

## **Response of Author to the 1<sup>st</sup> Review of “The Portfolio Theory of Investment and Policy Effectiveness”, MS number, 3078.**

General comments. The paper provides an interesting discussion of a relevant policy issue. I think it deserves a chance to be published, after some important modifications. I have a few concerns that I will list below.

**General response: I am grateful to the Referee for the useful comments provided. I will consider them carefully and incorporate them in a new draft, with the specifications discussed below.**

1) Regarding the Literature Review and the relation between the proposed approach and other papers. The author claims that a novel theory is being proposed, so it is hard to find papers that touches on similar issues. I differ. There is a large literature on the “lack of credibility” of stabilization policies. The author may want to consider the different papers produced by Guillermo Calvo and colleagues during the 1980s and 1990s (for example Calvo 1991, 2007). Not only Calvo paper have similar concerns, they also similar implications (i.e., a high pass-through can be associated with low credibility). I think the literature review should be expanded accordingly, including not only the contributions by Calvo, but also papers by Dornbusch, Drazen, and so on.

**Response: I will expand the literature review as recommended and will make due reference to the suggested contributions. In fact, I will use this as an opportunity to re-emphasize the novelty of the proposed approach: whereas the suggested contributions investigate how policy credibility (or lack thereof) affects the economy’s incentives structure and hence the desired policy outcomes, the approach proposed in the paper shows how policy credibility (or lack thereof), as perceived by global financial markets, affects the policy space available to governments by shaping their intertemporal budget constraint (IBC). The proposed approach 1) provides a general model to explain why identical policies may produce different effects in economies featuring different levels of credibility and 2) considers the effectiveness of all macro policies, not just of specific monetary policy instruments (as done in the referred literature).**

2) I feel that the motivation and the way the contribution is presented should be reconsidered. I will star suggesting that the manuscript will improve a lot if the author provides some motivational stories. I am pretty sure that he can think of several examples (i.e., country cases) where the main plot described holds. Given that the problem of “lack of credibility” was explored by the literature, I do not think the paper should claim to have a presented “a novel theory”.

**Response: I will include motivational stories, as this will help to strengthen the main plot. For the reasons indicated above, and for others that follow below, I will continue to defend the novelty of the theory presented. As explained in the paper, the new perspective uses the assumption of full financial integration (more on this under #5) to replace the conventional domestic consumer with a “global investor” acting as intertemporal allocator of resources across national economies. The portfolio choices of the new agent are key determinants of the "elasticity" of governments' IBC (as defined in the paper) and, hence, of the different policy space that financial markets make available to governments featuring different degrees of policy credibility.**

3) No simulation or graphical analysis is provided. I think this is a limitation, given that the results are supposed to be novel and the model is hard to read. To clarify, I do not think that the author should run simulations, but perhaps he can either: a) simplify the model (it was hard to follow the steps); b) put the entire derivation in an appendix.

Let me provide an example to clarify what I have in mind. I will propose “a model” to explain how credibility affects inflation.

Imagine a world where there is perfect capital mobility and perfect substitutability between two assets, domestic and foreign. Let us say that the uncovered interest parity holds up to a risk premium and the public is blessed with perfect foresight. Then we should have an equation like:

domestic rate = foreign rate + expected (and actual) rate of depreciation + risk premium

In this very simple model, the risk premium reflects endogenous credibility on macroeconomic policies. Let us say that credibility fall, so the risk premium goes up. The immediate effect is an increase on the rate of depreciation (given the domestic and the foreign rates). Furthermore, if there is only a tradable good, inflation accelerates. I am not saying that the author should use this formulation. I am suggesting that simple models (especially if a graphical presentation is used) can enormously help the reader to figure out what is going on exactly. Perhaps the author could provide a simpler model in the introduction and a full model later.

