

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

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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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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 |

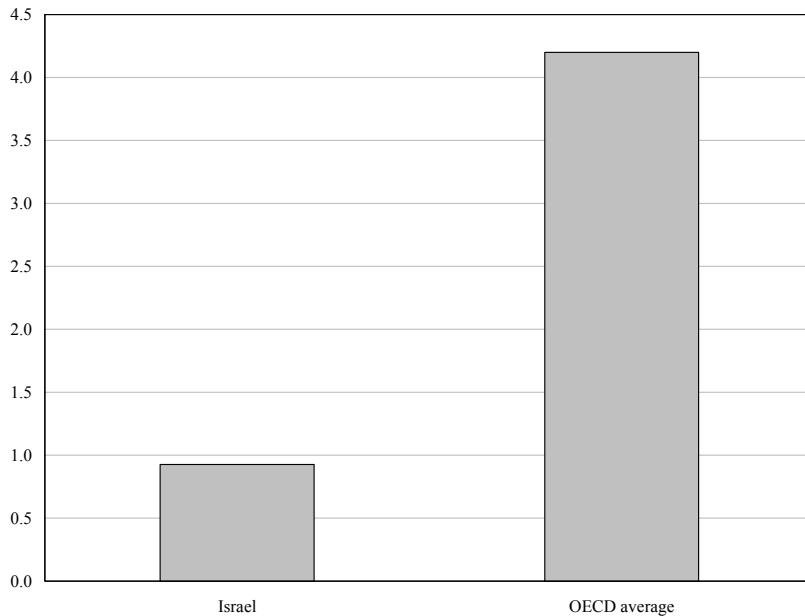
* Using the Israeli definition, which is based on real interest payments.
Source: Bank of Israel (2011).

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 definition⁵ – 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 cent⁷ that is deemed to be too high for a country facing geopolitical risks like Israel. However, Israel's improved relative position may be conducive 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

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.

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.

Table 2

Fiscal Aggregates: Israel and OECD Average*, 2010
(percent of GDP)

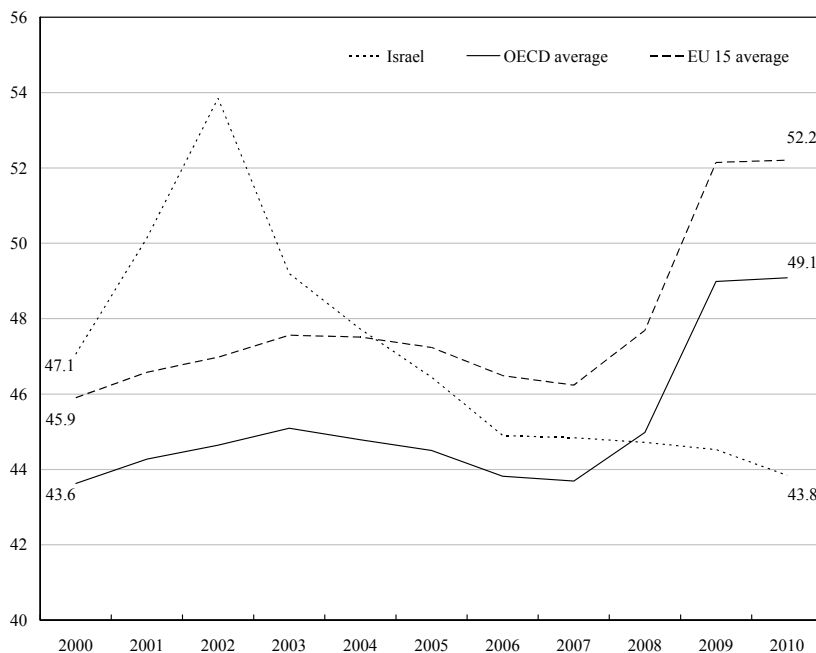
| | Israel | OECD average |
|---|--------|--------------|
| Total general government deficit (international definition) | 4.9 | 5.3 |
| Total expenditure (international definition) | 43.8 | 47.0 |
| Gross public debt | 76.2 | 76.9 |
| Primary civilian expenditure** | 32.7 | 38.5 |
| Tax revenue** | 31.2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

