**0.05**	**–0.69**	**1.36**
EU standard dev.	0.50	0.46	0.51	0.54	0.96	0.58

Source: Table 3 in Annett (2007).

3 Weaknesses in the pre-crisis fiscal framework

3.1 The consumption rule failed

Perhaps the best evidence of the weakness of the pre-crisis fiscal budget framework is the way in which the numerical fiscal expenditure rule adopted in 2003 was honoured. The rule stated that real growth of public consumption should not exceed 2 per cent per year. It came close in 2004, the first year the rule was in effect, when it grew by 2.1 per cent, but after that the growth rate kept increasing each year (see Table 2) until, in 2008, it was completely off the mark, growing at 3.7 per cent.

There were two factors contributing to the failure of the rule. First, the budget framework from formulation to execution was too lax. There were many weaknesses that had been identified by both internal and external observers such as the INAO, OECD and IMF mission teams. Second, the framework of the rule itself was extremely weak. The rule had no statutory foundation; no one outside of the MoF was in charge of monitoring and enforcing it. Those in charge of budget formulation and execution within the MoF were also responsible for monitoring and enforcing the rule. There was no formal reporting requirement to Parliament if the rule was violated, and no extra enforcement or control mechanism was available. Last but not least, media visibility of the rule was

Table 2

Real Growth of Public Consumption and Transfer Payments

	2003	2004	2005	2006	2007	2008	2009
Treasury and social security	2.7	2.1	2.7	2.7	3.2	3.7	–0.7
Local governments	1.2	0.1	5.1	6.4	5.7	6.2	–3.7
General government	1.8	2.2	3.5	4.0	4.1	4.6	–1.7
Transfer payments	5.9	–7.3	1.6	–3.2	7.0	517.4	–79.4

Source: Statistics Iceland.

virtually non-existent. Educating the public and the media about the merits and purpose of the rule was not a priority when the rule was adopted, and consequently, it actually functioned more like an internal rule of the MoF. As a result, violations of this firm numerical fiscal rule received little or no media attention, and not even the political opposition in Parliament made an attempt to enforce the rule by, for example, "naming and shaming". They had no appetite for playing the role of enforcer of the rule. Instead, they even proposed stepping up spending of windfall revenues, as most opposition politicians do.

3.2 Transfer growth held

But the public consumption overshooting is not the whole story as the expenditure fiscal rule also stated that the real growth of transfer payments should not exceed 2.5 per cent each year. This part of the rule did hold on average between 2004 and 2007 (see Table 2). To what extent that can be credited to the fact that transfers payments generally go down during economic booms is not explored here but this rule should ideally be applied to cyclically-adjusted transfer payments or be averaged over a long period of time to see if it holds. Year-by-year growth can fluctuate too much. This can be seen in that transfers skyrocket in 2008 because of the financial crisis as massive transfers to for example the CBI were realised.

3.3 The beginning of the framework: 1992 – frame budgeting

Returning to the weaknesses of the budget framework, it would be best to begin by providing some background information so as to foster a fuller understanding of how the budget framework has progressed in the last two decades while needed reforms are identified. With the aim of enhancing the control and effectiveness of public spending, the fiscal framework has undergone substantial changes since the beginning of the 1990s.

In 1992, in line with fiscal framework reforms in other Nordic countries, a frame-budgeting approach was introduced. A top-down orientation to fiscal policy was adopted which served the purpose of emphasising the policy-making role of the government and increasing overall fiscal discipline. Each year, early on in the budget formulation phase, expenditure frames or ceilings for the following year were to be set for each ministry by a special cabinet committee, led by the prime minister. Each minister was then held responsible for appropriating the allocated funds to the ministry's agencies and projects. Each October, the budget is presented to Parliament for amendment and approval.

In 1997 the Government Financial Reporting and State Guarantee Acts were passed into law with the aim of improving the quality of information by shifting from traditional cash to modified accrual budgeting, accounting, and reporting.

In 2003 the frame-budgeting arrangement was amended by introducing frames for expenditure growth in real terms. At the same time, the numerical expenditure rule discussed above was adopted. The MoF also began presenting a medium-term plan by publishing four-year revenue and expenditure projections. These projections were not binding cabinet-approved four-year expenditure frames.

3.4 Auto-acceptance of spending overruns

The INAO and the technical assistance missions from the OECD and IMF have identified and reported on the main weaknesses in the budget framework. At the heart of it, many find that the national budget lacks credibility because its legitimacy is undermined by extensive use of supplementary budgets. Operational spending overruns and discretionary spending decisions are routinely legitimised *ex post* by supplementary budgets. Furthermore, agencies can borrow from future appropriations, creating an upward drift bias. Budget transparency and discipline are further jeopardised by earmarking of revenue and allowances for carryovers of unspent appropriations to the next year.

The decentralised public finance management (PFM) system adopted in 1992 did not have proper checks and balances, nor did it provide for sanctions for non-compliance with rules on budget execution and control. This has contributed to spending overruns.

Overspending against published medium-term expenditure projections had consistently been very high since the projections were introduced in 2003. Upward expenditure base slippage results when each annual budget presents an update of the previous medium-term plan starting from a higher level. The fact that the medium-term plan is the MoF's projection rather than a commitment and that it is not the result of bottom-up aggregation of spending agencies' long-term budget plans matched by top-down political engagement makes it ill-suited to ensure multi-year expenditure discipline and fiscal sustainability. The medium-term fiscal framework must be integrated with the budget cycle itself rather than being an extension of it.

Better definitions of the relative roles and responsibilities of key actors in the budgeting cycle are needed. Budget formulation lacks discipline, and the legal framework needs revision. Importantly, the INAO's reports should be taken more seriously, and recommendations should be acted upon more aggressively by Parliament and the MoF.

3.5 Weaknesses at the local government level

There are two levels of government in Iceland. Local government expenditure amounts to 14 per cent of GDP in 2009, while central government expenditure amounts to 38 per cent of GDP in the same year. There are 78 municipalities, 30 of which have fewer than 500 inhabitants. They have a high degree of autonomy regarding their spending, which often translates into weak fiscal policy coordination between the two levels of government. In the boom years leading to the crisis, local governments let their spending rise in tandem with buoyant revenues to a great extent. Over the 2004-2008 period, local government public consumption increased by an average of 4.7 per cent per year in real terms, or at a rate of growth 60 per cent higher than that of the central government. With local government expenditure constituting nearly one-third of general government expenditure, this had a noticeable effect on the overall general government fiscal stance.

Many municipalities were running deficits even in the boom years, as they were not subject to a firm deficit rule or to a limit on their borrowing. However, the Local Government Act from 1998 contains a weakly phrased balanced budget requirement stipulating that municipalities' revenues should match expenditure *as far as possible*. Phrasing the restriction so loosely renders it ineffective, as was evidenced by lax budget formulation and execution on the part of many municipalities. Furthermore, many municipalities do not view the required three-year budget plan as binding, which weakens the medium-term fiscal framework. When fiscal discipline was found lacking, few sanctions for non-compliance were available short of a takeover by the central government in the case of a municipality's imminent default on debt. Municipal finances need to be subject to closer scrutiny from an independent external body.

4 Reforms to the fiscal framework

The fiscal impact of the financial crisis and the size of the necessary fiscal consolidation that followed helped to build the political constituency required to implement the reforms recommended, in the context of the Stand-by Arrangement, by the IMF's Fiscal Affairs Department (FAD) in January 2009.[9] Recommended reforms emphasised the need to reform the budget framework. The budget framework must strike a balance between achieving broad political representation and maintaining fiscal discipline. Importantly, the aim is not to depoliticise fiscal appropriations but rather to subject politicians to fiscal discipline when they are prioritising appropriations according to their political agenda.

In IMF's Stand-by Arrangement with the Icelandic authorities, a proposed reform schedule was laid out. The reforms were to be front-loaded. The reforms are broadly on track but have not yet been fully adopted as only two budget cycles out of four under the Stand-by Arrangement have passed. The reform recommendations can be divided into six categories. The full adoption of three of them has already been agreed upon and one of them is in the process of being passed into law with minimal political opposition. In the other three categories some progress has been made. Some reform recommendations will not be fully adopted but there are still some reforms scheduled for adoption or are being considered for adoption in the 2012 budget cycle.

The six categories are listed below. The first three concern reforms at the national level, and the next two concern reforms at the sub-national level and the coordination between the two levels of government. The last category concerns the legal framework regarding the statutory foundation of the rule-based processes and controls of the fiscal framework.

A) A medium-term budget framework (adopted)

It integrates and quantifies fiscal objectives and rules into a binding multi-year budget that sets out the medium-term fiscal path. Three fiscal rules are adopted:

- a budget balance rule or objective (still interim),
- a debt level ceiling rule, and
- fixed two-year nominal expenditure ceilings.

The medium-term budget framework is to provide a medium- to long-term anchor or an objective for government finances.

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[9] A technical assistance mission from the IMF's Fiscal Affairs Department visited Iceland in January 2009 in the context of the IMF-supported Stand-by Arrangement. The mission comprised Messrs. Cangiano (head), Hughes (both FAD), and Balassone and Molander (both experts from the FAD panel).

B) Top-down formulation and approval of budget (partly adopted)

Budget formulation and approval should strictly follow a top-down approach. The budget cycle begins with macro-level discussion that decides on the budget balance in accordance with fiscal rules and objectives. This translates into a decision on how total revenues and total expenditures should evolve. After the ceilings on expenditures have been established, the formulation of the budget on individual appropriations basis can begin. Appropriations must be prioritised, with individual appropriations subject to change or cancellation.

C) Budget execution and controls (mostly adopted)

More stringent supervision of budget execution through various means with an emphasis on restricting the practice of legitimising spending overruns after the fact.

D) Local governments restricted to a rule-based fiscal policy (adopted)

Municipalities are prohibited from running operating deficits over a rolling three-year-period.

A debt-to-revenue ceiling of 150 per cent is to be introduced.

Sanctions ranging from mild to severe can be applied to a non-compliant municipality.

E) Coordination between central and local governments (adopted)

A high-level committee comprising at least three ministers (including the Minister of Finance and Minister of Local Governments) and three representatives of local government (including the mayor of Reykjavík, the capital) is to be formed. It will meet at least three times a year. A lower-level sub-committee will meet more frequently throughout the year and report on fiscal matters to the high-level committee.

F) The legal framework (partly adopted)

Procedures on how Parliament discusses and approves the budget in a top-down manner should be established in a standing order for Parliament. Amendments to the 1997 Budget Act with provisions describing the top-down sequence of formulating the budget are needed. There should also be a formalised procedure of processing audit reports to Parliament. The statutory foundation for the three fiscal rules should be established. Regrettably, at present it seems that the government is going to contend with governmental statements rather than adding to the current FRLs when it comes to the national budget framework. The Local Government Act of 1998 will be amended to provide a legal framework for the sub-national budget framework.

Below is a more detailed discussion of the reforms adopted in these six categories.

A) Medium-term budget framework

Firm formulation, approval, and execution of the budget are a prerequisite for successful rule-based fiscal policy. A medium-term perspective is of the essence. A large part of the IMF economic programme has been to budget for the recovery of government finances. In preparing the multi-year budgets, the budget process has been a combination of the following:

1) *a medium-term fiscal framework (MTFF)* that serves the purpose of anchoring long-term objectives by providing a medium-term rule for fiscal policy that lays out the fiscal path that lines up with the long-term rule;
2) *a medium-term expenditure framework (MTEF)* that, through multi-year expenditure ceilings/frames, quantifies the path towards the fiscal objectives of the government; and
3) *a top-down approach* to budgeting that integrates the MTEF ceilings into the formulation and approval of the annual budget. The top-down approach is the topic of the next section, but is listed here because of how closely these three factors work together in combination.

Iceland's fiscal framework proved not to be a binding restraint on fiscal policy decisions in the pre-crisis period, and it would have been a poor guide out of the fiscal crisis, given the fiscal consolidation needed. Comparison with fiscal frameworks in other countries that have been successful in meeting their goals revealed several important flaws in the Icelandic framework. The main reforms needed regarding the medium-term budget framework are:

- first, a stable fiscal sustainability-type long-term anchor for fiscal policy, such as a ceiling for government debt as a percentage of GDP;
- second, a medium-term rule to ensure that the fiscal policy stance is counter-cyclical and the budget balance is such that the long-term anchor of fiscal policy holds. A medium-term rule like this should provide the necessary fiscal discipline but should be as simple and clear as possible and provide the flexibility to deal with economic cyclicality;
- third, the annual budget should include a multi-year binding cabinet commitment integrated into both budget cycle formulation and approval. Medium-term fiscal policy expectations should be based on a binding multi-year budget. Committing to next year's budget only is not sufficient;
- fourth, there is a need for a transparent agreement on how much headroom to build into the budget so as to ensure that the medium-term rule is met even in the case of adverse fiscal shocks;
- fifth, it should be clear how the medium-term rule translates into a medium-term path of total expenditures according to the fixed nominal expenditure ceilings of the MTEF.

To strengthen the medium-term fiscal framework, a binding commitment in four-year budgeting has been adopted, starting with the 2009 budget cycle, that quantifies a medium-term fiscal path honouring the two main objectives or rules of the MTFF. The two main objectives are first of all that government debt should not exceed 60 per cent of GDP by 2020[10] which calls for a declining debt path. Secondly, the general government primary balance is to show a surplus of close to five per cent of GDP in 2013, leaving the overall balance to also be in surplus with a comfortable margin.[11] The fiscal rules are very specific rather than general because they must be both ambitious and stringent enough to support the consolidation effort. The second rule or objective is still only an interim rule that stipulates the primary surplus needed to get the debt level on a sufficiently steep declining path to be consistent with the long-term rule. After the successful completion of fiscal consolidation, Iceland will be in a position to adopt a permanent, more general and perhaps less stringent budget balance rule. No statement has been given about the continuation of the budget balance rule but current fiscal projections predict that the five per cent surplus will hold from 2013 to 2016. For the same reason that the 60 per cent debt ceiling was no accident, the most likely budget balance rule in the future is an EU-type maximum deficit rule of 3 per cent. Preferably complemented with a numerical structural primary surplus rule that accommodates the economic cycle by allowing the automatic fiscal stabilisers to play their role. Both are less stringent than the interim rule currently used.

According to the current cabinet-approved multi-year budget, the interim budget balance objective is to be upheld as stipulated. This means that the general government's primary budget will have gone from a 5.6 per cent surplus in 2007 to a deficit of 6.6 per cent in 2009 and then back into a 5.3 per cent surplus in 2013. This requires quite an effort if implemented successfully and should qualify for fiscal discipline. General government gross debt is expected to peak at

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[10] The debt ceiling rule was declared in a governmental policy statement in Febuary 2011. See: http://eng.forsaetisraduneyti.is/media/2020/iceland2020.pdf and http://eng.forsaetisraduneyti.is/iceland2020/

[11] The medium-term rule or objective was set up at the beginning of the consolidation effort in the first LOI (in the Memorandum of Economic and Financial Policies by the authorities of Iceland), see: http://www.imf.org/external/pubs/ft/scr/2009/cr09306.pdf. At the time the debt level was still uncertain but as time passed it turned out more favourably than expected raising demands to lower the primary surplus requirement since the declining debt path would still be steep enough compared to the initial one. So this objective may come under pressure.

100 per cent in 2011, but as early as 2015, gross general government debt is forecast to total 72 per cent of GDP, compared with the 2020 goal of 60 per cent. Successfully restoring the health of the budget and putting the gross debt level on a declining path.

To further ensure the success of the MTFF, it must be complemented by a credible MTEF. Expenditure rules have proven to be great complement to a budget balance rule. This decreases the risk that expenditures will rise, for example, in tandem with unexpectedly buoyant revenues. By setting expenditure ceilings in nominal terms in a medium-term perspective, line ministries and agencies know better what to expect with regard to budgeting. It encourages longer-term ministerial budgeting that translates into agencies' adopting longer-term budgeting as well. This, coupled with stringent execution of the budget, enforces medium-term expenditure discipline. To minimise uncertainties regarding the nominal budget, expenditure ceilings are to be set in nominal rather than real terms, so that changes in inflation do not lead to revisions of targets. This keeps the MTEF transparent and relieves monitoring of the rules from the problem of having to estimate the deflator. Also, nominal rules are beneficial if economic stabilisation is a goal because unexpectedly high inflation leads directly to lower real expenditure in a counter-cyclical fashion. The expenditure rule should cover as much expenditure as possible, and the list of irregular items excluded from the expenditure ceiling should be limited to highly irregular and non-discretionary items only. Still, it will always be necessary to set escape clauses.

Therefore in addition to the two fiscal rules of the MTFF, a medium-term expenditure rule that fixes expenditures below a two-year nominal ceiling has been adopted. The expenditure ceiling covers ¾ of total expenditure. Items excluded are debt interest, pension liabilities, tax write-offs, capital income taxes, unemployment compensation, and the Municipal Equalization Fund (MEF).[12] Like the budget balance rule of the MTFF, the expenditure rule is not set as a general numerical expenditure growth rule while consolidation is ongoing. It is set as a specific rule that stipulates how much nominal expenditure must be cut to ensure the success of the consolidation effort. As the four-year budget rolls on, the nominal ceilings that are not fixed are updated on a rolling basis from one budget year to the next, so as to eliminate planning surprises. In this way, line ministries are given an early indication of the savings required, if any, to stay within the aggregate expenditure ceiling.

B) Top-down formulation and approval of the budget

Top-down sequencing of budget discussions is of paramount importance in achieving fiscal discipline. Medium-term fiscal policy is set at the macro level using aggregated fiscal data. The success of the medium-term framework requires that bottom-up ministerial input into the budget process is matched by structured top-down political engagement in the frame budgeting process.

The common pool problem is well known when it comes to appropriations. The budget cycle often has more to do with political than economic factors. So can the autonomy of ministers and members of Parliament be restricted? Won't self-interested politicians always find a way to nullify the effectiveness of budget procedures if left to their own devices? International evidence[13] shows that, to a large extent, strong fiscal frameworks are effective in controlling the common pool problem and introducing fiscal discipline.

The budget cycle must start with the cabinet deciding on the medium-term fiscal policy path with respect to the long-term debt ceiling rule, budget balance rule, and two-year nominal expenditure rule. After the cabinet has decided to honour the rules of the medium-term framework

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[12] The purpose of the Municipal Equalization Fund is to equalise differences in economies of scale with regard to size.

[13] See, for example, Alesina and Perotti (1999).

and a multi-year budget plan has been decided on, the IMF FAD recommended that Parliament be given a chance to vote on that plan in order to endorse it. The voting should take place early in the budget cycle; for example, in May. After that, it is up to a strong MoF to enforce the ceilings implied by the agreed four-year fiscal path. The ceilings would then be integrated into the remaining formulation phase by quantifying the cabinet and Parliament's policy discussion. Ministers would prioritise individual appropriations within ministerial frames.

Previously, the multi-year budget frames were generated internally by the MoF, with limited input from the line ministries they were intended to constrain. The lack of bottom-up technical assistance from line ministries was compounded by a lack of top-down political engagement from both cabinet and Parliament in determining binding ministerial medium-term expenditure frames.

In the budget discussion of the 2011 budget cycle, the cabinet followed a top-down sequence. Introduction of a spring budget orientation debate in Parliament, where the cabinet's medium-term fiscal strategy is subject to parliamentary scrutiny and endorsement, is under consideration for the 2012 budget cycle. It is very likely to happen, but the procedure would be that the cabinet reports to Parliament on a medium-term fiscal path to be debated but not voted on. Also under consideration is the adoption of a top-down sequence to budget debating and voting on the annual budget in Parliament.

C) Budget execution and controls

The key objective of any budget execution and control system is to ensure compliance with the budget as approved by Parliament. Apparently, this has not been a priority in Iceland over the last decade, as expenditures exceeded original appropriations by an average of 6 per cent a year from 1998 to 2008. The INAO has repeatedly reported on this, but managers exceeding their appropriations have not been held accountable. This has undermined budget discipline.

In the execution phase of the budget cycle, the dominant role is played by the MoF. At the heart of it, the MoF needs to take a firm stand on how to react to non-compliance and also how to deal with proposals for budget supplements by members of Parliament, and even ministers. Numerous recommendations aimed at improving execution came from the INAO, OECD and IMF FAD mission teams.

On top of the list was the need to restrict the use of supplementary budgets to exceptional situations, so as to halt the legitimisation of spending overruns after the fact. The authorities have acted on this. Since the 2010 budget cycle, supplementary budgets have not been used to address spending overruns or to fund new policies; thus they have remained expenditure-neutral. This is quite a change, as deviations between the budget and outturns in the past reflect entrenched use of supplementary appropriations (Suppanz, 2003; OECD 2006).

This change in supplementation of the budget called for the introduction of a contingency reserve of at least 1 per cent of total expenditure to cope with unforeseen, unavoidable, and non-absorbable pressures arising during budget execution. So far, access to this reserve has been limited to genuine contingencies.

The abolition of borrowing from future appropriations was also essential, as was the need for a quantitative limit on the carry-forward of unspent appropriations from one year to the next. Borrowing from future appropriations was abolished in the 2010 budget cycle, and the carry-forward was limited to 4 per cent of turnover per year, with the maximum total carry-forward set at 10 per cent. Reduction of earmarking of revenue to specific expenditures is under consideration for the 2012 budget cycle.

Real-time monitoring of budget execution is now carried out on a monthly basis instead of a quarterly basis. It is also no longer restricted to MoF staff, as the cabinet and the Parliamentary Budget Committee have been receiving monthly reports on budget execution. This began with the 2010 budget cycle.

D) Local governments restricted to rule-based fiscal policy

Reforms at the sub-national level are quite extensive. First, two numerical fiscal rules are adopted which provide a long-term anchor and a medium-term fiscal path that is quantified in a required multi-year budget. Second, municipalities will be subjected to a three-tiered approach to financial monitoring based on the principle of earned autonomy. Third, there are sanctions, ranging from mild to severe, for violating the fiscal rules. Fourth, there is an independent external body, the MFOC, which has the authority to penalise municipalities that are in breach of the rules.

Thus, in one step, the budget framework of local governments goes from being one of the laxest in Europe to one of the more progressive ones. These reforms are the product of joint work done by representatives from central and local governments, with technical assistance from the IMF FAD. The reforms are not forced upon local governments, as they have come to recognise that the old framework was not sufficiently stringent.

The two fiscal rules are clear and simple, a balanced budget rule and a debt ceiling rule that extend to both A and B sections[14] of the budget. The first rule is that municipalities are prohibited from running operating deficits within a rolling period of three years. This means that the next year's budget balance is a function of both the current and the previous year's budget outcomes. The second rule is that municipalities are subject to a maximum debt-to-revenue ratio of 150 per cent. Municipalities whose debt-to-revenue ratio already exceeds 150 per cent are only allowed to borrow in local currency from the Municipal Credit Iceland (MCI) loan fund. Municipalities whose debt-to-revenue ratio exceeds 250 per cent are only allowed to refinance. A complementary general expenditure growth rule was considered, but differences in the municipalities' growth rates made it impractical; therefore, it was not adopted.

Municipalities will be subjected to a three-tier monitoring where municipalities are classified into one of three categories based on whether, and by how much, they are in breach of the rules. Both the autonomy and the degree of external monitoring to which a municipality is subjected vary depending on its category. A municipality that is not in breach of either rule is in category 1; it has full autonomy within the limits of the rules and is subject to minimum monitoring. A municipality that is in breach of either of the rules is in category 2. It loses autonomy in that a five- to ten-year fiscal adjustment path must be quantified in a MFOC-approved multi-year budget that maps out the return to compliance. A municipality with a debt-to-revenue ratio in excess of 250 per cent is placed in category 3. The same restrictions apply to category 3 municipalities as to those in category 2, but additionally, all major revenue and expenditure decisions including investments must be approved by the MFOC. The municipality has *de facto* lost its autonomy and is only responsible for daily operations.

Further sanctions, ranging from mild to severe, are available to the MFOC in order to enforce compliance. They can "name and shame" violators in public reports, or they can go as far as withholding payments from the MEF.

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[14] In the A section are activities operated directly through the the Treasury or Municipal account while in the B section are the operations of government owned companies.

E) Coordination between central and local governments

The coordination between central and local governments in deciding on general government fiscal policy was insufficient in the past. To put these communications in a formal setting that is mutually favourable to both levels of government, a contract has been agreed upon that is soon to be signed. This contract draws from what has been done in other Nordic countries.

A high-level committee that is in charge of the coordination of fiscal policy will be set up. That committee comprises three ministers and three local government representatives. The three ministers are the Minister of Finance, the Minister of Local Governments and the Minister of Economic Affairs; the representatives of local government are the mayor of Reykjavík, the Chairman and the Director of the National Association of Local Authorities (NALA). The committee will meet at least three times a year.

A lower level sub-committee meets much more frequently and reports to the higher-level committee on matters such as the fiscal policy stance, macroeconomic forecasts, and MFOC rulings. Also, various research projects are directed to this committee. This sub-committee, for example, came up with the recommendations that were used in reforming the budget framework of local governments.

F) The legal framework

What will be the statutory base of the reformed rules, procedures and controls, and increased reporting? The numerical expenditure rule introduced in 2003 had no statutory foundation and utterly failed. That should be a lesson learned. Also, the laws must not be weakly phrased and open to interpretation, such as the current *as far as possible* phrasing of the balanced budget requirement in the Local Governments Act.

At present, it is not clear what changes will be made to the legal framework of the national budget. At this point in time, the changes are not likely to be extensive. The revisions will probably be limited to top-down sequencing of budget formulation with amendments to the 1997 Budget Act. A standing order on how Parliament discusses and approves the budget in a top-down manner must also be established when the exact procedures have been decided.

It is not likely, however, that fiscal rules and reporting requirements will be elevated to have a firm statutory base. So instead of adding to the current FRLs, formal governmental statements will probably be the instrument of choice. The existing legal framework is said to be adequate. That, however, does not mean that there is not a case for a progressive FRL-type legislation with laws to regulate fiscal transparency, accountability, and a rule-based fiscal policy aimed at macroeconomic stabilisation. The main argument used against increased legislation is that without cabinet commitment to fiscal discipline, the FRLs may not be sufficient to enforce compliance with fiscal objectives and rules. But although laws alone are not sufficient, they provide agreed main parameters of fiscal policy against which every cabinet can be measured.

Changes to the legal framework for local government finances, on the other hand, are clear and are expected to be passed into law by Parliament late in the spring session. There is little or no political opposition, and the NALA has already agreed to it. The new law will stipulate (1) the fiscal rules to be applied to budgets, (2) the restrictions on municipal borrowing, (3) surveillance modalities, (4) sanctions for non-compliance to the rules, (5) the mechanisms for dealing with revenue volatility, (6) multi-year budgeting, and (7) coordination mechanisms. Thus the law is quite progressive and promises to provide a firm framework around the budget cycle.

5 Fiscal council?

The creation of an independent fiscal council reporting to Parliament is not part of the IMF-supported fiscal framework reform. In the MoF's July 2009 report[15] to Parliament, an invitation was given to widen the scope of the INAO's audits by having it report on the achievement of fiscal policy targets at the end of each budget year. Sadly, such procedures and controls, which are at the centre of progressive FRLs, have still not been adopted.

The establishment of an independent fiscal council would have many benefits, which can be summed up in terms of two factors: depoliticising assumptions made in the budget, and providing external monitoring of fiscal policy. A factor of critical importance is that a fiscal council could help strengthen the top-down approach further by keeping the focus on the medium-term fiscal path, through reporting on whether the budget accords with the fiscal rules and objectives of the medium-term fiscal framework. Optimally, the fiscal framework setup is transparent enough to reward politicians for achieving fiscal objectives and to impose political costs for failing to achieve them. But an independent fiscal council would be of great benefit to the political opposition, the media, and the public – and even the cabinet – by enabling a more effective gauge of the fiscal policy stance and by providing an objective opinion on compliance with the rule-based fiscal framework. Furthermore, it could also serve as an objective body that assesses proposals from members of Parliament and ministers on fiscal matters; for example, by estimating revenue effects of changes to the tax code.

Regarding the source of budget assumptions made then both OECD and IMF missions to Iceland have repeatedly suggested that an independent non-political body should prepare the macroeconomic and tax revenue forecasts on which the budget is based. Depoliticising these forecasts is critical.

Such independent body that would greatly add to Iceland's institutional strength. Regrettably, although under discussion, it is not on the Government's agenda. The fiscal framework reforms are not as progressive as they could be. In the literature, such independent bodies have been shown to contribute to fiscal discipline by acting as arbiters of fiscal policy, especially when they are well respected, credible, and visible in the public debate (European Commission, 2006a; Fabrizio and Mody, 2006). For example, there is evidence within the EU that independent forecasts can eliminate systemic forecast biases that could otherwise feed through to deficit biases (Jonung and Larch, 2004).

Although fiscal consolidation has proven successful so far, partly because of reforms to the budget framework, to some extent it also has been accomplished because of the IMF's role acting as an "independent fiscal body" – an enforcer, as it were. IMF missions prepared reviews under the Stand-by Arrangement where the fiscal policy path was assessed in comparison to fiscal objectives, and if divergence was detected, compliance was enforced through effectively reducing the autonomy of the MoF by threatening to withhold lending. The MoF has thus been subjected to external monitoring of fiscal policy. How the new national budget framework will fare without an external fiscal body such as a fiscal council remains to be seen.

There is considerable risk that the national budget framework will regress back to pre-crisis status because the reformed rules, procedures and controls lack statutory status. The reformed fiscal discipline can be here today and gone tomorrow if commitment to fiscal discipline evaporates. Especially if no external agency has been set up to monitor and gauge fiscal policy as the political opposition cannot be counted on to be an enforcer of fiscal discipline.

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[15] In June 2009 the Minister of Finance submitted a report to Parliament regarding measures to achieve a balance in government finances. The purpose was to report on the goals and measures in government finances that were decided in accordance with the plans under the Stand-by Arrangement with the IMF.

6 Conclusions

Years of revenue buoyancy masked the deficit bias of the pre-crisis budget framework. After the sustainability of government finances came into question, fiscal framework reform was needed to ensure successful completion of the fiscal consolidation effort. The sustainability of government finances will be re-established. The reform agenda called for a rule-based medium-term fiscal framework at both national and sub-national levels.

At both levels of government, budget balance rules and debt level ceilings will be adopted as a part of an MTFF, albeit interim at the national level. Finalising the reforms to the budget framework in general terms in the middle of a consolidation effort is not necessarily the most opportune time (Cottarelli, 2009). Additionally, at the national level a fixed two-year nominal expenditure rule was adopted as a part of an MTEF. The nominal expenditure rule will probably be instrumental to fiscal policy in establishing the medium-term fiscal path. It will serve to curb politically motivated expenditure pressures and increase the counter-cyclicality of fiscal policy where automatic fiscal stabilisers play the leading role. The rules adopted will serve as guides quantifying the medium-term fiscal path in binding multi-year budgets. Multi-year budget formulation has been elevated to a cabinet-approved budget with input from line ministries. In formulating these multi-year budgets, a strict top-down approach has been adopted.

A Parliamentary endorsement procedure where, in a report, the cabinet gives the main parameters of medium-term fiscal policy in a spring session will very likely be adopted in the 2012 budget cycle. This enforces top-down sequencing in setting out the fiscal path. There is a Nordic precedence for such a parliamentary process of endorsing the main parameters of medium-term fiscal policy. Norway's Cabinet Budget Conference (CBC) serves such a purpose successfully.

Budget execution has progressed greatly, as can be seen in increased compliance with the budget. Most of the recommendations given have been adopted while others are still being considered.

The sub-national budget framework is changed in a progressive manner. Fiscal discipline is controlled through an independent MFOC with the authority to enforce the rules by penalising municipalities in breach of the rules by reducing their autonomy and increasing financial monitoring.

The reforms are a big step forward that will likely serve their purpose well in the future. Reforms at the sub-national level are quite extensive, but those at the national level are not nearly as progressive as they could be. Progressive FRLs and the creation of a fiscal council are not on the Government's agenda. The literature has shown that commitment countries like Iceland benefit from rule-based frameworks with external agencies that aid in the entire budget cycle (European Commission, 2006a; Annett, 2006). Belgium and the Netherlands are commitment countries like Iceland, and missions from both the IMF and the OECD have suggested that Iceland emulate their external fiscal agencies.

Thus the fiscal impact of the financial crisis has evidently served us in building the necessary political constituency to implement a somewhat extensive reform of the fiscal framework, but not enough to place Iceland on an equal footing with the most progressive countries in this respect. The conduct of successful fiscal policy always begins and ends with commitment to fiscal discipline. This does not mean, however, that strong progressive fiscal frameworks are not necessary, as international evidence[16] shows that, to a large extent, strong frameworks are effective in controlling the common pool problem and introducing fiscal discipline.

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[16] See, for example, Alesina and Perotti (1999).

In the introduction to this paper, five parameters of the strength of a fiscal framework were given as (1) the statutory base of fiscal rules, procedures and controls, (2-3) the nature of the bodies charged with monitoring and enforcing the rules, (4) enforcement mechanism, and (5) media visibility of the rules. The sub-national framework scores high on each parameter. The national framework does not because it lacks progressive FRLs and external monitoring. One had hoped that the 2003 budget framework reforms were a lesson learned, but at present it is not at all clear.

REFERENCES

Anderson, B. and J.J. Minarik (2006), "Design Choices for Fiscal Policy Rules", paper for OECD's Working Party for Senior Budget Officials, GOV/PGC/SBO (2006), No. 4.

Annett, A. (2006), "Enforcement and the Stability and Growth Pact: How Fiscal Policy Did and Did Not Change Under Europe's Fiscal Framework", IMF, Working Paper, No. 06/116, Washington (D.C.).

——————(2007), "Towards a Robust Fiscal Framework for Iceland: Motivation and Practical Suggestions", IMF, Working Paper, No. 07/235.

Ayuso-i-Casals, J., D.G. Hernandez, L. Moulin and A. Turrini (2006), "Beyond the SGP – Features and Effects of EU National-level Fiscal Rules", paper prepared for the workshop organized by the European Commission on *The Role of National Fiscal Rules and Institutions in Shaping Budgetary Outcomes*, Brussels, 24 November.

Balassone, F. and M.S. Kumar (2007a), "Cyclicality of Fiscal Policy", in T. Ter-Minassian and M.S. Kumar (eds.), *Promoting Fiscal Discipline*, pp. 19-35, IMF, Washington (D.C.).

Buiter, W.H. (2003), "Ten Commandments for a Fiscal Rule in the E(M)U", *Oxford Review of Economic Policy*, Vol. 19, No. 1, pp. 84-99.

Cangiano, M., R. Hughes, F. Balassone and P. Molander (2009), "Strengthening the Budget Framework", IMF, Fiscal Affairs Department Report.

Corbacho, A. and G. Schwartz (2007), "Fiscal Responsibility Laws", in T. Ter-Minassian and M.S. Kumar (eds.), *Promoting Fiscal Discipline*, pp. 19-35, IMF, Washington (D.C.).

Cottarelli, C. and IMF FAD Staff (2009), "Fiscal Rules-anchoring Expectations for Sustainable Public Finances", IMF, SM/09/274.

Debrun, X., D. Hauner and M.S. Kumar (2009), "Independent Fiscal Agencies", *Journal of Economic Surveys*, Vol. 23, No. 1, pp. 44-81.

Debrun, X. and M.S. Kumar (2007a), "Fiscal Rules, Fiscal Councils and All That: Commitment Devices, Signaling Tools or Smokescreens?", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Public Finance workshop held in Perugia, 29-31 March 2007, pp. 479-512.

——————(2007b), "The Discipline-enhancing Role of Fiscal Institutions: Theory and Empirical Evidence", IMF, Working Paper, No. 07/171.

Debrun, X., L. Moulin, A. Turrini, J. Ayuso-i-Casals and M.S. Kumar (2008), "Tied to the Mast? National Fiscal Rules in the European Union", *Economic Policy*, pp. 299-362, April.

Deroose, S., L. Moulin and P. Wierts (2006), "National Expenditure Rules and Expenditure Outcomes: Empirical Evidence for EU Member States", *Wirtschaftspolitische Blaetter*, No. 1, pp. 27-42.

European Commission (2006a), "Public Finance Report in EMU 2006 – Part III: National Numerical Fiscal Rules and Institutions for Sound Public Finances", European Commission, *European Economy*, No. 3, Brussels.

——————(2006b), "Public Finances in EMU 2006", European Commission, *European Economy*, No. 3, Brussels.

——————(2007), "Public Finance Report in EMU 2007 – Part IV: Lesson from Successful Fiscal Consolidations", *European Economy*, No. 3.

European Commission (2009), "Public Finance Report in EMU 2009", European Commission, *European Economy*, No. 5, Brussels.

Fabrizio, S. and A. Mody (2006), "Can Budget Institutions Counteract Political Indiscipline?", *Economic Policy: A European Forum*, Vol. 21, pp. 689-739.

——————(2007), "The Value and Reform of Budget Institutions", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Public Finance workshop held in Perugia, 29-31 March 2007, pp. 557-66.

Fletcher, K. and R. Benelli (forthcoming), "Simple Countercyclical Fiscal Rules that Avoid Output Gap Estimates", IMF, Working Paper.

Girouard, N. and C. André (2005), "Measuring Cyclically-adjusted Budget Balances for OECD Countries", OECD, Working Paper, No. 434.

