Response to Referee Report No:2

I would like to separate responses to the criticisms into two parts. First part will be responding to criticisms about the contribution of this study to the literature and its distinction from the study of Jorda and others (2010). The second part will be dealing with criticisms about the format of the study.

PART 1.

1) The referee suggests that "*This paper deviates only marginally from Jorda, Schularick and Taylor (2010). Both papers share similar questions, and the empirical strategy of the current paper follows the other (Section 6). Moreover, in both papers, the authors and that credit expansion alone is a robust indicator of the financial crisis for developed countries. The mere new findings, argued in this paper, is that for developing countries, the previous-period current account imbalance is indicative of the rising risks of financial crises. Therefore, in my view, the contribution of the current paper to the literature is very limited.*"

I agree that I have been inspired by the study of Jorda and others (2010) [1] especially in terms of methodology followed and questions raised to be explored. The major problem arises from the fact that I believe, I did not state my major purpose in this paper clearly and I did not highlight its contribution to the literature. I will correct this in the revised version. In this study, my major concern was to emphasize and highlight the importance of current account imbalances for developing countries as a major factor raising the probability of financial crises. Financial crises have been an important phenomenon for developing countries since many years, while crises of developed countries were rather few. Therefore, in literature, the analysis of developed financial crises was very few. Being inspired from the analysis of developed country crises carried by Jorda et. al. (2010), my purpose was to make a comparison between these two country groups in terms of triggering factors of financial crises, staying focused on developing countries. Therefore, I am aware of the fact that I have to restate my main purpose and reorganize the paper accordingly.

Furthermore, in terms of similarity of variables used in estimations, I have just used "credit boom" variable, which was used as an explanatory variable that propagates financial crises in Jorda and others (2010). However, I have found this variable to be insignificant in

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[1] Their analysis covers 14 developed countries for the period of 1870-2008.

raising the probability of crises in my estimations, which makes it different from the results of Jorda and others (2010).

Additionally, there are major differences between these two studies that might have affected the findings to differ from each other as well: briefly, number of developed countries involved in the analysis, which has been extended to 24 countries in our study; the period of analysis, 1970-2008; sources of database, especially the banking crises database, therefore, definition of banking crisis. Changes in the definition of crises affect the findings of studies substantially and I believe, it is a major difference between these two studies.

I understand the concerns of the Referee, and to address these concerns, I have examined the same exercise by using institutional variables in the regressions such as financial openness index, financial reform index and banking regulation and supervision index[2]. I have confirmed that significance of macroeconomic variables used in this study is robust. Addition of institutional variables into the analysis, of course, flourishes the exercise and gives new insight as regards the institutional development especially in terms of developing countries, as I found banking regulation and supervision to be significant.

2) The Referee suggests that "*I find the model specification on the predictive power of current account imbalance on financial crises problematic. The independent variable adopted in panel regression is the lagged current account balance as a percentage of GDP (CA/GDP). Accordingly, the significant negative coefficient for this variable should be interpreted as follows: the larger is the current account deficit before the crisis, the more likely is the financial crisis. Yet, what the literature emphasizes is the role of the deterioration of current account balance on the onset of financial crisis. To capture such a prediction, the more appropriate variable is the changes in CA/GDP, say, using a 5-year moving average. This is because such a variable better captures the changes in CA/GDP relative to its trend level several years before the onset of the crisis.*"

I understand concern of the Referee and as the Referee suggested, before reporting results to the paper, I had already run regressions using 5-year moving average of (CA/GDP), however, the results were odd. On the other hand, I may report them if viewed as absolutely necessary.

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[2] On the basis of the existing literature on banking crises, it is possible to use some other categories of explanatory variables such as institutional and financial variables in the regressions.

Related to the view of problematic specification of the model, in the literature, in almost all of the financial crisis models, as far as I have seen of course, one-year lag of explanatory variables are taken, and as a reasoning I may quote from Lambregts and Ottens (2006: p.6) that says "This is required for taking a leading indicator perspective and avoids problems of simultaneity"[3]. In some studies, 2-year lag or average of previous 2 years are taken[4]. Furthermore, I can give references to papers[5] that take lagged current account balance as a percentage of GDP (CA/GDP) as an explanatory variable. **As an example to such a case, in the crisis of 2001 in Turkey, current account balance was deteriorated in the year preceding the crisis.**

3) Referee suggests that "*Accordingly to Jorda et.al (2010), the lagged account imbalance is predictive of a national financial crisis, not a global crisis. Therefore, I wonder whether, for developing countries, the significant predictive power of current account imbalances on financial crisis found in this paper is due to the fact that most crises happening in these countries are simply national crises. If so, then the findings in this paper are somehow in line with those in Jorda et.al (2010).*"

This is good comment that makes it apparent that I have to clarify the confusion regarding this issue as well. In this study, I would like to stress the importance of current account imbalances for developing countries rather than developed countries as mentioned in Jorda et al. (2010). Furthermore, to make it clear, banking crisis database that I used in this paper, focus on national crisis, not global crisis. Hence, my emphasis on importance of current account imbalances tries to take attention to developing countries, not to developed countries as in Jorda et al. (2010).

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[3] Almost the same quotes from Klomp (2010:p.77) "…explanatory variables are lagged by one year to avoid simultaneity and endogeneity problems"; and from Fontenla and Gonzalez (2007:p.3) "We lag all variables by one period in order to rule out reverse causality". Noy (2004:p.350), "we minimized possible simultaneity and reverse causality problems by lagging all variables by 1 year".
[4] Ito (2004)
[5] Lambregts and Ottens (2006), Barrell, Davis and Karim (2010), Ito (2004), Angkinand et al. (2008)

4) The Referee suggests that "*The dependent variable is the binary variable about the onset of banking crises. Since bank crises in reality are only a sub-category of financial crises, the author should be careful when generalizing the findings in the paper to all financial crises*".

Thank you, this will be corrected in the revised version.

PART 2.

1. The Referee says that "*On page 18, the statement "Credit booms are found to be statistically significant in raising the probability of financial crisis only for developed countries" has caveat.*"

Thank you, I will restate. Instead of "credit boom", I should have stated "excessive credit extension".

2. The Referee suggests "*As Table 4a and 4b shows, among developed countries, what is robust in statistical significance in predicting the banking crises is not the variable .credit boom., but the lagged value of bank credit extended to private sector. What are the difference between these two variables? Why the later captures the credit booms?*

The difference between "credit boom" and "bank credit extended to the public sector" is that credit boom variable is calculated by taking percentage change in 5-year moving average of "bank credit extended to the public sector". Therefore, in reporting results, excessive credit extension is a better word to express. This is actually one of the main differences between Jorda et al. (2010) and my study. They found the credit boom variable to be significant, I do not.

3. The Referee suggests "*What is the horizontal axis for Figure 1 and 2? Also, Figure 2 looks too small.*"

Thank you, I will correct this in the revised version.

4. The Referee suggests "*There is a typo on page 6, line 3 and 4. It should be ....83.6 percent for developed countries, ...46.8 percent or developing countries.*"

Thank you, I will correct this in the revised version.

References

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