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

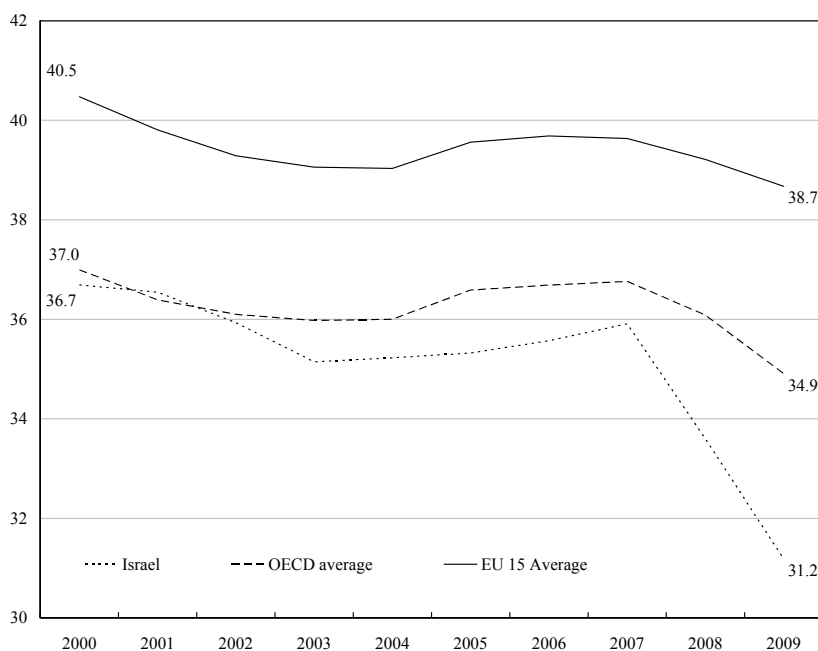
⁹ Mazar (2010) provides estimates for the effects of fiscal policy measures on GDP growth in Israel.

Figure 2 3 Key principles of the rule

**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).

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 unity¹² 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

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.

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 Parliament¹⁷ (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 than 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

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

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

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

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 scenario²⁶ – 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

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).

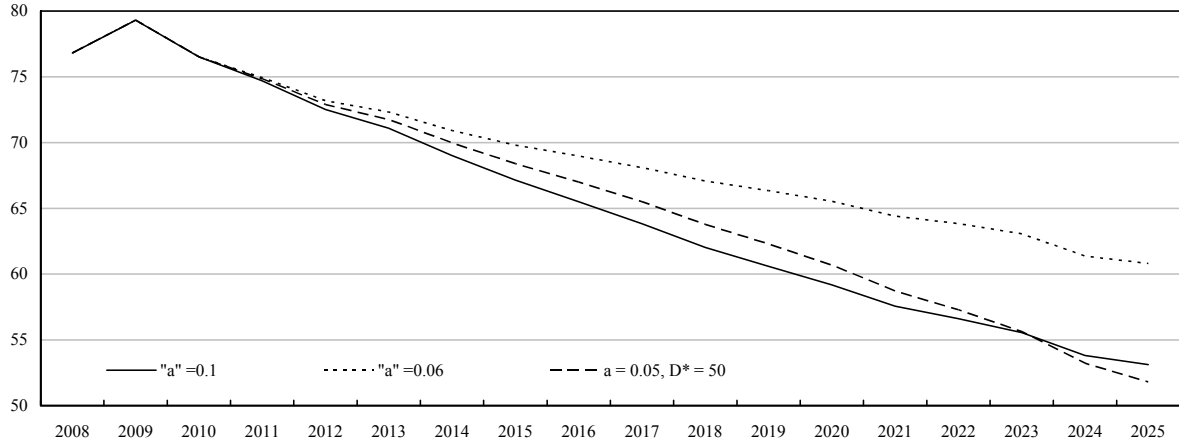
²⁶ Interest rates are assumed to be identical in all the scenarios, so differences in interest payments reflect only differences in the stock of debt.