Guichard, S., M. Kennedy, E. Wurzel and C. André (2007), "What Promotes Fiscal Consolidation: OECD Country Experiences", OECD, Economics Department,Working Paper, No. 553.

Honjo, K. and B. Hunt (2006), "Stabilizing Inflation in Iceland", IMF, Working Paper, No. 06/262.

IMF (2009), *Iceland: First Review under Stand-by Arrangement*, Country Report, No. 9/306.

——————(2010), *Iceland: Second Review under Stand-by Arrangement*, Country Report, No. 10/95.

——————(2010), *Iceland: Third Review under Stand-by Arrangement*, Country Report, No. 10/305.

——————(2011), *Iceland: Fourth Review under Stand-by Arrangement*, Country Report, No. 11/16.

Jaeger, A. and L. Schuknecht (2004), "Boom-bust Phases in Asset Prices and Fiscal Policy Behaviour", IMF, Working Paper, No. 04/54, Washington (D.C.).

Jonung, L. and M. Larch (2004), "Improving Fiscal Policy in the EU: The Case for Independent Forecasts", European Commission, *Economics Papers*, No. 210, Brussels.

Kopits, G. (2001), "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?", IMF, Working Paper, No. 01/145.

——————(2004), "Overview of Fiscal Policy Rules in Emerging Markets", in G. Kopits (ed.), *Rules-based Fiscal Policy in Emerging Markets. Background, Analysis, and Prospects*, pp. 1-11, Palgrave.

Kopits, G. and S. Symansky (1998), *Fiscal Rules*, IMF, Occasional Paper, No. 162.

Kumar, M.S., D. Leigh and A. Plekhanov (2006), "Fiscal Adjustments: Determinants and Macroeconomic Consequences", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Public Finance workshop held in Perugia, 29-31 March 2007, pp. 247-82.

Lane, P.R. (2003), "The Cyclical Behaviour of Fiscal Policy: Evidence from the OECD", *Journal of Public Economics*, Vol. 87, pp. 2661-75.

Larch, M. and A. Turrini (2008), "Received Wisdom and Beyond: Lessons from Fiscal Consolidation in the EU", European Commission, *European Economy – Economic Papers*, No. 320.

Larch, M. and A. Turrini (2009), "The Cyclically-adjusted Budget Balance in EU Fiscal Policy Making: A Love at First Sight Turned into a Mature Relationship", European Commission, *European Economy – Economic Papers*, No. 374.

Morris, R. and L. Schuknecht (2007), "Structural Balances and Revenue Windfalls: The Role of Asset Prices Revisited", ECB, Working Paper, No. 737, Frankfurt.

Mulas-Granados, C., J. Onrubia and J. Salinas-Jiménes (2007), "Do Budget Institutions Matter? Fiscal Consolidation in the New EU Member States", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*, papers presented at the Public Finance workshop held in Perugia, 29-31 March 2007, pp. 613-48.

OECD (2006), *Economic Survey: Iceland*, (Paris).

————— (2008), "Strengthening the Fiscal Framework", OECD, Economic Survey, *Iceland*, Chapter 3, Vol. 2008/3, February.

Rogoff, K. (1990), "Equilibrium Political Budget Cycles", NBER,Working Paper, No. 2428.

Sighvatsson, A. and G. Gunnarsson (2011), "Iceland's Financial Disaster and Its Fiscal Impact", in *Managing Risk in the Financial System* (forthcoming in 2011), Edward Elgar.

Suppanz, H. (2003), "Controlling Public Expenditure in Iceland", OECD, Economics Department, Working Paper, No. 360, Paris.

MAKING FISCAL POLICY MORE STABILISING IN THE NEXT UPTURN: CHALLENGES AND POLICY OPTIONS

Anne-Marie Brook[*]

Recent years have seen a gradual resurgence in the emphasis given to fiscal policy as a tool for achieving macroeconomic stabilisation. For many countries this reflects the limitations of monetary policy (e.g., zero interest bound in the US and Japan; unavailability of country-specific monetary policy in EMU). For other economies it reflects renewed recognition of the impact of fiscal policy on the macro policy "mix", and therefore on the real exchange rate and macroeconomic imbalances. Everywhere questions are being asked about what role fiscal policy could have played in limiting the build-up of imbalances in the run-up to the global financial crisis. However, making fiscal policy less pro-cyclical in economic upturns is very difficult, in large part because of the political economy challenges of running large surpluses during prolonged economic upturns. This paper draws lessons for New Zealand from the last economic cycle and surveys the options for making fiscal policy "more stabilising" in future economic upturns. Options considered include: revising the Public Finance Act so as to increase the importance that is placed on avoiding pro-cyclical fiscal policy; more focus on sticking to ex ante *spending plans; or a stabilisation fund to safeguard revenue windfalls. The potential role of an independent fiscal council is also touched on.*

1 Introduction

The macro-stability objective of Fiscal Policy has received a lot of attention within New Zealand in recent years, motivated by concerns that pro-cyclical fiscal stimulus over the 2005-08 period may have exacerbated the interest rate and exchange rate cycles, and contributed to a widening of New Zealand's external imbalances. This focus is notably different from the international debate on the macro-stability role of fiscal policy, which has tended to focus more on the role that fiscal policy can play in stimulating demand during downturns, particularly in countries facing the zero interest rate bound.

In recent decades, the stabilisation role of fiscal policy in New Zealand has been predominantly focused on passive use of the automatic stabilisers. However, the counter-cyclical impact of the automatic stabilisers is often not sufficient to offset pro-cyclical discretionary fiscal policy. In a small open economy like New Zealand, with a floating exchange rate, pro-cyclical fiscal stimulus is unlikely to have much impact on aggregate demand (because of leakage into imports and the offsetting impact of tighter monetary policy), but it does have a significant impact on the *mix* of macro-economic conditions. Higher real interest rates, and associated exchange rate appreciation, is unhelpful to an economy already suffering from significant macroeconomic imbalances.

This paper documents the extent to which overall fiscal policy was pro-cyclical over the past cycle, and discusses changes to the fiscal policy framework that could help to either reduce the

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This paper has benefited from comments on earlier drafts from Tim Hampton, John Janssen, Tracy Mears, Bill Moran, Oscar Parkyn, Renee Philip, Michael Reddell and Christie Smith, as well as participants at the *Macroeconomic Policy Forum* held in Wellington on 23-24 June 2011 and at the workshop on fiscal policy *Rules and Institutions for Sound Fiscal Policy after the Crisis*, organized by Banca d'Italia on 31 March-2 April, 2011 in Perugia, Italy.

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Figure 1

Degree of Stabilisation Provided by Fiscal Policy

Low ⟷ High

Tools	Passive use of automatic stabilisers only	Fiscal institutions that help keep discretionary policy less pro-cyclical	Fiscal institutions that encourage more counter-cyclical discretionary policy and/or active use of counter-cyclical tax policies
Outcomes	Likely to mitigate pro-cyclicality but not eliminate it	Could result in more neutral fiscal policy and not exacerbate monetary policy	Could result in counter-cyclical fiscal policy and thus help dampen interest rate cycles

probability of pro-cyclicality in future, or encourage more counter-cyclical discretionary policy. As indicated in Figure 1, this distinction may be somewhat artificial as most of the policies that aim for "counter-cyclical" fiscal policy are the same policies that could be used to aim for more "neutral" fiscal policy, just used to a greater degree.[1] How far we decide to move along this spectrum should depend on the importance attached to a dampening of the interest rate and exchange rate cycles, together with an assessment of any costs that could be incurred in implementing more active fiscal measures. One of the goals of this paper is to present more detail on specific policy options so that such a judgement can be made.

Section 2 begins with a review of what the economic literature has to say about the stabilisation role of fiscal policy, and how this has changed over time. It also discusses the reasons why fiscal policy stabilisation may be more important for New Zealand than for most other economies. Section 3 examines fiscal policy outcomes in New Zealand over the past decade and concludes that fiscal policy appears to have behaved in a substantially pro-cyclical fashion for several years. Section 4 looks more closely at the specific policy options for permitting fiscal policy to play a greater role in macro stabilisation. Section 5 concludes.

2 International trends and literature review

After the Keynesian activism of the 1940s to 1960s, the general trend within economics through the 1970s, 1980s and 1990s was to move away from promoting *active* counter-cyclical fiscal policy, and towards greater reliance on the monetary authorities for stabilisation, with spending and tax policy aimed more towards longer-term structural goals (see Blinder, 2004, for a brief history of events in the United States). This tendency was supported by theory (a perceived increase in the effectiveness of monetary policy under regimes of central bank independence and inflation targeting) and encouraged for practical reasons (related to political economy concerns about lags in the design and implementation of fiscal policy).

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[1] The distinction becomes more meaningful if one advocates fiscal policy counter-cyclicality by use of more activist tools, such as temporary tax rate changes. However, this paper does not recommend such activist tools, due to substantial efficiency and compliance costs (see discussion in Section 4.6).

Even during this period, economists widely agreed that pro-cyclical fiscal policies should be avoided. But despite an on-going focus on ensuring that automatic stabilisers were permitted to function, relatively little attention was given to whether or not this was sufficient to prevent pro-cyclical fiscal policies overall. In fact, a bias towards pro-cyclicality during economic upturns has been documented in a number of countries (e.g., Balassone *et al*., 2007; also see survey in European Commission, 2006). The evidence suggests that this is generally due to expansionary discretionary policy offsetting the workings of the automatic stabilisers during upturns. Balassone *et al*. (2007) argue that it is open to debate whether this asymmetry is due to political economy reasons or from genuine mistakes in assessing cyclical conditions.[2] The discussion in Section 3 of this paper suggests that pro-cyclicality in New Zealand is likely to be due to a combination of these factors.

More recently – *i.e.*, over the past decade or so – both macroeconomic theory and policy practice have been moving back towards greater recognition of the stabilisation role of discretionary fiscal policy. This shift has been driven by three factors: first, in some countries, by the revealed limitations of monetary policy imposed by the zero interest bound problem; second, by a debate in Europe about the greater role that fiscal policy could play in stabilising the cycle in euro-zone countries (who no longer have flexible exchange rates); and third – post crisis – by a refocusing on whether fiscal policy could and should have played a greater role in "leaning against the wind" to prevent the build up of sectoral or external imbalances over the last cycle.

It is this third issue that is of relevance for New Zealand. In particular, significant concerns have emerged about New Zealand's external imbalances and the over-valued exchange rate (see further discussion in Section 3.1), which has, in turn, focused renewed attention on the role that fiscal policy has played in contributing to the path of the exchange rate. Compared to other industrialised countries New Zealand's level of public debt is not particularly high, so fiscal sustainability is not considered an immediate challenge (gross public debt in New Zealand is around 35 per cent of GDP vs. over 90 per cent for the average OECD position). However, New Zealand's net foreign asset (NFA) position is around –80 per cent of GDP, which is in a similar ballpark to those of Greece, Ireland, Portugal and Spain, and significantly worse than those of most other OECD countries. Moreover, the New Zealand dollar is considered by many (such as the IMF, as discussed in more detail on pages 8-9) to be persistently over-valued, dampening export sector competitiveness. This paper is concerned with the role that fiscal policy has played in contributing to these outcomes. Essentially, the issue is one of monetary and fiscal policy coordination, or bringing about the best "mix" of macroeconomic conditions.[3]

Unfortunately, there are few other economies with similar concerns, which means that much of the international economics literature on the stabilisation role of fiscal policy is not very pertinent to New Zealand's challenges. For example, despite the evidence that fiscal policy tends to be most pro-cyclical during economic upturns rather than during recessions,[4] most discussions about the stabilisation role of fiscal policy, refer exclusively to the role of fiscal policy in providing macroeconomic stimulus during downturns (e.g., Lindh and Ljungman, 2007). Since this is not the focus of this paper, a literature summary is not provided, other than to note that to date there is no clear consensus about the extent to which downside fiscal stimulus should be advocated. For

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2 Given the significant fiscal tightening that is taking place in many European countries right now, while output gaps are still negative, pro-cyclical contractions are likely to be documented for the current period. This can be attributed to a failure to pay down sufficient debt during the upturn of the 2000s.

3 This paper does not discuss other tools – such as macro-prudential policies – that may also be able to influence the mix of macroeconomic conditions.

4 Most cases of pro-cyclicality during downturns can be traced back to excessively loose fiscal policy during the previous upturn, which left insufficient fiscal space for offering stimulus during the ensuing downturn. Many OECD countries provide good illustrations of this.

example, see Auerbach and Gale (2009) who argue in favour, versus Taylor (2009) who argues against.

Rather, the focus of this paper is on the upside of the cycle; *i.e.*, how to make fiscal policy less expansionary when economic growth is strong. This focus is motivated not so much by the question of how to improve the sustainability of fiscal policy during upturns so as to be able to afford stimulus during downturns (although this may also be a benefit), but rather by the New Zealand-specific concern about the "mix" of macroeconomic conditions, and thus the influence that fiscal policy has on the level of interest rates and the exchange rate. To the extent that this concern is more important for New Zealand than for other countries, the case for making fiscal policy more stabilising during upturns may also be stronger in New Zealand than elsewhere.

2.1 Influencing the "mix" of macroeconomic conditions

Famously, Charlie Bean has used lessons from game theory to describe the nature of the fiscal policy-monetary policy interaction in an economy with a floating exchange rate and an independent inflation-targeting central bank. The basic argument is that since the central bank has the clear mandate of setting monetary policy in order to achieve price stability, the fiscal authority sets fiscal policy knowing that the Bank will then adjust monetary policy to keep inflation within the target range. Thus the fiscal authority is a Stackelberg leader and the Bank is a Stackelberg follower. Under these circumstances, the mix of macroeconomic conditions should be optimal from the perspective of the fiscal authority, so long as the fiscal authority knows the Bank's assessment of the economic conjuncture and of the short-run output-inflation trade-off (Bean, 2009). In practice it is the government, and not the Treasury that makes fiscal policy decisions, and so it should be considered the government that has the greatest degree of control over the mix of macroeconomic conditions.

This point may not be widely understood by the public, many of whom may consider the Reserve Bank fully responsible for the level of interest rates and not fully appreciate that while it is indeed the Bank who *sets* the official cash rate, it does this in response to inflationary pressures, many of which are directly influenced by government decisions.

The idea of policy "optimality" from the perspective of the government (fiscal authority) has also been highlighted by other economists. For example, Allsopp and Vines (2005) point out that while fiscal policy "does not matter" for the course of inflation and the output gap (the stability of which is the focus of the monetary authority) fiscal policy should be seen as responsible for the general level of interest rates and – in an open economy – the exchange rate. Recent Treasury work exploring the drivers of New Zealand's high real interest rates has reached similar conclusions, *i.e.*, that New Zealand's high real interest rates reflect domestic demand conditions, and in particular New Zealand's low rate of saving relative to investment (Labuschagne and Vowles, 2010). To the extent that the fiscal authority has greater control of policies that affect saving and investment, this implies that it is the fiscal authority, rather than the central bank, who should be seen as most responsible for the general level of interest rates and the exchange rate. Of course there will always be some exogenous influences on interest rates and exchange rates as well. The point here is simply to emphasise the relative impact of domestic policy makers.

Empirical work also provides support for a relationship between fiscal policy and the exchange rate in New Zealand. For example Fielding *et al*. (2011) show that positive shocks to government spending have a large and persistent effect on relative prices, causing real exchange rate appreciation. This exchange rate appreciation is accompanied by a fall in investment, and in the medium term the capital stock is diminished, depressing output. These relationships are consistent with the hypothesis that government spending crowds out the tradable sector.

The fact that the immediate impact of higher government spending on output is very close to zero in the Fielding *et al*. model, is consistent with the well known fact that fiscal policy is relatively ineffective at stabilising *output* over the cycle in small open economies. International evidence finds that estimated fiscal policy multipliers are often indistinguishable from zero in countries like New Zealand that are both open and have a floating exchange rate, whereas they are typically greater than unity for more closed economies or for economies operating under fixed exchange rates (Ilzetzki *et al.*, 2011, and Beetsma and Giuliodori, 2011).[5] Both the Fielding *et al.* (2011) results and the Claus *et al*. (2006) results are generally consistent with results from empirical studies for other small open economies with monetary accommodation. The much smaller multipliers in open economies with floating exchange rates reflect the interest rate and exchange rates' reaction to the fiscal shock.

From a theoretical perspective, the policy implications of this literature are clear. First, it does not challenge the standard view that the central bank should have the dominant role in stabilisation policy, as long as stabilisation policy is defined relatively narrowly in terms of reducing the variance of output around trend (and indirectly, stabilising inflation).[6] Second, it implies that for a *given* output gap the government (fiscal authority) chooses the *policy mix* between the level of interest rates and the level of taxes and spending. To the extent that interest rate differentials have a significant impact on the exchange rate (Mabin, 2010), this also implies that the fiscal authority has considerable influence over the path of the exchange rate (see Section 3 for further discussion of this).

The perspective that fiscal policy can contribute to superior macro-economic outcomes by helping to influence the level of interest rates and the exchange rate often does not feature in the international literature, which is dominated by the experiences of large economies with higher levels of debt, and smaller European economies without fully floating exchange rates. For example, OECD (2010a) acknowledges that the challenges of stabilisation policy are more severe in small, open economies, and that this often requires relatively more support from fiscal policy. However, relatively greater emphasis is given to the potential for fiscal policy to directly stabilise aggregate demand, rather than to stabilise the exchange rate.

One exception is Lane (2010) who – drawing on Blanchard (2007) – focuses on the role that expansionary fiscal policies played in exacerbating the economic cycle during the 2000s. Lane draws attention to the macroeconomic risks of a contraction in tradables output during a period of high domestic expenditure, and argues that fiscal policy should play a more important role (alongside monetary policy) in "leaning against the wind", in order to limit the scale of such external imbalances. This argument is highly relevant to New Zealand, where tight monetary policy during the last upturn exacerbated New Zealand's already high interest rates, pushing up the exchange rate and hurting the tradables sector. Lane points out that such a contraction in tradables output during a period of high domestic expenditure may not be easily reversed once the economy needs to make the transition towards greater net exports (*i.e.*, a hysteresis argument). As a result, he

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[5] There is a particularly wide range of results for the United States which is a large economy (*i.e.*, relatively closed) but with a floating exchange rate. Recent evidence for the United States has highlighted that fiscal multipliers are often small (and sometimes even negative) in economic upturns, but can be very large in recessions, especially when the monetary policy response is impeded by nominal interest rates at the zero bound (e.g., Auerbach and Gorodnichenko, 2010).

[6] Solow (2005) has drawn attention to some circumstances in which fiscal policy may be a *more suitable* policy instrument for stabilisation than monetary policy. His argument rests largely on the idea that real disturbances can move the economy away from its long-run equilibrium growth path for significant periods of time. Because fiscal policy *directly* involves changes in the demand for goods, whereas monetary policy operates more indirectly through changes in inter-temporal relative prices, he argues that fiscal policy may be a more useful tool for stabilisation when disturbances are durable. But under normal circumstances, it is widely agreed that monetary policy is best suited to the job of macro stabilisation. Even under more exceptional circumstances, such as those discussed by Solow, there is nothing under current institutional arrangements to prevent the fiscal authorities – as Stackleberg leader – from taking advantage of their knowledge of the monetary policy reaction function, to bring about a superior mix of policies, than that which might have eventuated if the job of stabilisation was left solely to monetary policy.

emphasises the importance of using both macro-prudential policy, and fiscal policy, as complements to the stabilisation role of monetary policy.

While there are a number of arguments in the academic literature *against* a greater stabilisation role for fiscal policy, none of these are really applicable to the challenge of making fiscal policy less destabilising during the *upside* of the economic cycle, with the exception of the political economy argument, which is discussed below. For example, it is commonly argued that fiscal policy as a stabilisation tool may be ineffective. The key idea here is that temporary discretionary fiscal actions could be fully, or mostly, offset by private sector agents. This idea has spawned a large body of literature which largely provides support for the effectiveness of fiscal policy (e.g., Blinder, 2004; and Solow, 2005), despite evidence for partial Ricardian-type offsets. However, none of this literature has much relevance for the topic addressed in this paper, for two reasons. First, because this literature is almost exclusively focused on the impact of fiscal policy stimulus during downturns, largely ignoring the impact of fiscal policy prudence during upturns. Second, and more importantly, it does not attempt to measure the size of the interest rate and exchange rate multipliers, which – from the perspective of a small open economy – are more important to questions about the appropriate stabilisation role of fiscal policy.[7]

In the academic literature, it is also sometimes argued that fiscal policy *lags* are too long, although again this is a critique applied to the use of expansionary policy during downturns, rather than to the use of contractionary fiscal policy during upturns. What is needed during upturns is normally just the "will power" – or institutions that foster support for such a will – not to spend fiscal windfalls, rather than the introduction of any specific new policies.

In the policy world, however, there are strong political economy constraints that work against the fiscal authority consistently choosing the optimal policy mix from the perspective of maintaining macroeconomic stability. While governments are normally happy to provide counter-cyclical fiscal stimulus during downturns, the political difficulty of sustaining large ongoing actual and structural budget surpluses tends inevitably to lead to pro-cyclical fiscal expansion during boom years (Alesina, 2000). The normally small impact of the automatic stabilisers can thus easily be swamped by such pro-cyclical discretionary actions.

In other words, while it is now widely accepted that the job of central bankers is to take the monetary punchbowl away just as the party is getting underway, political processes in democratic countries don't readily support holding back the fiscal punchbowl that is typically wheeled out by the fiscal authorities just as the party gets into full swing. This constraint is not new as this quote from Condliffe (1959) illustrates:

> *"In a period of rising export prices such as NZ enjoyed after the war, it would have been sound policy to add fiscal restraint to monetary pressures designed to reduce domestic inflation. This would have involved both a reduction in current expenditures and a slowing of capital investment, so that budget surpluses might be applied to a reduction of debt. Such policies are not popular and may be regarded as politically impossible; but the risks involved in not following them are substantial".*

Any serious attempt to make fiscal policy less pro-cyclical needs to directly address these political economy considerations, with particular attention paid to ways of injecting more discipline during the upside of the economic cycle. Price *et al*. (2008) provide a good discussion of the strategies available for maintaining favourable fiscal positions during economic upturns. In addition, there are the examples of a few economies that have already made some progress in this

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[7] Other critiques of using fiscal policy for stabilisation purposes also fail to consider the open economy dimensions. For example, Lucas (2003) argues that the welfare benefits from using fiscal policy to stabilise consumption are negligible, but does not consider the impact on exchange rate cycles in small open economies.

direction, such as Chile, which has adopted fiscal institutions explicitly designed to encourage public saving in good times.

Nevertheless, it is likely that much more sophisticated fiscal analysis will also be needed in future, if the stabilisation role of discretionary fiscal policy is to be exercised with the degree of sophistication of monetary policy (Leeper, 2010). The fact that most OECD countries are currently focussed primarily on returning fiscal deficits to balance or surplus should not distract attention from the importance of putting in place fiscal institutions that can also facilitate better macro-economic outcomes during the next economic upturn.

3 Fiscal policy in New Zealand over the past economic cycle

3.1 The link between fiscal policy and macroeconomic imbalances

With the benefit of hindsight, it is widely argued that fiscal policy was insufficiently supportive of low interest rates and tradable sector activity over the 2005-08 period.[8] Because monetary policy was the primary tool for cooling the booming economy, higher interest rates ensued and the exchange rate was pushed up to unsustainably high levels, adversely affecting the tradable sector and exacerbating external vulnerabilities.

The positive correlation between the exchange rate and interest rate differentials is illustrated in Figure 2. While this figure illustrates only one cross-rate, a similar relationship can be observed if the trade weighted exchange rate index (TWI) and G3 interest rates are used instead (Mabin, 2010).

Clearly, interest rate differentials are not the only driver of the exchange rate. But they are one of the most important drivers. As discussed by Mabin (2010), different explanatory factors can play more or less of a role at different times such that the precise relationship is not stable over time. However, in both theoretical and empirical models of the exchange rate, the interest rate differential consistently ranks as one of the most important drivers, including in the New Zealand case. For example, Cassino and Wallis (2010), using a regime switching model of the New Zealand dollar, find that currency traders focus on relative interest rate differentials around 50 per cent of the time on average, making interest rates, via the carry trade, the most important driver of exchange rate movements (the other two drivers are commodity prices and risk appetite). However, the attractiveness of the carry trade breaks down when market conditions are stressed, which helps to explain the weaker relationship between the interest rate differential and the exchange rate in more recent years.

Since the equilibrium exchange rate cannot be observed, there will always be significant uncertainty about estimates of exchange rate valuation. Nevertheless, a number of different analytical frameworks all support the idea that the New Zealand exchange rate has been persistently overvalued for a significant period of time. IMF staff have captured the uncertainty by providing a range of estimates; for example, their assessment in March 2010 was that the NZ dollar was 10-25 per cent over-valued on a trade-weighted basis (IMF, 2010a). Given that the TWI is currently at a broadly similar level to March 2010 these estimates should still be broadly representative. The Treasury view of over-valuation is probably closer to the upper end of this range, given concerns about the macro-economic vulnerabilities that will persist if the NFA ratio is

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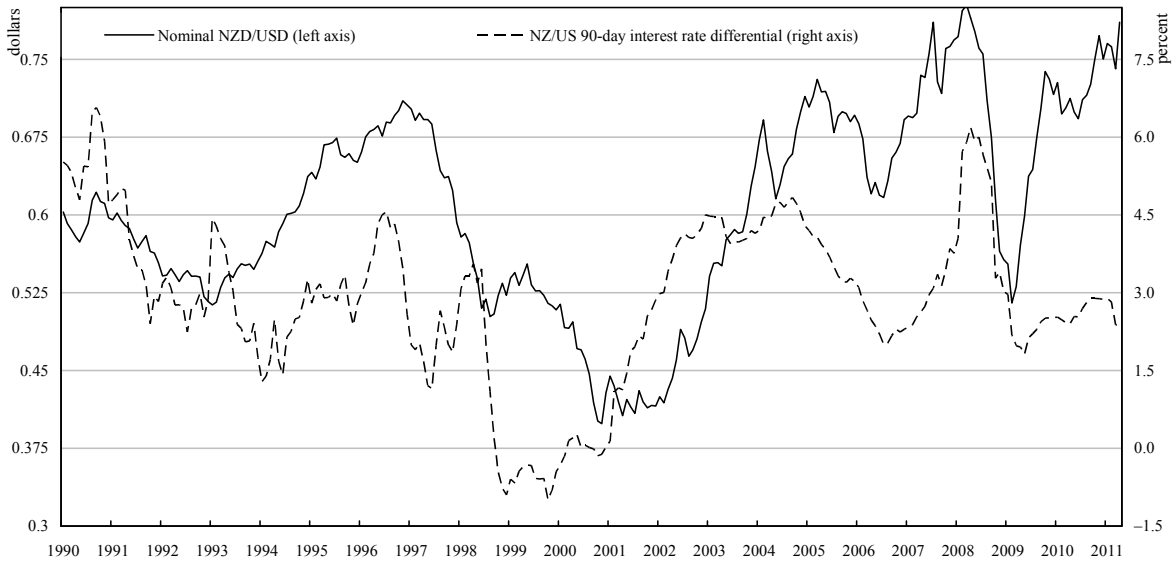
[8] For example, this point was made by a number of participants in the Workshop "The business cycle, housing, and the role of policy", hosted by the Treasury and the Reserve Bank in Wellington in December 2007.

Figure 2

NZ$/US$ Cross-rate and Short-term Interest Rate Differentials



Source: Reserve Bank of New Zealand, Datastream. Data is monthly from January 1991 to October 2010.

not stabilised.[9] Thus, while it is apparent from Figure 2 that the nominal exchange rate has been above its average level since around 2004, the true extent of over-valuation is likely to be significantly greater than indicated by that chart, since even at its average historical level New Zealand would be likely to still be running an unsustainably large current account deficit. Moreover, it seems reasonable to assume that there is a causal relationship between the fact that the real exchange rate over the second half of the 2000s was at its highest five-year average since the 1960s and the slowdown in export and tradable value-added growth over that period (not shown).

Not only does it seem that expansionary fiscal policy in New Zealand over 2005-08 contributed to higher interest rates and the overvalued exchange rate, but there is also an important link to the current account deficit and external imbalances. This link is partly through the real exchange rate channel, as discussed above, but also more directly via the direct impact on demand. Abbas *et al*. (2010) summarise the evidence from econometric studies on the relationship between fiscal policy and the current account, and find that the association between fiscal policy and the current account is particularly strong when the output gap is positive. A likely interpretation of this result is that when output is above its potential, a fiscal expansion is more likely to result in additional imports rather than be met by increased production of domestic goods and services, which is more likely in an economic downturn. The additional imports would result either because the government imports goods itself, or because it consumes resources that other domestic agents would have consumed themselves, prompting them to import more. Abbas *et al*. (2010) also find that the relationship between fiscal policy and the current account is significantly stronger in economies that are more open to international trade. Again, this can be explained by the leakage from fiscal expansion into higher imports.

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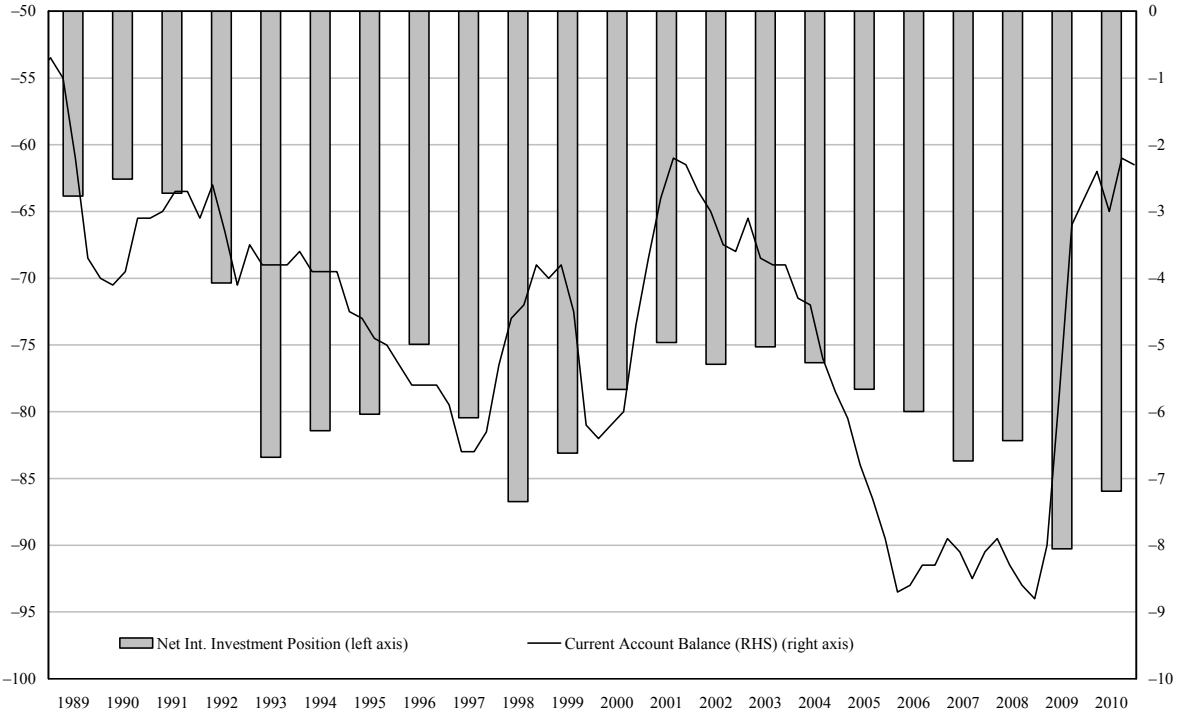
[9] The upper end of the 10-25 per cent range is derived from a model that focuses on stabilising the net foreign asset (NFA) position (Edison and Vitek, 2009).

Figure 3

New Zealand Has Had Persistent Current Account Deficits and a Growing Net Foreign Liability Position
(percent of GDP)



Source: Statistics New Zealand.

Given the background of an overvalued real exchange rate, and expansionary fiscal policy at a time of positive output gaps, the widening in New Zealand's persistent current account deficits in the mid-2000s (Figure 3) should not be considered surprising. In turn, this has contributed to New Zealand's growing net foreign liability position and is exacerbating New Zealand's macroeconomic vulnerabilities, as discussed in André (2011).

Returning to a discussion of the factors that underpinned exchange rate appreciation through the 2000s, high New Zealand interest rates through that period are attributed to a combination of both high average real interest rates and strong domestic inflationary pressures. New Zealand's high average real interest rates largely reflect New Zealand's low rate of saving relative to investment (Labuschagne and Vowles, 2010). However, this has probably been more or less stable (at a high level) for a reasonable period of time. So, while high average real interest rates might help to explain the high level of the exchange rate, they do not provide much of an explanation for movements over time. By contrast, the general upward trend in the interest rate differential between the early 2000s and 2008, which contributed to a persistent episode of exchange rate over-valuation, reflects both low global interest rates (as discussed by Dunaway, 2009) but also strong domestic inflationary pressures. These inflationary pressures were driven not only by expansionary fiscal policy, but also by many other factors – such as a significant housing cycle, and high net immigration. The fact that this paper focuses only on the contributory role of fiscal policy should not be interpreted as downplaying the significance of these other drivers.

The link between fiscal policy and interest rates has also been highlighted by the Reserve Bank, which has cited fiscal policy as one of several factors that stimulated demand over the mid-to-late 2000s, contributing to higher real interest rates and a higher exchange rate. For example, the Reserve Bank's submission to the 2007 Parliamentary Finance and Expenditure Committee (FEC) Inquiry into the Monetary Policy Framework noted that:

> *"What makes the current fiscal stimulus unique is that it comes at a time when the economy's productive resources have been severely stretched for several years. To cope with additional government spending without adding to inflation, some other spending must be crowded out. Higher interest rates and a higher exchange rate are part of the mechanism for making that happen ... if the economy faces additional demand pressures from whatever source, when resources are already stretched, then monetary policy has to be tighter than otherwise if inflation is to be kept in check. Even measures that improve the economy's long-term growth potential can exacerbate excess demand pressures in the near-term".*

And the Bank's Monetary Policy Statement in the same year noted that:

> *"We do not have a view on the merits of the fiscal choices themselves. But it is important that the cyclical macroeconomic consequences of those choices are widely recognised: despite the continuing high operating balance, putting additional fiscal pressure on demand means that interest rates and the exchange rate have to be higher than they otherwise would have been; in the past couple of years, both interest rates and exchange rates have already been above long-term average levels".*

The goal of the following sections of this paper is to document the evolution of fiscal policy outcomes in New Zealand over the past decade, so as to illustrate the above trends. It is noted that much of the pro-cyclicality of fiscal policy that resulted was unintended, highlighting the importance of the uncertainty around estimates and forecasts of the structural balance. It is also clear, however, that political economy factors played a key role, as most of the substantial increases in spending were political initiatives, many of which were not supported by Treasury advice. This discussion should provide a suitable backdrop for going on to consider (in Section 4) possible policy responses, or alternative institutional frameworks, that could help to ensure less pro-cyclical fiscal policy in the future.

3.2 To what extent has fiscal policy been pro-cyclical in New Zealand?

Unfortunately, there is no single indicator that we can look at to evaluate the impact of fiscal policy on the economy. Instead, this section discusses what we can learn from a range of different fiscal indicators: measures of fiscal balance; measures of fiscal impulse; and separate measures of the expenditure and revenue components.

While this paper focuses specifically on the stabilisation role of fiscal policy, the importance of fiscal sustainability and fiscal structure is taken as given.[10] Certainly, the focus of this paper on fiscal stabilisation should not be interpreted as suggesting that fiscal stabilisation take priority over fiscal sustainability. Broadly speaking, the tools discussed in this paper for ensuring better fiscal stabilisation during economic upswings would also contribute to improved fiscal sustainability. There may at times, however, be a trade-off between fiscal stabilisation and the *structural* role of fiscal policy (since it is sometimes argued that advantage should be taken of economic upturns to introduce growth-enhancing tax cuts, even if the macro-economic impact would exacerbate aggregate demand, and thus interest and exchange rate cycles). This point is touched on again in Section 3.4.

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[10] Barker, Buckle and St Clair (2008) set out an analytical framework for viewing the impact of fiscal policy on growth through these three lenses: fiscal sustainability, fiscal stability and fiscal structure.

3.2.1 Structural fiscal balance measures

Figure 4 illustrates the unadjusted headline operating balance (the Operating Balance before Gains and Losses) together with two alternative Treasury measures of the Structural Balance. The first of the structural balance measures (labelled the CAB) adjusts only for the effects of the economic cycle while the second also adjusts for the terms of trade effects (see Parkyn, 2010, for more details).[11]

The trickiest part of estimating a structural balance (also referred to as the cyclically adjusted balance or CAB) is distinguishing between the cycle and trend. Similarly, significant uncertainty also stems from the need to make a judgement about whether terms of trade increases are transitory or permanent, or whether there is some other systematic component of tax revenues that we may have missed.

Broadly speaking, counter-cyclical fiscal policy would require running increasingly large fiscal surpluses during upturns, followed by shrinking surpluses or increasing deficits during downturns. Thus it is helpful if improvements in the structural balance coincide with a positive output gap.[12] Figure 4 illustrates that this was broadly the case between 2001 and 2005, consistent with avoiding pro-cyclical fiscal policy in those years. Between 2006 and 2008, however, the fiscal surplus fell, while the output gap became more positive. These swings suggest that fiscal policy has sometimes been counter-cyclical, and sometimes pro-cyclical.

