## Comment

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The papers in this session considered the standard sovereign debt management (SDM) framework versus fiscal insurance and macro-based frameworks. They considered the role of debt maturity for fiscal insurance in the presence of default risk, and for optimal fiscal policy in the absence of default, in both cases in the context of imperfect markets. Let me discuss each paper in turn.

Key points of the first paper in this session, by Hans Blommestein and Anja Hubig, on "Is the micro portfolio approach still appropriate? An examination of the analytical framework of public debt management" are that the standard analytical framework of SDM (ie minimising borrowing costs subject to risk) is well anchored in the principles of modern portfolio theory. But the underlying assumptions of the micro portfolio approach to SDM are not valid under fiscal dominance, an absence of risk-free assets, and imperfect asset substitutability. There is therefore a need to formulate a macro approach to SDM.

I think that there is an interesting analogy between the micro versus macro approach to SDM, and the micro versus macro approach to regulation (ie micro supervision versus macroprudential policy). Macroprudential frameworks are currently being developed, and it is very welcome to also have the development of a macro approach to SDM. There is also an analogy between the question of SDM-monetary policy coordination and the question of macroprudential-monetary policy coordination.

An important question is which objectives SDM should be assigned from a macro perspective. In particular, if SDM is to take financial stability concerns into consideration, in addition to macroeconomic ones, how could this best be done? One possibility may be that SDM could make 'safe assets' available in a crisis for private agents to hold or flee into, by providing longer-maturity assets perceived as safe. In addition, SDM could provide long-maturity assets perceived as safe which pension funds and insurance companies can hold. This could be an argument for the government to run a permanent budget deficit, which is small enough to be sustainable. There is a strong demand for safe, long-term government bonds in major economies: witness the very low real yields currently prevailing. Governments could invest the proceeds for example in desired infrastructure projects yielding higher returns than the cost of borrowing.

But a government budget deficit is not a necessary condition for bond issuance. In times of fiscal surplus, the government could still issue long-term government bonds to keep them available as safe assets, and invest the proceeds in other financial assets. Such assets could be local private sector debt securities, equities or foreign assets. This also raises the question of whether there should consequently be four-way coordination between monetary policy, fiscal policy, SDM and macroprudential policy. What would such coordination imply for institutional and governance arrangements?

The second paper in this session, by Alessandro Missale, on "Sovereign debt management and fiscal vulnerabilities" considers the role of long debt maturity as fiscal insurance: long-maturity government debt makes the market value of government debt sensitive to changes in interest rates; negative shocks to current and future primary surpluses lead to

BIS Papers No 65 239

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higher long-term interest rates, so that the value of long-maturity debt falls, thereby reducing the need for fiscal adjustment.

Key findings of the paper are that long-maturity debt reduces default risk (and also interest rate risk), and that the maturity of government debt should receive greater attention in the analysis of government debt sustainability. Moreover, standard SDM in the form of interest-expenditure minimisation over short horizons can lead to suboptimal debt strategies. Furthermore, government debt managers' emphasis on interest expenditure, rather than the market value of debt, is argued to be due to accounting standards and the key role of (current) budget deficits in fiscal policy evaluation, with the absence of a theory-based accounting framework preventing optimal debt management.

I find the emphasis on an analysis of default risk useful, especially in current circumstances where this has become highly relevant. More research to understand the determinants of risk premia as suggested by the author would also be very useful.

The author's call for greater transparency on swap contracts which modify the duration of government debt is very relevant, and mirrors calls for greater transparency about exposures in OTC derivatives markets more generally, in the wake of the financial crisis. But I think a pertinent question is also whether it would be better for SDM not to use swaps (eg in the United States SDM does not use swaps), but instead to buy and sell government bonds at different maturities to modify duration. This would also avoid the counterparty credit risk exposure of the government involved in swap contracts.

As a benchmark, the third paper in the session, by Elisa Faraglia, Albert Marcet and Andrew Scott, on "Debt management and optimal fiscal policy with long bonds" studies optimal fiscal policy assuming full commitment of the government to implement the best sequence of taxes and government debt, with incomplete markets and in the presence of long-maturity government bonds. It also considers optimal policy with an independent monetary authority. The paper considers a nonlinear model, since debt limits are likely to bind occasionally, and since a linear approximation misses important aspects of optimal fiscal policy.

Key findings of the paper are that the presence of long-maturity government bonds affects optimal fiscal policy under commitment of the social planner, compared with having only short-maturity bonds, in the following ways. With long-maturity bonds, debt management concerns make it optimal to have a greater variability in taxes, ie optimal fiscal policy violates tax smoothing (while tax smoothing is optimal if there are only short-maturity bonds). Optimal fiscal policy under commitment in response to adverse government spending shocks is time-inconsistent. In this model an indebted government has an incentive to twist interest rates to minimise the cost of funding debt, by violating tax smoothing. Since debt management concerns affect optimal fiscal policy, it is important to consider debt management and fiscal policy together. But when an independent monetary authority setting interest rates at all maturities in every period is introduced, the fiscal authority cannot manipulate interest rates, and debt management is then subservient to tax smoothing. This highlights the role of commitment under optimal fiscal policy.

The paper makes the following methodological contribution. It provides a recursive formulation of the model, with a numerical solution applicable to a large number of state variables arising in the presence of long-maturity bonds, based on the Parameterized Expectations Algorithm of den Haan and Marcet (1990).

The model assumes rational expectations. It would be interesting to consider departures from rational expectations, eg via learning, and see how sensitive the results are to departures from rational expectations. It would also be useful to consider heterogeneous agents, for example with different preferences for certain maturities, instead of a representative agent assumed in the paper.

It would also be useful to compare results for optimal policy under commitment directly with results for optimal fiscal policy under discretion (ie the time-consistent solution), in addition to

240 BIS Papers No 65

comparing with the case of introducing an independent monetary authority considered in the paper, since optimal fiscal policy under commitment is not very realistic.

## References

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BIS Papers No 65 241