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

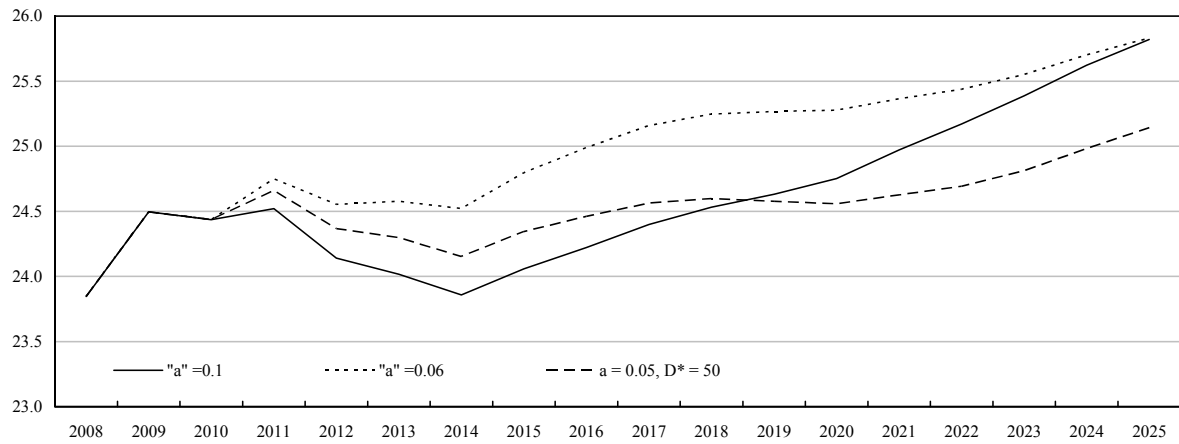
Figure 3

**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

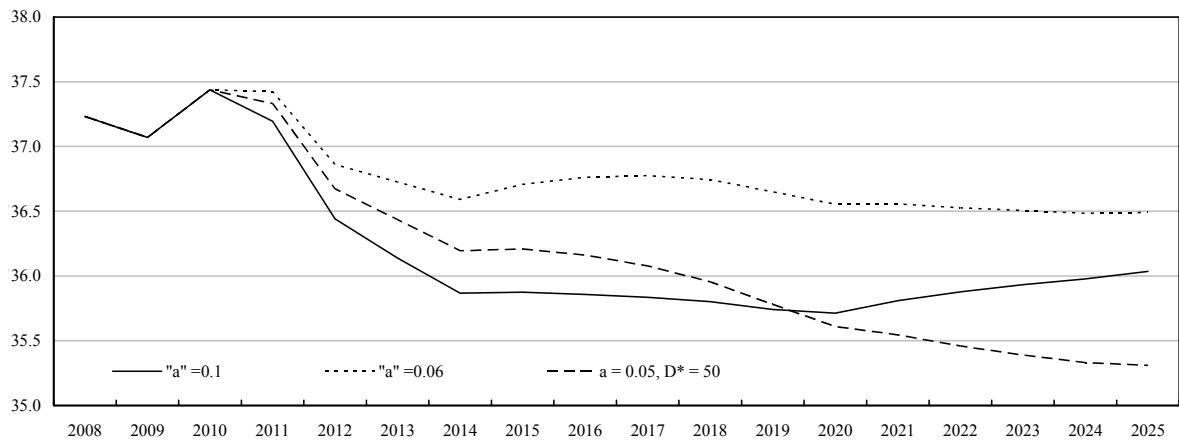
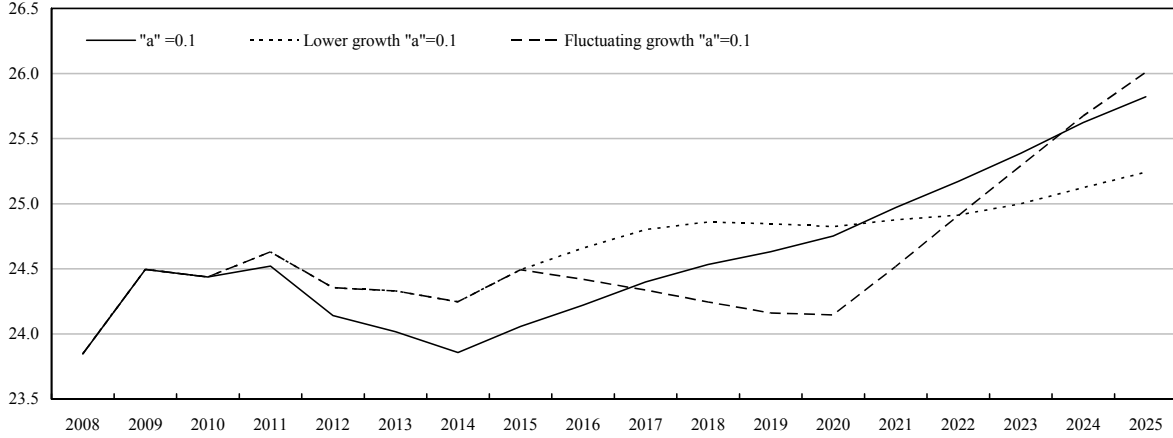
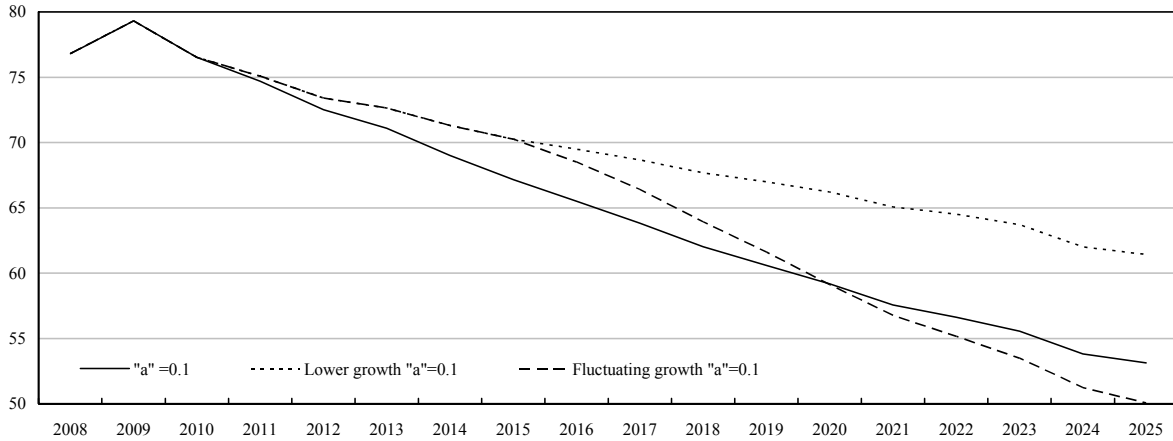