Figure 4 also illustrates that the structural (or cyclically-adjusted) fiscal balance moved through a cycle that is only slightly smaller than that of the unadjusted balance, which tells us that the historical swings in the operating balance have been driven more by changes in the *structural* balance than by cyclical influences. This cyclicality in the structural balance could, to some extent, reflect an imperfect separation from trend from cycle. Even to the extent that the structural balance correctly captures the trend, however, it should not necessarily be interpreted as representing changes in discretionary fiscal policy (such as policy-induced changes to taxes or spending). This is because the structural balance is also affected by some non-discretionary economic factors (e.g., changing demographics or trend growth).[13] To the extent that these changes are relatively minor or slow-moving (such as demographics), changes in the structural balance are probably a reasonable proxy for changes in discretionary fiscal policy. But changes to trend growth can be quite significant and occur quite quickly, reinforcing the need to be very careful in our interpretation of the structural balance.

The problems with using structural fiscal balance measures for fiscal surveillance are also highlighted by a number of international researchers. For example, Hughes Hallet *et al*. (2007) find that data revisions are so great that real time measures of the structural balance have very little power in detecting fiscal slippages as defined by the *ex post* data (the same caution also applies to the fiscal impulse, discussed below). Romer and Romer (2007) also discuss the fact that structural revenue increases during economic upturns are typically overstated. This is partly because fiscal revenues tend to be boosted by high commodity prices or a booming equity market (especially in the presence of a capital gains tax or property transaction taxes) and the cyclical dimension of these is very difficult to identify. This is reflected in the tendency of forecasters to revise trend growth estimates upwards during economic upturns and then down again after it becomes apparent that that rate of growth was not in fact sustainable.

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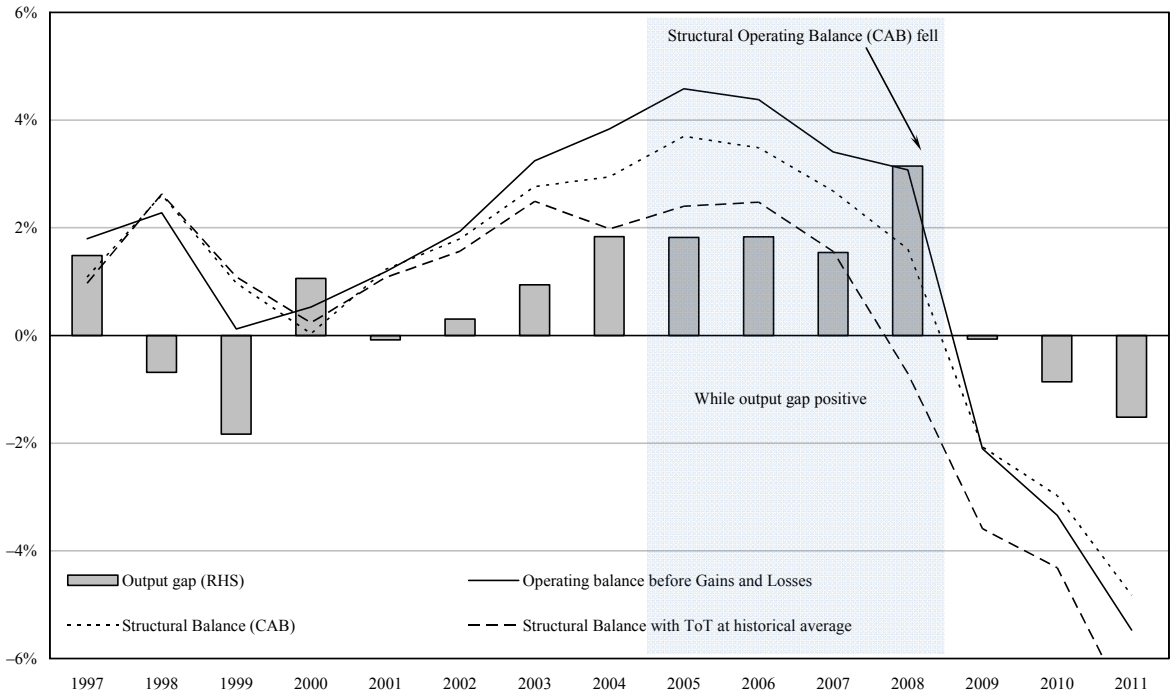
[11] Parkyn (2010) also tests for the importance of equity price movements but (unlike some of the international literature) finds them insignificant in New Zealand. This is consistent with the fact that New Zealand does not have a comprehensive capital gains tax.

[12] This discussion implicitly assumes that the above-trend growth underpinning the output gap is unsustainable.

[13] See Boije and Fischer (2006) for a taxonomy of fiscal indicators that discusses this in further detail.

Figure 4

Fiscal Balance and Output Gap
(percent of GDP)



Source: Budget 2011 calculations.

While it is not recommended that New Zealand adopt a formal structural balance target, structural balance measures remain a useful tool for fiscal policy analysis.

3.2.2 Fiscal impulse indicator

The other key budgetary indicator is the Treasury's fiscal impulse indicator. This indicator attempts to measure whether the net effect of changes to government revenues and expenditures in any one year adds to, or subtracts from, aggregate demand pressures in the economy. It is calculated as the *change* in the structural fiscal balance, where the structural balance is calculated from primary structural net cash flows from operations (excluding spending on kiwisaver), less capital spending (see Philip and Janssen, 2002, for more details).[14] This indicator is plotted on the vertical axis of Figure 5.

As the most-commonly-referred-to indicator of the extent to which fiscal policy is adding to or subtracting from domestic demand in New Zealand, the traditional fiscal impulse indicator is also often used to assess the extent to which discretionary fiscal policy has been pro-cyclical or counter-cyclical. A very simple way of doing this is to plot the fiscal impulse measure against the output gap, as done in Figure 5.

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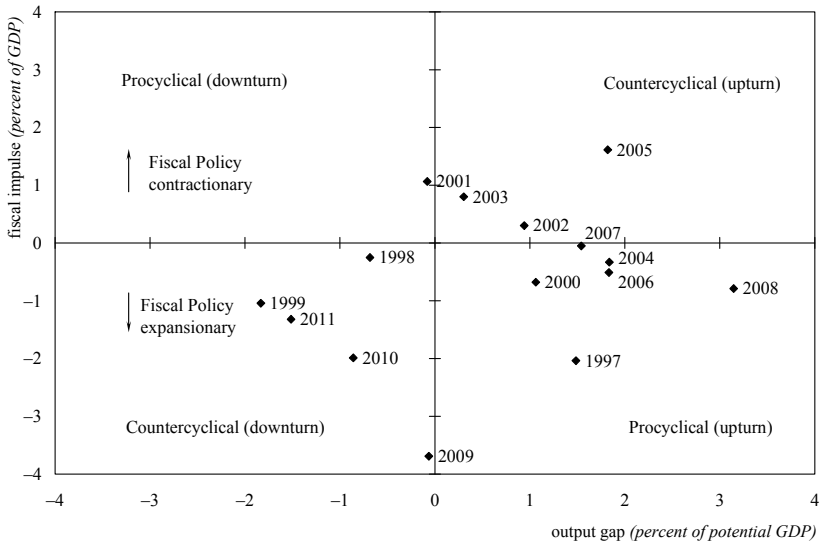
[14] A key difference with the Treasury's CAB indicator, therefore, is that the fiscal impulse indicator incorporates the effects of capital expenditure. By contrast, the structural balance measures shown in Figure 4 are based on the operating balance, and so do not capture the effects of capital expenditure.

Figure 5

The Cyclicality of Fiscal Policy from 1999 to 2009 According to the Traditional Fiscal Impulse Measure



Source: NZ Treasury, BEFU 2011.

Ideally we would like to see outcomes in the top right and bottom left quadrants of Figure 5. That is, when the output gap is very negative, it would be good to have expansionary fiscal policy, and when resources are stretched (a positive output gap), it would be good to have contractionary fiscal policy. What we observe is that there have, indeed, been a number of years in which this indicator suggests that fiscal policy was counter-cyclical (both during upturns and downturns). However, the results also demonstrate a tendency towards asymmetric Keynesianism over the 1997 to 2011 period, in the sense that pro-cyclicality was successfully avoided during downturns, but not so consistently during good times (too many outturns in the bottom right quadrant).

Two main drawbacks with fiscal impulse measures have, however, been identified. First, as discussed above, it is very difficult to distinguish trend from cycle and therefore to isolate discretionary policy changes. Second, the measure does not take account of second round effects, the composition of the fiscal balance or the way private expectations affect responses to a fiscal impulse. These effects can be very important. To illustrate, consider the data for the year 2005. As shown in Figure 5, 2005 saw a very positive output gap and significantly contractionary fiscal policy, as measured by the traditional fiscal impulse measure. A decomposition of the fiscal impulse reveals that although cash expenditures increased by a very significant $2.8b in that year (1.9 per cent of GDP), cash tax receipts increased by a much greater $5.9b (4.1 per cent of GDP). Because this fiscal impulse measure does not take account of second round effects, changes in the composition of the balance, or expectations effects, it simply assigns equal weights to the demand effects of one dollar increase in expenditure versus one dollar increase in tax revenues. Thus, since revenues increased by so much more than expenditures in that year, a contractionary impulse resulted.[15] This gives a misleading picture for the following reasons:

- *Revenue effects may not have been very contractionary*: the biggest source of the rise in revenues in 2005 was a big jump in company tax, driven by a significant increase in bank profitability. While there will be exceptions, corporate tax revenue buoyancy that is underpinned by high profitability should be much less contractionary than revenue buoyancy driven by tax rate increases. This may be particularly true in the case of the banking sector, whose shareholders are predominantly foreign.

[15] Of course, other factors also influence the impulse, including the cyclical adjustment and adjustment for capital spending. However, these effects were very small, and dwarfed by the changes in cash payments and receipts.

- *By contrast, the growth in government expenditure may have had very significant demand effects*: the growth in government expenditure in 2005 came at a time when equity markets were performing well, commodity prices and the terms of trade were high (although they moved even higher later), capacity utilisation and business confidence were high, and unemployment was very low. Moreover, most of the increases in spending were in areas where a significant demand impact could be expected, such as government consumption of non-traded goods and services, wages of public sector employees and transfers to low and middle-income households (many of whom would have high average and marginal propensities to consume).

It is also worth keeping in mind that strong messages of long-term fiscal prudence were being delivered by the government throughout this period (reinforced by the partial pre-funding of future NZ Superannuation expenses), despite the large increase in spending. In this environment it seems likely that the demand impulse of higher government spending could have been *at least as large* in effect as the contractionary impulse of the much higher government revenues that were collected that year.

In other words, despite the fiscal impulse suggesting a significant (>1.5 per cent of GDP) contraction in fiscal policy in 2005, it is entirely possible that the overall impact of fiscal policy could have been stimulatory in that year.

The limitations of the fiscal impulse measure were well recognised by Philip and Janssen (2002) who put a significant health warning on the unqualified use of fiscal impulse indicators and suggested that their use should be augmented with assessments derived from other analysis and models.

The vector-autoregressive (VAR) modelling work by Claus *et al*. (2006) was developed to provide such a complement to the fiscal impulse measure. The VAR approach still only captures the initial (first round) effects of fiscal policy on GDP but it does take account of composition effects by allowing GDP to respond separately to changes in government expenditure and government revenue. It also accounts for dynamic private sector responses and response lags.

In contrast to the traditional fiscal impulse measure, the Claus *et al.*'s VAR approach finds that fiscal policy was close to neutral in 2005, rather than contractionary, and more expansionary in other surrounding years (see Figure 6).[16]

More generally, a comparison of the two different fiscal impulse measures shows that the magnitude of the VAR fiscal impulse is significantly lower and less volatile than that of the more traditional Philip and Janssen impulse. The sign and size of the impulse measures also differ significantly in some instances (2001, 2005, 2009 and 2010). These differences highlight the importance of composition effects and private sector responses, as the underlying measures of the fiscal balance are approximately equal.

A number of other VAR models have also been developed (e.g., Dungey and Fry, 2009; and Fielding *et al.*, 2011). These models also help to shed further light on the impact of fiscal policy on the New Zealand economy. For example, as discussed earlier, Fielding *et al.*'s (2011) model provides support for the idea that positive shocks to government spending have a large and persistent effect on relative prices, causing real exchange rate appreciation and depressing output in the medium term the capital stock is diminished, depressing output.

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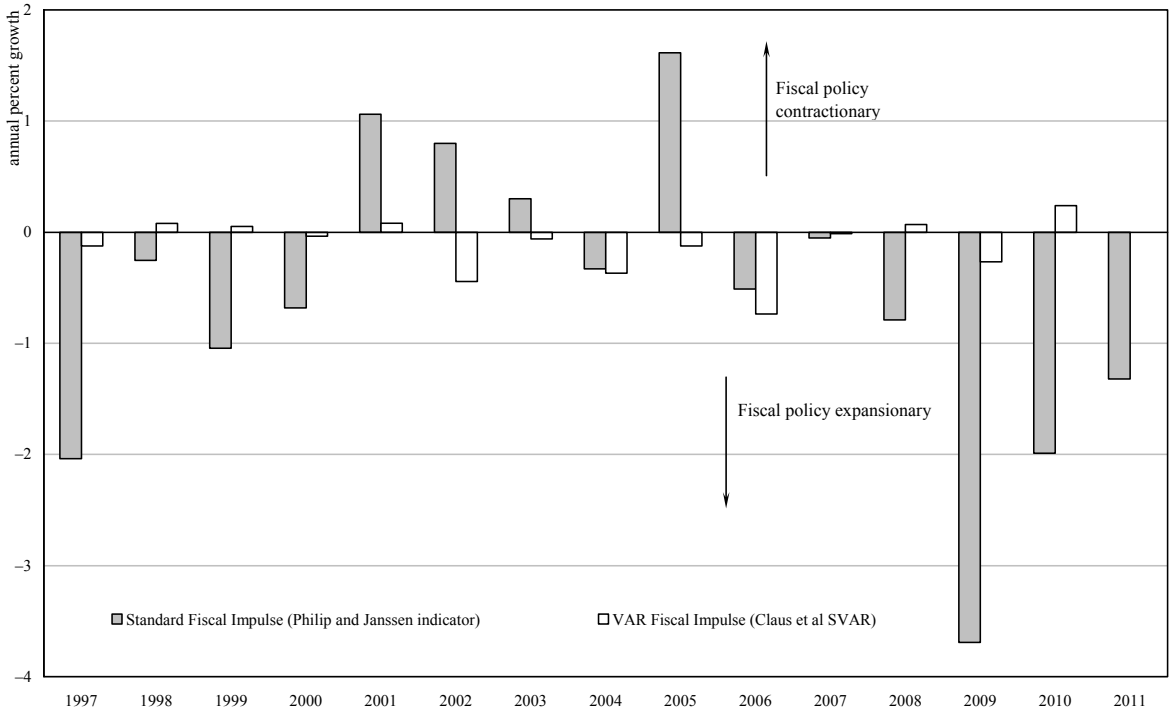
[16] Barker, Buckle and St Clair (2008) note that when the expenditure and revenue components of the traditional fiscal impulse indicator are weighted by the multipliers derived from the structural VAR model, the size of the traditional fiscal impulses tend to be smaller, but the direction of changes still differ from the fiscal VAR impulses in some periods. The difference between the two measures can thus not all be attributed to the fact that the VAR approach puts different weights on the expenditure and revenue impacts on domestic GDP. Private sector responses and expectation effects (captured by the VAR but not the traditional fiscal impulse measure) are likely to also be very important.

Figure 6

Comparison of VAR-based and Traditional Measure of Fiscal Impulse to New Zealand GDP Growth
(percent of GDP)



Source: Claus *et al*. (2006), updated with recent data.

Given the importance of composition effects, it makes sense to supplement the above fiscal impulse measures with information on the separate revenue and expenditure components and with more direct indicators about the extent to which a growing government sector may be crowding out private sector activity. It also pays to have a strong awareness of the uncertainties inherent in estimates of fiscal indicators, as discussed next.

3.2.3 Operating in real time: Fiscal Policy in a cloud of uncertainty

A comparison of *ex post* with *ex ante* outcomes suggests that the pro-cyclicality of fiscal policy over the 2006-08 period was not intended. This can be seen from Figure 7 which compares *ex ante* projections, real time estimates, and *ex post* outcomes for both the output gap and the fiscal impulse indicator for these years.[17] The figure illustrates that stronger than expected GDP growth (especially for 2007) and downward revisions to Treasury's estimate of potential GDP after the global financial crisis, resulted in output gap estimates that were more than 2 percentage points greater than originally anticipated.[18] This had the effect of moving the outcome from the bottom left (counter-cyclical) quadrant into the bottom right (pro-cyclical) quadrant.

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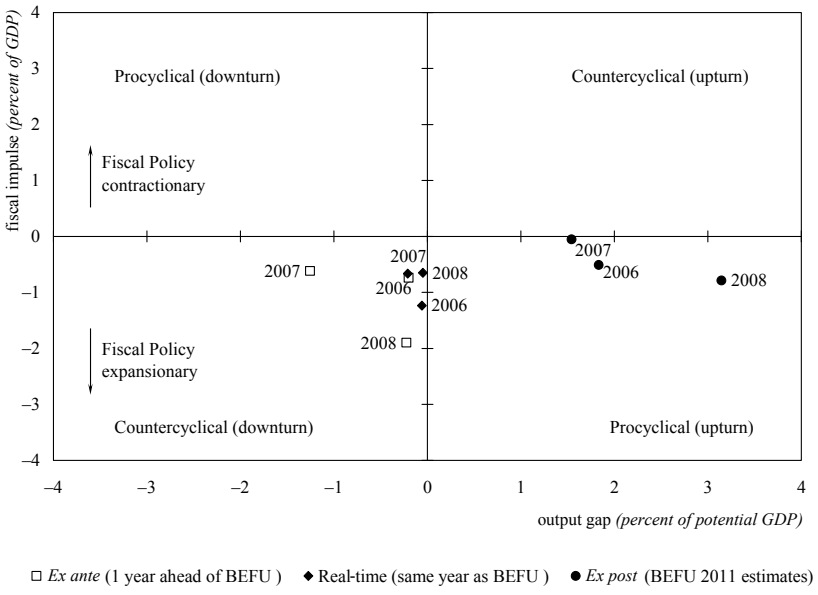
[17] A similar analysis could also be undertaken using real time CAB estimates.

[18] The forecast team also attribute some of the forecast error to changes in modelling techniques, which highlights a further source of uncertainty surrounding economic projections.

Figure 7

***Ex ante*, Real-time, and *Ex post* View of Cyclicality of Fiscal Policy, 2006-08**



Source: NZ Treasury, BEFU 2011.

The magnitude of such forecast errors is not Treasury specific[19] or New Zealand-specific. Large output gap forecast errors have been found to contribute to fiscal policy errors in a number of countries (Frankel, 2011). More generally, it is well known that empirical estimates of the output gap are subject to significant and highly persistent revisions for all economies. This is why Lane (2010) talks about fiscal policy decision-making taking place "in a fog of uncertainty". In the field of monetary policy, this sort of uncertainty normally leads central bankers to move interest rates more gradually and to be prepared to reverse policy if real economic developments turn out to be different from expectations. But reversals in fiscal policy are more costly and less feasible (Box 1). So the best strategy for the fiscal policy maker – especially once fiscal policy sustainability issues are also taken into account – is probably just to take a more conservative stance, holding back on spending increases and tax cuts until the economy turns down.

Even though Figure 7 suggests that pro-cyclicality was not anticipated in real time on the basis of the fiscal impulse indicator, policy makers were aware that the fiscal impulse was stimulatory: *i.e.*, that the growth in government spending was putting pressure on the real economy and exacerbating the mix of monetary policy and the exchange rate cycle. For example, a Treasury report in the lead up to Budget 2005 (Treasury, 2005) noted that:

> *"The estimated scale and timing of the fiscal impulse in 2005/06 suggest more tension between fiscal policy and monetary policy than has been the case for some time, potentially adding to continued pressure on the exchange rate and tradable sector. To reduce these pressures at the margin the Government could consider options to reduce or defer spending in 2005/06".*

3.2.4 The evolution of government revenues

Looking at the revenue side of the operating statement, Figure 8 shows that at the time of Budget 2005 (BEFU05), Treasury's estimate of structural revenues had picked up over the previous few years by around 1 percentage point of GDP. Looking forward (from 2005) it was expected that structural revenues would fluctuate around 31 per cent of GDP over the following four years.

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[19] Since mid-2002 the Treasury has undertaken periodic analyses of its economic and tax forecasting performance and Treasury scores above average relative to other forecasters although all have been poor at picking turns in the cycle. For more information on Treasury's forecasting performance see: http://www.treasury.govt.nz/publications/informationreleases/forecastingperformance/reviews

BOX 1
DEALING WITH UNCERTAINTY: LESSONS FROM MONETARY POLICY

In the field of monetary policy, a significant literature has emerged about the implications of output gap uncertainty (e.g., Orphanides and van Norden, 2003) as well as uncertainty more generally. Most famously, Brainard (1967) showed that if monetary policymakers are uncertain about the potency with which policy actions affect the economy, then they should move interest rates only gradually, thus "feeling their way" with small policy changes. However, situations have also been identified where it may be sensible for monetary policy to respond *more* forcefully, such as if policy-makers are uncertain about how much an unexpected inflation fillip will spill over into generalised inflation. Overall, the conclusion is that uncertainty cannot be incorporated into the policy-making process in a mechanical or rigid fashion; so policy-makers must inevitably exercise judgement, and ensure that the issues are looked at from a range of perspectives. See Conway (2000) for further discussion of the literature on monetary policy making under uncertainty.

In the field of fiscal policy there has been much less exploration of these issues, probably because the objectives of fiscal policy are more complex than those of monetary policy and so fiscal policy is less easily proxied by a simple policy rule, making model-based analysis much more difficult. In addition, both policy reversals, and gradualism, are much more costly, and less politically feasible, for the fiscal policy maker. For example, while the 2008 tax cuts could have been scheduled to be phased in more slowly (see discussion of tax cuts in following section for more details), more gradualism would have made it more difficult to ensure that the tax cuts were structurally beneficial (since the biggest efficiency gains are often achieved by restructuring the composition of taxes, which is often more easily achieved in one big hit than gradually).

At that time, the increases in revenues that had been seen were considered persistent enough to be judged to be permanent, as this quote from the 2005 Fiscal Strategy Report (FSR) illustrates:

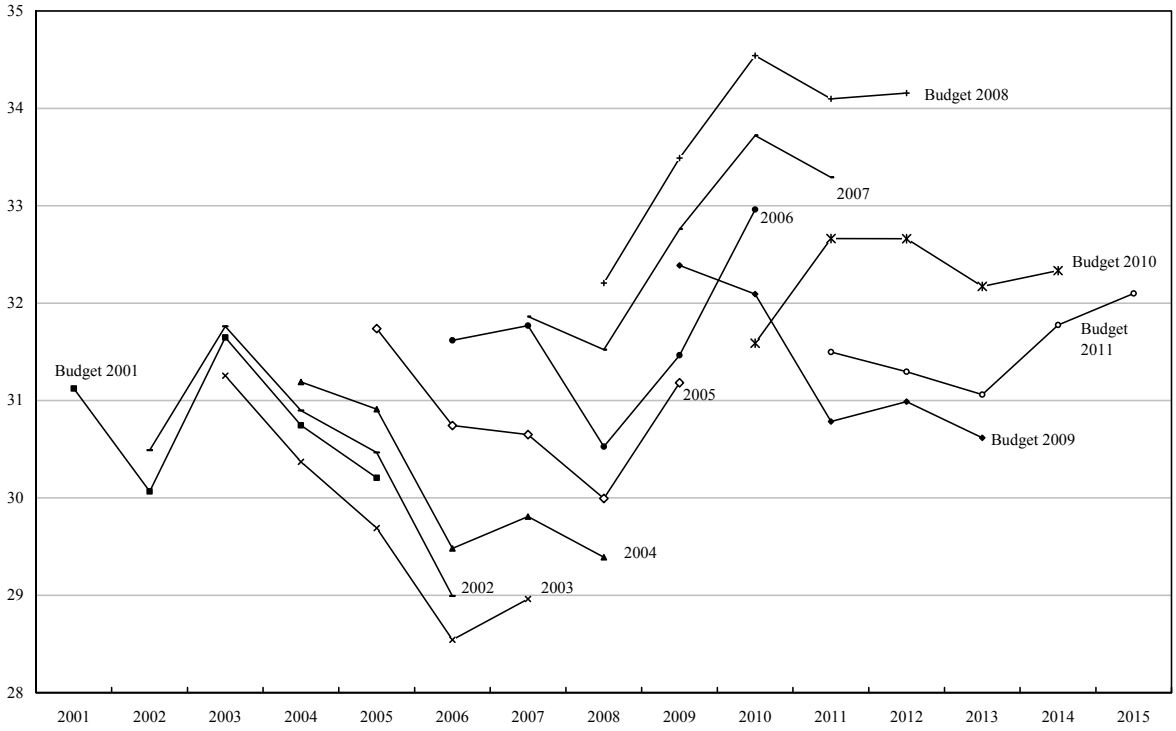
> *"We have been cautious not to spend what may have been cyclical increases in operating surpluses. This has enabled us to make faster progress on our debt and NZS Fund objectives over the past four years. However, the persistence of these surpluses and their composition have made us more confident that structural factors have been at work".*

Over the following three years (2006-08), estimated structural revenues were revised upwards by around a further 1 percentage point of GDP in each year (relative to earlier projections). By Budget 2008 the level of cyclically-adjusted tax revenue (adjusted for policy changes) was thought to be as high as 33-34 per cent of GDP. Although unadjusted revenues (not shown) were expected to fall by around 2 percentage points of GDP over the following few years, this was due to the 2008 tax cuts, rather than to an expected fall in structural revenues. Rather, the increase in structural revenues was thought to be "permanent", in the sense that the projected path for structural revenues (adjusted for policy change) did not anticipate any significant reversals in the new higher level of revenues as a percentage of GDP. This view is reflected in the following comment from Barker and Philip (December 2007):

> *"... as higher revenue became a persistent phenomenon it became clear that a large part of the improvement in revenue since 2000 is permanent. This allowed the Government to make several upward revisions in operating allowances over recent years".*

Figure 8

Structural Tax Revenue Estimates and Forecasts, Adjusted for Policy Changes
(four years ahead, percent of GDP)



Source: Based on cyclically-adjusted nominal tax revenue data from Treasury CAB model, various years. Data have been adjusted for the estimated cost of policy adjustments, extrapolated using GDP growth.
NB: In order to facilitate historical comparisons, adjustments have been made to corporate tax receipts and GST to make historical data more consistent with International Financial Reporting Standards (IFRS).

Skipping ahead to the Budget 2009 data, it is clear that the "permanent" conclusion was reached too hastily, since estimated structural revenues (adjusted for policy change) were revised back down substantially.

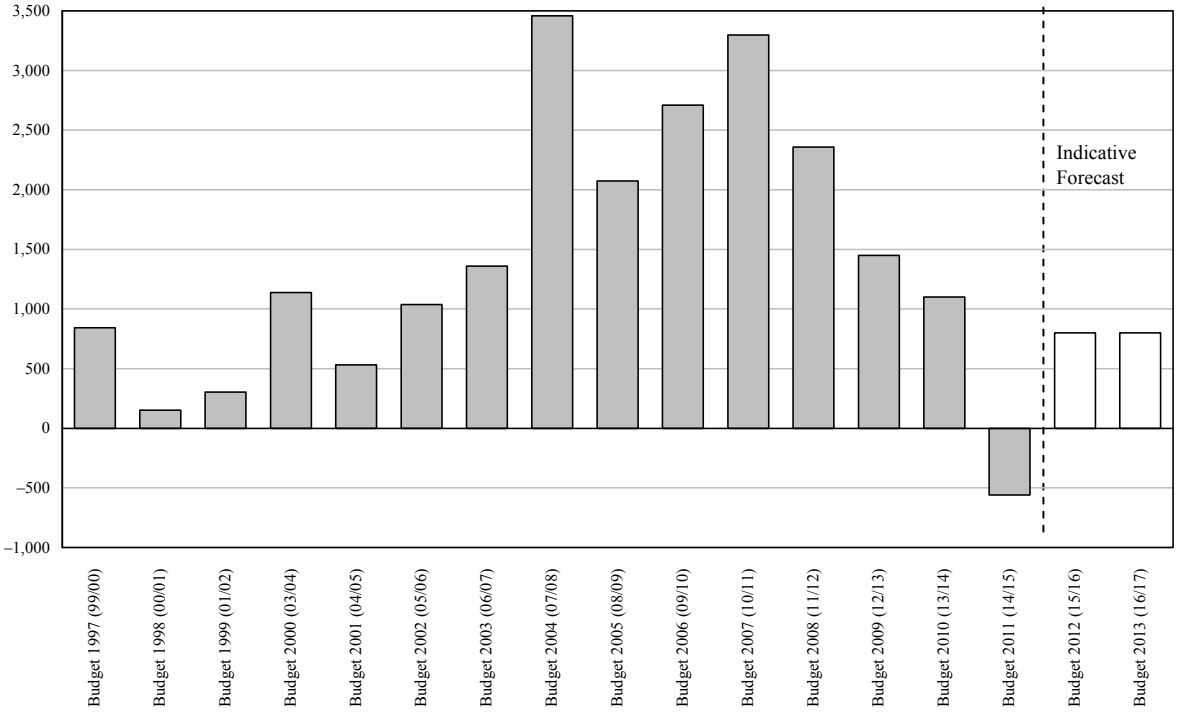
3.2.5 The evolution of government expenditures

Under the Government's current budget management process, expected new spending is captured by the Operating Allowance concept.[20] Originally, operating allowances were expected to be set with a view to achieving the Government's medium-term operating balance and debt objectives, and they were not expected to be revised frequently. However, in practice through the mid-2000s, the Government tended to use any positive revenue surprises and lower-than-expected levels of other expenses to increase the size of the Operating Allowance (Barker, Buckle and St Clair, 2008). The Operating Allowances were typically revised, usually upwards, twice yearly

[20] Operating allowances are the amounts included in the Budget forecasts and the Fiscal Strategy Report as an assumption for future spending initiatives, including spending and cost pressures. The operating allowance concept has also sometimes been used to capture revenue initiatives. See Mears *et al*. (2010) for a more detailed discussion of the evolution and operation of the Fiscal Management Approach.

Figure 9

Operating Allowances: Final Forecast Year Impact of Budget on Operating Expenses
(millions of dollars)



Notes: These amounts are GST (Goods and Services Tax) exclusive. The three-year forecast horizon was extended to four years in *Budget 2000* (final forecast year is shown in parentheses). Note also that the negative operating allowance for Budget 2011 reflects the fact that savings were greater than new spending (as expenditure relating to the Canterbury earthquakes was managed outside the operating allowance).
Source: New Zealand Treasury.

when the economic and fiscal forecasts were updated. Figure 9 illustrates the increases in the operating allowances from 2004 onwards. The cost of revenue-side initiatives is not captured by Figure 9, which shows changes to operating expenses only.

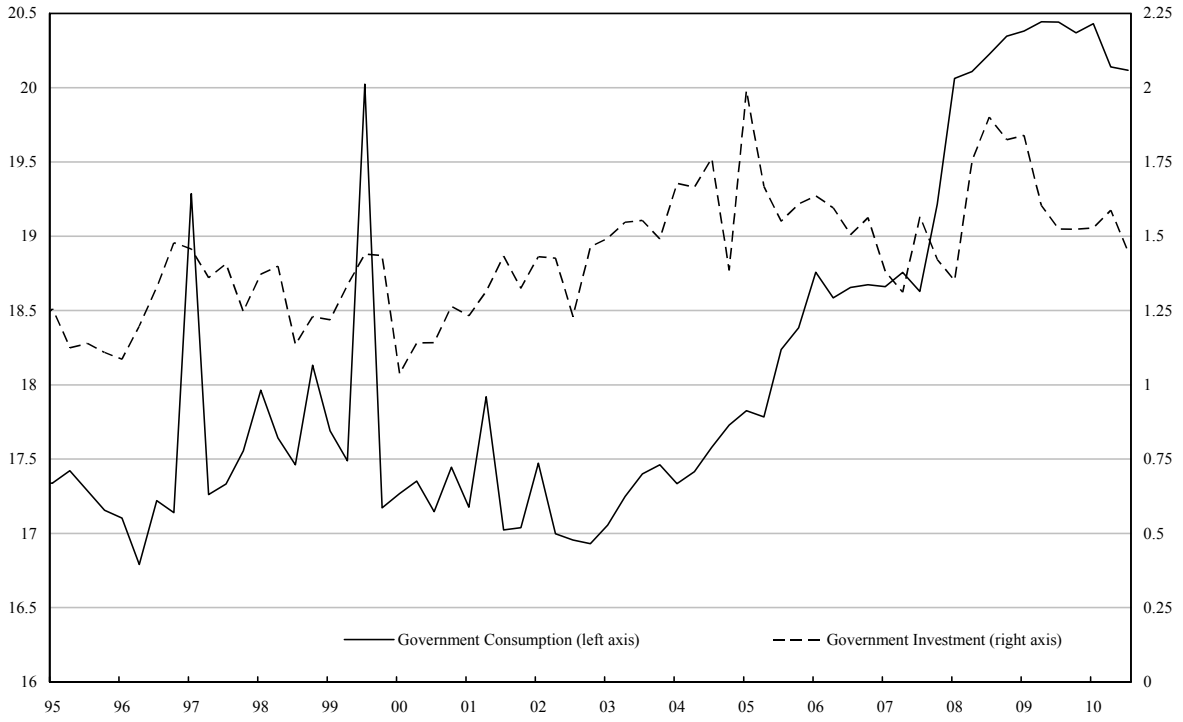
The upward revision to spending through this period allowed significant new funding to be allocated to flagship projects such as Working for Families (Budgets 2004 and 2006), changes to the Student Loans scheme (2006), Kiwisaver (2007) and (on the revenue side) tax cuts (2008).[21]

As a result, primary core crown expenses outstripped GDP growth, pushing the ratio up from well below 30 per cent of GDP in the early 2000s to around its current level of around 32-33 per cent of GDP. A similar magnitude increase is visible in government consumption (Figure 10). As discussed earlier, this increase in government spending came at a time when the productive capacity of the economy was already stretched, including as a result of strong net migration and a buoyant housing market. In this context it is easy to see how fiscal policy could have provided a more significant fiscal stimulus than suggested by the fiscal impulse measures shown in Figures 6-8.

[21] The cost of revenue-side initiatives is not captured by Figure 9, which shows changes to operating expenses only.

Figure 10

New Zealand Government Consumption and Investment Expenditure
(percent of nominal GDP)



Source: Statistics NZ National Account's nominal government consumption seasonally adjusted and nominal total central government non-market investment with Treasury seasonal adjustment.

The government's decision to increase government spending through this period was generally done against a backdrop of Treasury warnings about the implications for macroeconomic stability. For example, Treasury's advice in the lead-up to Budget 2005 (Treasury, 2005) noted that:

> *"The estimated scale and timing of the fiscal impulse in 2005/06 suggest more tension between fiscal policy and monetary than has been the case for some time, potentially adding to continued pressure on the exchange rate and tradable sector".*

This same report recommended that the Minister:

> *"consider options to scale back spending in the forecast period or defer spending from 2005/06; and consider reducing the indicative allowance for Budgets 2007 and 2008 from the stated current intentions".*

Although these recommendations were not followed, the government was concerned to minimise the stimulatory impact on the economy. This concern contributed to the development of, and subsequent expansion of, Kiwisaver,[22] as spending on Kiwisaver was considered to be less stimulatory than other expenditure priorities or tax cuts.[23]

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[22] Kiwisaver is a voluntary long-term savings scheme, supported by employer contributions and an annual tax credit funded by the government. The original version of Kiwisaver was announced in May 2005 with a significantly lower fiscal cost than the extended version announced in 2007. The scheme came into operation in July 2007. Note that Treasury advice in relation to the extension of

(continues)

Overall, however, the government's concern to minimise the stimulatory impact of fiscal policy on the economy had to be managed against political demands for higher spending. This was exacerbated by the fact that as the debt burden fell the prudent debt target was revised to a target of *maintaining* gross sovereign-issued debt broadly stable at around 20 per cent, as specified in the 2006 and 2007 Fiscal Strategy Reports (Barker *et al.*, 2008).[24] Soon, it became clear that running larger surpluses would have implied significantly undershooting this 20 per cent prudent debt level target (based on forecasts at the time).

Getting closer to the prudent debt target, not only made it harder for the government to resist demands for higher spending or tax cuts, but it also influenced Treasury advice, which (perhaps reflecting the focus in the Public Finance Act, as discussed later) tended to put relatively little weight on the stability objective of fiscal policy, unless it was also supported by the sustainability objective.

For example, an October 2007 Treasury report advising the minister on the fiscal position and options for budget 2008 (Treasury, 2007) noted that:

> *"...the preliminary HYEFU fiscal forecasts will show a materially stronger fiscal position than at BEFU.... our current assessment is that preliminary fiscal forecasts and projections will show the government overachieving on its long-term fiscal objectives, particularly with respect to gross debt. This opens up additional fiscal policy choices with respect to operating spending, taxation and capital expenditures while continuing to deliver on the existing fiscal strategy".*
> (emphasis added)

While the stability implications of using the additional revenues for tax cuts or spending increases were acknowledged with this comment: "*...in this environment it is not clear that extra tax revenue could be used without a monetary policy response*", the report did not conclude with a strong case against further fiscal stimulus.

