Reply to Referee Report 2 from 1 July 2015

First I thank the referee for reading and commenting on my paper and especially thank him/her for the useful information. I'm very interested in the cited paper by Engler and Große Steffen and would like to read and cite their paper in my updated version if the referee can tell me more about this paper, like title or a link to it. I'm very glad to hear that also other scholars are working on this issue and that their result is in support of my theorems 1 to 3 which are contained in an earlier version first published in 2011 on SSRN. The main results, namely the proofs of the instability of the "bad equilibrium" and the effect of alpha, have been presented on several conferences in 2012. In the academia, it is not seldom that different researchers separately work on similar topics and work out similar result. The publication of my paper with an earlier date does not conflict with the publication of another paper with an later date.

The interpretation of alpha is not part of study subject of this paper, hence only in the discussion section I really discuss in detail what could determine alpha. Before that, I only refer to alpha as "weight assigned to the average lender" as what can be inferred from the mathematical expression of the objective function. Since traditionally this weight is interpreted in the literature as the share of debt owned by domestic investors, I will take your suggestion and also refer to "domestic debt share" in the updated version and only deviate from it in the discussion section.

Why is alpha actually a weight assigned to the average lender and hence other interpretations than domestic debt share may be possible? I have already explained it a little bit as I pointed out in my paper that also the "domestic debt share" is often differently interpreted: while in theoretical models it is used to be the share of debt purchased by domestic citizens, in the empirical literature it is mostly the jurisdiction under which the debt is contracted. Here I will say somewhat more about it.

When looking at the objective function (equation 1) you will see that the welfare resulting from periodic private consumption and public expenditure is being maximized by the government. Of course, no government whose members are mainly non-economists will set up such an objective function and strictly act according to it (actually I do not expect a government to act in this way even when the members happen to be economists). You know, when economists set up a model in a theoretical paper to explain a particular phenomenon, the model is just used as a vehicle to focus on the relevant facts in order to clarify a particular issue. When you look at the objective function here, the public expenditure is not in the focus, but the private consumption appears in more detail: it can be divided into two parts, the first part before the first alpha is the consumption from the after-tax income. The second part is the consumption from wealth, namely debt repayment minus new saving, weighted with the factor alpha which lies between 0 and 1.

Here you may ask that why is the consumption from wealth weighted while the consumption from income not, although in an internationally positioned sovereign body the income or the GDP is also likely to be generated by foreign firms or individuals? Should thus this part of income be neglected by the government who only cares for domestic citizens? That would mean that this government should more stick to the contract since although more default can reduce the deadweight loss and thus increase the after-tax income, the domestic citizens would only partially benefit from it.

Nobody has modeled this way (to my best knowledge), and I also do not do that, because the modeling is just a vehicle to arrive at the knowledge, and not a 1 by 1 mirroring of the reality. When in literature alpha is implicitly set to 1 as in Calvo (1988) then that's not because he is not aware that the debt may be purchased by foreigners, but because the focus lies on the trade-off between deadweight loss and default cost. When in literature alpha is implicitly set to 0 as in in Eaton&Gersovitz (1981) then that's not because they are not aware that the debt may be purchased by domestic citizens, but because the focus lies on the trade-off between wealth transfer effect of default and the default cost like exclusion from financial market. In my paper I have also cited papers in which alpha-like parameters are used by the authors and hence all the

mentioned factors like deadweight loss or wealth transfer effect are built in the model, though they do not derive the effect of alpha.

As said, the main contribution of my paper is first to prove the instability of the "bad equilibrium" in which not only the effect of alpha, but also the effects of debt level and growth will turn into the opposite direction. The second contribution is, based on the first one, I have derived the effect of alpha and have proven this result with theorems 1 to 3. Since the knowledge about alpha is only useful if alpha is determinable or measurable, I have then further discussed what is alpha. I have no problem to accept the traditional interpretation that alpha is the share of debt owned by domestic citizens and have actually implicitly assumed it until the discussion section. In the update I can write more explicitly that alpha is usually the domestic debt share and restrict the discussion about its interpretation to the discussion section. The discussion itself is indeed necessary and indispensable, especially because my paper deals with a sovereign body without own monetary authority, but with own fiscal authority. Such definition, actually also used by other papers considering a "monetary union", applies not only to countries adopting a currency which they cannot issue on their own, but also to states or provinces with own fiscal authority within a country. Both my paper and the paper cited by you have worked out the result that a higher alpha can reduce the default risk and a lower alpha will increase the risk. But it is counter-intuitive to assume that a state or a province within a country even faces higher default risk when during the process of financial integration in the country more local debt is purchased by investors from other states/ provinces of this country. This consideration leads me to further discuss what is alpha and came to the conclusion in my earlier version from 2011 that alpha actually does not only increase with the domestic debt share i.e. debt owned by domestic investors, but also with the degree of financial integration within the union -- the term "union" just refers to a collection of sovereign bodies with own fiscal authority and shared monetary policy and hence can also be a single country (in my paper I have cited two papers which use "union" to refer to a country), of course it can also be a real monetary union or just a few countries using the same currency. During the presentations and conference attendances in the past I see that alpha could also have other interpretations. Since it is indeed an interesting topic to see what determines alpha which again affects the default risk I gathered the possible interpretations of alpha in the discussion section, although the interpretation itself is not the study subject of my paper.

Yes, sections 2 and 3 belong together. I separated them because I heard the feedback that my section is too long and makes the reading difficult. I have considered your suggestion and will take the compromise and merge the two sections to one section, but in separate subsections. I will also make clear that I have just unified the notation but not really the model and have actually proven the effect of alpha separately for two type of models. In 2012, I indeed intended to set up in a subsequent paper a really unified model in which the proofs are not separately, but directly derived from the one big model introduced in section 2. For lack of interest and funding I had to take another job, and the planned work cannot be done since I then need to concentrate on my new work. The term "unified model" is just a remainder from the past, I will remove it in the update, in which I will also rewrite the title and the introduction. Thank you for your suggestion.