Figure 4

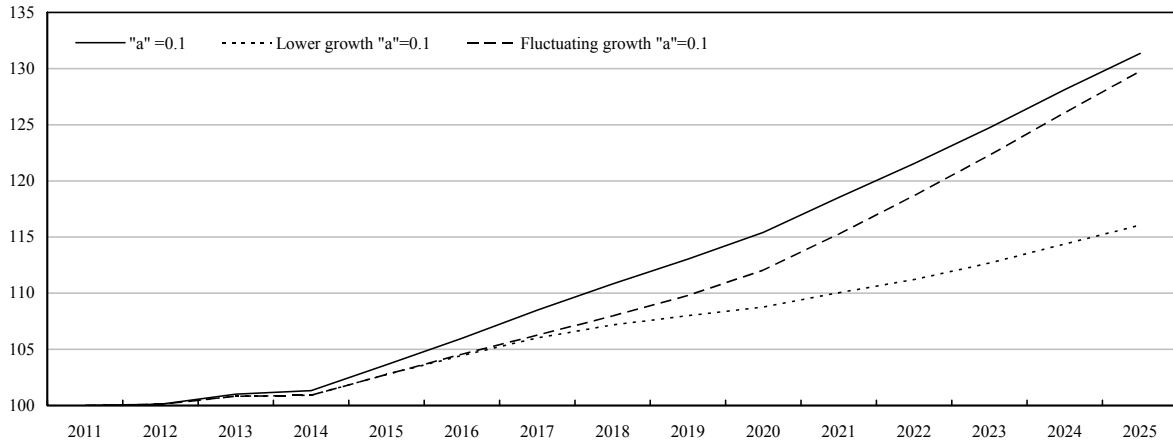
The Sensitivity of the Fiscal Aggregates to Changes in Growth
a) Primary Civilian Expenditure, Various Growth Scenarios, 2008-25
(percent of GDP)



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 than 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

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.