Overall, this suggests that Treasury's advice to restrain fiscal stimulus during the upturn was based largely on an assessment of the sustainability objective. Once a "prudent" level of debt was obtained, Treasury found it more difficult to argue for continuing fiscal restraint.[25] Macro-stability concerns were considered but dominated by fiscal sustainability considerations.

3.3 Policy response following the onset of recession

By the time it became clear that the strength of structural revenues had been misjudged, it

Kiwisaver in 2007 emphasised the importance of maximising national saving gains by ensuring ongoing government surpluses and debt sustainability. The subsequent reduction in the tax credit to kiwisaver announced in Budget 2011 was thus prompted by a reassessment of fiscal sustainability following the downturn that occurred from 2008 onward.

[23] Despite the fact that spending on Kiwisaver was excluded from the expenditure measure used to calculate the Fiscal Impulse indicator, it was acknowledged that Kiwisaver spending would still be stimulatory to the extent that private sector saving would fall in response. As discussed earlier, the literature generally concludes that the Ricardian offset to greater government savings is less than one half.

[24] Previously, (*i.e.*, in the 2004 Fiscal Strategy Report) the objective was framed in terms of a downward trajectory (with debt expected to pass through 20 per cent of GDP by 2015). The change in the 2006 FSR to a constant 20 per cent target thus represented a general loosening in the fiscal objectives. The 20 per cent gross debt objective was arrived at on balance, as a level that was considered sufficient to provide a buffer to insulate the economy against economic shocks and to prepare for future fiscal pressures, such as those arising from population ageing. More recently the debt target has been further revised to a long-term *net* debt target of 20 per cent of GDP.

[25] Some commentators would argue that even based on the sustainability objective alone, that Treasury should have argued more forcefully against spending increases, on the grounds that 20 per cent gross debt was not sufficiently prudent. For example, Price *et al*. (2008) suggest that New Zealand's fiscal surpluses and net asset positions in the mid-late 2000s should have been seen in the context of relatively sharp prospective increases in public pension and health care expenditure. However, it also should be noted that net debt was reduced by more than gross debt, due to the accumulation of financial assets.

was too late to reverse the permanent discretionary increases in expenditures that had been made over the 2004-08 period, and the first tranche of the significant tax cut package of 2008 (implemented on 1 October 2008). While it was clear that a significant global financial crisis was underway by the time the new government took office toward the end of that year, aspirations to limit the deterioration in the structural balance were not announced until Budget 2009.[26] At that time the remaining tranches of tax cuts that had been announced in Budget 2008 were cancelled, and efforts were made to restrain expenditure growth in the projection years by making a small cut in the operating allowance for 2009/10 and by further limiting the operating allowance to $1.1 billion per annum from 2010/11.[27]

It is sometimes observed that the timing of the 2008 tax cuts turned out to be very appropriate, given the economic downturn that began that year. This was more a result of good luck than good design, as the extent of the downturn was not known when the package was announced. The tax package was also not designed as a stimulus package, most importantly because the tax cuts were permanent, rather than temporary – and so did not meet the standard TTT (temporary, targeted and timely) criteria for stimulus spending. Figure 8 makes it clear that, at the time the tax package was announced, structural revenues were estimated to be very high. If the extent of deterioration had been anticipated the tax package would have been judged to be unaffordable. Overall, the large structural deficits that New Zealand is experiencing today can be considered as due to a combination of the spending increases of 2004-08, the 2008 tax cuts, plus the downward revision to estimates of structural revenues.

3.4 Lessons from the last cycle

New Zealand's fiscal framework worked relatively well over the first part of the 2000s, when revenue windfalls were used to make faster progress on the debt objective, thus contributing to good fiscal sustainability and fiscal stability outcomes.

The longer the upturn lasted, however, the easier it became to interpret the revenue increases as permanent rather than cyclical. As debt levels fell, this led to a ratcheting up of government spending. The available indicators of fiscal stance suggest that this led to a pro-cyclical fiscal impulse over the 2006-08 period, which put pressure on resources and exacerbated the interest rate and exchange rate cycles.

This failure of fiscal policy to prevent pro-cyclicality seems to reflect three factors. First, the Public Finance Act's principles for responsible fiscal management are focussed on fiscal sustainability rather than stability. While there is nothing in the Act that would *prevent* macro-stability considerations from being given weight in policy advice, it is not *required* that such

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[26] The bulk of the tax cuts announced in Budget 2008 came into effect on 1 October 2008. This first tranche of cuts involved a reduction in the bottom tax rate from 15 to 12.5 per cent and an increase in all tax rate thresholds. Budget 2008 estimated that the cost of this first tranche was $8b over 4 years. After the election later that year, the new government announced a further increase in the tax threshold for the 21 per cent tax rate, which came into effect in April 2009. The cost of this was a further $3.3b over 4 years, although almost all of this cost was funded by expenditure cuts (to Kiwisaver incentives and the R&D tax credit). The second and third tranches of the Budget 2008 tax cuts, which would have involved further (smaller) increases in the top two thresholds (33 and 39 per cent) in 2010 and 2011 was originally estimated to cost around $2.7b over the same time period. The new government tweaked these two tranches slightly in the December 2008 BPS before cancelling them in Budget 2009.

[27] Soon after election, the new government announced a further increase in expenditure in the form of an increase in the capital allowance from $0.9b to $1.45b per annum for the following four years, and a further increase to $1.65b for the two years following that (BPS, December 2008). However, this was more than offset in the projection years by reductions in the Operating Allowance (from $1.75b to $1.1b) that were announced in Budget 2009. (The operating allowance consists of *additions* to new spending, which cumulate each year, making these cuts much more significant over time than the increases to the capital allowance, which is *total* spending on capital rather than *new* spending).

considerations be considered, and so they tend to be underweighted.[28] Second, the uncertainties inherent in the data in real time make it very difficult to evaluate the stance of fiscal policy with any certainty. With the benefit of hindsight it is now clear that the economic upturn was much stronger and more persistent than anyone expected, with the result that Treasury (and others) under-estimated the impact of the fiscal stimulus that was delivered during the 2004-08 period. Third, when the economy is performing well and fiscal revenues are strong, there are inevitably strong calls to "spend" the surpluses (either on tax cuts or spending increases). Insufficient effort has been made to address these political economy challenges by looking at policy options to help achieve more stabilising fiscal policy.

Looking ahead, the lessons from the last cycle suggest that we will need to:

- *Do more to address political economy challenges:* Politically, it is very difficult for governments to keep running large surpluses over long periods of time. A debt target that is perceived to be a floor only exacerbates this problem, as witnessed by reluctance over the last cycle to "overachieve on the debt target". This means that fiscal stimulus is most likely to become pro-cyclical towards the end of an extended economic upturn. New Zealand's fiscal institutions need to be designed to explicitly safeguard against pro-cyclicality during long-lasting upturns. At a minimum this is likely to require a higher profile for the macro-stability role of fiscal policy, which could be achieved by revising the PFA as discussed in Section 4.1. Some of the other policy options discussed in Section 4 could also help to address this challenge.
- *Improve reporting of fiscal policy and its impacts:* It is well known that distinguishing between trend and cycle is very difficult. This is true for both GDP (potential GDP, output gap) and for government revenues (structural vs. cyclical). This suggests that Treasury should: (i) expand the repertoire of indicators so that advice on the fiscal stance is less reliant on any single measure,[29] with particular care taken to augment fiscal impulse measures with separate measures of government revenues and expenditures; (ii) strengthen our understanding of the macro-economic impact of the fiscal stance and the macro-economic impact of increases in spending during upturns; (iii) be more cautious than in the past about judging persistent upward revisions to revenues as being permanent; this will require more work to characterise uncertainty and communicate it, including the implications of over- vs. under- estimating structural revenues; and (iv) be reluctant to introduce fiscal institutions that rely on an accurate decomposition of trend from cycle (such as a structural budget target – discussed further in Section 4.5).
- *Put more emphasis on getting the* timing *of stimulus right:* A fiscal policy framework that is able to guard against pro-cyclicality across a range of circumstances will need the flexibility to accommodate the political preferences of different governments during times when there is an extended economic upturn. This suggests that, in the context of a government which is inclined to increase the size of the government, Treasury's policy advice should focus on seeking the best *timing* for the desired fiscal stimulus. Essentially this means that tax cuts or spending increases need to be avoided (or minimised) during periods of high capacity utilisation. A number of the policy options in Section 4 could help to refocus fiscal policy in this way.

While the focus of this paper is on the stabilisation role of fiscal policy, the sustainability goal remains of primary importance. It is vital that any additional attempts to make fiscal policy

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[28] This is true for New Zealand's Public Finance Act, but also for other countries. For example, Barker and Philip's (2007) review of the fiscal frameworks of other countries found that the only component of other countries' formal fiscal rules directed toward fiscal stabilisation was support for the operation of the automatic stabilisers (*passive* stabilisation). However, as discussed earlier, there is no reason to expect passive stabilisation to prevent pro-cyclical fiscal policy, as changes in discretionary fiscal policy can easily be larger than, and work in the opposite direction to, the automatic stabilisers.

[29] A particular indicator could be chosen from this set to serve as the *leading indicator.* However, regular monitoring of the full set of indicators would minimise the risk of misinterpretation.

more stabilising do not compromise the sustainability of the long term fiscal position. Fortunately, there is no trade-off during the upturn of the economic cycle (the focus of this paper), when greater fiscal prudence has benefits for both stability and sustainability. As long as the government's net worth position is built up sufficiently during upturns, fiscal sustainability should not be put at risk during downturns either.

There may, however, be a trade-off between the stability and *structure* objectives of fiscal policy.[30] This is true during both upturns and downturns. During upturns, for example, it is often argued that policy-makers should take advantage of the strong fiscal position to implement growth-enhancing tax cuts, even if they will exacerbate domestic demand and the mix of macroeconomic conditions. However, the evidence reviewed earlier (e.g., Abbas *et al.*, 2010), suggesting that the stabilisation cost of fiscal policy is larger when the output gap is positive, tells us that it would be better to wait until the downturn. An exception may be if there is only a narrow political economy window of opportunity for implementing such structural reforms (*i.e.*, if not implemented right now the opportunity will be lost).

The nature of the trade-off during downturns is different, with the main concern being that the *quality* of fiscal stimulus could deteriorate if the focus shifts excessively towards cushioning the impact of the downturn, rather than toward implementing good structural reform. This highlights the potential inappropriateness of using the standard TTT (timely, temporary, targeted) criteria for discretionary fiscal stimulus in such a context. To the extent that politicians are persuaded to delay permanent tax cuts or spending increases when the economy is operating above capacity, the passage of such permanent fiscal stimulus should be permitted during downturns. In other words, the T for *timely* should be given the greatest weight. In contrast, the traditional focus on *targeting* expenditure to those areas where the fiscal multiplier is thought to be the largest may be less appropriate, at least as long as monetary policy does not hit limits of effectiveness (such as by hitting the zero interest bound). Likewise, depending on the strength of the government's net worth position, the traditional focus on ensuring that stimulus is *temporary*, may also be inappropriate as some permanent reforms may be affordable (*i.e.*, those that were delayed during the upturn so as not to exacerbate macroeconomic conditions at that time).

4 Policy options

Policy options for making fiscal policy "more stabilising" generally fit into one of two camps. One camp consists of policies that would raise the profile of the stabilisation objective of fiscal policy. This could be done by revising the principles of the Public Finance Act (PFA) so as to increase the importance that is placed on avoiding pro-cyclical fiscal policy. Alternatively – or in addition – an independent fiscal council (IFC) could be introduced, to promote informed public discussion of the impacts of fiscal policy. A structural budget balance target would also fit in this camp, although this option is not recommended, as discussed in Section 4.5.

The second camp consists of policies that seek to credibly de-link expenditure decisions from revenue windfalls in a way that will be politically sustainable even through a long period of strong growth. Options include rules to better control expenditures (e.g., a spending cap) or institutions for quarantining revenue surprises (e.g., a stabilisation fund).

The following discussion of these policy options builds on the abundant literature that has developed on the theory and practice of fiscal rules. Organisations such as the IMF have developed best practice principles for the design of such rules (e.g., IMF, 2009). The general consensus is that a well-designed fiscal rule *can* have a positive impact on fiscal outcomes, by placing some durable

[30] See Barker, Buckle and St Clair (2008) for a discussion of the Sustainability, Stability and Structure roles of Fiscal Policy.

constraints on fiscal discretion through e.g., numerical limits on expenditure, revenue, the budget balance and/or public debt (Kumar and Ter-Minassian, 2007). However, such positive impacts are by no means guaranteed, since no rule can be assumed to permanently suppress or contain discretion. It follows from this argument that a credible solution to biased policies cannot be to suppress discretion but to find mechanisms through which it could be exerted more wisely (Debrun and Kumar, 2007).

This section also takes as given the relatively good fiscal outcomes in New Zealand to date. There is general agreement that New Zealand's principles-based framework works well, with only a few enhancements required, rather than wholesale reform.

With that background, Table 1 provides a brief summary of the pros and cons of the main policy options to ensure less discretionary fiscal policy stimulus during the next upturn. Option A (discussed in more detail in Section 4.1) considers the role that a revision to the principles of the PFA could play. Options B and C consider, respectively, a multi-year cap on expenditure growth, and a more medium-term target for the level of government spending as a percentage of GDP (see Section 4.2). Spending caps have been adopted in a number of countries in recent years and are quite commonly advocated by the OECD and IMF. However, the main benefit of spending caps is to improve the quality of spending and to increase control over total spending, rather than to reduce the chance of pro-cyclical fiscal policy. Greater macro-stability benefits could be obtained, however, if combined with other tools (such as option A).

Option D is more focussed on the revenue side of the ledger; specifically, a stabilisation fund that would facilitate the "banking" of windfall revenues, so as to "pre-commit" governments to run large fiscal surpluses during booms. A stabilisation fund would be designed to build up funds over economic upswings and then run them down again during downturns (see Section 4.3). Compared with an expenditure cap, the main benefit of this approach is that it would better address the political economy barriers that get in the way of conducting more stabilising fiscal policy. It would do this by re-focussing attention on *when* and *how*, rather than *whether* fiscal surpluses should be spent. However, significant judgement would be required to determine contributions to and withdrawals from the fund.

Option E involves establishing an independent fiscal council (IFC), whose purpose would be to monitor the compliance of fiscal policy with the stated objectives, raise the quality of the public debate around fiscal policy in New Zealand, and enhance the credibility of any other fiscal policy institutions (e.g., a stabilisation fund, if one were to be created). See Section 4.4 for further discussion.

Finally, Options F and G describe two possible policy tools that are *not* considered a good option for New Zealand at present. A structural balance target (discussed in Section 4.5) is dismissed largely because it relies too heavily on the ability to accurately distinguish structural from cyclical revenues. Such a rule could also lead to excessive focus on that single indicator and/or encourage circumvention of the rule. Active tax policy tools (Section 4.6) are also dismissed, due to concerns about the significant efficiency and compliance costs that they would entail. It is also noted that there are other (non-active) tax policy tools – such as a capital gains tax or a land tax – that would improve macro-stability without these accompanying costs, and these should be introduced before considering more activist tools.

All of the policy options discussed are potentially complementary (*i.e.*, it would be possible to adopt elements of all, simultaneously).

4.1 Option A: revise the Public Finance Act

The Public Finance Act (1989), which was amended in 2004 to incorporate the Fiscal Responsibility Act (1994), sets out – among other things – the principles for responsible fiscal management and the requirements for regular reporting on the extent to which the Government's fiscal policy is consistent with those principles. While the principles for responsible fiscal management pay considerable attention to fiscal sustainability issues, the PFA is silent on the importance of conducting fiscal policy in a way that best helps to stabilise the macro economy.

Indeed, the principles of responsible fiscal management may unintentionally encourage pro-cyclical discretionary fiscal policy in certain circumstances. At present, the principles of responsible fiscal management note that "once prudent levels of total debt have been achieved, [the Government must] maintain… those levels by ensuring that, on average, over a reasonable period of time, total operating expenses do not exceed total operating revenues". While the *over a reasonable period of time* formulation is clearly intended to permit the operation of the automatic stabilisers, the current formulation may not provide a sufficiently strong mandate for continuing to run down debt levels, or build up the government's net worth position *for macroeconomic stability reasons* (*i.e.*, even when long-run fiscal sustainability appears sound).[31]

To increase policy-makers' focus on the stabilisation role of fiscal policy, the PFA could be revised to include an additional principle relating to playing a macroeconomic stabilisation role. Alternatively, the existing principles and departure clauses could be reworked to provide a clearer mandate for building up the government's net worth position for macro stability reasons.

Of course it is important to also consider the implications of such a change for other fiscal policy priorities, such as fiscal sustainability. As discussed in Section 3.4, however, there is little reason to think that a greater focus on fiscal stabilisation in the next economic upturn would have anything other than positive implications for fiscal sustainability, particularly if the increased focus on fiscal stabilisation encouraged a more rigorous assessment of the conditions under which permanent expenditure increases, or tax cuts, should be made.

4.2 Options B and C: spending cap or spending/GDP target

Setting a cap on the government's spending is probably the most obvious way of de-linking expenditures from revenue windfalls. Expenditure rules have become increasingly popular in recent years, supported by a growing body of empirical evidence suggesting that well-designed expenditure rules can be useful devices to limit spending profligacy (e.g., see Haumptmeier *et al.*, 2007). While there is a correlation between spending rules and fiscal prudence, some critics point out that it is difficult to establish causality, given that countries are more likely to adopt spending rules if they are already inclined towards fiscal prudence (e.g., Debrun and Kumar, 2007).

Given the focus of this paper it is important to note that expenditure control alone does not automatically prevent pro-cyclicality, since during boom periods governments are often tempted to cut taxes or increase tax expenditures, both of which also stimulate the economy. Even if this temptation is resisted, the effectiveness with which a spending cap would achieve our macro-stability objectives would depend on its design.

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[31] While the principles of responsible fiscal management do not actively *mandate* a running down of debt levels below what is considered a prudent level for macro-stability reasons, neither does the PFA *prevent* the government from taking macro-stability considerations into account.

Table 1

Main Policy Options for Making Fiscal Policy More Stabilising

Options Worth Considering

Policy	Pros	Cons
Option A Revise PFA	- Relatively easy to revise PFA to make macro-stability a principle of responsible fiscal management - Would strengthen rationale for running surpluses during upturns even when debt is low	- May not be sufficient to prevent pro-cyclicality given difficulty of measuring fiscal stance
Option B Multi-year expenditure cap	- Would improve quality of base spending by forcing trade-offs - Would introduce a lag between increases in revenue and higher spending, which *could* help reduce pro-cyclicality - Would assist the government in better managing future spending pressures/ facilitate a smaller size of government (lower taxes) if desired	- Complicated to explain (eg, Operating Allowance interactions; accruals) - If lag short, pro-cyclical spending increases could still easily occur, especially given difficulty of distinguishing trend from cycle - Even if lag long, incoming governments could reset cap - Would not constrain fiscal stimulus on revenue side - Could reduce flexibility to respond to recessions - Could be perceived only as a tool to control the size of government
Option C Medium-term spending/GDP target	- Better transparency of government's view of desirable long-term level of spending and taxes - Could improve focus on macro stability if combined with option A	- By itself would not be sufficient to prevent pro-cyclicality
Option D Stabilisation Fund	- Idea of saving for a rainy day easy to explain to the public Importance of not exacerbating er cycles would be emphasised Would ease political economy challenge of running large surpluses in good times	- Could be difficult to determine contributions to and withdrawals from fund - May not be sufficient to prevent pro-cyclicality given difficulty of distinguishing structural from cyclical revenues - Some fiscal cost from investing in lower yield securities rather than paying down domestic debt during good times (partially offset by gains on currency movements)
Option E Independent Fiscal Council	- Could help to address political economy challenge by raising awareness of the risks of pro-cyclicality - Could support other options (eg, advise on appropriate contributions/withdrawals for a stabilisation fund)	- No guarantee that fiscal council would offer better advice or that advice would be heeded - Could become a source of political tension - Resourcing cost

Options Not Recommended

Option F Structural Balance Target	- Makes focus on stabilisation explicit	- Relies on being able to distinguish structural from cyclical revenues - Could lead to excessive focus on single indicator and/or encourage circumvention of the rule
Option G Active tax policy instruments	- Would strengthen the automatic stabilisers	- Efficiency and compliance costs could exceed benefits (cf other tax policy reforms which would have macro-stability benefits without these costs) - Stronger automatic stabilisers could still be offset by discretionary policy

Consider, for example, the multi-year expenditure cap that was proposed (and rejected by the government) in early 2010 (Mears *et al.*, 2010).[32] The main benefit of such a spending cap (Option B) is that it would reinforce the existing limit on new discretionary spending initiatives (specified in terms of the annual Operating Allowance) and also place a limit on other forecast expense increases that occur via the six-monthly Baseline Update process. With such a spending cap in place, the significant upward revisions to the Operating allowances that are shown in Figure 9 would not have been permitted. The main benefit of the proposed cap would thus be to permit better control of aggregate expenditures and to improve the quality of base spending (by increasing attention on the relative trade-offs between different spending pressures).

However, a spending cap also has some limitations. Most importantly, it could not guarantee an avoidance of pro-cyclical spending increases. This is due to the relatively short duration of the cap (*i.e.*, the Mears *et al*.'s proposal envisaged a rolling budget year plus two out-years). So, although upward revisions of fixed allowances would not be permitted under the cap, the allowances could still grow over time as the rolling out-year is set (potentially responding to in-year-revenue windfalls). Thus, while introducing a lag between unexpected increases in revenue and higher expenditure *could* contribute to better macro stabilisation, there would be a significant risk that pro-cyclical fiscal policy would still eventuate. For example, a planned increase in expenditure for year t+3 might be justified by an expected slow-down in the economy in that year. But this could inadvertently result in pro-cyclical fiscal policy in that year if economic growth remained unexpectedly strong.

One way of addressing this problem could be to combine a revision to the PFA as discussed above (*i.e.*, Option A: a requirement to include macro-stability as a principle of responsible fiscal management) with Option C: a requirement that the Minister of Finance also specify a medium term (five to ten year) target for future real government expenditure as a share of GDP and subsequently report publicly on progress relative to that goal.[33] This would not restrain the freedom of any government to pursue the size of government of their choosing. However, it would improve transparency of expenditure trends, by forcing governments to focus on the question of the desirable long-term level of spending, while also paying greater attention to the macro-stability implications of the transition path to a higher level of spending, if that was chosen. The requirement to specify a medium term target would be accompanied by a requirement to account for progress relative to the stated goal and to explain the macro stability implications of expenditure trends.[34]

A potential disadvantage of a multi-year spending cap is that it could give the impression that the only objective of the rule is to constrain the size of the government. If the macro-stability objective of preventing pro-cyclical spending of revenue windfalls were to be lost, then the rule would be unlikely to address the political economy challenges of preventing expenditure increases during long-lasting expansions. A poorly designed expenditure rule could also limit the ability to

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[32] Note that the Mears *et al*. proposal was a more ambitious attempt to control New Zealand's total operating spending than any earlier initiatives, which were less binding. For example, in the 1995 *Budget Policy Statement* the Minister of Finance set a long-term objective of reducing operating expenses to below 30 per cent of GDP. However, there was no obligation to set out a binding time path for achieving this objective. In fact the target was never met and eventually abandoned. The Minister of Finance Bill Birch also adopted a cap on "new spending", which was in operation over the three fiscal years 1998 to 2000. However, this cap did not apply to the majority of spending, which was captured in the fiscal baselines and formula-driven indexed items.

[33] This was proposed in the first report of the 2025 Taskforce (2025 Taskforce, 2009).

[34] A variant on the idea of a multi-year expenditure cap would be a more permanent expenditure cap, such as that in the ACT Party's Spending Cap (People's Veto) Bill. The formula determining the cap would be codified in legislation, in contrast to the Mears *et al*. (2010) cap, which would have been chosen by the government-of-the-day. As a means to shrink the size of the government, and increase transparency, the Spending Cap (People's Veto) Bill could be effective. However, it would reduce flexibility to stabilise the macro economy in recessions (by reducing governments' ability to engage in counter-cyclical spending). It also may not prevent pro-cyclicality on the upside of the cycle, as fiscal stimulus could still be implemented on the revenue side. In addition, referenda-driven policy changes could result in quite abrupt changes to the fiscal stance.

implement stabilising expansionary fiscal policy during a downturn. These difficulties could be partially avoided by combining a spending rule with a revision to the PFA (Option A).

4.3 Option D: stabilisation fund

Instead of restraining spending, an alternative approach is to lock away revenue surprises. Stabilisation funds (SFs) normally aim to save *temporary* increases in revenue in order to finance deficits in later years. A stabilisation fund is thus an alternative or complement to using changes in debt to manage volatility in revenues. In some countries (e.g., Chile), a stabilisation fund has been used to save only those revenue increases that are not judged to be structural. However, if the estimated level of *structural* revenues is often found to be cyclical – as is the case for New Zealand (see Section 3.2) – then a more conservative approach should be used, so that some or all increases in estimated structural revenues would also be saved.

Compared to the current approach (where changes in debt are used to manage volatility), a stabilisation fund would have the following advantages:

- the "prudent" debt objective (currently articulated as 20 per cent of GDP) would be less likely to limit additional savings in the event of better-than-expected fiscal outcomes. This is because a stabilisation fund would shift the focus of fiscal policy towards the goal of fiscal stabilisation;
- a stabilisation fund would assist in communicating the goal of fiscal stabilisation to the public, and therefore help to overcome the political economy challenges of not spending revenue windfalls during protracted upturns. The focus on "saving for a rainy day" is easy to understand and by separating the fiscal stabilisation goal from other fiscal policy objectives (such as the size of government and the partial prefunding of demographic pressures), ongoing expenditure restraint during prolonged upturns should become more politically acceptable;
- given the difficulty in distinguishing temporary from permanent increases in revenue, a stabilisation fund could facilitate a deliberately conservative approach by making funds withdrawal conditional on a clear economic downturn;
- as well as preventing pro-cyclical increases in expenditure during upturns, the fund would also serve a stabilisation role during the downside of the economic cycle by making it easier for governments to raise expenditure (above and beyond the impact of the automatic stabilisers) or reduce taxes at a time when the long-term sustainability objective is under increased pressure. Clear rules would need to be set to ensure that funds withdrawn during downturns be used only to fund deficits resulting from efficient stimulus expenditure or tax cuts.

The big downside of a stabilisation fund is that significant judgement would be required to determine the appropriate level of contributions to/ withdrawals from the fund. This may not be an appropriate role for either the government to play (who on average may have a bias towards not quarantining an upsurge in revenues in a Stabilisation Fund) or the managers (presumably a Crown entity) of the Stabilisation Fund (who may have a bias towards maximising the amount held in the Fund). Determining these matters may therefore be best done by some sort of independent fiscal council or regulator with sufficient autonomy and status that its decisions would be respected (see Section 4.4 for further discussion).

Rules would also be needed to specify how any excess build-up of funds be used, e.g., if the economic cycle was asymmetric so that assets in the fund reached a particularly high level. Whether or not this would eventuate would depend very much on the design of the Fund. In principle the macro-stabilisation role of the Fund could be designed to be symmetric, with the build-up of funds at above trend output fully offset by deficit funding when output is below trend. However, if there are more years when the output gap is negative than positive, then the funds could be exhausted too soon. Alternatively, if draw-downs of the funds were restricted to years

where the economy is in recession, draw-downs could be relatively rare, resulting in a very large build-up of assets in the Fund. In such a case options could include using the funds to pay down debt, or pre-fund other objectives. One option would be to make additional contributions to the New Zealand Super Fund at such times. Some of these considerations are also discussed by Price *et al.* (2008).

There would likely be some trade-off between the degree of prescription of the rules governing the fund and extent to which judgements and flexibility should be permitted. To ensure that the fund be used as intended, an independent expert committee to oversee the fund would probably be needed (discussed further in Section 4.4).

4.3.1 Experiences of other countries with stabilisation funds

Most countries with so-called stabilisation funds use them to insulate their domestic economy from large influxes of revenue (normally from oil or some other commodity). By doing so they maintain a more steady level of government revenue in the face of major commodity price fluctuations (hence the term stabilisation), while also avoiding inflation and minimising the risk of the so-called "Dutch disease".[35] Injections to Stabilisation Funds are normally used to purchase foreign denominated securities, especially if a goal is to prevent overheating in the domestic economy. Many of these countries' *stabilisation funds* are conceptually similar to *sovereign wealth funds,* although some also play a short-term macro stabilisation role. For example, Norway's *Government Pension Fund Global*[36] was established to smooth the effects of fluctuations in oil prices and fund pension liabilities in the future as income from the petroleum sector declines. It is funded from taxes on both private and public oil companies, and payments for exploration and production licenses for petroleum and natural gas. The fund's economic stabilisation objectives are primarily long-term, and there has been no drawdown from the Fund, which makes it similar to a sovereign wealth "saving" fund.[37] At the same time, however, the fund also has an implicit counter-cyclical role, as transfers from the fund to finance the non-oil budget deficit are permitted to vary across the cycle (thus permitting larger deficits during downturns and smaller deficits during upturns). Most other "stabilisation funds" around the world are also primarily sovereign wealth "saving" funds – existing to cope primarily with unusually high economic returns from non-renewable resources.

The best example of a stabilisation fund whose *primary focus* is to stabilise fiscal policy over the cycle, rather than over the longer-term, is Chile's Economic and Social Stabilisation Fund (ESSF). This fund – originally established in 1985 as the Copper Stabilisation Fund – has played an important role in contributing to macroeconomic stability in Chile. Contributions to the fund are made when copper prices are high and withdrawals (during periods when copper prices decline) have been used to finance fiscal deficits and reduce Chile's foreign debt. In 2009, withdrawals were also used to fund a fiscal stimulus plan. The ESSF is a key pillar of Chile's fiscal institutions, which also comprise a structural budget target, the outsourcing of key technical assumptions to

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[35] The term Dutch disease refers to the negative impact on the manufacturing sector that can result from an exchange rate appreciation driven by an increase in revenues from the sale of natural resources. The term was coined in 1977 by *The Economist* newspaper to describe the decline of the manufacturing sector in the Netherlands after the discovery of natural gas in 1959.

[36] Prior to 2006 this was known as the Petroleum Fund of Norway. As of mid-2010, the fund is valued at around US$450b, and holds around 1 per cent of global equity markets. Regulations of the management of funds have changed from time to time. E.g., the proportion of the fund that can be invested in international equity markets has been increased over time (currently 60 per cent). Most of the rest is invested in fixed income securities. Recently the government decided that up to 5 per cent of the fund should be invested in real estate.

[37] This characterisation of the fund as primarily a "saving" fund is supported by the fact that the fund was designed to be invested for the long term, as a tool to manage the financial challenges of an ageing population and an expected future drop in petroleum revenue.

independent expert panels, and a sovereign wealth fund. Together, these fiscal institutions have been credited with greatly smoothing the macroeconomic impact of copper price fluctuations, with positive effects on the real exchange rate and on government revenues (Medina, 2010).

Despite these many positive impacts, fiscal policy in Chile has still been pro-cyclical at times, most recently when a series of upward revisions to the Chilean expert panel's estimate of the long-term copper price during the 2004-08 period, allowed for significant spending increases.[38] The panel of experts may have been correct in its assessment that copper prices are likely to stay higher for longer. However, the resulting additional impulse from public spending was not warranted when the economy was already booming. Chile's experience is not surprising, given evidence that it is easy to overestimate trend growth and thus underestimate the cyclical budget component during long-lasting asset price booms (Jaeger and Schuknecht, 2004).

The key features of the ESSF and related fiscal institutions in Chile are summarised in Annex 1, including proposals to strengthen the framework to reduce the pro-cyclicality in future. One lesson to be learned from other countries' experiences is not to put a cap on the size of a stabilisation fund as this can risk a pro-cyclical blow-out in spending if the cap is reached during an unexpectedly strong upturn (e.g., Finland, Russia).

While the Chilean approach is a potentially useful model, it is not directly applicable to New Zealand, primarily because of the greater cyclicality of estimated structural revenues in New Zealand. As illustrated in Figure 11, Chile not only ran much larger peak fiscal surpluses than New Zealand during the mid-2000s (over 8 per cent of GDP at its peak, compared to about half that in New Zealand) but Chile's estimated structural balance has also been significantly less cyclical than ours. There are two main reasons for this.[39] First, New Zealand's exposure to commodity price volatility is nowhere near as great as Chile's exposure to copper prices.[40] Second, the impact of high commodity prices on tax revenues in New Zealand is much more difficult to identify, as the impacts are more dispersed throughout the economy, unlike Chile where the impacts show up more directly as higher profits in the state-owned copper company Codelco. Since the copper industry in Chile is easily identifiable, it has been relatively easy (*i.e.*, credible and transparent) for the government to ear-mark a proportion of tax revenues and profits from Codelco to the Stabilisation Fund (ESSF). By contrast, it would be much less straightforward to strip out the "cyclical" component of revenues in New Zealand, although not necessarily impossible.[41]

The fact that there is no easy way of earmarking, for New Zealand, commodity-driven tax revenues, highlights why the Chilean model could not be applied directly to NZ. However, an extension of the Chilean approach could see the development of a stabilisation fund for New Zealand which would save windfall gains in *all* sources of government revenue. This would require the estimation of the long-term level of structural revenues, a task that would not be easy (see further discussion below). Nevertheless, if such an approach would make it easier to run budget surpluses of up to 8 per cent of GDP – as in Chile in 2006 and 2007 – it is worth considering.

The key to success in Chile was a set of fiscal institutions which facilitated communication of the fact that if high fiscal revenues were fully spent in real time, they would have put pressure on

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[38] Public spending growth accelerated from 3.5 per cent in real terms during 2000-03, a period of rather sluggish growth and low copper prices, to 7.5 per cent during the copper price boom of 2004-08 (OECD, 2010b).

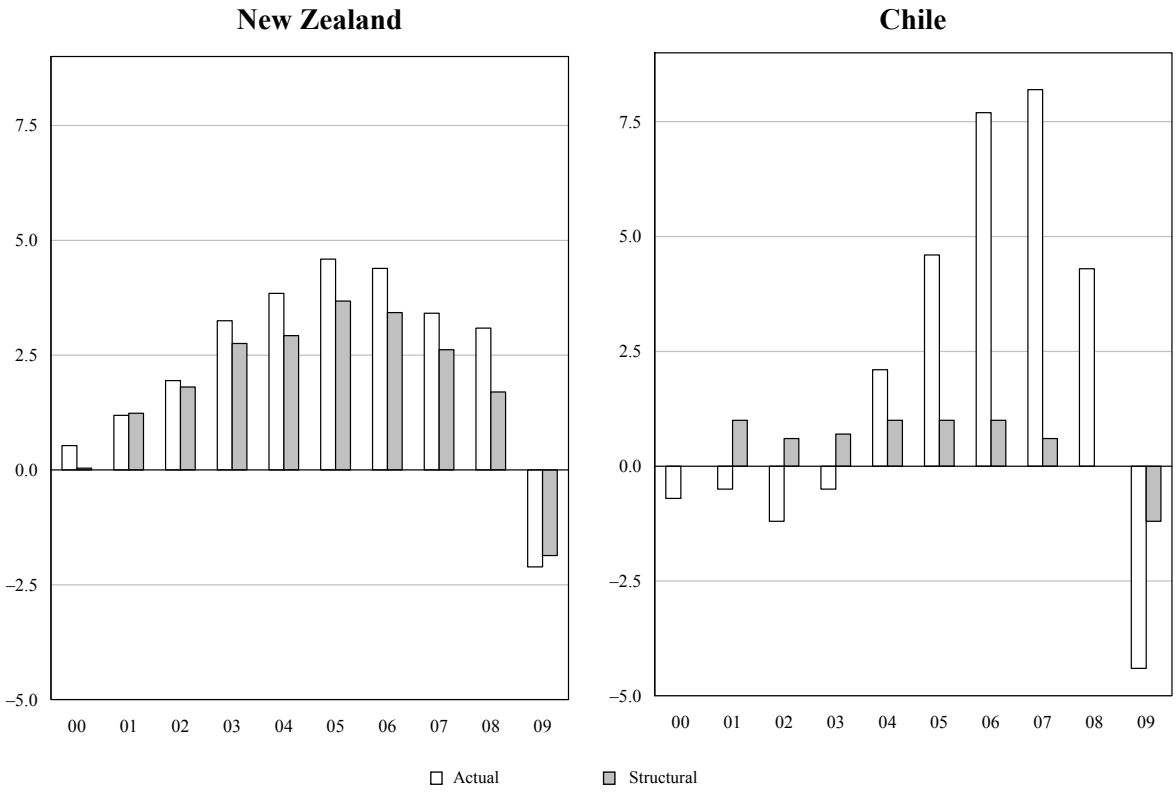
[39] Another potential explanation for New Zealand's more cyclical path of structural revenues could be a more cyclical evolution of discretionary fiscal policy in New Zealand.

[40] Between 2003 and 2008 Chilean commodity prices more than quadrupled, while New Zealand's commodity prices less than doubled.

