

**COMMENTS ON SESSION 1**  
**NEW METHODOLOGIES FOR ASSESSING FISCAL SUSTAINABILITY**

**CONCEPTUALIZING FISCAL SUSTAINABILITY**

*Adi Brender\**

The analysis of fiscal sustainability requires first a clear definition of what this term means. Such a conceptual framework is essential for interpreting empirical studies and for comparative analysis of the status of fiscal sustainability in various countries and periods.

A general definition for fiscal sustainability would be:

*“Being able to pursue the current policies into the (very) long run”.*

This definition requires clarification of three main concepts:

- 1) what does it mean “to be able”?
- 2) what do we mean by “current policies”?
- 3) what is the relevant “long run”?

Systematic answers to these questions are a necessary stage in defining a clear concept of fiscal sustainability. Leaving any of these open can lead to very different outcomes in the analysis of similar cases.

*Being able to pursue a policy* – The criteria for viability of a policy and of the resulting trajectories of the fiscal, economic and social aggregates needs to be defined. A common way to identify an unsustainable policy is to find that it leads to a permanently rising debt/GDP ratio. If this is the case then at some point the markets will refuse to continue lending to that government and the policy will collapse. However, policies may also be unsustainable for other reasons. A key constraint in this respect is political perseverance. Governments may adopt policies that appear to put their countries on a sound economic path using a crisis situation to introduce the policy. Nevertheless these policies may not be sustainable in the long run if they require strong political groups in the country to carry a heavy burden. Given the long horizons that sustainability analyses are focused on, a diagnosis of the political endurance of the policy measures is a necessary component of their evaluation. If the “current” policy allocates the burden of adjustment in a way that is not balanced with the political forces – including from the point of view of generational distribution – it is unlikely that it will be possible to stick to it in the long run. The issue of political sustainability is particularly relevant when the “current” policy relies on measures that need to be implemented in the future.

In analyzing the ability to pursue policies it is also required to properly account for the economic implications of the policy measures themselves. An obvious example is tax-based adjustments. While the rising tax rates and tax revenues may put the fiscal accounts on a sustainable path, one needs to account for the possible negative effects of the policy measures on economic activity, investment and location decisions of firms and individuals. These effects can be substantial especially when taxes are raised to pay for past consumption and transfers rather than for investment and current improvements in government services. Moreover, since the analysis is concerned with the very long run, the estimated elasticities for short-term macroeconomic studies could grossly understate the relevant effects.

---

\* Research Department, Bank of Israel. E mail: adib@boi.gov.il

Another key economic feature in sustainability analysis is the assumed “patience” of the markets. Fiscal trajectories built on gradual adjustment may meet the criterion of “not leading to permanently rising debt to GDP ratios” while still leading to a substantial increase in the debt ratios for a long period before they stabilize. The assumption that the markets would bear with the government and will not require ever increasing risk premiums that will lead to an early crisis is not trivial; deviations from it may render the same policy path unsustainable and require a more front-loaded policy design. The evaluation of patience is also relevant for the location decisions of firms.

*Defining “current” policies* – A clear characterization of the “current” policies is essential in any sustainability analysis. The evaluation of their direct impact in various segments of government activity is a major challenge in long-term analysis. The main areas where policy appraisal is critical are:

- 1) health care – especially long-term care – due to the significant interaction of these costs with the process of ageing;
- 2) pensions;
- 3) the evaluation of people’s will and ability to work more years as their life expectancy increases – estimates in this area critically depend on transfer payments and possibly also on the tax system;
- 4) immigration policy and its ability to “fix” the ageing problem. Immigration may be an appealing alternative to raising taxes or cutting government transfers and services by essentially “selling”, or “renting”, the capital stock of the country to the immigrants. However, whether this is a viable policy depends on many political and social issues. There are powerful forces that may lead to substantial differences between the current policy stance on this issue and future behavior.

The characterization of “current” policies also requires a decision on the relevant coverage of these policies. One approach would be to extrapolate the existing spending rules and tax regime. An alternative way would be to also reflect current commitments and decisions regarding the future. Most economists would argue that any meaningful analysis should include the latter. Otherwise, policies that push problems to the future would look very good in the present fiscal accounts (e.g., a moderate wage agreement in the public sector which is compensated by a generous expansion of pensions) and so will analyses that are based on them. However, accounting for future policies is not trivial.<sup>1</sup> The main question is how to treat gaps between stated general policies and the results of extrapolations of the prevailing specific laws and regulations (including those with future implementation dates). On the one hand, the credibility of general statements regarding policy targets may be quite low if they are not supported by specific measures. On the other hand, the horizon of sustainability analysis is sufficiently long for countries to plan, build political support and implement the required measures. Accordingly, evaluations based on the (poor) experience of bridging such gaps in stabilization programs may be over-pessimistic.

*The relevant long run* – Fiscal sustainability analysis is usually conducted for at least several decades. The potential error of such exercises is consequently very large. (It is not rare that small modifications to the assumptions would change the predicted long-run debt to GDP ratio by 100 percentage points.) The public and the markets may not be particularly concerned about such remote risks. In that case building the political support for the needed fiscal adjustments – in order to correct an unsustainable path – may be difficult and the analysis itself fruitless. It is therefore

---

<sup>1</sup> A case in point is the scheduled reversal of the US tax cuts in 2011.

very important to identify what is the horizon that the public – voters, businesses, the financial markets – stops caring about and to tailor the analysis in a way that is relevant for the public's concerns.