**Response:** Regarding presentation, the section covering the model solution can go in an appendix and a graphical exposition can be added. As regards the structure of the paper, the simple and general result referred to by the Referee is derived rather than assumed, and it shows up in Eq. (19), which in fact looks quite as simple as the one sketched by the Referee, with the difference that the relevant variables are drawn as a solution to the investors’ optimal portfolio choices in the given economy and allows to treat their interactions analytically rather than intuitively. This is indeed a central effort of the paper.

4) I think some equations deserve some elaboration. I am not sure if I understand why a higher expected money supply will increase the value of bonds (equation 1). This looks like the fiscal theory of the price level, which the author repudiates.

The specification of the supply side is scant, and the reader must figure out the details about pricing and about the determination of output mostly by himself. Is the country considered to be small in goods markets? Is PPP or the LOP assumed? Is output demand determined? Are prices sticky or flexible? I know for sure that the answers are somewhere in the manuscript, but a clarification may help. For instance, a clarification before the full model may greatly help.

**Response:**

- A higher expected money supply does NOT increase the value of bonds. The effect of money supply on the value of bonds cannot be derived directly but, as the paper shows, only as a general equilibrium result of the model. The price of bond B in Eq. (1) is expressed as a ratio of the market price of bond B to its contractual price (thus, it cannot be higher than one) and is determined - together with other prices – as a solution of the model. For, instance, the same monetary stimulus would have different effects on the bond price (and other variables) at different levels of country credibility, and if (expected) money supply increases but policy credibility declines (for example, following a shift in policy regime that markets do not appreciate), the effect of the bond price would actually be negative.
- It is precisely the introduction of the (variable) bond price in Eq. (1) that makes the proposed model profoundly different than the Fiscal Theory of the Price Level (FTPL). This is another central novel aspect of the model. Quite unlike FTPL, in fact, the model does not pose any direct relationship between fiscal policy and the general price level, as discussed in the paper.
- Pricing is specified in Eq.’s. (4)-(5).

- Prices are flexible; yet rigidities can be built in. The model creates space for factors (such as the exchange rate pass-through and time lag) to delay the price adjustment and to make the price adjustment process to differ on a country by country basis.
- The model assumes (and specifies) that the domestic country is small relative to the foreign.
- Output is demand determined (Eq. (8)).

5) The author claims that the world financial markets are perfectly integrated. Integration has increased a lot during the last decades, but it is still far from perfect (see Obstfeld and Rogoff, 2000, puzzles number 2 and 3). I suggest a more careful wording about this. I do agree that assuming a high degree of integration is a reasonable thing to do.

Response: "High" integration will do. I will use more careful wording and will define and clarify – from a methodological standpoint – the role of the high financial integration assumption used in the paper. The proposed approach aims to analyze what happens to the effectiveness of domestic macro policies when 1) the economy is open and financially integrated **and** 2) investors in a country's liabilities take a global perspective on investments and are able to shift capital in and out of the country in real time and at negligible transaction costs. Obviously, the real world is not perfectly financially integrated and there is still considerable "home bias;" yet, it has moved a considerable distance toward that point. High financial integration, combined with increasing concentration of wealth and growing shares of institutional savings, gives prominence to global investors in their role as "marginal" agents: agents who (as the finance literature shows) determine the price of the assets traded internationally. Under the high financial integration assumption, if a country's debt and currency prices are determined by global investors, it is less relevant whether a large share of public liabilities are held by residents or are denominated in local or foreign currency. As debt and currency prices are determined by global factors, the latter are what ultimately determines governments' IBC (and hence their policy space).

## References

Calvo, Guillermo A., 1991. "Temporary stabilization policy : The case of flexible prices and exchange rates," *Journal of Economic Dynamics and Control*, Elsevier, vol. 15(1), pages 197-213.

Guillermo A. Calvo, 2007. "Interest Rate Rules, Inflation Stabilization, and Imperfect Credibility: The Small Open Economy Case," NBER Working Papers 13177, National Bureau of Economic Research, Inc.

Obstfeld, M., and Rogoff, K. 2000. "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?" NBER Working Paper No. 7777.