[41] In theory it could be possible to estimate the proportion of taxes paid by various sectors that is attributable to commodity prices. However, much of the stimulatory effects of high commodity prices in New Zealand infiltrate gradually into private sector demand (e.g., via higher investment by dairy farmers) rather than always showing up as higher tax revenues.

Figure 11

Actual vs. Structural Fiscal Balances: New Zealand vs. Chile
(percent of GDP)



absorptive capacity and triggered a sizeable appreciation of the real exchange rate (Chan-Lau *et al.*, 2010).

4.3.2 How would a stabilisation fund work in practice in New Zealand?

In the case of New Zealand, there would be two main options for determining contributions to a stabilisation fund. One option would be to save some general definition of "revenue windfalls", rather than simply actual fiscal surpluses in excess of the structural surplus target (*i.e.*, largely cyclical revenues), as is done in Chile. The other option would be to earmark a specific type of tax for the fund – e.g., a capital gains tax (CGT). Since capital gains taxes tend to exhibit a highly cyclical pattern, ear- marking them to be quarantined in a stabilisation fund would reduce the risk of them being "spent", such as occurred in Ireland during the 2000s. It is also possible that linking CGT revenues to a stabilisation fund could make a CGT more politically palatable, depending on how draw-downs from the fund would be spent.

The "terms of reference" of a macro stabilisation fund for New Zealand could include the following features:

- contributions to the stabilisation fund would consist of all revenue surprises. Surprises could be defined as all actual government revenues in excess of the estimated long-term level of government revenue (*i.e.*, the revenue that would be received if commodity prices were at their long-run sustainable level and the economy was growing in line with trend);

- draw-downs would be permitted when actual revenues are lower than the long-term estimate (OR when the economy is in recession OR in certain other circumstances on recommendation of an independent fiscal council);
- funds would be invested offshore in low-risk liquid assets (e.g., high-rated sovereign debt);
- offshore assets would be held on an un-hedged basis. This may help to stabilise the exchange rate (to the extent that investments would be typically made when the economy is performing well, which normally correlates with a stronger exchange rate, while assets would be sold when the economy is weak, which normally correlates with a weaker exchange rate);
- the implied cost for the Crown Balance Sheet would need to be acknowledged (return on high-rated international sovereign debt < cost of holding additional domestic debt). This cost *could be* partly offset by gains on currency movements (see above bullet) but this could not be guaranteed.

In considering the pros and cons of a stabilisation fund, the following considerations should be kept in mind. First, a stabilisation fund means that cyclical fluctuations of the Crown balance sheet would be managed through the asset side of the balance sheet rather than the liability side. Alternative ways to manage balance sheet variation could include a better-specified net debt target (*i.e.*, in a way that would avoid reaching a "floor" during good times) or having a "notional" account on the balance sheet. These options would avoid the fiscal cost (due to the interest rate spread) of investing in high-rated international debt rather than paying down domestic debt. However, these other options may not have the same political economy benefits as a stabilisation fund.

Second, more work would need to be done to explore the challenges of ensuring that draw-downs from the fund be spent efficiently. In particular there is a danger of misallocation if spending programmes were to become conditional on stabilisation fund resources becoming available. To mitigate this risk, it could be specified that draw-downs be used only to finance fiscal deficits, rather than to fund stimulus programmes. This would keep the path of expenditure in line with that of long-term revenue, and prevent the need for borrowing during recessions. However, large or persistent deviations in government revenues from the estimated long-run level could lead to prospects of an indefinite accumulation of funds or the prospect of the fund being exhausted, as discussed in RBA (2011). If facing the prospect of exhaustion, a downward adjustment would need to be made to the estimated level of long-term revenues. The prospect of an indefinite accumulation of funds could open the door to one-off injections of funds to pay down debt or contribute to the New Zealand Superannuation Fund (NZSF).

Finally, it is worth noting the distinction between a stabilisation fund and a saving fund, such as the NZSF. Whereas the NZSF is used to accumulate revenues for the purpose of funding future pension liabilities, a stabilisation fund would be used to insulate the domestic economy from the volatility in government revenues by accumulating revenues when they are strong, and injecting the accumulated funds back into the budget when revenues are weak. As such the investment objectives of the two funds would be quite different. Since savings funds aim to earn a real return they are typically invested in more risky asset classes than stabilisation funds, which should be invested in very liquid and low-risk assets such as government bonds.

In this light it is worth noting that the NZSF already plays a broadly equivalent role to the Chilean Savings Fund (the PRF - see Annex 1 for more detail), although the two funds differ significantly in their risk profile. The creation of a macro stabilisation fund in New Zealand would be complementary to the NZSF in that its purpose would be to run assets up and down over the economic cycle, rather than to save for the longer-term, as is the purpose of the NZSF. As in Chile, contributions to the macro stabilisation fund could be defined as those in excess of those required to fund the NZSF.

4.4 Option E: an independent fiscal council

The political economy challenge of running large fiscal surpluses during an economic upturn is well recognised, and in response, it is now commonly recommended that aspects of fiscal policy be delegated to some kind of Independent Fiscal Council (IFC). However, since each country has different fiscal policy challenges, an IFC may not be appropriate in all cases.

While a few countries have had IFCs for several decades, most IFCs around the world are relatively new. Where the mandate is to provide relatively technical input to the fiscal policy decision-making process (such as in Chile), the role of IFCs seems very clear. However, political independence makes less sense if the choice of fiscal policy actions includes choices among different expenditure programmes or among different taxes. As Solow (2005) points out, part of the reason why intelligent discretionary fiscal policy is so difficult in a democracy, is because there is no perfectly "neutral" fiscal package. Every expenditure change and every change in tax rates has distributional and allocation effects. If choice is left to the democratic process, stabilisation issues will tend to be fought out in terms of distribution and allocation, and the stabilisation results will tend to be delayed and may sometimes be perverse.[42]

In many other countries, the lack of independence of the economic forecasts is considered a significant problem impeding quality fiscal policy analysis. This problem underpinned the recent creation of the Office for Budgetary Responsibility (OBR) in the UK. In New Zealand, however, where the economic forecasts are signed off by the Secretary to the Treasury rather than by the Minister of Finance, forecast independence is not considered a problem.

Instead, New Zealand's biggest fiscal policy problem is more likely to be related to the *shallowness of the public debate about Fiscal Policy.* New Zealand has no private sector economists, academics or think tanks that specialise in fiscal policy analysis and commentary. If this problem is considered significant, however, there may be other ways of addressing it, rather than through creation of an IFC. For example, it may be cheaper to provide public funding to support Fiscal Policy research and commentaries at Universities or think tanks than it would be to set up an IFC.

IFCs in different countries perform a wide range of functions that vary significantly across countries. For New Zealand the obvious mandate would be positive (rather than normative) *ex post* and *ex ante* commentary on actual and expected Fiscal Policy outcomes relative to objectives. The case for an IFC to undertake costings and evaluations of opposition party policies is less clear-cut.

A more specific role for an IFC would arise if a stabilisation fund were to be established (see discussion above). In this case, thought would need to be given to the design/selection of *macroeconomic triggers*; *i.e.*, the identification of the economic developments that would determine the contribution to/draw down of funds from the stabilisation fund. Regardless of whether the rule determining contributions to/draw downs from the stabilisation fund was mechanistic or flexible, an IFC could enhance the credibility of the arrangement.

An important question is who an IFC should report to. If the IFC were to report to the parliament, a risk is that the council could be seen by the government as a tool of the opposition, resulting in a break-down in cooperation. Askari, Page and Tapp (2011) discuss the Canadian Parliamentary Budget Office (PBO)'s such experiences. This suggests that it could be more successful to have the IFC report to the executive (e.g., following the OBR model), although in that

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[42] With this potential dilemma in mind, Solow (2005) proposed the idea of an "automated" (expansionary or contractionary) pre-determined fiscal policy package that would come into play when the appropriate economic indicator was triggered. He suggested that the composition of the "standard package" could be adjusted once every 10 to 12 years. At the same time, however, he warned of the risks that too frequent changes to tax rates or to expenditure programmes could be costly in terms of efficiency and effectiveness.

case it would be important to ensure that the executive did not have the power to compromise the IFC's independence. These are issues that would need to be further explored.

One of the issues in the New Zealand context is the potential cost of resourcing an IFC, and also staffing it appropriately, given the relatively shallow pool of suitable economists from which to draw in a small economy. To reduce the resource cost, options could be considered such as utilising Reserve Bank and Treasury staff (e.g., as full-time or part-time secondees). The Reserve Bank is already independent from government, and has a relatively large and highly qualified staff. Like many other central banks around the world, the Reserve Bank has at times seemed reluctant to comment on fiscal policy. However, secondees from the Bank could be well-placed to provide useful independent technical advice and commentary.

Given the importance of ensuring that fiscal policies not exacerbate monetary policy, another option would be to amend the Reserve Bank Act to *require* the RB to explicitly comment in the Monetary Policy Statement on the cyclical dimensions of fiscal policy.[43] This is similar to a recommendation by the UK House of Commons report on the Monetary Policy Committee of the Bank of England that the Bank of England "should monitor fiscal policy, and issue a warning if it was concerned about its effects". (House of Commons Treasury Committee, 2007). Eric Leeper's Jackson Hole paper also suggested that central bankers should "break away from the taboo against saying anything substantive about fiscal policy" and play a more prominent role in debating the role of fiscal policy in macro stability (Leeper, 2010).

Yet another option would be to commission an independent *ex post* review of fiscal policy to be published 3 months out from each election. As long as it were produced by a credible group of economists – the knowledge that such a "report card" were forthcoming could serve as a powerful check on any pressures to behave in a fiscally imprudent manner.

Before making any recommendation on the strength of the case for a IFC for New Zealand, more work needs to be done to investigate the different models of IFC. The best model for New Zealand would be likely to depend on what other fiscal policy tools are adopted to assist with making fiscal policy less pro-cyclical. Treasury will be undertaking further work over the next few months to explore the case for an IFC in New Zealand.

4.5 Option F: the case against a structural balance-based fiscal rule (SFR)

It is commonly argued that a structural balance-based fiscal rule would be the best way of achieving less pro-cyclical fiscal policy. However, as Ter-Minassian (2011) puts it: "… while a SFR is superior to a rule targeting an unadjusted budget balance in preventing fiscal pro-cyclicality, it shares with the latter the risk of hindering active counter-cyclical fiscal responses to a crisis. … Even during boom periods, a SFR may constitute a hindrance to a needed fiscal tightening, if it lulls a government into believing that, by meeting the SFR's target, it has done all it needs to do on the fiscal front to stabilize the economy".

Frankel (2011) also points out that a structural budget rule may not work if it encourages a bias in the official forecasts. He provides evidence for such a bias for official forecasts of growth and budget deficits in European economies subject to the Stability and Growth Pact. However, one would hope that the New Zealand Treasury's forecast independence would prevent a similar bias from developing in New Zealand.

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[43] For example, Section 15 of the Reserve Bank Act could be amended to require the bank to include regular (e.g., at least once a year) commentary in the Bank's Monetary Policy Statement on the stabilisation dimensions of fiscal policy. This would be consistent with Section 10 of the Act, which already requires the Bank to "consult with, and give advice to, the Government and such persons or organisations as the Bank considers can assist it to achieve and maintain the economic objective of monetary policy".

Looking at estimates for the structural balance for New Zealand, one can speculate about what fiscal policy outcomes might have been under a SFR. Of course, the results would depend on what specific SFR was used. As illustrated in Figure 4, New Zealand ran significant structural operating balance surpluses through most of the 2000s, so a rule targeting a structural operating balance surplus of, say, 1 per cent of GDP would have probably made it more difficult to run surpluses much larger than 1 per cent. In this case, we probably would have ended up with even larger spending increases, or tax cuts, through the mid part of the 2000s, implying a further loosening of the fiscal policy stance and putting even more pressure on monetary policy.

A more ambitious target – such as a SFR for a 4 per cent structural operating balance surplus – would have been more likely to avoid pro-cyclicality. However, such a target would probably not have been politically achievable. In addition, unless such a rule had good escape clauses, it also would have prevented much fiscal stimulus during the downturn.

Finally, it is worth noting that a fiscal rule that focuses on a single target may lead policy makers to ignore other policy indicators that suggest a greater level of risk, or to seek to reach the target in ways that circumvent the intention of the rule. Examples of accounting tricks that could be used to circumvent rules are: misclassifying current expenditures as capital ones under a golden rule; overestimating potential GDP growth under a SFR; resorting to tax expenditures under an expenditure rule or shifting spending off the balance sheet, under a debt rule.

These risks strongly support the current approach embedded in the PFA of requiring governments to seek to achieve certain principles of fiscal responsibility, while monitoring a *range* of fiscal variables, rather than a single specific target.

4.6 Option G: active tax policy

Another common suggestion is to develop some tax policy tools that can be used actively over the cycle to dampen aggregate demand during upturns and stimulate aggregate demand during downturns. The most common suggestions are for a variable petrol tax or a variable GST (e.g., as suggested by Buiter, 2006).

Gaukrodger (2011) discusses the case for using tax policy tools in such an active counter-cyclical way and notes that there would typically be strong political resistance to reversing any temporary tax cuts introduced during economic downturns. This suggests that temporary tax rate changes would be most feasible during the upside of an economic cycle (since there would presumably be little resistance to reversing tax rate increases). Even on the upside, however, using fiscal policy tools in such an active counter-cyclical manner would imply substantial efficiency and compliance costs. Overall, Gaukrodger (2011) concludes that it would be better to maximise macroeconomic stability within the parameters of an efficient tax system – e.g., by introducing a capital gains tax or a land tax, both of which would have some macro-stability benefits – before resorting to such temporary fiscal policy measures.

5 Conclusion

A key problem with the current fiscal framework (which relies on running debt up and down to achieve macroeconomic stabilisation) is that debt can hit the "prudent" debt level target during good times. Even if the prudent debt level is not reached it can be very difficult to persuade the public, and politicians, that revenue windfalls should be saved rather than spent. This contributes to pro-cyclical fiscal policy during the upside of the cycle, exacerbating interest rate and exchange rate cycles.

Looking back at the last economic upturn, a 2-3 year episode of pro-cyclicality can be identified, and this is likely to have contributed to higher interest rates and a more over-valued exchange rate than might otherwise have been the case. The international evidence shows that pro-cyclicality is a common phenomenon during upturns in other countries also, suggesting that it is likely to be a challenge that New Zealand will face again in future. The cause of the most recent pro-cyclicality episode in New Zealand seems to be a combination of: political economy factors; insufficient emphasis on macro-stability objectives; and – with the benefit of hindsight – genuine mistakes in assessing cyclical conditions.

Looking ahead, it is recommended that we modify the fiscal policy framework to facilitate a more active stabilisation focus for fiscal policy, in time for the next upturn. The desired change could be characterised as follows:

Standard prescription		Future prescription
Fiscal policy should follow stable and transparent rules that allow automatic fiscal stabilisers to operate fully while refraining from the temptation to use discretionary countercyclical policy owing to the likely decision and implementation lags.	→	Fiscal policy should actively seek to avoid offsetting the automatic fiscal stabilisers, by putting in place institutional structures that promote greater transparency and accountability and build public support for the need to run large fiscal surpluses during upturns.

While better fiscal policy analysis may be able to help at the margin, the biggest challenge in designing a better set of fiscal rules and institutions is the political economy one. Greater public support is required for the need to run increasingly large fiscal surpluses during upturns (there already seems to be sufficient support for running deficits during downturns). At the same time New Zealand's fiscal institutions need to be able to cope with real-time uncertainty and foster a greater degree of caution in the way revenue windfalls are interpreted.

Features of a future fiscal framework could therefore include:

- increased focus on the macro-stabilisation objective (without diluting the importance of the long-run sustainability objective) and a greater focus on building public support for stabilising fiscal policy. Tools to achieve this may include:
  - a *more explicit mandate* in the PFA relating to fiscal policy stability;
  - better and more regular communication (to both the government and the public) of the fiscal stance and its macroeconomic impact;
- a more explicit de-linking of expenditure decisions from revenue outturns. This could be facilitated by clearer *ex ante* specification of spending plans in fiscal strategy documents, or through use of a well-designed stabilisation fund;
- permanent tax policy reforms such as a capital gains tax that would increase the strength of the automatic stabilisers, while also improving the efficiency of the tax system more generally. Since such a tax would, at the same time, increase the pro-cyclicality of tax revenues, the need for other institutional reforms to de-link expenditure decisions from revenue windfalls would gain further importance. One suggestion has been to earmark capital gains tax revenues for a stabilisation fund;
- consideration of the role that an independent fiscal council could play in raising the quality of public debate and transparency and accountability of key fiscal policy judgments;
- finally, an increased focus on introducing policy changes more *gradually* would also help to mitigate the problems of trying to operating fiscal policy in a fog of uncertainty.

ANNEX 1
FISCAL INSTITUTIONS IN CHILE[44]

Chile adopted a structural surplus rule in 2000. Until 2007 a structural surplus of 1 per cent of GDP was targeted. The target was lowered to ½ per cent as of 2008 and (temporarily) to 0 per cent for 2009. The government calculates structural revenues with the help of two independent expert panels who provide inputs for the long-term reference price for copper and an estimate for potential output growth. Under the rule the government saves all revenues above the estimated structural component of central government revenue. Actual fiscal surpluses in excess of the structural surplus target are allocated to the Stabilisation Fund (ESSF), the Savings Fund (PRF), and the Central Bank of Chile, as described below. In practice, when very large fiscal surpluses were recorded over 2007-08, most allocations were to the ESSF. The fiscal framework enjoys a broad political consensus.

In the face of fiscal surpluses as large as 8 per cent of GDP over the mid-late 2000s (Figure 11), the government was successfully able to communicate that growth of public spending beyond the limit implied by the rule would risk putting renewed upward pressure on the exchange rate. However, the framework has not been foolproof, as evidenced by the fact that upward revisions to the long-term copper price, by the independent expert panel, allowed for pro-cyclical spending increases.

1 Chile has both a Stabilisation Fund (ESSF) and a Savings Fund (PRF)

Chile's 2006 Fiscal Responsibility Law involved the creation of two new sovereign wealth funds. The first of these is the Pension Reserve Fund (PRF) which is essentially a Savings Fund – not dissimilar to the New Zealand Superannuation Fund – (no withdrawals are allowed to be made from the fund for a minimum of ten years). *This fund receives a minimum annual contribution of 0.2 per cent of GDP (to be made even in the case of an overall deficit), which can be increased to up to 0.5 per cent of GDP*, and initially received a one-off sum of $600 million in 2006 to kick-start the fund. In addition, 0.5 per cent of GDP is allocated to the central bank each year, for recapitalisation, provided the central government runs an overall surplus. These recapitalisation payments are expected to cease after 2011.

The other fund, the Economic and Social Stabilization Fund (ESSF), came into existence in 2007 with a one-off payment of approximately US$ 5 billion, (from its predecessor, the 1985 Copper Stabilization Fund). *The ESSF receives each year any positive balance resulting from the difference between the actual and structural fiscal surpluses after the contributions to the PRF and to the Central Bank of Chile have been made.* Resources from the ESSF can be used to fund the contributions to the PRF when the overall central government balance is negative.

2 Contributions to and withdrawals from the ESSF

Contributions to the ESSF since its creation in 2007 total almost US$ 20 billion, and withdrawals just under US$ 10 billion (see Table overleaf).

The assets accumulated allowed the government to implement a US$ 4,000 million fiscal stimulus plan in 2009 to compensate for the sharp drop in private demand associated with the

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[44] The information in this Annex is drawn largely from the website of the Chilean Ministry of Finance: http://www.minhda.cl/english/fondos_soberanos/index.php. Information on the independent expert panels is drawn from other sources.

	Contributions to the ESSF		Withdrawals from the ESSF		Market Value *(millions of US$)*
	Amount *(millions of US$)*	**percent of previous year's GDP**	**Amount** *(millions of US$)*	**percent of previous year's GDP**	
2007	13,100	8.9	-	-	14,033
2008	5,000	3.1	-	-	20,211
2009	-	-	9,278	5.5	11,285
2010	1,362	0.8	150	0.1	12,720

Note: Approximately US$ 5 billion of the contributions in 2007 were a one-off payment from the fund's predecessor.

global economic and financial crisis. This plan included: a special program of public investment worth US$ 700 million; a capital injection of US$ 1,000 million for the state copper company Codelco to support its investment plans; two special grants of 40,000 pesos (approx US$ 80) per dependent to the country's poorest families; a temporary reduction in stamp tax on loan operations; a postponement of the reversal of part of an earlier temporary cut in fuel tax; and the bringing forward of income tax rebates. In line with the key purpose of the ESSF an additional US$ 4,000 million was withdrawn from the fund to help finance the actual fiscal deficit, US$ 441 million was used to pay down public debt and US$ 837 million was withdrawn for payment into the PRF. As a result total withdrawals from the ESSF in 2009 totalled US$ 9,278 million (approx 5.5 per cent of GDP).

Further significant withdrawals in 2010 were not required since GDP growth returned to a healthy rate. Indeed, contributions resumed in the second half of that year. Government policy minimised the effect of the inflow of dollars from the ESSF on the exchange rate by using domestic borrowing to finance the deficit.

3 Corporate governance, objectives and strategies

Both funds are managed by a Financial Committee, the members of which are appointed by the (independent) central bank. The Committee is responsible for making investment decisions and for the day-to-day running of the funds.

The aim of the PRF is to address an expected future government pension liability shortfall. As a Savings Fund, it takes a longer-term view. This means it has a higher risk profile and can invest in a broad range of asset classes. The ESSF, on the other hand, has macroeconomic stabilisation objectives. It has the aim of accumulating excess revenues when the price of copper is high in order to channel revenues into the budget when the price of copper is low, thereby smoothing out government expenditure. As a Stabilisation Fund, it has a lower risk profile in terms of its investments because it must take a short-term view due to liquidity concerns. Despite the differences in risk profile, both funds are exclusively invested in low-risk asset classes, similar to those used in international reserves. This conservative risk profile for the PRF was initially intended to be temporary, and the Financial Committee has recommended a move to more diversification. The performance of the funds is measured in US dollars and investments are not hedged.

4 The role of the independent expert panels

Chile has two independent expert panels to which key technical decisions are delegated. The "potential output" panel estimates the main parameters that are used for calculating the structural balance. The panel – which consists of about 14 well-known economists from academia and research bodies – meets twice during each budget season. At the second meeting, each member of the panel submits a forecast for each of the inputs required by the model (labour force; real investment; and total factor productivity). Each of the estimates is published anonymously so that each forecaster recognises only his/her own. The two extremes on either side are discarded and then a simple average of the remaining 12 forecasts is used to estimate the output gap from a production function. There is no discussion to achieve a consensus among panel members.

The "copper price" panel is similar to the "potential output" panel, except that it is charged with the job of estimating the average long-term (ten-year) price for copper as the reference price (which serves as an input to the structural balance). The same procedures are followed as for the potential output panel. Panel members are employees of mining companies and related enterprises, or financial analysts in this sector.

Members of both panels are appointed by the Minister of Finance for one year at a time, although they are typically re-appointed every year. Most members have been there since the beginning (approximately 2006). The experts receive no remuneration. The establishment of these independent panels seems to have alleviated fears about the impartiality of the calculations underlying the structural budget surplus, although some commentators have recommended that the independence of the panels be boosted by requiring them to publish some commentary on the fiscal position.

5 Proposals to strengthen Chile's rule-based fiscal framework

Both the IMF and the OECD have noted that Chile's fiscal framework has contributed to very impressive fiscal performance (Dabán, 2011; IMF, 2010b; Chan-Lau *et al*., 2010; OECD, 2010b). Nevertheless, a key weakness of the framework has been noted: that upward revisions to the long-term assumption for copper prices imparted an unintended pro-cyclicality to government spending over the last upturn. A number of different proposals to address this include:

- Introducing an expenditure growth ceiling, to help prevent pro-cyclical increases in public spending;
- Focussing more attention on the structural non-mining primary balance;
- Adding provisions to handle *ex post* deviations to avoid last-minute fiscal tightening or loosening at the end of the year to comply with the rule;
- Expanding the role of the expert committees to include an *ex post* assessment of the implementation of the rule, or transforming the panel into an independent fiscal council;
- An alternative proposal was to convene the expert committee for the determination of long-term copper prices less frequently, ideally only once a full copper price cycle has been completed.

REFERENCES

2025 Taskforce (2009), "Answering the $64,000 Question: Closing the Income Gap with Australia by 2025", first report of the 2025 Taskforce, New Zealand Government, November.

Abbas, S.M.A., J. Bouhga-Hagbe, A.J. Fatás, P. Mauro and R.C. Velloso (2010), "Fiscal Policy and the Current Account", International Monetary Fund, Working Paper, No. WP/10/121.

Alesina, A. (2000), "The Political Economy of the Budget Surplus in the US", *Journal of Economic Perspectives*, No. 14, pp. 3-19, available at: http://www.aeaweb.org/articles.php?doi =10.1257/jep.14.3.3

Allsopp, C. and D. Vines (2005), "The Macroeconomic Role of Fiscal Policy", *Oxford Review of Economic Policy*, Vol. 21, No. 4, pp. 485-508.

André, J.P. (2011), "Economic Imbalances: New Zealand's Structural Challenge", New Zealand Treasury, Working Paper, forthcoming.

Askari, M., K. Page and S. Tapp (2011), "Reforming Fiscal Institutions in Canada", in this volume, Parliamentary Budget Office, Canada.

Auerbach, A. and W. Gale (2009), "Activist Fiscal Policy to Stabilise Economic Activity", paper prepared for the Federal Reserve Bank of Kansas City conference on *Financial Stability and Macroeconomic Policy*, Jackson Hole (WY), August.

Auerbach, A. and Y. Gorodnichenko (2010), "Measuring the Output Responses to Fiscal Policy", NBER, Working Paper, No. 16311.

Balassone, F., M. Francese and S. Zotteri (2007), "Cyclical Asymmetry in Fiscal Variables", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*.

Barker, F., R. Buckle and R. St Clair (2008), "Roles of Fiscal Policy in New Zealand", New Zealand Treasury, Working Paper, No. 08/02, available at: http://www.treasury.govt.nz/publications/research-policy/wp/2008/08-02/

Barker, F. and R. Philip (2007), "Comparative Approaches to Fiscal Rules", New Zealand Treasury, paper prepared for the workshop *The Business Cycle, Housing, and the Role of Policy*, hosted by the Treasury and the Reserve Bank, Wellington, December.

Bean, C.R. (2009), "The Meaning of Internal Balance Thirty Years On", *The Economic Journal*, Vol. 119, November.

Beetsma, R. and M. Giuliodori (2011), "The Effects of Government Purchases Shocks: Review and Estimates for the EU", *The Economic Journal*, Vol. 121, No. 550, pp. F4-F32.

Blanchard, O. (2007), "Current Account Deficits in Rich Countries", International Monetary Fund, Staff Paper, Vol. 54, No. 2.

Blinder, A.S. (2004), "The Case Against the Case Against Discretionary Fiscal Policy", CEPS, Working Paper, No. 100.

Boije, R. and J. Fischer (2006), "Fiscal Indicators in a Rule-based Framework", in Banca d'Italia (ed.), *Fiscal Indicators*.

Brainard, W. (1967), "Uncertainty and the Effectiveness of Policy", *American Economic Review*, Vol. 57, pp. 411-25.

Buiter, W. (2006), "Stabilisation Policy in New Zealand: Counting Your Blessings One by One", in R. Buckle and A. Drew (eds.), *Testing Stabilisation Policy Limits in a Small Open Economy: Proceedings from a Macroeconomic Policy Forum*, Reserve Bank of New Zealand and the

Treasury, Wellington, October, pp. 37-74, available at: http://www.rbnz.govt.nz/research/workshops/12jun06/2837468.html

Cassino, E. and Z. Wallis (2010), "The New Zealand Dollar Through the Global Financial Crisis", Reserve Bank of New Zealand, *Bulletin*, Vol. 73, No. 3.

Chan-Lau, J.A., T. Dabán, N. Magud and L. Medina (2010), "Chile: Selected Issues", August 27, background information to the IMF Staff Report on the 2010 Article IV consultation discussions with Chile, International Monetary Fund, Washington (D.C.).

Claus, I., A. Gill, B. Lee and N. McLellan (2006), "An Empirical Investigation of Fiscal Policy in New Zealand", New Zealand Treasury, Working Paper, No. 06/08, available at: http://www.treasury.govt.nz/workingpapers/2006/wp06-08.asp

Condliffe, J.B. (1959), *The Welfare State in New Zealand*, George Allen & Unwin Ltd.

Conway, P. (2000), "Monetary Policy in an Uncertain World", Reserve Bank of New Zealand, *Bulletin*, Vol. 63, No. 3.

Dabán, T. (2011), "Strengthening Chile's rule-based fiscal framework", International Monetary Fund, Working Paper, No. WP/11/17.

Debrun, X. and M. Kumar (2007), "Fiscal Rules, Fiscal Councils and All That: Commitment Devices, Signalling Tools or Smokescreens?", in Banca d'Italia (ed.), *Fiscal Policy*.

Dunaway, S. (2009), "Global Imbalances and the Financial Crisis", Council on Foreign Relations, Special Report, No. 44, March.

Dungey, M. and R. Fry (2009), "Identifying Fiscal and Monetary Policy in a Small Open Economy VAR", *Economic Modelling*, Vol. 26, pp. 1147-60.

Dunstan, A., D. Hargreaves and O. Karagedikli (2007), "The Impact of Fiscal Policy on the Business Cycle", Reserve Bank of New Zealand, *Bulletin*, Vol. 70, No. 1, pp. 5-18.

Edison, H. and F. Vitek (2009), "Australia and New Zealand Exchange Rates: A Quantitative Assessment", International Monetary Fund, Working Paper, No. 09/07.

European Commission (2006), "Fiscal Policy in Good Times", Part IV of *Public Finances in the EU – 2006*, available at: http://ec.europa.eu/economy_finance/publications/publication7927_en.pdf and in http://ec.europa.eu/economy_finance/publications/publication423_en.pdf

Fielding, D., O. Parkyn and P. Gardiner (2011), "Explaining some Puzzles in the Estimated Response of New Zealand GDP to Fiscal Shocks", paper presented at the *New Zealand Association of Economists Annual Conference*, Wellington, July.

Frankel, J. (2011), "Over-optimism in Forecasts by Official Budget Agencies and Its Implications", NBER, Working Paper, No. 17239.

Gaukrodger, B. (2011), "Using Tax Policy Instruments as Macroeconomic Stabilisation Tools", New Zealand Treasury, Internal Research Note, Document Ref. No. 1897134.

Hauptmeier, S., J. Sánchez-Fuentes and L. Schuknecht (2010), "Towards Expenditure Rules and Fiscal Sanity in the Euro Area", European Central Bank, Working Paper, No. 1266.

House of Commons Treasury Committee (2007), "The Monetary Policy Committee of the Bank of England: Ten Years On", House of Commons Treasury Committee report on the Monetary Policy Committee of the Bank of England, available at: http://www.bankofengland.co.uk/monetarypolicy/overview.htm

Hughes-Hallet, A., R. Kattai and J. Lewis (2007), "Early Warning or Just Wise After the Event?: The Problem of Using Cyclically Adjusted Budget Deficits for Fiscal Surveillance", De Nederlandsche Bank, Working Paper, No. 124.

Ilzetzki, E., E.G. Mendoza and C.A. Végh (2011), "How Big (Small?) Are Fiscal Multipliers?", International Monetary Fund, Working Paper, No. WP/11/52, Washington (D.C.).

IMF (2009), "Fiscal Rules: Anchoring Expectations for Sustainable Public Finances", International Monetary Fund, Fiscal Affairs Department, Washington (D.C.).

——————(2010a), "New Zealand: 2010 Article IV Consultation – Staff Report", International Monetary Fund, Country Report, No. 10/144, Washington (D.C.).

——————(2010b), "Chile: 2010 Article IV Consultation – Staff Report", International Monetary Fund, Country Report, No. 10/298, Washington (D.C.).

Jaeger, A. and L. Schuknecht (2004), "Boom-bust Phases in Asset Prices and Fiscal Policy Behavior", International Monetary Fund, Working Paper, WP/04/54, Washington (D.C.).

Kumar, M.S. and T. Ter-Minassian (2007), *Promoting Fiscal Discipline*, Washington (D.C.).

Labuschagne, N. and P. Vowles (2010), "Why Are Real Interest Rates in New Zealand So High? Evidence and Drivers", New Zealand Treasury, Working Paper, No. 10/09.

Lane, P.R. (2010), "Some Lessons for Fiscal Policy from the Financial Crisis", Institute for International Integration Studies, Discussion Paper, No. 334.

Leeper, E.M. (2010), "Monetary Science, Fiscal Alchemy", paper prepared for the Federal Reserve Bank of Kansas City's Jackson Hole Symposium *Macroeconomic Policy: Post-crisis and Risks Ahead*, August 26-28.

Lindh, Y. and G. Ljungman (2007), "Fiscal Rules and the Scope for Stabilisation Policy: The Case of Sweden", in Banca d'Italia (ed.), *Fiscal Policy: Current Issues and Challenges*.

Lucas, R.E. (2003), "Macroeconomic Priorities", *The American Economic Review*, Vol. 93, No. 1.

Mabin, G. (2010), "New Zealand's Exchange Rate Cycles: Evidence and Drivers", New Zealand Treasury, Working Paper, No. 10/10.

Mears, T., G. Blick, T. Hampton and J. Janssen (2010), "Fiscal Institutions in New Zealand and the Question of a Spending Cap", New Zealand Treasury, Working Paper, No. 10/07.

Medina, L. (2010), "The Dynamic Effects of Commodity Prices on Fiscal Performance in Latin America", International Monetary Fund, Working Paper, No. WP/10/192, Washington (D.C.).

New Zealand Treasury (2005), "Fiscal Assessment Report – Macroeconomic and Fiscal Implications of the 2005 Budget Package", New Zealand Treasury, Budget Report, No. BR2005/24, OIA Release Version (Treasury:753713).

——————(2007) "Fiscal Assessment – Emerging Position and Options for Budget 2008", New Zealand Treasury, Budget Report, No. BR2007/14, OIA Release Version (Treasury:1108234).

OECD (2010a), "Counter-cyclical Economic Policy", OECD, Economics Department, Policy Note, No. 1, May.

——————(2010b), "Fiscal Policies for Enhanced Resilience and Equity", chapter 2 in *OECD Economic Surveys: Chile*, Organisation for Economic Cooperation and Development, Paris.

Orphanides, A. and S. Van Norden (2003), "The Reliability of Inflation Forecasts Based on Output Gap Estimates in Real Time", Cirano, Working Paper, No. 2003s-01.

Parkyn, O. (2010), "Estimating New Zealand's Structural Budget Balance", New Zealand Treasury, Working Paper, No. 10/08.

Philip, R. and J. Janssen (2002), "Indicators of Fiscal Impulse for New Zealand", New Zealand Treasury, Working Paper, No. 02/30.

Price, R., I. Joumard, C. André and M. Minegishi (2008), "Strategies for Countries with Favourable Fiscal Positions", OECD, Economics Department, Working Paper, No. 655.

Reserve Bank of Australia (2011), "The Role of Sovereign Wealth Funds in Managing Commodity Revenues", internal document released under the Freedom of Information Act, available at: http://www.rba.gov.au/about-rba/foi/pdf/25032011.pdf

Reserve Bank of New Zealand (2007), *Submission to the Finance and Expenditure Select Committee's Inquiry into the Future Monetary Policy Framework*, July, available at: http://www.rbnz.govt.nz/monpol/about/3074316.html

Romer, C. and D. Romer (2007), "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks", NBER, Working Paper, No. 13264.

Solow, R.M. (2005), "Rethinking Fiscal Policy", *Oxford Review of Economic Policy*, Vol. 21, No. 4., pp. 509-14, available at: http://oxrep.oxfordjournals.org/cgi/reprint/21/4/509

Taylor, J.B. (2009), "The Lack of an Empirical Rational for a Revival of Discretionary Fiscal Policy", *American Economic Review: Papers and Proceedings*, Vol. 99, No. 2, pp. 550-55.

Ter-Minassian, T. (2011), "Should Latin American Countries Adopt Structural Balance-based Fiscal Rules?", in this book, drawing in part on a chapter for a forthcoming book by the Inter-American Development Bank on the same subject.

IS IT WORTH CONSIDERING NET WORTH? FISCAL POLICY FRAMEWORKS FOR CENTRAL EUROPE

L'udovít Ódor[*]

The Great Recession has showed very clearly that the Stability and Growth Pact failed to put the budgetary positions of European Union Member States on sustainable footing. Despite the recent attempt to resuscitate the SGP the paper argues that it is necessary to redesign national fiscal frameworks based on country specific circumstances. Central European countries are characterized by relatively low level of debt, chronic deficits, not sustainable pension and healthcare systems, high degree of creative accounting and lack of transparency. Moreover, their growth performance is highly dependent on capital inflows. According to the authors, in this environment shifting the focus from flow variables toward the concept of net worth might be beneficial. The balance sheet approach can increase the public awareness of unsustainable public finances and contrary to the SGP can help to bring to the forefront long-term solutions by not punishing structural reforms. Since the concept of net worth is not yet operational it can serve only as a benchmark for transparency and starting point for budgetary rules. The paper argues that multi-year nominal expenditure ceilings together with independent fiscal institutions are the most suitable frameworks for Central European countries.