If a policy is deemed to be unsustainable – in the sense that the current policies cannot be carried on for the long run – the remaining question is how this outcome will materialize. The policies may indeed lead to a financial crisis that will be reflected, *inter alia*, in high inflation, currency depreciation, high risk premiums and financial loss to investors. However, in most cases the unsustainability will be reflected in a change in the policies that generate the untenable path. Once such an adjustment takes place, an *ex post* analysis would suggest that the policy had been sustainable, since there was no debt crisis and revenues and expenditures converged to each other.<sup>2</sup> An important question for policy-makers is to identify the point of no return where an orderly adjustment of policies is no longer possible. Nevertheless, a judgment that policies had been sustainable based on the identification that, eventually, there was no crisis would be misleading.

*The fiscal sustainability tool* of the World Bank, presented by Bandiera, Budina, Klijin and van Wijnbergen, is very useful in this framework. It combines many of the relevant macro aspects and helps to address the “ability” question: If the public debt is on a permanently rising path, or if inflation is bound to exceed its target level, the model would indicate that the country will not be *able* to carry on the current policies. The tool also provides indications for the risk of the projected path.

Notwithstanding some technical aspects of the tool (e.g., issues raised by Frank and Ley in this session), its contribution is that it allows economists in this field to “close the circle” when they analyze specific aspects of sustainability. A key component in sustainability analysis is to examine the impact of various elements (e.g., demographics, health, banking crisis, war, etc.) within the context of studying the “current” policies. The World bank's tool allows such economists to follow the analysis all the way to the “punch line” – that is to plug in their work on specific questions into a complete macro framework and follow the impact of proposed modifications in one area all the way to their impact on the macro outcomes. By doing so the tool is a great motivator for enhancing the analysis of these specific but essential questions.

While useful, the tool is silent about several key issues that future versions would benefit from developing. One important topic that is left for the user to work on is the interpretation of “current” policies: the user has to figure out revenues and expenditures outside the tool and plug in the data. Another aspect is the treatment of growth as exogenous – the tool does not allow for a direct effect of demographic developments and policy changes on future growth. While this is a difficult issue to evaluate it is also at the heart of the analysis, especially with respect to issues like migration and investment in infrastructure and education.

The most important feature that is missing from the tool is the interaction between the outcome of the analysis itself and fiscal policy. The fiscal reaction function in the model responds only to the current debt, regardless of the projected debt trajectory for later periods. This may be an inconsistent behaviour on the part of the government – and other agents in the economy – if the policies are unsustainable. It is unlikely that two countries with similar debt levels would act in the same way if one is on an unsustainable trajectory and the other is not. Endogenizing the fiscal reaction function would make the behaviour of the agents in the model more rational.

---

<sup>2</sup> In fact it is quite possible that a financial crisis would also appear in the *ex post* analysis as a convergence to sustainable policies due to the fiscal correction that will result from the crisis (e.g., the erosion of interest payments due to the price shock).

Finally, the main contribution of the tool is allowing economists in each country to experiment with alternative policy scenarios and identify their impact on sustainability with a transparent description of the analytical process. For that contribution to be effective the tool has to be disseminated to the authorities and academics in the countries and not kept indoors at the Bank.

The paper of Frank and Ley provides important technical improvements to the sustainability tool. The authors identify structural breaks in the country data series, build the simulations using the probability of alternative potential “states of the world” and provide better estimation of the covariance matrix. Using these improvements they build fan-charts which allow close examination of the risk of the projections. Provided that the required data are available this is a good set of tools for more accurate sustainability analysis.

Afonso and Rault examine a panel of EU countries and find that the first difference of the debt series is  $I(0)$  implying that general government revenues and expenditures are cointegrated (for most EU countries). The paper uses many econometric techniques and finds different results for the EU panel than for the individual countries. This difference is not explained convincingly by the authors. It is not clear whether it is simply a result of the individual countries’ variances being too large to reject unit root or whether the relevant economy – in terms of fiscal policy – is the EU and not each country.

The results of this paper are consistent with several interpretations. They could suggest that indeed policy-makers are responsible. They could also reflect policy adjustments that were made to unsustainable policies before a crisis hit the economy. Finally, the results are also consistent with policy corrections due to crises. Therefore the reported findings do not teach us much about the policy-makers and the policies. As discussed above, unsustainable policies cannot lead to permanently rising debts: eventually either the markets or the policy-makers will correct the debt trajectory. In terms of sustainability analysis the key issue is to predict and prevent sharp policy changes and maintain the credibility of government commitments. The paper only shows that, in the long term, taxes adjust to expenditures or vice versa. However, what sustainability analysis is seeking is to identify whether such changes were, or will be, needed – not if eventually they occur.

Several additions could make this paper more focused on the main questions of sustainability. A key element would be to describe the error-correction process in the model. The authors could provide information on how large were the adjustments that were needed to insure cointegration, how long was it until such corrections took place and what were the characteristics of the countries that adopted sustainable policies, compared to those who needed policy changes. This information will provide the reader with better guidance as to which of the possible interpretations of the current results is most likely to reflect the behavior of policy-makers during the sample period.