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

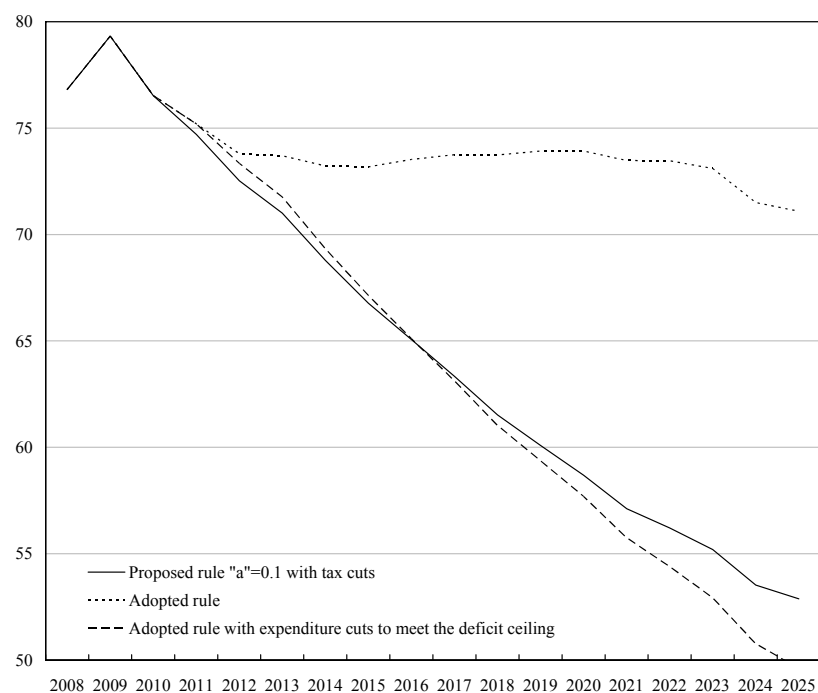
The attempt to develop a new comprehensive expenditure-based fiscal rule was founded on the perception that Israel's fiscal policy gained sufficient credibility following the 2003 stabilization, so further progress could be more gradual and cyclically neutral. This view was further enhanced by the improvement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

Figure 5

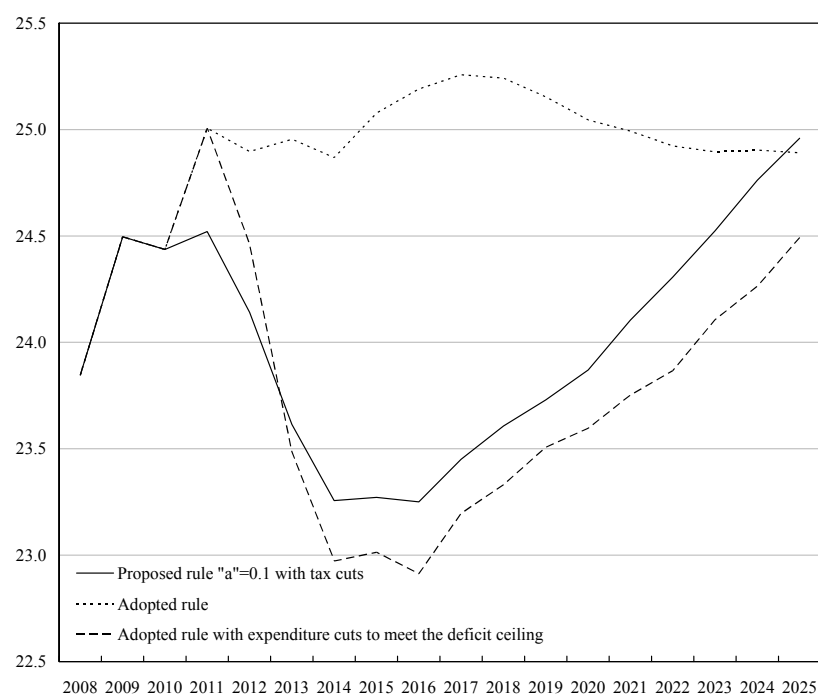
Fiscal Aggregates Based on the Adopted Rule, 2008-25

(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-cyclical, 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 (Wierdsma, 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.

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

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