1 Motivation

Even before the outbreak of the recent crisis, budgetary positions of many OECD countries were on an unsustainable path. As Kumar and Ter-Minassian (2007) show, fiscal balances of both industrial and developing countries have been negative in each of the past 30 years. Deficit persistence and rising public debt in many countries suggest that deficit bias played an important role. This problem alone would be sufficient motivation to redesign fiscal frameworks,[1] unfortunately, there are at least three other factors calling for changes. First, countries all over the world need credible exit strategy after the huge impact of the recent crisis on their budgetary positions. The deterioration was caused not only by the working of automatic stabilizers, but also counter-cyclical fiscal policy and bail-outs of the banking systems played an important role. Due to changes to the potential output (and possible its growth), the underlying budgetary position is worse than it seems at the first sight. The increase in public debt resulted also in a surge in interest expenditures. Second, unfavorable demographic changes in developed countries are imposing additional burden on budgetary positions. According to the projections of the European Commission (2009) age-related expenditures in the European Union (EU) will rise by 4.3 percentage points of GDP by 2060. Third, some argue that the requirement for greener growth is likely to slow economic growth in the next decades, creating another headwind for fiscal policy. Internalization of negative externalities from greenhouse gases will probably result in higher prices and less consumption.

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The author would like to thank Michal Horvath, Gabor Kiss, George Kopits, Christoph Rosenberg and Walpurga Köhler-Töglhofer for their useful comments and suggestions.

The views expressed are those of the authors and do not necessarily reflect those of the Ministry of Finance of the Slovak Republic.

[1] Fiscal framework in this paper refers to the overall institutional set up, including fiscal rules, independent agencies, transparency and procedural rules, etc.

Central European (CE) countries are not an exception. Although their debt levels are lower and growth potential higher than in Western Europe, default risk premiums usually kick off at lower level of public debt than in developed countries (Kopits, 2004).

It is clear that the Stability and Growth Pact (SGP) fails to ensure budgetary improvements in good times (Calmfors, 2005). Moreover, one can argue that it is even harmful in some cases due to discrimination of funded schemes, increased use of creating accounting practices (Milesi-Ferretti and Moriyama, 2006)[2] or postponing market reactions to unsustainable budgetary developments. The European Commission (EC) recognizes the problems with the one-size-fits-all fiscal rules and calls for a supplementary tool, namely strengthening national fiscal frameworks (EC, 2010a). This paper attempts to define the main features of stronger national fiscal frameworks in the context of Central European countries.

After investigating the characteristics of Central European countries relevant for the choice of fiscal frameworks, we propose a general framework suitable for this type of catching-up countries. We see the decrease of the informational asymmetry between the public and policy makers as the most important step against deficit bias. In our view, broadening the scope of analysis from general government to the whole public sector can be very helpful. In this regard, calculating indicative balance sheets and public net worth can help to remove bad incentives coming from the narrow focus on the flow variables. In addition to that, we advocate for expenditure rules, independent fiscal agencies and implicit or explicit debt limits. It is very important to see these suggestions not as individual options, but rather complements, since there are important synergies between them. Our proposal is to implement these in one package, if possible in the form of fiscal responsibility acts, together with transparency requirements and procedural rules.

It is also important to bear in mind that there are no magic solutions without political will. Fortunately, the current difficulties in many periphery countries in the EU and the need for credible exit strategies created (at least *ex ante*) political will to put public finances on sustainable footing in many countries.

The paper is organized as follows. The second section provides a short overview of the possible causes of deficit bias in general and particularly in Central Europe (henceforth CE). The third section highlights the main characteristics of CE countries relevant for the choice of appropriate fiscal frameworks in order to impose commitment technologies on governments with *ex ante* willingness to consolidate. Section 4 builds a general framework based on the requirements identified in section 3. The fifth section describes the recent reform proposal in Slovakia. Section 6 offers conclusions.

2 Deficit bias in Central Europe – theory and evidence

Kumar and Ter-Minassian (2007) and Hagemann (2010) show sustained high deficits and increasing public debt both in developed and developing countries in the last thirty years. High deficit over such long periods can be harmful not only for economic growth, but is also not compatible with optimal fiscal strategies. As Calmfors and Wren-Lewis (2011) show, although there is little agreement on an optimal debt level in the literature, tax smoothing is generally a basic characteristic of optimal policies. Figure 1 shows general government net lending in the OECD and CE.

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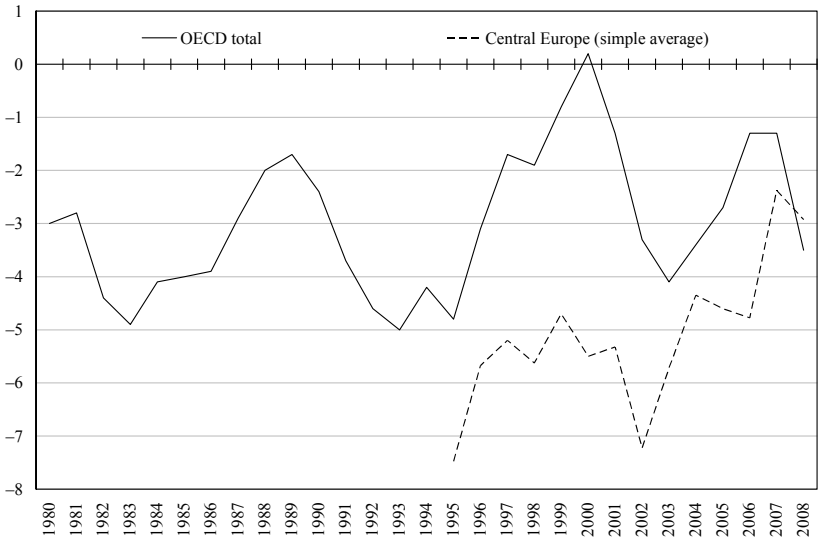
[2] Easterly (1999) shows a tendency to run down government assets instead of structural consolidation in a number of developing countries with IMF programs.

Figure 1

General Government Net Lending
(percent of GDP)



Source: OECD.

Deficits have lead to an increase in gross public debt in the OECD to 100.7 percentage points of GDP in 2011 from 68.7 per cent in 1993 (OECD, 2010). Gross debt in Central Europe is approaching 60 per cent of GDP (simple average) compared to 45 per cent ten years ago. It is well accepted fact in the literature (see for example Debrun *et al.*, 2009), that these sustained deficits and increasing debt levels are to some extent due to the so called deficit bias.

One can find several sources of deficit bias in the literature. Based on Cukierman and Meltzer (1986), Drazen (2004), Debrun *et al.*, (2009) and Calmfors and Wren-Lewis (2011) we can mention at least six possible causes: (i) informational problems; (ii) impatience; (iii) myopia; (iv) common-pool theory; (v) time inconsistency and (vi) electoral competition. We claim that informational problems, myopia and the common-pool theory are the most relevant explanatory factors in Central Europe. In our view the source of the deficit bias is important when designing fiscal policy frameworks.

Deficit bias in principle should not be a long-term problem if financial markets would react to inadequate fiscal policy early enough. However as the literature shows markets seems to penalize unsustainable fiscal policies in a non-linear fashion and only at a later stage. Hauner and Kumar (2006) and Balassone, Franco and Zotteri (2006) show that interest rates and credit ratings usually impose only small costs on governments. In monetary unions with some degree of political integration such as the euro area, the delays can be much longer due to the little credibility of no bail-out clauses.

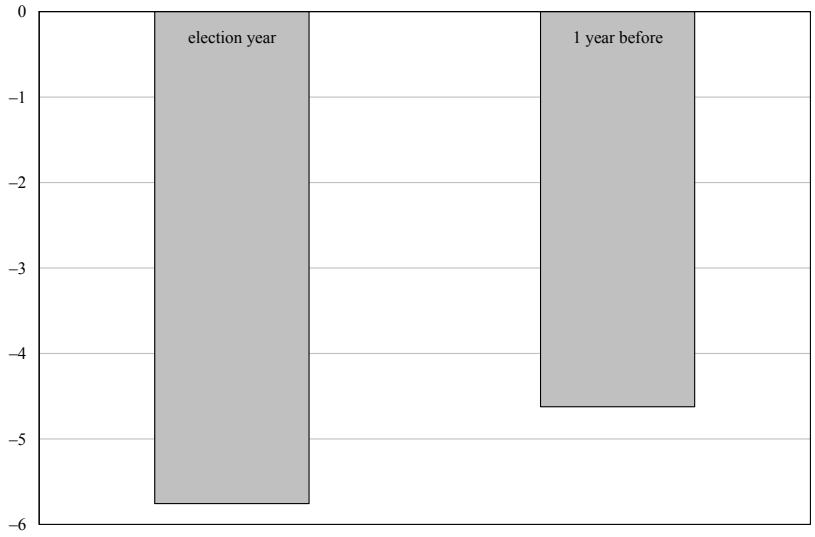
Another line of defense against deficit bias would be if voters put more pressure on fiscally non-responsible governments. As the experience from the last 30 years shows, to rely solely on this assumption would be problematic. One explanation is that voters themselves discount the future heavily. The other, more important cause is informational asymmetry; it is often hard for voters to distinguish between bad policies and bad luck.

Despite the prevalence of big deficits in Central Europe, according to opinion polls voters and companies usually care about future generations and increasing public debt. According to KPMG (2010), 75 per cent of managers of Czech and Slovak firms were very or extremely concerned about public debt levels – the highest number among the 26 countries polled. Poland ranked 11th, while Hungary only 18th. The high sensitivity to public debt is surprising, because at the time of the survey, gross debt levels in the Czech Republic and Slovakia were below 40 per cent of GDP. Polls among citizens show very similar picture. Around 90 per cent of citizens

considers public debt as a major threat in Hungary and Czech Republic (Nezopont Intezet, 2011 and Ipsos Tambor, 2010). In Poland less than 50 per cent of voters were in favor of increasing the constitutional debt limit (GfK Polonia, 2010). In Slovakia rising public debt was one of the main topics before the 2010 parliamentary elections. It is also interesting to note that despite the short-term negative budgetary impact, three out of the four CE countries introduced fully-funded mandatory pension pillars and other structural reforms with long-term positive impact on public accounts. Voters in Central Europe seems to be more willing to support deep structural changes than in more matured democracies.

Figure 2

Cyclically-adjusted Balances (CABs) in Central Europe
(percent of GDP)



Source: MFSR, NBP, CNB, MNB, CAB – average of the four countries between 2000 and 2007 (9 occasions from which 7 showed higher deficits in election years).

At the same time, transparency of budgets in Central Europe is still – despite many improvements in recent years – below Western European standards. According to the International Budget Partnership (2010), Poland, Czech Republic and Slovakia scored around 60 points on a 100 points scale of budget transparency compared to UK, France and Sweden scoring above 80 points. P. Kiss (2007b) and Horvath and Odor (2009) identify relatively ample room for maneuver for creative accounting in Hungary and Slovakia.[3] This room was extensively used in Hungary in the last several years (P. Kiss, 2011).

The sensitivity of public to high debt and the low transparency of budgets in Central Europe suggest that informational asymmetry has been an important source of deficit bias. Therefore decreasing this asymmetry between the public and the government could have substantial benefits in the form of additional costs imposed on policy makers departing from sustainable policies.

The second major source of deficit bias in Central Europe is myopia. As Figure 2 illustrates structural deficits in election years were on average higher than one year prior elections. Moreover, there were significant upward revisions to deficit because of reclassification of PPP projects (for example highway construction in Hungary, P. Kiss, 2007b) and financial transactions into capital transfers (Slovakia in 2009). It clearly shows that governments often care only about the short-term consequences of their action. Their interest for future is lessened due to the uncertainty over next elections.

The third significant cause of deficit bias in CE is the common-pool theory. Decision makers

[3] For the discussion of creating account practices in OECD see Koen and van den Noord (2005).

Table 1

Pro-cyclicality of Fiscal Policy in Central Europe

	2005	2006	2007	2008	2009	2010
Czech Republic						
Output gap	**0.0**	**2.8**	5.5	**4.5**	–2.7	**–1.6**
Consolidation effort	**–0.8**	**–1.1**	1.3	**–2.0**	–1.0	**0.6**
Hungary						
Output gap	**3.2**	**4.2**	2.4	1.8	**–4.7**	**–5.5**
Consolidation effort	**–1.9**	**–0.5**	3.1	2.4	**1.7**	**0.5**
Poland						
Output gap	0.1	1.6	3.0	**2.7**	–0.5	–1.3
Consolidation effort	0.9	0.4	0.9	**–1.5**	–2.4	0.0
Slovakia						
Output gap	**–1.6**	–1.2	**1.1**	2.2	–4.9	–2.5
Consolidation effort	**0.7**	–0.3	**–0.5**	0.3	–4.2	–0.5

Source: MFSR, NBP, CNB, MNB; in bold are cases of pro-cyclical policies; consolidation effort is the change in the cyclically-adjusted primary balances net of one-off effects.

under the pressure of various interest groups are unable to internalize the overall costs of higher debt. Tornell and Lane (1999) suggest that this incentive is stronger in good times and leads to substantial pro-cyclicality of policy. Years 2006-08 were especially good for CE countries. According to the estimates of the European Commission (2010b) output gap showed significantly positive values in all four countries. Despite buoyant economic environment, structural primary balances net of one-off effects showed no substantial improvement during this period (Table 1).

The Stability and Growth Pact was unable to impose significant costs on policy makers pursuing pro-cyclical fiscal policy in good times and failed to eliminate the deficit bias. This calls for tailor-made solutions at the national level. European Commission (2011) also encourages national governments to supplement the Pact by strengthening national fiscal frameworks. One of the six legislative proposals is a draft Council Directive on requirement for budgetary frameworks of the Member States. The next section highlights the main requirements for such a framework in Central Europe.

3 Fiscal policy environment in Central Europe[4]

Policy makers in Central Europe face slightly different environment for fiscal policy than their counterparts in more developed countries. This section identifies the main challenges to be taken into account when designing frameworks for fiscal policy in this region. We do not want to

[4] We do not want to state that Central Europe is a perfectly homogenous region, however in our view it is possible to distinguish this region from the other EU Member States based on some economic characteristics.

Table 2

Business Cycle Volatility in Central Europe

	Volatility (s.d.)	**Volatility of Growth Rate** *(quarterly)*	**Autocorrelation**	**Correlation with GER**
Czech Republic	1.47	1%	0.78	0.86
Hungary	1.50	1%	0.83	0.78
Poland	2.69	2%	0.73	0.52
Slovakia	1.40	1%	0.75	0.68
Germany	1.29	0.6%	0.91	1.00

Source: author, based on seasonally-adjusted and HP-filtered quarterly data (1995-2010) with parameter 1600.

state, that the features identified are not present in developed countries; however we believe that their importance is higher for catching-up economies.

We have identified seven interrelated characteristics for policy consideration: (1) higher macroeconomic volatility, (2) frequent regime switches and stop-and-go policies, (3) FDI dependence, and high current account deficits, (4) lower tax potential, (5) expenditure pressures, (6) higher corruption and lower law enforcement, (7) relatively low public debt and higher growth potential. It is important to bear in mind that many of these problems are not exogenous to the setting of fiscal policies. We analyze each of them in turn and draw lessons for designing fiscal policy frameworks in CE countries.

3.1 Higher macroeconomic volatility

It is well documented fact in the literature that emerging market business cycles are more volatile than their counterparts in developed economies. For example as Aguiar and Gopinath (2007) show, output volatility in emerging markets is twice as high as in developed markets, current accounts are strongly counter-cyclical and consumption volatility exceeds income volatility. They argue that these characteristics can be explained mainly by shocks to trend growth rather than transitory fluctuations around a stable trend. They conclude that in emerging markets "cycle is the trend." García-Cicco, Pancrazi and Uribe (2010) challenge this explanation and using longer time series show that standard RBC models are not capable of explaining business cycle facts in Mexico and Argentina. According to them, international financial frictions could be the missing element. Balassone and Kumar (2007) also claim that developing countries are facing much more volatile macroeconomic environment and uncertain access to international capital markets. Table 2 shows the estimated business cycle volatility in Central Europe using Hodrick-Prescott filter compared to that of Germany. Apart from regime switches and sensitivity to international capital flows (described below), underdevelopment of financial markets (liquidity constraints), weaker automatic stabilizers, higher share of industry in value added (and higher concentration of exports) or higher risk-aversion might explain the excess volatility.

Fiscal frameworks in CE thus should take into account that it is much harder to assess in real time the cyclical position of the economy and the structural deficit than in developed countries.

3.2 Regime changes

Regime switches are endogenous factors contributing to higher macroeconomic volatility. Frequent changes in political cycles are not unknown also for developed countries (Italy); however political and economic cycles are more intertwined in Central Europe and in developing countries in general. Dramatic reversals of fiscal and monetary policy or substantial changes in structural reform appetite are frequent in catching-up countries. De Ferranti *et al.* (2000) estimates that 15 per cent of excess volatility in Latin American countries has been due to volatility in fiscal policy.

In Central Europe especially large structural breaks are visible mainly in Slovakia and Poland. Their business cycles are the least correlated with that of Germany. In Slovakia there were at least four important structural breaks in the past 15 years, from which three are closely related to domestic stop-and-go policies. The first is related to the expansionary fiscal policy from 1996 till 1998, which increased substantially the current account deficit. The second came after the elections in 1998, when the government had to approve a relatively harsh austerity package to cure the chronic twin-deficit problem. In 2003-05 (again after the elections) a package of very ambitious structural reforms were put in place (see Miklos, 2008), which resulted in a surge in potential output. The fourth break is the result of the financial crisis. Similar breaks are visible in the remaining three countries.

Any fiscal framework which limits the ability of the government to reverse policies or has a built-in bias against structural reforms is probably not politically sustainable. Frameworks should be flexible enough to accommodate government policies, which rest on very different value judgments. Therefore strong normative elements are not recommended for fiscal frameworks in Central Europe.

3.3 FDI dependence and high current account deficits

Recently much attention has been focused on the appropriateness of the FDI-led catching-up growth model for new Member States. Question marks arose mainly after the huge output drop in the Baltic States. Majority of the post communist countries are undercapitalized. Without foreign direct investment the catching-up process would be much longer. On the other hand, business cycles would be probable less volatile. In our view, the roots of the recent problems are not in the basic set up of this growth model, but in the choice of the exchange rate regime before the euro area entry (see Banerjee *et al.*, 2010) and underestimating the signals from the widening current account deficits, which can lead to substantial problems if international capital flows stop.[5] As Giavazzi and Spaventa (2010) argue, an important mistake was made in the downgrading of the problem of current account deficits in the euro area: although monetary union (and partially currency board arrangements) eliminates the threat of currency devaluation, high current account deficits can cause problems if the proceeds of external borrowing are not used for productive purposes. Using external resources to finance investments in non-tradables or domestic consumption can lead to problems in meeting the intertemporal budget constraint. Currently only Slovakia is a member of the euro area out of the four Central European countries. Although it is important in all four countries, especially Slovakia should pay a lot more attention to counter-cyclical fiscal policy to mitigate the possible negative side-effects of the FDI-led catching-up strategy. Pro-cyclical behavior of fiscal policy is of course a general problem highlighted by Balassone and Kumar (2007), but more severe in "good times" and for catching-up countries. According to their estimates for developing countries, procyclical discretionary fiscal

[5] See Kaminsky, Reinhart and Vegh (2004) for evidence of pro-cyclicality of international capital flows.

Table 3

Tax Systems in Central Europe
(percent of GDP)

Country	Total Taxes	Income Taxes	Social Security
Czech Republic	36.2	8.6	16.2
Hungary	40.5	10.6	13.8
Poland	34.3	8.6	11.4
Slovakia	29.3	6.4	12.0
Germany	40.6	11.3	15.3
EU27	40.5	13.1	12.8

Source: Eurostat.

policy in good times appears to be stronger than the impact of automatic stabilizers. Table 1 illustrates this problem for Central European countries.

Therefore fiscal frameworks should allow automatic stabilizers to fully operate as a minimum requirement. Since automatic stabilizers in Central Europe are not as strong as in countries with more progressive tax systems and higher share of public expenditures on GDP, fiscal frameworks should send a warning signal if more adjustment is needed beyond the work of stabilizers. This leads to requirement for sufficient flexibility via incorporation of judgments into the fiscal framework. Independent fiscal councils can play this role.

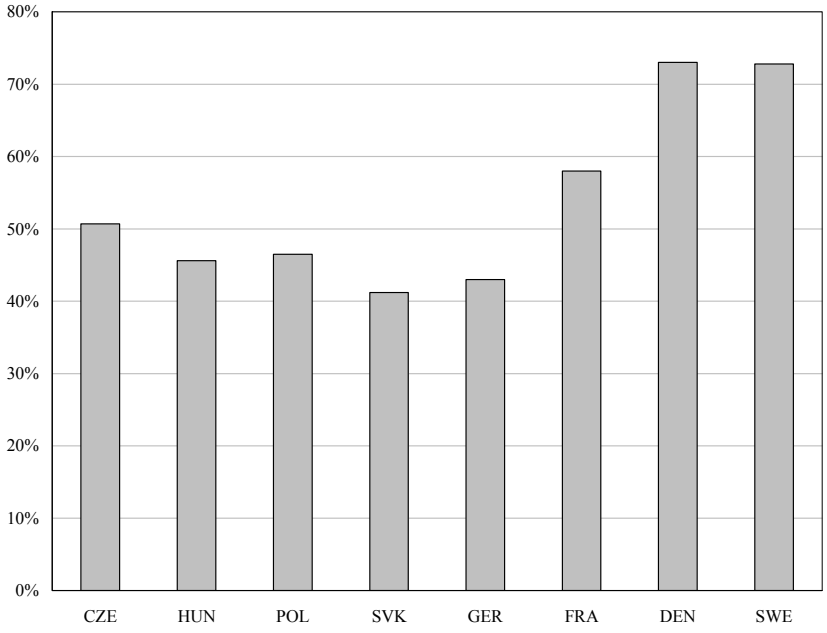
3.4 Lower tax potential

Tax burden in Central Europe is much lower than in the western part of Europe (Table 3). Lower GDP per capita and high openness are obviously among the reasons. Since catching-up economies are FDI-dependent, capital taxation is understandably lower than in more matured economies. Therefore majority of the tax burden falls on consumption and labor, mainly in the form of social security contributions. Moreover, the relatively high taxation of labor creates incentives to move certain activities to the shadow economy. Underreporting of earnings and higher share of self-employment (with minimum reported income) are common in the region. For example in Hungary, Poland and Slovakia the vast majority of self-employed reports net earnings below or at the minimum wage. That is one of the reasons why the macroeconomic effectiveness of the labor taxation is so low (Figure 3).

In the long run it is expected that these tax systems will at least partially converge to western standards, however the immediate challenge is to put in place simple and well functioning tax systems to contain tax avoidance. To achieve these goals, fiscal frameworks should not discriminate tax reforms. This requirement is important also from the political economy point of view. Fiscal frameworks to be sustainable should be compatible with both small and big role of the state in the economy.

Figure 3

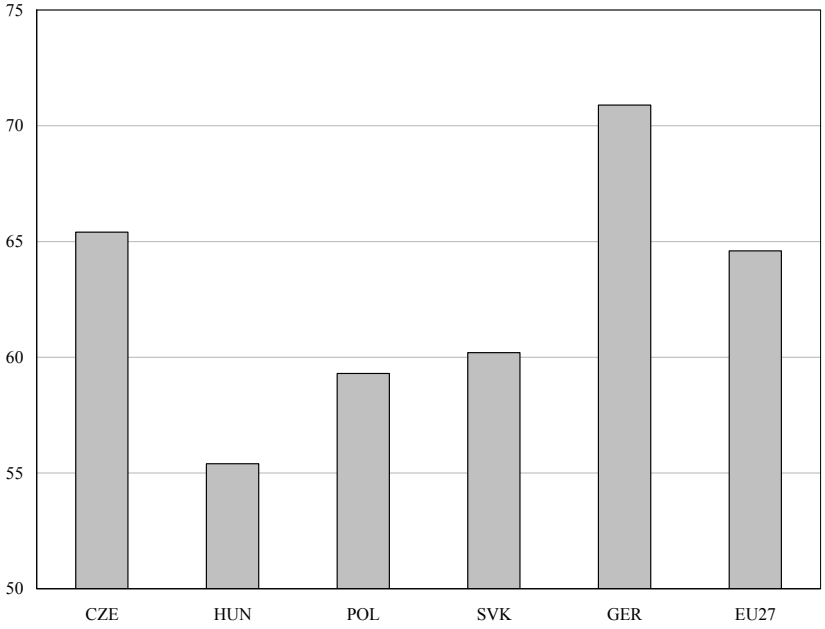
Effective Labor Taxation in 2007



Source: Filko *et al.* (2010), calculated as ratio of actual labor tax revenues (as a percent of their macroeconomic tax base) to effective tax wedge.

Figure 4

Employment Rates in Central Europe in 2009
(percent of the labor force)



Source: Eurostat.

3.5 Expenditure pressures

Expenditure pressures are also present in Central Europe mainly as a heritage from the past. After the regime change a lot of physical and human capital became obsolete. Moreover the basic infrastructure (roads, communications, railways, etc.) is also underdeveloped compared to western countries. The latter creates a lot of needs for investments in physical capital and infrastructure, while the former represents a challenge for employment policies. In many cases the policies to put these people back to the job market failed and the "lost generation" ended in social safety nets as early retirees or disabled. Employment rate in Central Europe is therefore far lower than for example in Germany (Figure 4).

State companies represent a special case for expenditure pressures. In many cases countries failed to privatize or restructure state companies. Many of them create losses, which have to be covered by the general government from time to time (P. Kiss, 2011).

Aging of the population is another potential source for pressure. While it is not as immediate problem

Table 4

Old-age Dependency Ratio

	2010	2025	2050	2060	Change 2060-10
CZE	21.83	33.75	54.81	61.4	39.57
HUN	24.22	33.26	50.83	57.64	33.42
POL	18.98	32.86	55.69	68.97	49.99
SVK	16.95	28.5	55.46	68.49	51.54
GER	31.17	39.53	56.43	59.08	27.91
FRA	25.81	35.85	44.68	45.2	16.39
EU27	25.9	34.23	50.42	53.47	27.57

Source: EUROPOP2008.

for new member states as for Western Europe, its impact will be substantial in the long run (Table 4). Central European countries are expected to stay below the EU average as far as the old-age dependency ratio is concerned at least until 2040. However, the cumulative growth of this indicator between 2010 and 2060 will be enormous in Slovakia and Poland (around 50 percentage points). In this context it is not surprising that the European Commission has classified the Czech Republic and Slovakia as "high risk" countries in terms of fiscal sustainability (EC, 2009).[6]

The good news is that three out of the four Central European countries implemented fully-funded pension pillars to distribute the burden of ageing on next generations more evenly. However recent developments show that since SGP creates distortions toward these kinds of schemes, Hungary and to some extent Poland reduced of the importance of their fully-funded pillars.[7] This is unfortunate if the only objective is to cut the deficit in the short-run.

The implication is that good fiscal frameworks should not discriminate structural reforms with long-term positive impacts in Central Europe and should focus on the entire public sector including state enterprises.

3.6 Corruption and law enforcement

Central European countries rank high as far as corruption is concerned and low in terms of budget transparency (Table 5). As P. Kiss (2007 and 2011) shows the room for creative accounting and off-budgetary operations is significant in Hungary. The situation is not much better in the remaining three countries. One of the major sources of deficit bias is non-transparency of public accounts. Law enforcement is also very low in the region, which in many cases creates bad incentives. For example state organizations and companies do not pay their dues in time, because they know that it will take a lot of time for the courts to decide. Therefore reporting cash outlays is in many cases not sufficient to monitor fiscal performance.

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[6] Hungary and Poland were classified among "medium" risk countries.

[7] Hungary de facto eliminated the second pillar (only 3% of constributors stayed in the mixed system).

Table 5

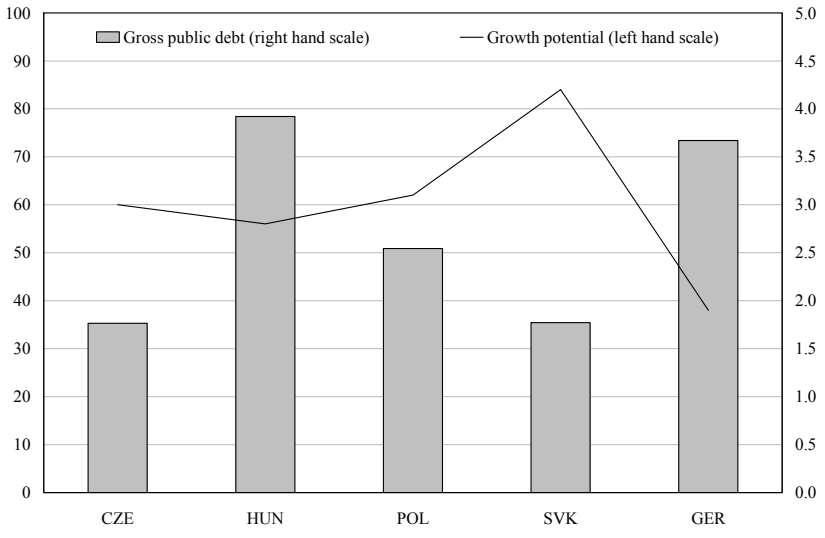
Corruption and Transparency Indices

	CPI 2010	OBI 2010
CZE	4.6	62
HUN	4.7	NA
POL	5.3	64
SVK	4.3	57
GER	7.9	68
FRA	6.8	87

Source: Transparency International – higher score = lower corruption, www.openbudgetindex.org – higher score = more transparency.

Figure 5

Gross Public Debt in 2009 and Growth Potential in 2015



Source: Eurostat, Sustainability Report 2009.

The conclusion is that any fiscal framework, which improves the transparency of public accounts, can cause substantial efficiency gains in Central Europe. Much more attention should be devoted to activities outside general government and to quasi fiscal operations. Focusing on the whole public sector is a must.

3.7 Low debt levels[8] and higher growth potential[9]

Compared to Western Europe, gross debt levels in Central Europe are lower and potential output estimates higher (Figure 5). This means that Central Europe can in principle face fiscal challenges more easily. The reality is however more complex. Limited tax potential and higher expenditure pressures together with low initial debt levels created an environment for increased deficit bias. Postponing the solution between the lower taxes and higher expenditures through deficit financing is possible if a country starts with a low level of debt. However, this "strategy" can be successful only up to a certain debt level, since as the recent crisis illustrated, financial markets do not accept as high debt levels in emerging markets as in case of developed economies. The prudent debt level is therefore arguably lower for the new Member States. It would be impossible to maintain ratios above 100 per cent of GDP, especially with aging population.

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[8] With the exception of Hungary.

[9] The expected higher growth based on conditional convergence is of course not guaranteed (see for example Greece). It depends also on the choice of economic policies.

Table 6

Requirements for Good Fiscal Framework in Central Europe

CEE Characteristics	Implications for Fiscal Frameworks
Macroeconomic volatility	Operational target not on structural deficit
Regime changes, policy reversals	Allow for different value judgments, no strong normative elements
FDI-dependence, current accounts	Counter-cyclicality, flexibility, judgments
Low tax potential	No built-in bias against tax reforms
Expenditure pressures	No built-in bias against structural reforms
High corruption, low law enforcement	Maximum transparency possible, focus on the whole public sector
Low debt, high growth potential	Implicit or explicit debt limit

Good fiscal frameworks might consider limiting government debt explicitly or implicitly at much lower level than the harmful limit – 90 per cent of GDP – suggested by the empirical work of Rogoff and Bertelsmann (2010).

4 Designing fiscal frameworks in Central Europe

Today Central European countries operate under the SGP and national fiscal frameworks (Appendix 1). If we look at the fiscal performance of these countries from 2004, it is clear that the current frameworks in place are not sufficient to eliminate deficit bias and place public accounts on a sustainable footing. As Horvath and Odor (2009) show the current environment creates a lot of bad incentives for policy makers (Table 7 and Appendix 2 for more details). The most promising reform to cure these ills was carried out in Hungary, however the initial set-up was not politically sustainable, which illustrates that political consensus is the top priority in every reform proposal.

Many of these bad incentives are come from the fact, that policymakers and the public focus their attention more on flows rather than stocks, on general government rather than the public sector and on explicit liabilities ignoring implicit and contingent liabilities. In principle there are two ways to fix this problem. The first is to identify these shortcomings and to build adjusted budgetary indicators. The proposal of the KESZT advisory body in Hungary (2010) follows this path. Their proposal is to calculate a cash-based budgetary measure of the financial requirement including adjustments concerning: the financial need of public enterprises, PPP projects, overdue bills, big one-off revenues and guarantees. The second option is to broaden the focus of the debate on public finances systematically by calculating indicative intertemporal public balance sheets. In this paper we argue that the concept of net worth in a broad sense could play an important role in this regard.

Analysis of companies and private entities is concentrated on the: (1) balance sheet, (2) profit and loss account and (3) cash-flow. We understand that it is impossible to draw close parallels between public and private entities; however from an analytical perspective missing public sector balance sheet could create a distortive picture of the public sector and can hide important risks.

Table 7

Bad Incentives in Current Fiscal Frameworks

Bad Incentives	Coming from
Reform postponements or reversals	Ignoring implicit liabilities
Bias toward PPPs	Ignoring implicit liabilities
Sale of assets to decrease debt or deficit	Ignoring changes in assets
Underfinancing maintanence	Missing depreciation
Underfinancing state companies, healthcare providers	Narrow focus on general government
Depletion of natural resources and ignoring environmental impacts	Ignoring changes in assets
Risk taking in legal conflicts	Ignoring contingent liabilities

Source: Horvath and Ódor (2009).

A balance sheet approach (and more focus on the intertemporal budget constraint) has been recommended among others by Buiter (1985 and 1993), Blanchard (1990) and more recently Milesi-Ferretti and Moriyama (2006). As Traa and Carare (2007) argue, studying the accumulated stocks of assets and liabilities of a country and mismatches among them can be a useful supplemental guide to uncover distress. In recent years, the IMF has incorporated analysis of stock variables in its monitoring processes (see for example Allen *et al.*, 2002 and 2007). The OECD definition of creative account practices also relies on a concept of net worth (see for example Koen and van den Noord, 2005).

Our proposal to base fiscal frameworks in CE on the concept of net worth does not mean, that we advocate for an operational target for net worth. Due to valuation and data problems it would be highly problematic. However, good approximations for the *changes* in net worth are available. And these changes should feed through the operational framework. One example of conceptual intertemporal public sector balance sheet is in Table 8.

Estimating the changes in net worth and sensitivity analysis might help on the one hand to remove bad incentives (Annex 2) and on the other hand can serve as better source of information for the public about the effects of fiscal policy. Evaluating fiscal policy based on the balance sheet approach is just a starting point. The next step is to decide over rules and institutions.

Requirements for fiscal frameworks in Central Europe presented in Table 6 are sometimes in conflict; therefore it is not straightforward to design appropriate frameworks. However if we consider the key sources of deficit bias in CE, some basic characteristics emerge. One of the most important problems is the still big room for creative accounting practices and off-budgetary operations (as shown in Annex 2). Therefore rules for transparency and reporting requirement for off-budgetary items can be very useful. Even if a country is formally not calculating net worth, improved reporting requirements can help to contain bad incentives. Adoption of fiscal responsibility acts (FRAs) might be a very useful tool to address these information gaps (see Corbacho and Schwartz, 2007, for review). It can help to broaden the public debate.

Table 8

Balance Sheet of the Public Sector

ASSETS	LIABILITIES
A1 Buildings, lands, etc.	L1 Explicit debt
A2 Infrastructure	L2 Net implicit liabilities
A3 Net capital stock	L3 Contingent liabilities
A4 Financial assets	L4 Other liabilities
A5 Net worth of the central bank	
A6 Net worth of public enterprises	*Net Worth*
A7 Natural reserves	
A8 Ecological wealth	
A9 Other assets	

The more complicated issue is the question of fiscal rules versus independent fiscal institutions. As Horvath and Ódor (2009) argue, important synergies exist between the two. Rules without councils have to be simple to be understood by the public. Then there is no problem to go around them, especially in a less transparent environment. Councils without rules could end as purely academic debates. So the best way is to combine both: we can have more complicated (and therefore effective) procedures, because the council can serve as an interface between the government and the public. One can combine this way the strictness of rules with the flexibility of councils. P. Kiss (2007b) reached similar conclusion. His reform proposal for Hungary included three basic pillars (expenditure ceilings, golden rule for municipalities and an independent fiscal council) and three additional constraints.

The next issue is the selection of appropriate fiscal rules. Since it is almost impossible to calculate structural deficits in real time – frequent supply shocks, regime changes, etc. – operational target for the structural budget balance would be highly problematic. It would be disputable whether the government has fulfilled its goals or not. Focusing on headline budget balances would be equally wrong: due to high business cycle volatility, it would create significantly pro-cyclical fiscal policy. The remaining options are expenditure limits and debt ceilings. Operational target for the debt level is very transparent, but it also incorporates pro-cyclical bias. So the most appropriate operational framework in our view is employing medium-term expenditure ceilings. If these ceilings are defined in nominal terms, the evaluation is straightforward and if cyclical expenditure items are excluded from the ceiling, it allows automatic stabilizers to operate freely. In addition, if tax expenditures are also included, it reduces the possibilities to go around the rules by creating more loopholes in the tax system. It is also important to have a very broad definition of ceilings, since lot of operations are taking place outside the state budget. Another issue is the inclusion or exclusion of mandatory items. We argue that from a medium-term perspective, mandatory items should be included. Otherwise there is a built-in bias against the most needed reforms, for example in the pension systems.

