Report containing the changes made to the Discussion Paper 2013-7 "The impact of financial openness on the size of utility-enhancing government" once received the comments and suggestions made by an anonymous referee and the editor

May 16, 2013

First of all, I would like to thank sincerely the comments and suggestions received by the anonymous referee and the editor. They have undoubtedly helped to improve the content of my paper very much. These are the major changes made in the paper:

1. Some discussion on the limitations of the model (absence of nominal shocks and the influence of capital flow volatility on the real economy) has been added to the Introduction:

    - "Some convenient limitations of the paper deserve some discussion. This economy is a real one, that is, there are no nominal assets, such as money, different financial assets, etc. The model abstracts from analyzing the impact of nominal shocks on the real economy for reasons of tractability[1]. Additionally, it does not deal with how volatility in international capital flows affects the real economy. The volatility of flows seems to have fallen substantially

[1] As Obstfeld and Rogoff (1996, p. 605) point out, "one of the most difficult tasks in international macroeconomics is building a bridge between the real economy and its monetary side".

accompanying a huge increase in international capital flows, due to presumably the increased cross-border integration of financial markets (Evans and Hnatkovska, 2012). And volatility is an important factor associated to long term growth, as shown by recent evidence (Mody and Murshid, 2011)."

2. How the model proposed is related to the existing literature is discussed more clearly in the Introduction. Some paragraphs have been modified:

   - "In a key theoretical contribution Turnovsky (1999) found that a small open economy is associated to a higher size of government if and only if it is a net creditor nation, when government spending is utility-enhancing, or productive and volatility-enhancing, since a stochastically growing open economy is able to export some of its domestic risk. However, even though his theoretical finding was related to the empirical work by Rodrik (1998) and Alesina and Wacziarg (1998) on government size and openness, instead it referred crucially to the relationship between the net foreign asset position of a country and its size of government. Recent work by Erauskin (2011) has found that financially more open economies are associated both theoretically and empirically with a lower size of productive government in a stochastic small open economy when productive spending is also volatility-reducing[2]: the lower risk associated to more open economies (through risk diversification) implies that the government is less inclined to increase the scale of its activity. Therefore, it becomes evident that how public spending is defined leads unsurprisingly to different results for the optimal size of government. More precisely, given that the bulk of public spending is on goods that, very broadly speaking, contribute to household welfare via the utility function, and they may include, for instance, education, health care, defense, and public order[3], how would the optimal size of government be characterized in the global world economy?

[2] As Andrés, Doménech, and Fatás (2008, p. 571) have pointed out recently, "There is substantial evidence that countries or regions with large governments display less volatile economies, as shown in Galí (1994) and Fatás and Mihov (2001)."

[3] Of course, public spending can also be productive, but we will not deal with it for simplicity.

- This paper departs from Turnovsky (1999) seeking to address both gaps, namely, the absence of a convenient theoretical framework to analyze explicitly in a two-country world economy the impact of financial openness on the size of utility-enhancing government, and the lack of a coherent analysis of the empirical evidence based on the model proposed in the paper.
- Two are the main contributions of this paper. First, this paper builds a full-fledged model that studies the impact of financial openness on the size of utility-enhancing government in a two-country world, based on a portfolio approach, thus extending the scope of previous studies. It also analyzes the impact of financial openness on other related key economic variables, such as the consumption-wealth ratio, the growth rate of wealth, and welfare. The framework employed is a general equilibrium model in continuous time with perfect capital mobility where public spending enhances utility, based on Turnovsky [1997, Ch. 11; 1999]. Financial openness offers a wider choice of portfolios thus providing a room for higher productivity. Financial integration would also allow an open economy to diversify some of the country-specific risk achieving less volatility. This would imply a reduction in savings and an increase in private consumption. This combined effect implies that consumption-wealth ratio should be higher in an open economy. The complementarity between public and private consumption[4] suggests that financial openness is associated with a higher size of the public sector. Welfare would also be higher in an open economy. The theoretical results for the growth rate depend on differences in productivities and consumption-wealth ratios among countries. Second, we test the main predictions of the model and we find that they are broadly supported by the empirical evidence, based on a sample of 49 countries (22 industrial and 27 developing countries) for the period 1970-2009."

3. The configuration of the paper has been partially modified, as the referee rightly argues that the manuscript seems more like a dissertation

[4]The empirical evidence suggests that private consumption responds positively to fiscal shocks (Blanchard and Perotti, 2002), which is explained by the complementarity between public and private consumption: an increase in public consumption raises the marginal utility of private consumption (Ganelli and Tervala, 2009).

in some parts and there are some repetitive discussions. Following his suggestions:

- I have rearranged former Sections 2, 3, and 4 to avoid unnecessary repetitions. They are Sections 2 and 3 now. Instead of discussing first the model assuming an exogenous size of government and then "repeat" the results once the optimal size has been derived, I discuss the optimal size first, and then the results of the model are completely analyzed only once.
- The empirical results have been rearranged more compactly (i.e., the paper comprises less tables).
- The subsection on the foreign economy has been eliminated.

4. More intuitive explanations have been suggested for the results. Specifically I have reelaborated those parts suggested by the anonymous referee:

   - Former p. 28 (now 25-26): Why higher consumption-wealth ratio and higher growth rate are not contradictory has been explained more clearly.
   - Former p. 15 (now also 15): I have eliminated this reference since there is no need for it.
   - Former p. 23 (now 17): Why higher consumption-wealth ratio and higher growth rate are possible has been explained more clearly.
   - Former p. 28 (now 21): How domestic wealth has been constructed has been explained more clearly.
   - In addition, some minor additions have been made.

5. Coefficients of the estimates for the impact of financial openness on the size of government. The referee rightly suggests that the indicators of statistical significance (the stars) have been omitted. I have corrected my mistake. They were missing in the discussion paper because the primary focus was on the impact of financial openness on government size thus ignoring other influences. They have to be included of course.

6. Stocks and flows and endogeneity issues. I have added a new subsection 5.1 discussing and reelaborating both issues.

- Stocks and flows: Some discussion on how both stocks and flows are related has been added to the paper. The results obtained remain robust when flows are considered. However, including 2008 and 2009, heavily influenced by the recent economic and financial crisis, despite not changing the main results, estimates lose significance.
  - Figures 1 and 2 and Tables 11 and 12 tackle the discussion for stocks and flows.
- Endogeneity of explanatory variables: The model has been re-estimated through Arellano-Bond´s GMM and diagnostic checking has been performed. The positive relationship between key variables remain intact:
  - Table 13 exhibits the results for Arellano-Bond estimates (endogeneity).

7. Singapore. It has been removed from the sample, and the results, from the very beginning. A reference to this issue has been made in footnote 20. In addition, no references are made to "seminal contributions". In fact, the sample in this paper, being similar is not identical to others. Rather, I decided to choose this sample following two criteria: to include industrial and developing countries, on the one hand, and to choose countries with data that are available for many years and that are relatively more reliable, on the other hand, as data for International Investment Positions are sparse and subject to measurement errors.

These are, in a nutshell, the main changes made in the paper.

I hope sincerely that the improvements made in the paper have responded adequately to the suggestions and comments made by the anonymous referee and the editor.

Many thanks.

Best regards,

Iñaki Erauskin
Deusto Business School (San Sebastian)