How to derive expenditure ceilings? The easiest possibility is to introduce some fixed nominal growth rate at least three years in advance. The second possibility isto derive them from some measure of sustainability. Some countries employ cyclically-adjusted balances (Sweden,

Finland), however target for real debt could be another example. All these calculations should be based on cautious macroeconomic assumptions. The difficulty to calculate cyclical positions pops up once again in the derivation of ceilings. However the question here is not whether the government has sticked to its rules or not, but rather to find some prudent rate of economic growth *ex ante*. Using market consensus or forecasts of independent institutions can help to mitigate this problem. It would be useful to include an explicit reserve item (0.5-1.0 per cent of GDP) to absorb unexpected shocks.

The tougher question is the neutrality against structural reforms and tax reforms. How to reward good policies and punish bad ones? Here the concept of net worth can help us. We see an alternative for deriving the expenditure ceilings using the change in net worth.[10] Since net worth in a broad sense incorporates also implicit and contingent liabilities, reforms improving the long-term sustainability of public finances can increase the expenditure ceiling. Fortunately there is a benchmark available for this exercise – the projections of the Ageing Working Group. On the other hand, deriving expenditure ceilings from the changes in net worth (or adjusted CABs) grossly complicates the understanding of such rules. This is the case where independent fiscal institutions can help once again.

How to set up such independent fiscal councils? Frequent policy reversals in Central Europe are more often than not the result of the very different view of political parties on the role of the state in the economy. As Kornai (2010) argues, defining the state role is a political decision, which rests on value judgments. According to him, independent fiscal institutions should keep far away from such decisions. He sees the roles for independent fiscal councils in three broad areas: (1) analysis of effects of political decisions, (2) checking for consistency and (3) transparency. Checking for consistency means in the words of Kornai: "spending heavily and levying high taxes is perfectly legitimate policy…an independent fiscal advisory body should not argue either for or against it… Its role is to keep an eagle eye on whether the big taxes are sufficient to cover the big spending". Similarly, independent institutions should not argue for or against cutting taxes, however they should look carefully at whether the cut in taxes is accompanied by adequate cut in expenditures. One can therefore rephrase the "checking consistency" into checking sustainability. These requirements suggest strictly positive role for such independent fiscal councils in Central Europe. Of course there is no one-size-fits-all recipe; the new institution should fit into the existing framework for every country.

Is there a case for macroeconomic forecasts in the mandate of independent fiscal agencies? In countries where the track record of government projections is not very good probably yes. However we see clear disadvantages. As Kay (2010) notes, the underlying unreliability of economic forecasts can on the one-hand reduce the credibility of such bodies and on the other hand can redirect resources from more important activities of the council. Moreover, the value added of independent councils in macroeconomic forecasting is very limited. Basically, one can use consensus forecasts of private forecasters or international institutions to evaluate the government projections (for example this is the case in Slovakia).

5 Institutional reform proposal in Slovakia

To illustrate a possible reform of fiscal framework in Central Europe, we highlight the main features of the current proposal in Slovakia.[11] This reform proposal tries to integrate in one framework the requirements mentioned above and to maximize the possible synergies between the

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[10] Excluding one-offs, such as valuations.

[11] The current government included all basic building blocks of this proposal in its manifesto.

basic building blocks. The plan is to adopt a Fiscal Responsibility Act, which would incorporate the features shown in Scheme 1. According to the proposal, the most important objective of fiscal policy will be long-term sustainability (*i.e.*, meeting the intertemporal budget constraint).

5.1 Net worth

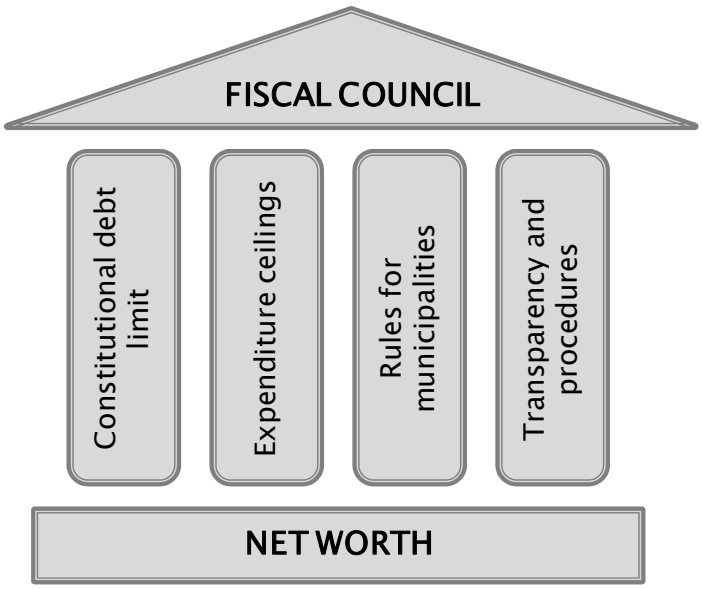
The whole framework rests on a concept of net worth. It is important to note, that the balance sheet approach is not an operational concept, but rather (1) a benchmark for transparency and (2) starting point for sustainability analysis. Annex 3 illustrates the main differences between our definition of net worth and that of Buiter (1993).

5.2 Expenditure ceilings

There are two types of fiscal rules in the proposal. The main operational targets are medium-term (3-year) rolling expenditure ceilings in nominal terms. The definition of ceilings is relatively broad: consolidated general government expenditures minus expenditures of municipalities plus tax expenditures. The following items are also excluded: interest expenditures, spending European Funds and cyclical items. Of course the government can break down the overall limit into partial limits.

Scheme 1

Proposed Reform of Fiscal Institutions in Slovakia



The interesting question is how to derive the overall expenditure ceilings? Since the main objective of fiscal policy in the proposal is long-term sustainability, the starting point should be some measure of fiscal gap. The European Commission uses the well-known S2 indicator (for methodology see EC, 2009). The Slovak proposal defines a new indicator GAP, which is similar to the S2 indicator, however it includes also non-age-related implicit liabilities and financial wealth of states companies and the central bank.[12] Annex 4 shows the main differences between the conventional general government balances and changes in the net worth and also highlights which of them affect the expenditure ceilings.

[12] Cyclical position and prudent growth rates are estimated by the Tax Forecasting Committe, currently in place.

Table 9

Political costs associated with the debt limit
(penalties are cumulative)

Level of Gross Debt	Penalty
45-48%	Open letter of the Minister of Finance to the Parliament
48-50%	Government consolidation package to the Parliament
	Wage freeze for MPs
50-52%	5% savings in the actual budget
	No reserves can be used
	No expenditure growth in the next budget
	No expenditure growth for municipalities
52-55%	Balanced budget for next year (also municipalities)
	No nominal growth of public wages, pensions and social benefits
55%	Non-confidence voting against the government
57%	Resignation of the government

At the beginning of the election period, every government indicates, how much of this GAP would like to erase and by what means: budgetary measures or structural reforms. Both ways have equal implications for the calculation of the ceiling by the fiscal council. Ceilings are updated every year based on adopted structural and/or tax reforms and reduced if there was overspending in the previous year or if some of the revenue or expenditure items were not met. It is important to note that expenditures ceilings are associated only with reputational costs.

5.3 Constitutional debt limit

Expenditure ceilings with reputational penalties will of course not eliminate all kinds of non-responsible fiscal policies. Unexpected large shocks can also cause substantial fiscal deficits. In these cases abandoning the whole fiscal framework would be tempting for policy makers (see for example UK). Therefore it could be helpful, if second line of defense – a kind of emergency break – would exist. Constitutional debt limit in Slovakia would serve exactly this purpose. According to the current proposal, this limit will be set on gross public debt[13] released by the Eurostat at the level of 55 per cent of GDP. In this case not only reputation is at stake, but various sanctions starting from 45 per cent of GDP will be in place. It starts with an open letter of the Minister of Finance to the parliament and ends with a possibility of government resignation.

5.4 Rules for municipalities

There is a golden rule currently at place at the municipal level. Moreover there are two other requirements. Debt cannot be higher than 60 per cent of current revenues from the previous year

[13] In Slovakia there is only small difference between gross and net debt figures.

and debt service should remain below 25 per cent of current revenues. There is a proposal to decrease the latter to 15 per cent, to include every PPP project in the debt figure and to impose an automatic financial sanction, if the debt exceeds 60 per cent of current revenues. Moreover if the debt figure exceeds 62 per cent, there can be a new referendum to replace the mayor.

Two other important aspects are worth mentioning. First there is a proposal to have a strict no-bail-out clause in the constitutional law. Second, managed bankruptcy along the lines of the bankruptcy mechanism for citizens is proposed.

5.5 Transparency and procedures

The draft explicitly defines several interesting analytical concepts:

- net worth;
- long-term sustainability;
- baseline (no-policy-change) scenario;
- structural primary balance (for the whole public sector!);
- tax expenditures;
- implicit liabilities.

All these concepts should be included in the basic budget documentation and closing accounts. Moreover, the now informal Macroeconomic Forecasting Committee and Tax forecasting Committee should receive a formal status. All relevant information should be available at least for the two previous and next three years.

As far as the budget procedures are concerned, no law should be passed without fiscal impact assessment. Important feature of the reform proposal is to implement the PAYGO principle.

5.6 Fiscal Council

An independent Fiscal Council with three members and around 15 analysts should operate to monitor fiscal performance. There would be three explicit tasks in the mandate of the Council: (i) to publish a long-term sustainability report, (ii) calculation of expenditure ceilings and (iii) evaluation of the fulfillment of fiscal rules. Apart from these basic functions the Council can prepare fiscal impact assessments and issue recommendations and risk assessments regarding fiscal policy. The Council would be financed by the central bank. An important side-effect of the establishment of the Council can be the improvement of the quality of fiscal analysis and hence more informed policy debate (similar to the development of research capacities at independent central banks).

If one would like to judge the proposal against the Kopits-Symansky criteria (1998) the following would emerge. The proposal contains relatively *well-defined*[14] rules and concepts and is very strong in *transparency* and *efficiency*. By introducing net worth (augmented with basic generational accounting) the room for creative accounting is limited and at the same time benefits of structural reforms can be easily demonstrated. In terms of *flexibility*, the combination of expenditure rules with fiscal council can relatively well cope with unexpected shocks and cyclical movements of the economy. The proposal scores mixed in terms of *adequacy and consistency.* On the other hand, the framework is not *simple*, *i.e.*, easily understandable to the public and politicians. Therefore the inclusion of fiscal council is key to "translate" the outcomes to the public in an

[14] However oen can argue that the derivation of the ceilings is to some extent arbitrary.

accessible way. The last criterion is *enforceability*, where the verdict is again mixed. On the one hand the proposed framework includes important sanctions (in case of the debt limit), breaching the expenditure ceiling is constructed to have only reputational costs.

6 Conclusions

There is no one-size-fits-all fiscal framework. However, based on the characteristics of Central European countries, one can have some recommendation regarding the choice of basic building blocks. The paper argues that for catching-up countries it is very important to decrease the informational asymmetry between the public and policy makers and to broaden the scope of the debate to the whole public sector. The concept of net worth can serve as a useful informational benchmark in this regard.

In countries where the room for creative accounting is relatively large, there are important synergies between fiscal rules and independent fiscal institutions. Among fiscal rules we favor expenditure ceilings and implicit or explicit debt ceilings as a second line of defense. Of course, one cannot forget about appropriate rules for municipalities, whose influence in the region is not negligible. We advocate including all these key ingredients in one Fiscal Responsibility Act together with basic requirements for transparency and procedural rules.

It is however important to bear in mind that reform of the fiscal framework is not a magic solution. Without an ex-ante backing from the major political parties it is probably not viable. The good news is that the current financial crises and the need for exit strategy have created broad political consensus to carry out revisions to the existing frameworks in many countries.

ANNEX 1
FISCAL POLICY FRAMEWORKS IN CENTRAL EUROPE

All four Central European countries are currently operating under the Stability and Growth Pact. This annex highlights the main features of their national frameworks.

	FRA	Fiscal Rules at Central Level	Independent Bodies	Transparency Requirements	Procedural Rules
Czech Republic	No	No	No	Limited	Some
Hungary	Yes	Real debt rule	Fiscal council	Yes	PAYGO
Poland	No	Debt limit	No	Limited	Some
Slovakia	No	Central government expenditure limit in good times	Macroeconomic Forecasting Committee, Tax Forecasting Committee	Limited	Some

Source: NBP, MNB, CNB, MFSR; FRA refers to single fiscal responsibility acts.

The Czech Republic has neither fiscal rules nor independent institutions in the budgetary process. The process rests on a typical medium-term framework with no strict transparency requirements or procedural rules.

Hungary adopted its Fiscal Responsibility Act in 2008. Within this framework a Fiscal Council was established and a medium-term real debt rule put in place. Despite the very promising start and a broad agreement over the necessity of fiscal rules and an independent body, the current government significantly changed the set up of the Council.[15] There are important transparency requirements in the law (PPP, etc.) and a PAYGO rule.

Poland has a public finance act since 1998, which contains majority of regulations on the fiscal framework and fiscal rules i.e. features which would be included in a fiscal responsibility act. It has a Constitutional debt rule (60 per cent ceiling) accompanied by 50 and 55 per cent thresholds, the breach of which induces consolidation measures. Since this year it also has a temporary expenditure rule – as long as Poland is in EDP, the growth of non-mandatory spending of the central government (around 5.2 per cent of GDP in total) may not exceed 1 per cent in real terms. There is no independent fiscal council.

Slovakia has 2 laws concerning the budgetary process of central government and municipalities. There is only one formal rule at the central level: if the revenues in the state budget exceed the budgeted amount, expenditures can increase only at a maximum of 1 per cent (not GDP). Municipalities have golden-type rule. There are two semi-independent bodies evaluating the macroeconomic and tax forecasts of the Ministry of Finance. There are is no detailed list of transparency requirements beyond the publication of the medium-term fiscal framework.

[15] The government cancelled the budget of the Council and removed its analytical capacity. Moreover, replaced all Council members.

ANNEX 2
SOME EXAMPLES OF BAD INCENTIVES IN THE CURRENT FRAMEWORK[16]

Let us now mention a few examples of bad motivations for economic-policy makers, if only the budget, and not the net worth, is under public scrutiny. Then scope for creative accounting and fogging is still rather wide. We will show that with correct handling of net worth concept, these tricks would have no meaning.

Motivation No. 1: Sales of some assets

Governments may have a motivation to sell a building or to privatize a state enterprise not because it has economic importance, but for example because they do not want to exceed the 3 per cent of GDP general government deficit or the 60 per cent limit (of GDP) of government debt. It is often the case that a favorable price plays only a secondary role in these reflections.

Example 1a: The government sells a building for half price and in this way will decrease the deficit. The target has been achieved. If it took into consideration the net worth concept, results would be negative. If we assume that all income will be transformed into capital stocks, the net worth decreases. A3 namely grows a half, against the A1 drop.

Example 1b: The government privatizes a state enterprise and decreases its gross debt from the revenues, in order to meet Maastricht Criteria. Although the gross debt drops, the net worth will not change. Both A6[17] and L1 will decrease by the same value (we suppose that the privatization will be performed at market price).

Motivation No. 2: Neglecting repairs and maintenance[18]

With public pressure on saving, it is often the easiest solution for budget-makers to decrease expenditures on repairs and maintenance. Roads will be of lower quality and computers old fashioned, but in the end the point is to decrease expenditures, i.e. savings at first glance. However, if we look at the balance sheet, a problem comes to light very soon.

Example 2: The government decreases expenditures on the repair of schools. A look at the net worth will reveal a negative evolution, as A1 will go down (depreciation).

Motivation No. 3: Too big an emphasis on PPP projects

A real motivation for performing PPP projects should be the fact that in some cases the private sector can be more efficient in delivering a project than the state (e.g., thanks to longer experience in the particular area or a stronger motivation to decrease costs efficiently). Or in the background, there might be reflections about a transfer of a major part of risk to the private sector or about bigger inter-generation fairness: often future generations profit from the current investment too. However, it can be said, and is confirmed by experience, that in fact in most cases

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[16] Actually 8 out of the 10 reported bad incentives were used in Slovakia to decrease the general government deficit.

[17] Refers to Table 8.

[18] It is important to note, that capital expenditures in the public sector are included in the deficit, while in the private sector are not part of the profit and loss account. From a net worth point of view, capital expenditures from government surplus represent just a change in the composition of assets.

the real motivation is lower budgetary expenditures in the short term. As the efficiency question is in these cases secondary, the real effect on tax-payers can often be negative.

Example 3: The government, instead of building a highway from public sources for EUR 1 bil., will conclude a PPP project of total value of EUR 1.5 bil., paying EUR 150 mil. annually (for 10 years). The budget expenditures will drop by EUR 850 mil. in the first year and it looks like a saving. However, a look at the net worth will show that together with the A2, also the L2 will grow. Even with low interest rates, the current net present value of the implicit debt can be significantly higher than the highway's value. In such a case, the net worth of the state will drop.

Motivation No. 4: Saving at the expense of state enterprises

As mainly general government deficit is under the scrutiny of analysts and statisticians, there are often attempts to decrease public finance deficits, and at the same time problems in state enterprises accumulate. In other cases, problems of state enterprises are solved by transactions which, in spite of the high risk of their unsettlement, are declared as financial (guarantees, recoverable financial assistance, or capital increase).

Example 4a: The government will decrease a public enterprise subsidy for actions performed in the public interest. Public finance expenditures will drop, as well as deficit. Looking at the state balance it is clear that the L1 will go down, but at the same time the A6 will decrease too, at least by the same sum, because the enterprise will have to borrow from the market (the risk margin of the enterprise is higher than that of the state).

Example 4b: The government does not deal with the problem of the state enterprise and when there are problems, it simply increases the capital or provides recoverable financial assistance (loans) on paper. Though the impact on the public finance budget is zero, the net worth will decrease by means of the A4 decrease or by means of the L1 rise. When not dealing with the situation, the A6 drops.

Motivation No. 5: Aversion to funded schemes

Although some funded schemes (e.g., in the area of pensions or the health system) can bring higher stability and better results of systems in the long term, current official statistics of public finance discriminate them against pay-as-you-go systems.

Example 5: The government is considering introducing a fully-funded pillar in the pension system. In the end though, it will choose not to carry out the reform because of a negative impact of the change on public finance in the short term, as the reallocation of a part of social contributions to private pension fund management companies means a drop of income and so a higher deficit. A look at the net worth shows that through a higher deficit the L1 will grow, but at the same time the L2 will decrease, and in the end it can even have a positive impact on the net worth of the state.

Motivation No. 6: Asymmetric handling of Central Bank profit/loss

It may happen that if the Central Bank makes a profit, the government will wish to obtain a part of the profit; however, with a loss it will not provide a subsidy to the Bank.

Example 6: Although in the case of strong domestic currency appreciation foreign government debt decreases, the value of foreign exchange reserves of the Central Bank decreases

too. The result is a clear positive impact on the budget, yet a questionable impact on the net worth of the state. The L1 will drop, as will the A5.

Motivation No. 7: Too rapid natural resources depletion

States rich in natural resources can very quickly 'overeat themselves' if they do not have a correct view of the state balance.

Example 7: The government is extracting crude oil quickly and from the revenues finances current expenditures. Though the deficit is all right, net worth is clearly decreasing through the A7. This is the reason why many countries place revenues from crude oil into funds for future generations (the A7 is decreasing, but at the same time for example the A4 is rising).

Motivation No. 8: Tendency for greater risk with legally ambiguous issues

If contingent liabilities are not recorded, motivations for the government may be wrongly set when deciding about some legal issues.

Example 8: For political reasons, the government decides to cancel a contract with a supplier in spite of risks that it will lose the law-suit. The immediate impact on the budget is zero, but the impact on net worth can be negative through the L3.

Motivation No. 9: Ignoring environmental costs

The quality of the environment is part of the wealth of a state (even though its quantification may be rather problematic). State activities may disturb this quality rather significantly.

Example 9: The government cuts down forests and builds a highway. The impact on net worth may be questionable if we also consider environmental costs. The A2 will grow, but the A8 will drop.

Motivation No. 10: Securitization

The government sells assets to a Special Purpose Vehicle, which finances itself from the market. The issued bonds are usually backed by the income stream generated by the purchases state assets.

Example 10: The government sets up a highway company outside the general government without explicit state guarantees, but transfers the highways and the right to collect fees from using these highways to this SPV. The SPV issues debt to finance highway construction. This way the government can finance capital expenditures without increasing the budget deficit and official public debt.

As we have seen, looking at public finance in a more complex way through the net worth prism, the scope for deformed motivations of economic-policy makers and non-transparent accounting is considerable smaller. It would therefore be beneficial to focus on the net worth of the state. We find it important that first state balances start to be disclosed and such should be improved gradually. Apart from that, the net worth concept can serve as a very useful benchmark for evaluating and analyzing real fiscal development. At least it makes economic-policy makers take into account the wider context of their decisions.

ANNEX 3
COMPARISON WITH THE PUBLIC SECTOR BALANCE SHEET IN BUITER (1993)

Assets	Correspondence with Table 8	Liabilities	Correspondence
Social overhead capital	A1, A2, A3	Net debt	L1, A4
Equity in public enterprises	A6	Money stock	A5
Land and mineral assets	A7	Present value of entitlements (implicit liabilities)	L2
Net foreign exchange reserves	A5		
Present value of taxes (implicit assets)	L2	*Net worth*	NW, A8, A9, L3, L4
Imputed net value of cash monopoly	A5		

There are three important differences when comparing the balance sheet in this paper (Table 8) with the concept in Buiter (1993). First, on the asset side we consider also ecological wealth. This item is of course hard to measure, however with the global debate over climate change it will gain on its significance. Second, in our opinion contingent liabilities represent an important item when decreasing the space for creative accounting. The third difference is the inclusion of other assets and liabilities. Here we can consider for example contingent assets or PPP projects.[19]

[19] These are in many countries not reported as a part of the explicit debt.

ANNEX 4
CORRESPONDENCE BETWEEN NET WORTH AND EXPENDITURE CEILINGS

One issue is the creation and reporting of public balance sheet *ex post* as an informational benchmark, the other one is the use the concept of net worth as a starting point for fiscal rules. In the Slovak proposal, not all changes in the net worth are used to update expenditure ceilings. The next table shows the main differences between net lending and change in net worth and also how are these treated when updating expenditure ceilings in the Slovak proposal.

Differences Between Conventional Measures of Budget Outcome and Changes in Net Worth	**Treatment in the Slovak Proposal (Impact on the Expenditure Ceilings)**
Conventional Budget Balance	
+ capital investments	No impact
– depreciation	No impact
+ capital gains and losses	One-off
+ net purchase of assets	One-off
+ change in net wealth of the central bank	Feeds through (except of valuation)
+ change in net wealth of public companies	Feeds through
+ change in ecological wealth	Not yet operational
+ change in natural resources	Not yet operational
+ change in the value of other assets	Feeds through
– change in the value of net implicit liabilities	Feeds through
– change in the value of contingent liabilities	Not yet operational
– change in the value of other liabilities (PPP)	Feeds through
Change in Net Worth	

REFERENCES

Aguiar, M. and G. Gopinath (2007), "Emerging Market Business Cycles: The Cycle Is the Trend", *Journal of Political Economy*, Vol. 115, pp. 69-102, University of Chicago Press.

Alesina, A. and G. Tabellini (1990), "A Positive Theory of Fiscal Deficits and Government Debt", *Review of Economic Studies*, No. 57, pp. 403-14.

Alesina, A., R. Perotti and J. Tavares (1998), "The Political Economy of Fiscal Adjustments", *Brookings Papers on Economic Activity*, No. 1, pp. 197-248.

Allen, M., B. House and C. Rosenberg (2007), "World Economy Balance Sheet Approach/Effects", Princeton Encyclopedia of the World Economy.

Allen, M., C. Rosenberg, C. Keller, B. Setser and N. Roubini (2002), "A Balance Sheet Approach to Financial Crises", International Monetary Fund, Working Paper, No. 02/210, Washington (D.C.), IMF.

Balassone, F., D. Franco and S. Zotteri (2006), "EMU Fiscal Indicators: A Misleading Compass?", *Empirica*, Vol. 33, No. 2, pp. 63-87, Springer, June.

Balassone, F. and M.S. Kumar (2007), "Cyclicality of Fiscal Policy" in M.S. Kumar and T. Ter-Minassian (eds.), *Promoting Fiscal Discipline*, International Monetary Fund.

Banerjee, B., D. Kozamernik and L. Odor (2010), "The Road to Euro Adoption: A Comparison of Slovakia and Slovenia", in M. Beblavý, D. Cobham and L. Ódor (eds.), *The Euro Area and the Financial Crisis*, Cambridge University Press.

Barro, R.J. (1979), "On the Determination of the Public Debt", *Journal of Political Economy*, No. 64, pp. 93-110.

Blanchard, O.J. (1990), "Suggestions for a New Set of Fiscal Indicators", OECD, Economics Department, Working Paper, No. 79, OECD.

Bradbury, S., J. Brumby and D. Skilling (1999), "Sovereign Net Worth: An Analytical Framework", New Zealand Treasury, Working Paper, No. 99/3.

Buiter, W.H. (1985), "A Guide to Public Sector Debt and Deficits", *Economic Policy*, Vol. 1, No. 1, pp. 13-79, November.

——————(1993), "Measurement of the Public Sector Deficit and Its Implications for Policy Evaluation and Design", in I.M. Blejer and A. Cheasty (eds.), *How to Measure the Fiscal Deficit*, International Monetary Fund.

Calmfors, L. (2005), "What Remains of the Stability Pact and What Next?", Swedish Institute for European Policy Studies, No. 8.

——————(2010a), "The Swedish Fiscal Policy Council – Experiences and Lessons", paper presented at the *Conference on Independent Fiscal Institutions*, March 18-19, Fiscal Council, Republic of Hungary, Budapest.

Calmfors, L. and S. Wren-Lewis (2011), "What Should Fiscal Councils Do?", *Economic Policy*, forthcoming.

Castellani, F. and X. Debrun (2005), "Designing Macroeconomic Frameworks: A Positive Analysis of Monetary and Fiscal Delegation", *International Finance*, No. 8, pp. 87-117.

Corbacho, A. and G. Schwartz (2007), "Fiscal Responsibility Laws", in M.S. Kumar and T. Ter-Minassian (2007), *Promoting Fiscal Discipline*, International Monetary Fund.

Cukierman, A. and A.H. Meltzer (1986), "A Positive Theory of Discretionary Policy, the Cost of Democratic Government, and the Benefits of a Constitution", *Economic Inquiry*, Vol. 24, No. 3, pp. 367-88.

Debrun, S., D. Hauner and M.S. Kumar (2009), "Independent Fiscal Agencies", *Journal of Economic Surveys*, No. 23, pp. 44-81.

De Ferranti, D., G. Perry, I. Gill and L. Servén (2000), "Securing Our Future in a Global Economy", World Bank.

Drazen, A. (2004), "Fiscal Rules from a Political Economy Perspective", in G. Kopits (ed.), Rules-based Fiscal Policy in Emerging Markets, Palgrave Macmillan.

Easterly, W. (1999), "When Is Fiscal Adjustment an Illusion?", *Economic Policy*, No. 28, April, pp. 57-76.

Eichengreen, B., R. Hausmann and J. von Hagen (1999), "Reforming Budgetary Institutions in Latin America: The Case for a National Fiscal Council", *Open Economies Review,* No. 10, pp. 415-42.

European Commission (2009), "Sustainability Report", *European Economy*, No. 9.

——————(2010a), "Enhancing Economic Policy Coordination for Stability, Growth and Jobs – Tools for Stronger EU Economic Governance", COM(2010) 367/2, Brussels.

——————(2010b), Autumn Forecasts.

——————(2011), "Proposal for a Council Directive on Requirements for Budgetary Frameworks of the Member States".

Filko, M., S. Kiss, L. Ódor and M. Siskovic (2010), "Structural Policy Challenges in Slovakia", National Bank of Slovakia, Discussion Paper.

Garcia-Cicco, J., R. Pancrazi and M. Uribe (2010), "Real Business Cycles in Emerging Countries?", American Economic Association, *American Economic Review*, Vol. 100, No. 5, pp. 2510-31, December.

GfK Polonia (2010), *Poll Results Concerning the Debt Limit in September 2010*.

Giavazzi, F. and L. Spaventa (2010), "Why the Current Account May Matter in a Monetary Union, Lessons from the Financial Crisis in the Euro Area", in M. Beblavý, D. Cobham and L. Ódor (eds.), *The Euro Area and the Financial Crisis*, Cambridge University Press.

Hagemann, R. (2010), "Improving Fiscal Performance Through Fiscal Councils", OECD, Economics Department, Working Paper, No. 829, OECD.

Hallerberg, M., R. Strauch and J. von Hagen (2009), "The Design of Fiscal Rules and Forms of Governance in European Union Countries", in J. Ayuso-i-Casals, S. Deroose, E. Flores and L. Moulin (eds.), *Policy Instruments for Sound Fiscal Policies*, Palgrave Macmillan, London.

Hauner, D. and M. Kumar (2006), "Fiscal Policy and Interest Rates: How Sustainable is the 'New Economy'?", International Monetary Fund, Working Paper, No. 06/112, IMF.

Holder, A. (1998), "Developing the Public Sector Balance Sheet", *Economic Trends*, No. 540.

Horvath, M. and L. Ódor (2009), "Making Fiscal Commitments Credible", National Bank of Slovakia, Research Department, Working and Discussion Paper, No. 1006.

International Budget Partnership (2010), Open Budget Index 2010, available at: www.openbudgetindex.org

Ipsos Tambor (2010), "Ipsos na VII.Finančním fóru Zlaté koruny", available at: www.ipsos.cz

Kaminsky, G.L., C.M. Reinhart and C.A. Végh (2005), "When It Rains, It Pours: Pro-cyclical Capital Flows and Macroeconomic Policies", NBER Chapters, in *NBER Macroeconomics Annual 2004*, Vol. 19, pp. 11-82, National Bureau of Economic Research.

Kay, J. (2010), "A Fiscal Watchdog Should Not Need a Crystal Ball", *Financial Times*, 22 September.

KESZT (2010), "A Költségvetési Elszámolások Szakértői Testülete (KESZT) javaslataia költségvetési elszámolási szabályok megváltoztatására", mimeo.

Kirsanova, T., L. Campbell and S. Wren-Lewis (2007), "Optimal Debt Policy, and an Institutional Proposal to Help in Its Implementation", in J. Ayuso-i-Casals, S. Deroose, E. Flores and L. Moulin (eds.), *The Role of Fiscal Rules and Institutions in Shaping Budgetary Outcomes*, European Economy Paper, No. 275.

Kiss, G.P. (2007a), "One-off and Off-budget Items: An Alternative Approach", in Magyar Nemzeti Bank (Central Bank of Hungary) (ed.), *MNB Conference Volume*, Vol. 1, No. 1, pp. 18-27, December.

——————(2007b), "Simulation of Fiscal Institutions: Passport or Pass Partout", Penzugyi Szemle, available at: http://www.asz.hu/ASZ/titkarsagi.nsf/0/68E5F32D781E42EAC125740F00391339/$File/PFQ_0702.pdf

——————(2011), "Moving Target Indication: Fiscal Indicators Employed by the Hungarian Central Bank", manuscript, forthcoming.

Koen, V. and P. van den Noord (2005), "Fiscal Gimmickry in Europe: One-off Measures and Creative Accounting", OECD, Economics Department, Working Paper, No. 417, OECD.

Kopits, G. (2001), "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?", International Monetary Fund, Working Paper, No. 01/145, IMF.

——————(ed.) (2004), *Rules-Based Fiscal Policy in Emerging Markets*, Palgrave Macmillan.

———(2007), "Fiscal Responsibility Framework: International Experience and Implications for Hungary", MNB, Occasional Paper.

Kopits, G. and J. Craig (1998), "Transparency in Government Operations", International Monetary Fund, Occasional Paper, No. 158, IMF.

Kopits, G. and S. Symansky (1998), "Fiscal Policy Rules", International Monetary Fund, Occasional Paper, No. 162, IMF.

Kornai, J. (2010), "Introductory Remarks", offered at the *Conference on Independent Fiscal Institutions*, March 18-19, Fiscal Council, Republic of Hungary, Budapest.

KPMG (2010), "Paying the Bill", available at: www.kpmg.com

Kumar, M.S. and T. Ter-Minassian (2007), *Promoting Fiscal Discipline*, International Monetary Fund.

Miklos, I. (2008), "Slovakia: A Story of Reforms", in W. Bienkowski, J.C. Brada and M.J. Radlo, *Growth Versus Security*, pp. 54-88, London and New York, Palgrave Macmillan.

Milesi-Ferretti, G.M. and K. Moriyama (2006), "Fiscal Adjustment in EU Countries: A Balance Sheet Approach", *Journal of Banking and Finance*, Vol. 30, No. 12, pp. 3281-98, Elsevier, December.

Nezpont Intezet (2011), "Az államadósság veszélye", available at: www.nezopontintezet.hu

OECD (2010), *OECD Economic Outlook*, No. 88.

Persson, T. and G. Tabellini (2004), "Constitutional Rules and Fiscal Policy Outcome", *American Economic Review*, No. 94, pp. 25-45.

Rogoff, K.S. and. J.I. Bertelsmann (2010), "The Rationale for Fiscal Policy Councils: Theory and Evidence", paper presented at the *Conference on Independent Fiscal Institutions*, March 18-19, Fiscal Council, Republic of Hungary, Budapest.

Tornell, A. and P. Lane (1999), "The Voracity Effect", *American Economic Review*, No. 89, pp. 22-46.

Traa, B. and A. Carare (2007), "A Government's Net Worth", *Finance and Development*, Vol. 44, No. 2, June.

von Hagen, J. (2010), "The Scope and Limits of Fiscal Councils", paper presented at the *Conference on Independent Fiscal Institutions*, March 18-19, Fiscal Council, Republic of Hungary, Budapest.

Wren-Lewis, S. (2010a), "Macroeconomic Policy in Light of the Credit Crunch: The Return of Counter-cyclical Fiscal Policy?", *Oxford Review of Economic Policy*, No. 26, pp. 71-86.

——————(2010b), "Comparing the Delegation of Monetary and Fiscal Policy", paper presented at the *Conference on Independent Fiscal Institutions*, March 18-19, Fiscal Council, Republic of Hungary, Budapest.

Wyplosz, C. (2005), "Fiscal Policy: Institutions versus Rules", *National Institute Economic Review*, No. 191.

COMMENTS ON SESSION 4
NATIONAL FISCAL FRAMEWORKS: THE WAY FORWARD

Sergio Clavijo[*]

I want to thank the organizers for giving me the opportunity to share my thoughts on these two interesting papers, in which several relations are established regarding fiscal balances, fiscal rules, and investment in Latin America.

The main link between these two papers has to do with the importance of applying Structural Fiscal Rules (SFRs) in a consistent manner. In particular, the authors emphasize as pre-requisites the following:

- the need to develop sophisticated institutional arrangements;
- gather and maintain comprehensive fiscal information and intertemporal budgeting procedures;
- and, yet, be ready to apply those SFRs with some degree of flexibility in order to accommodate the cycle and the long-term socio-economic targets. In particular, the Carranza *et al.*'s document underscores the target of closing the gap in infrastructure, which explains in an important manner the lagging in growth and gains in total factor productivity in Latin American Countries, especially when compared to Asian countries.

Comments on "Should Latin American Countries Adopt Structural Balance-based Fiscal Rules?" by Teresa Ter-Minassian

Regarding Ter-Minassian's document, I found particularly relevant the following conclusions:

- the crucial role for SFRs in de-coupling phase (2008-10) vs. the re-coupling phase (2011-12). In fact, Latin American countries made excess use of "exit clauses" during the de-coupling phase (4 out of 5 in the large countries) and so did the rest of the world. The IMF reports show that in 50 per cent of the cases where SFRs are used, "exit clauses" were also used. Here my comment to the author is that the reader would benefit if some extensions could be made on how those "exit clauses" were used in the euro zone during the pre-brake of the Maastricht treaty;
- she makes a good case for the use of simple and realistic rules rather stating a "hard" SFRs which later would have to be modified or eluded all together. This false sensation of fiscal discipline through "hard" SFRs does not yield much in the long run. She also provides several examples on how sticking (unrealistically) to "hard" SFRs might hinder other fiscal responses at hand. My comment in this regard is that the profession could extract several useful lessons from the application of the "Inflation Targeting" (IT) strategy in Latin America. I personally understand IT as a "hard-rule" for the long-term, but one that permits flexible and discretionary application in the short-term (including the use of "exit clauses". Furthermore, IT has now evolved into a "comprehensive IT", incorporating many lessons on how the financial bubbles might jeopardize a simplistic IT view, focusing only in the control of goods-and-services inflation (CPI or WSP).

I found interesting and constructive her discussion on how to make more flexible the SFRs. In particular, she recommends:

- adding fiscal watchdogs (not simply committees of experts, like in Chile);

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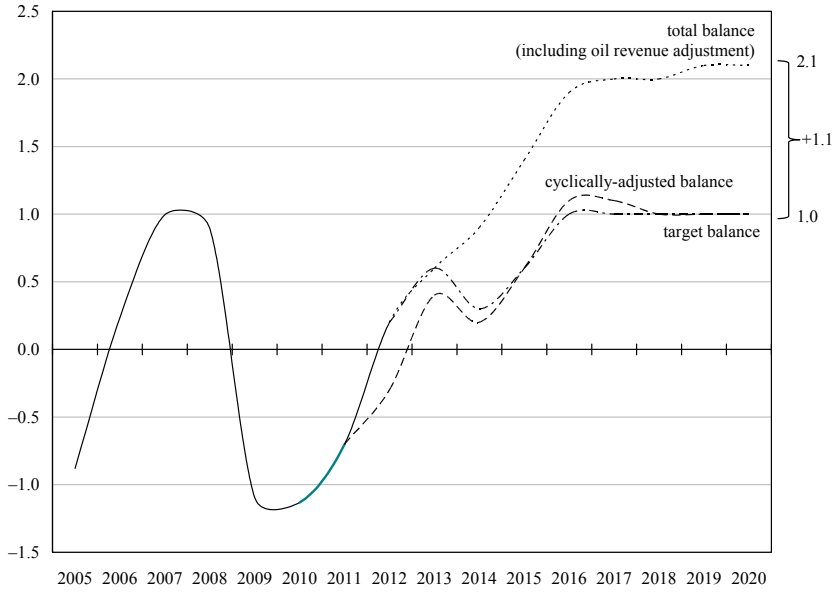
[*] Director of ANIF, Colombia.

- distinguishing temporary from permanent shocks;
- introducing fiscal-range target, instead of point targets.

Figure 1

Colombia: Decomposition of Required Primary Balance

(percent of GDP)



Source: Confis-DGPM, Ministerio de Hacienda y Crédito Público (MHCP).

The thrust of the paper of Ter-Minassian's goes into discussing the taxonomy of SFRs and its determinants. Regarding the "production gap", she analyses current vs. potential growth. Here, there are several possibilities, namely, cyclically-adjusted balance, growth base balance, base-line over the cycle. All of them reveal the problems of estimating the output gap. Regarding the "fiscal target", the menu includes: i) the primary balance (the favorite choice), but there are problem of creative accounting when considering the effect of quasi-fiscal deficits; ii) the current expenditure balance, which could allow for infrastructure expenditure, but others could argue instead in favor of opening room for human capital; and iii) the overall balance, but this approach phases the problems arising from sub-nationals deficits, which are quite important in the cases of Brazil, Argentina, and Colombia.

Recent experiences worldwide pinpoint to the use of SFRs focused on:

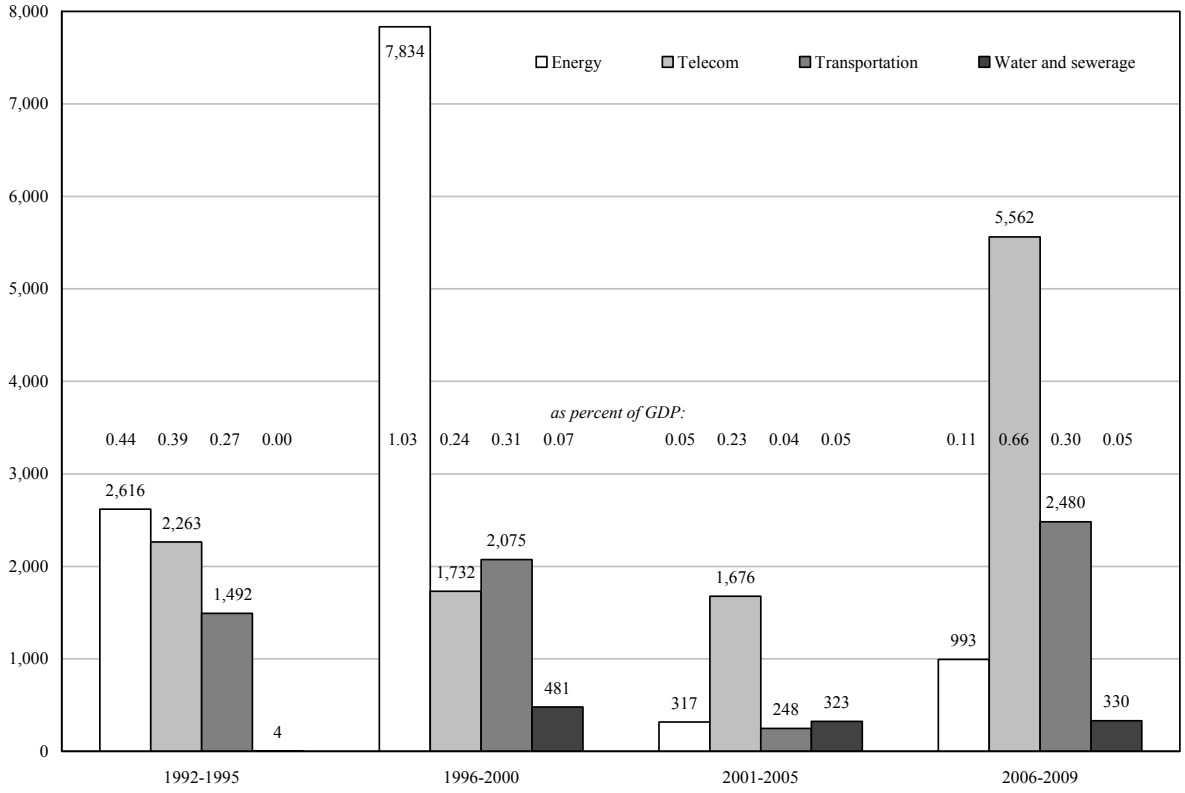
- cyclically-absorption-adjusted balance, which is the main proposal within the OECD countries;
- cyclically-revenue-adjusted, which is now in fashion in Latin American countries, where Colombia is in the process of enacting a rule under this approach.

Finally, Ter-Minassian's paper goes into the discussion of macro long-term targets. Here the alternatives include: growth path, public debt path, and needs regarding infrastructure and savings. All these theoretical discussions are well anchored in first hand experiences, when she was on the staff of the IMF and now as a consultant; particularly those regarding Chile (now a consolidated process), Brazil (in adjusting mode), and Colombia (a nascent case).

My last recommendation for Teresa is that all these experiences could be better understood if graph Illustrations could be added showing the problems of "credibility" arising from the recurrent application of exit clauses. For instance, in the future we should be discussing why was it that the Colombia authorities deviated from the current projections, which I here show in Figure 1. This is not an easy task since one would require detailed "real time" data to be able to make comparisons with the effective paths followed by those countries, but I reckon that (by now) she has an excellent fiscal network that would allow her to pursue this approach (… if not her, who?).

Figure 2

Colombia: Private Investment in Infrastructure
(USD mm of 2010)



Comments on "Public Infrastructure Investment and Fiscal Sustainability in Latin America: Oxymorons or Compatible Goals?" by Luis Carranza, Christian Daude and Ángel Melguizo

Regarding Carranza, Daude and Melguizo's paper, I would like to pinpoint the following conclusions:

- fiscal rules should help in opening space for fixed-capital-investment (FKI), which is lagging in Latin American countries vs. Asia or Eastern Europe;
- counter-cyclical policies helped during decoupling, by adding expenditures between 0.6-3 per cent of GDP in Latin American countries. Out of this additional expenditure, about ½-1/3 was devoted to infrastructure, especially in the case of Peru;
- to unravel fiscal stimulus without retrenching from FKI requires: 1) timing; 2) analysis of expenditure size; 3) work on both fronts revenue and expenditure.

Here my comments to the authors go in the line of emphasizing the role for:

a) solutions that look for solidification of public-private partnerships; and
b) making sure that capital markets are a big part of the solution in supporting additional infrastructure through project financing, toll securitizations, and sovereign fund monies (following the examples of Chile and India). In Figure 2, I illustrate how private investment played a crucial role in the cases of energy and telecom in the case of Colombia, so more

examples in this direction could help the reader understand this expected role of capital markets in Latin America.

The authors present interesting trends of the infrastructure in Latin American countries. This is a significant contribution in region that lacks good historical information in this area. The authors, in my view, are to be praised for their effort in filling this gap. They cast a crucial question: do fiscal adjustments in Latin American countries have implied sacrifices in terms of FKI? Their answer is a yes. For instance, during 1980-90 the ratio FKI/GDP was 2.5 per cent, while the fiscal deficit/GDP ratio averaged 4 per cent, but during the 1991-2006 period these values were 1 per cent for the investment ratio and –2 per cent for the fiscal deficit.

One issue very relevant for the current juncture in Latin America is the discussion of how to open space for FKI in the presence of fiscal rules. The authors discuss the cases of Petrobras (Brazil) and Ecopetrol (Colombia). In fact, both companies now received treatments as private capitals, while the government has taken a more passive view regarding long-term business strategy, while receiving their annual profits as main owners of those firms.

One suggestion for the authors is to make more explicit how SFRs should take into account short-run needs; as they spell it out in the case of the long-term needs (obviously, infrastructure). They recommend assets & liability management and make a constructive discussion regarding "golden rules", excluding FKI.

Finally, the authors make an interesting discussion on how SFRs evolved in the case of Peru. During the period 2000-06, they discuss the use of "exit clauses" and how the sub-national component was included (coinciding with the point made by Ter-Minassian). They close the paper by illustrating the inclusion of the FKI component during the recent years of 2009-10.

COMMENTS ON SESSION 4
NATIONAL FISCAL FRAMEWORKS: THE WAY FORWARD

Philippe Frouté [*]

Comments on "Russian Fiscal Framework: Past, Present and Future. Do We Need a Change?" presented by Sergey Vlasov, "The Story of Israel's New Fiscal Rule: Theoretical Design Meets Politics" presented by Adi Brender and "Reforming Iceland's Fiscal Framework" presented by Gunnar Gunnarsson

These three case studies are dealing with very different topics. All three of them are very pleasant to read and manage to provide very clear and deep insights on local situations that are complex. I took great pleasure in reading all of them. In this comment I will focus on the main points that I find questionable in order to start the general discussion.

The study on the fiscal rule in Russia presents the design of a rule dedicated to find the best use of volatile and non-renewable resources in order to stabilize public accounts: revenues from oil and gas. The second outlines very clearly how the Israelis have chosen to create a fiscal rule in the context of sound budgetary positions. The perspective adopted is that of political economy. The various arrangements that led to the adoption of the rule are presented very clearly. The last paper deals with the case of Iceland and how Iceland has implemented changes to recover from the financial crisis following the recommendations of the IMF.

Although each of the presented papers are very different in terms of countries studied, the economic and budgetary contexts and of the selected analytical perspectives, these three countries share one same pattern: fiscal variables were following a favorable trajectory of debt burden reduction when the 2008 crisis has hit the world economy and has called into question the sustainability of each pattern (see table 1). This led to the postponement of the fiscal reforms underway in the Russian case, to the creation of a new fiscal rule to overcome the crisis in the Icelandic case and to create a new fiscal rule to improve the credibility of the fiscal rules in the Israeli case.

In each case, the 2008 crisis revealed structural breaks hidden by the favorable pre-crisis context: pro-cyclicality of fiscal policy in the case of Russia, consumption boom driven by rising asset prices and privatization in the case of Iceland, unexpected revenue enabling the Israelis government to run unsound expenditure in Israel.

The economic contraction following the financial crisis has put these structural fiscal failures up to front in each of these countries.

Russia recorded high public deficits as shown in the following figure taken from the Russian paper.

Iceland budget balance recorded huge deficits in 2008 and 2009: respectively 13.5 and 9.1 per cent of GDP. In Israel budget balance recorded smaller deficits: respectively 2.8 and 5.6 per cent of GDP.

In the rest of this comment, I will come back to what each of these countries considers being good fiscal rule with respect to these developments.

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Table 1

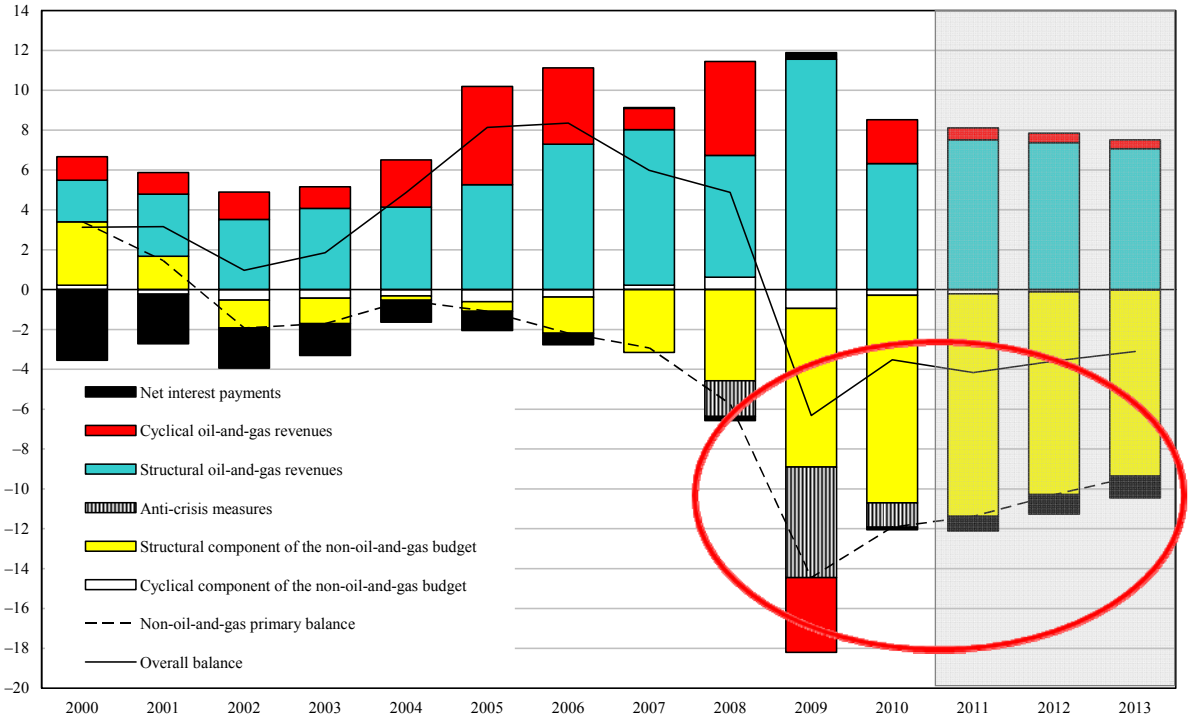
Fiscal Developments in Russia, Iceland and Israel Before the Financial Crisis

Country	2006	2007
Budget balance *(percent of GDP)*		
Russia	+8.0	+6.0
Iceland	+6.3	+5.4
Israel	–1.1	–0.6
Debt Ratio *(percent of GDP)*		
Russia	9.1	7.4
Iceland	27.9	29.1
Israel	84.5	78.2

Source: OECD.

Figure 1

General Budget Balance Decomposition for 2000-13
(percent of GDP)



Source: Sergey Vlasov: "Russian Fiscal Framework: Past, Present and Future. Do We Need a Change?", in this volume.

The Icelandic case

In the case of Iceland the crisis has revealed two main weaknesses of the fiscal framework: a deficit bias of the fiscal policy, a banking regulation problem related to the rise in asset prices.

To cope with the first issue the following renewed fiscal framework has been proposed under the influence of IMF stand-by arrangements. I will not enter into the details of this framework which has been extremely well-presented in the paper of my colleague. I will just summarize the main features:

- At the national level the reform proposes the adoption of a medium term budget framework, three fiscal rules (a budget balance rule, a debt level ceiling rule, and a fixed two year nominal ceiling rule). The introduction of a top down formulation and approval of the budget has been partly adopted as well as a more stringent supervision process.
- At the subnational level, municipalities are prohibited from running operating deficits over a rolling three-year-period. A debt-to-revenue ceiling of 150 per cent is to be introduced as well as sanction for non compliance with the rules. A coordination body between central and local governments has been created.
- A modification of the legal framework is in progress with a reform of the Parliament budget power.

The new architecture follows the recommendations of the IMF to correct the deficit bias observed previously. It does not introduce measures destined to tackle the excessive use of credit in connection with the asset prices bubble. This leaves open the question of the policy mix. Can an optimal fiscal rule be built without connections with the implementation of broader prudential supervision of credit? Indeed, in a crisis, the boundaries between the public and private sphere may be blurred in the sense that private debts tend to finally become public ones (through bank rescue mechanisms for instance). How to do it remains an open issue. Have these aspects been mentioned in the case of Iceland?

Another comment came to my mind when reading the following sentence justifying the introduction of the nominal ceiling rule: “Nominal rules are beneficial if economic stabilisation is a goal because higher inflation leads directly to lower real expenditure in a counter-cyclical fashion”.

Indeed, almost all of us have been introduced with common economics textbooks mentioning that a rise in growth leads to a rise in inflation. Thus, if the ceiling is defined in nominal terms then, real expenditure should decrease to respect the target. But what happens if growth and inflation are negatively correlated? There had been examples of such correlation in the history for instance in France. In this case, on the contrary, following a nominal ceiling may be procyclical. I think one should keep this possibility in mind and not abandon completely real targets when designing a fiscal rule.

The Israeli case

The paper presents the different discussions that have occurred in Israel on the creation of an expenditure ceiling with a mechanism destined to enable to increase the ceiling at the long term growth rate of the economy. The mechanism was destined to reduce the rate of increase according to the distance of the debt ratio from the intermediate target of 60 per cent with preset parameters for the speed of convergence.

In practice, taxes are excluded from the rule. Nevertheless, a plan has been adopted to cut taxes on a long term horizon. Rules were mainly destined to commit the government not to moderate the pace of tax reduction, at the same time, enabling political sustainability.

A first rule has been proposed by a team of economist from the Bank of Israel. The rule was the following:

$$PE_{gr} = GDP_{POT\,gr} - a\left(\frac{D}{Y_{t-2}} * 100 - 60\right) + 2 \quad (1)$$

With PE_{gr} the growth rate of primary expenditure, $GDP_{POT_{gr}}$ the growth rate of potential GDP, a the parameter for the speed of convergence to the target of 60 per cent, $\frac{D}{Y}$ denotes the debt-to-GDP ratio.

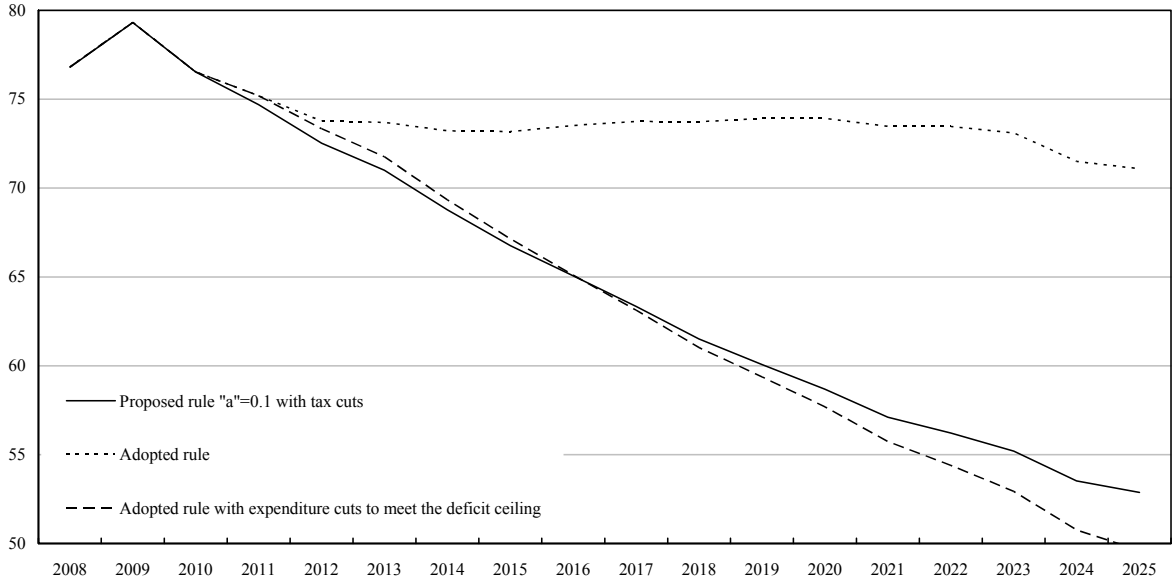
The rule was formalized that way in order to let the representatives of Israel the possibility to choose the different parameters of the rule. Nevertheless, they prefer to adopt another rule without a "free" speed of convergence parameter to define which was considered as less politically demanding. The new rule was the following:

$$PE_{gr} = GDP_{POT\,gr} * \left(\frac{60}{\frac{D}{Y_{t-2}}} * 100\right) + 2 \quad (2)$$

This rule set the convergence speed. Nevertheless, Adi Brender shows that this formulation is less stringent that the previous one, thanks to the following simulation exercises:

Figure 2

Fiscal Aggregates based on the Adopted Rule, 2008-25
Public Debt/GDP Ratio, Various Policy Scenarios, 2008-25
(percent of GDP)



Source: Adi Brender, "The Story of Israel's New Fiscal Rule: Theoretical Design Meets Politics".

Nevertheless, one can go even further. Indeed, the new formula contains an implicit convergence speed parameter a. By equalizing the two equations, one gets:

$$GDP_{POT\,gr} - a\left(\frac{D}{Y_{t-2}} * 100 - 60\right) = GDP_{POT\,gr} * \left(\frac{60}{\frac{D}{Y_{t-2}}} * 100\right) \tag{3}$$

This implies that:

$$a\left(\frac{D}{Y_{t-2}} * 100 - 60\right) = GDP_{POT\,gr} - GDP_{POT\,gr} * \left(\frac{60}{\frac{D}{Y_{t-2}}} * 100\right) \tag{4}$$

and, finally, that:

$$a = \frac{GDP_{POT\,gr}}{\frac{D}{Y_{t-2}} * 100} \tag{5}$$

The following expression means three things:

- First, implicitly the new rule set definitely the convergence parameter. The different governments commit to respect it. One justification of the abandon of the first rule was the will of not having to choose a specific a. In this respect, the result is the opposite.
- Second, if we compare the magnitude order of the different components of the ratio, it means that the chosen a is rather small which confirms the simulation exercise run by the Central Bank team. Indeed, the potential GDP growth rate stands likely somewhere below 10 per cent compared to a debt ratio that may be largely higher than this proportion.
- Third, the rule set the following relation: the higher the debt ratio the lower the convergence speed. Hence, in the new rule a evolves mainly with the value of the debt-to-GDP ratio, the lower this ratio the faster the convergence speed. The chosen convergence pattern postpones the fiscal adjustment.

The Russian case

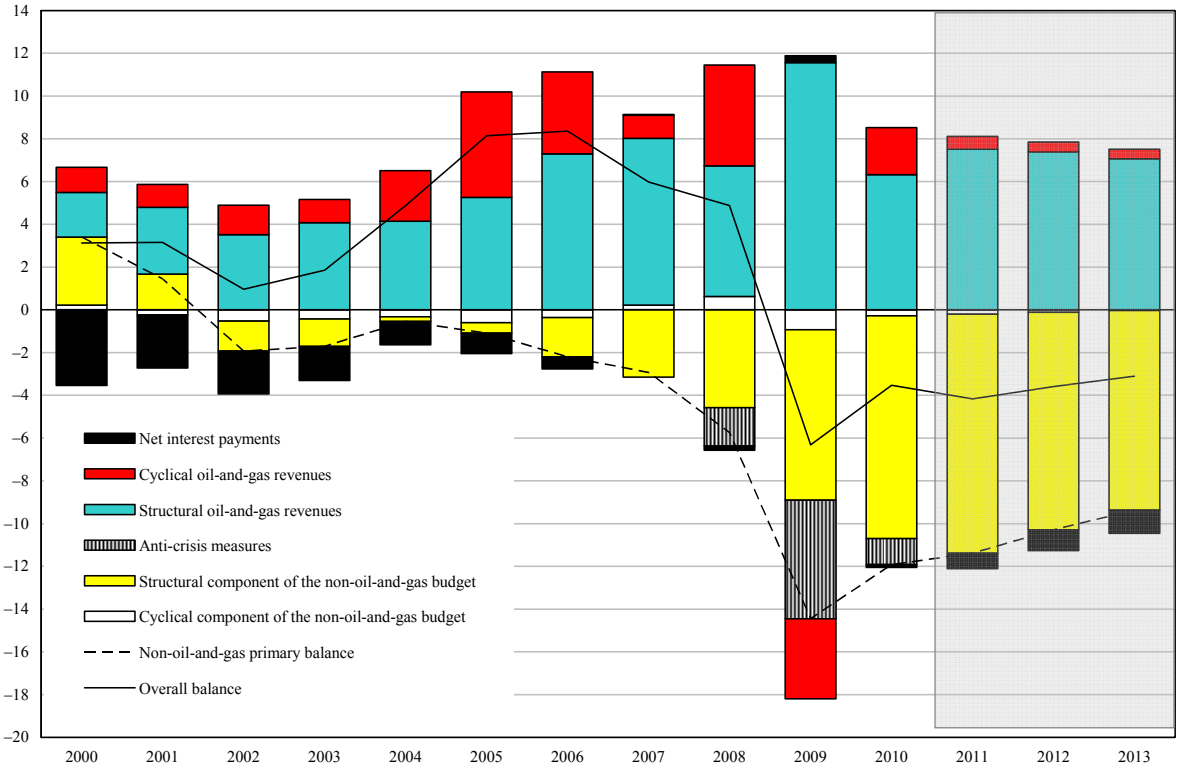
This paper deals with a very different issue. It investigates the question of how using properly non renewable resources or revenue in a fiscal stability purpose. Since the fall of the Soviet Union political and economic changes have been huge in Russia. Concerning the fiscal framework and the question of the last main two changes are:

The creation of a stabilization fund in 2004 which is financed by the difference between the revenue under the base oil price which are used on spending and the revenue above which are saved. Since 2008 non-oil-and-gas revenue must record a balanced budget.

To summarize, these two rules initiate a separate treatment of oil-and-gas and non-oil-and-gas revenues, create a ceiling for non-oil-and-gas deficits, and put into place a fixed transfer of oil-and-gas revenues to finance the budget the difference being covered by borrowing.

Figure 3

General Budget Balance Decomposition for 2000-13
(percent of GDP)



Source: Sergey Vlasov, "Russian Fiscal Framework: Past, Present and Future. Do We Need a Change?", in this volume.

The rules parameters were the following, oil and gas transfers were set at 3.7 per cent of GDP and the authorized deficit for non oil and gas budget at 4.7 per cent of GDP. The 2008-10 period was supposed to be a transition period. But, the crisis hit and the implementation of the rule has been postponed. For the moment we do not know until when. This raises the question of the absence of guidelines to deal with exceptional circumstances like in the European case. The absence of such mechanisms which submits the rule to the use of discretionary power may hamper the credibility of these rules.

The paper presents some simulation exercises on the way the rule has been calibrated. Different scenarios have been studied. In each case the rule fails to ensure sustainable fiscal developments. To succeed one has to modify the parameters by authorizing less transfers and more borrowing. But in the end, the oil and gas resources vanish and the budget situation is not sustainable any more.

The last studied simulation envisages a situation close to the Norway model: the bird-in-the-hand scenario. In the Norway model almost all non oil and gas deficit are financed by the real return on the asset of the oil fund. But, in Norway the fund value is exceeding the GDP value and the returns are equal to almost 5 per cent of GDP, whereas in Russia the respective figures are 7.8 and 0.3 per cent of GDP. Hence, the conclusion of a necessary decrease in budget expenditure to put fiscal variables into a sustainable path.

We fully agree with this conclusion especially when looking more carefully at the simulation exercises based on governmental figures. Indeed, the volatility of oil-and-gas revenue has been reduced (see the blue component of the shady area of Figure 3, taken from the Russian paper).

As the structural component of oil-and-gas revenues is deduced from it, it may change the results. In our opinion the unsustainable aspect of the fiscal pattern may be reinforced if one takes a higher volatility into account.

All in all, these there papers are very informative and very pleasant to read and I recommend the readers to read them.

COMMENTS ON SESSION 4
NATIONAL FISCAL FRAMEWORKS: THE WAY FORWARD

Walpurga Köhler-Töglhofer[*]

As the last discussant of this workshop, let me on behalf of all participants thank our host for the excellent organisation of this event and for the lavish supply of food for thought and discussion, as well as for our stomachs. The variety of insights presented and the breadth of items discussed have provided an intellectually enriching atmosphere for all of us.

European fiscal policy is guided by the European fiscal policy framework – a framework which was created with the intention of guaranteeing sound fiscal policies. Yet ever since these rules were first introduced, they have been subject to criticism, generating discussions about their usefulness and the lack of a theoretical foundation, about the carrots-and-sticks problem and the problem of missing national ownership and, thus, about their effectiveness. Indeed, the rules have not been able to prevent fiscal policy from being pro-cyclical, in particular in good times. Thus, it should not have come as a surprise after the outbreak of the great recession that there was rather limited room for manoeuvre to stabilise the real economy.

In all likelihood, the EU fiscal framework would be more effective if it were fully reflected in the national institutional settings, *i.e.*, if adequate accompanying fiscal frameworks were in place at the national level. One issue in the current EU policy debate on reinforcing economic governance in the euro area is the idea of implementing specific minimum requirements for national fiscal frameworks, including binding proposals for budget preparation, requirements for medium-term fiscal planning, budget monitoring and numerical fiscal rules. The empirical literature supports these ambitions: empirical findings have highlighted that strong fiscal institutions in countries can foster budget discipline. In other words, well-defined numerical fiscal rules, the centralisation of the budget process, top-down budgeting approaches or the presence of medium-term fiscal frameworks tend to improve fiscal outcomes. What is also relevant, though, is the share of government finances that are actually covered by those rules, whether compliance is monitored adequately and, whether there are effective sanctioning mechanisms.

This year's workshop focuses on rules and institutions for sound fiscal policy after the crisis. The first session discussed past experiences with given national frameworks, followed by the second session about fiscal rules and institutions in the European Union. Whereas the third session kept an eye on new developments with respect to independent authorities and expenditure rules, the last session was devoted to the topic "National fiscal frameworks: the way forward" and thus on the discussion of concrete suggestions for improving the effectiveness of specific countries' fiscal frameworks such as the one for Slovakia and New Zealand, two countries with very different economic history and economic policy backgrounds. In terms of institutional constraints we have got one country (Slovakia, as a member of EMU) that is committed to the European fiscal framework, pitched against a country that is not. In terms of conceptual differences underlying the stimulating papers, the rather complex proposal for Slovakia is aimed above all at improving the long-term sustainability of public finances, whereas the New Zealand paper essentially focuses on the question of how to enhance the stability function of fiscal policy.

Slovakia's fiscal policy still "suffers" from chronic deficits, pro-cyclicality and a steadily rising debt, strong expenditure pressures and an unsustainable pension and health system; moreover, creative accounting, off-budgetary operations and sales of assets as well as the depletion

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The opinions are strictly those of the author and do in no way commit the OeNB.

of natural resources and the ignorance of environmental damage aggravate the overall state of the public sector; hence, the rules of the Stability and Growth Pact (SGP) together with the national fiscal framework failed to eliminate the deficit bias and place public finances on a sustainable footing. Against this backdrop, the paper makes the case for rules which encompass the broader public sector rather than the general government sector alone and which refer not only to explicit liabilities but also to implicit as well as contingent liabilities. In other words, it advocates switching to a rather complex and highly comprehensive fiscal framework designed to guarantee fiscal sustainability in the future.

Essentially, the Slovakian paper suggests replacing the flow-based concept (which is in compliance with the EU fiscal framework) with a stock-based net worth concept, consisting of a constitutional debt limit, expenditure ceilings, rules for municipalities, transparency procedures and, above all, a newly installed independent fiscal council. Since the author is fully aware of the string of valuation and data problems that come with a net worth approach, his proposal is to use the *change* in net worth as a major building block for determining the concrete expenditure ceilings rather than define an operational target based on a comprehensive net worth approach.

At the heart of the proposal is the idea to replace the conventional budget balance targets with medium-term expenditure ceilings. The expenditure ceilings should be defined in nominal terms and they should exclude interest payments and cyclically sensitive items. The actual ceilings or the specific expenditure path should be derived from the *change* in the net worth. This means that a government would face more generous expenditure ceilings if it implemented reforms that improve the long-term sustainability of public finances (and vice versa). However, neither the net worth per se nor the change in net worth is straightforward to measure. Hence the recommendation to measure the change in net worth with a new indicator, called GAP – which is very similar to the S2 indicator but broader as it includes also non-age-related implicit liabilities and financial wealth of state companies and the central bank.

While replacing the current flow-based concept with a stock-based fiscal rule may have its merits from a theoretical point, the proposal also means abandoning the comparatively simple rules in the European fiscal framework tradition for a rather complex rule. This contradicts the "common understanding" that fiscal rules should be simple, understandable, enforceable and easy to control.

Partly this replacement is based on the "scepticism" about headline budget balance targets and structural budget balance targets – in the first instance mainly because of the cyclical influence on headline budget balances; in the second instance mainly because of the problem of correctly estimating potential growth and, thus, the output gap. However, the proposal cannot circumvent this methodological problem: potential growth is after all a necessary ingredient for determining the expenditure ceilings in the proposal at hand. The paper suggests to use the GAP indicator as the ultimate sustainability target which needs to be based on a measure of potential growth since it is identified within the intertemporal budget constraint. Furthermore, in order to calculate GAP one also needs a methodology to calculate cyclical and structural revenues and expenditures. Thus, from a methodological point of view the proposal doesn't offer a way out of the problems surrounding the estimation of potential growth and output gaps. Besides, the proposal suffers from non-negligible valuation and data problems connected to the calculation of the *change* in net worth since it is based on the assessment of certain assets such as state-owned companies. The value of an asset is equivalent to the net present value of the revenues that may be generated with that asset from now on into the future and is therefore generally difficult to precisely assess.

As sustainability analyses based on the intertemporal budget constraint might have an analytical value in the economic policy discussion, one should be aware of the weaknesses of policy target choices on the basis of sustainability indicators.

Judging from the problems that underlie current fiscal policy-making in Slovakia, such as the common pool problem, information asymmetry, political cycles and creative accounting, the question arises whether the new proposal would indeed be a remedy. With respect to the common pool problem, an expenditure rule might be helpful in preventing overspending in good times in particular. However, it would need to be twinned with a deficit anchor in order to keep the evolution of the tax/revenue side under control as well. As regards the debt rule that would accompany the expenditure rule, strict debt rules may be fraught with problems of their own. In the short run, negative macroeconomic shocks might have a much bigger impact on the evolution of the debt ratio through taxes and via the denominator effect than "bad policies" such as expenditure overruns. Moreover, a strict debt rule per se might be an incentive for bad policies, such as asset sales at low prices or pro-cyclical fiscal policies.

Furthermore, it is questionable whether the new and more complex framework would in fact reduce the asymmetric information problem – even if the suggested new independent fiscal body were to work effectively. Moreover, a more complex rule may perhaps open up more opportunities for creative accounting measures. After all, policy-makers do not resort to creative accounting in response to a specific rule; much rather creative accounting is fueled by a behavioural attitude which is against the spirit of sound and transparent fiscal policy-making.

My comments on the paper on New Zealand's fiscal framework will be more limited and straightforward. As argued by the author, New Zealand has been successful in putting its fiscal policy on a sustainable footing. At the same point, fiscal policy-making in New Zealand has got its weaknesses, too. Essentially, its insufficiency rests with the short-term stabilisation function, as the author has detailed in her interesting paper. The study would, however, benefit from concentrating simply on the main question – namely on how to improve the short-term stabilisation function of fiscal policy, *i.e.*, on how to prevent pro-cyclical fiscal policy or spending of surpluses in good times. In particular the chapter on a "Rule for more activist (countercyclical) tax policy" could be cut since firstly it doesn't offer any option for action and secondly, the analysis is highly disputable from a tax theory perspective.

A great part of the paper is devoted to the discussion of the methodological problems and difficulties in assessing the economic cycle – yet without offering solutions to this problem. The analysis shows that the New Zealand government followed a countercyclical policy in the period 2001-05. Subsequently, however, fiscal policy turned rather pro-cyclical, partly misguided by an inaccurate assessment of the economic cycle. Given a wrong assessment of structural growth, New Zealand's policy-makers were unable to accurately gauge the stage of the economic cycle in the period 2005-08. The overoptimistic assessment of structural revenue developments accompanied by overspending implied a pro-cyclical stimulus to the already overheated economy. The outbreak of the economic crisis in 2009 led to a tremendous revision of structural figures.

The author discusses different options to make fiscal policy more stabilising. One of these options would appear to be particularly promising, namely the introduction of a "stabilisation fund". The idea is to fill this fund with revenue windfalls in good times and to draw down money in periods of negative output gap. Such a stabilisation fund may have the capacity to limit pro-cyclical fiscal policies in good times – in particular for virtuous countries (see Balassone *et al.*, 2007). At the same time, it must be said that the effectiveness of such a tool also rests on an accurate assessment of the economic cycle.

To sum it up: both papers have got their merits and their drawbacks – and the solutions they propose have yet to live up to reality. Nevertheless, they can serve as excellent starting points for further research and policy debate.