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Global imbalances: Should we use fundamental equilibrium exchange rates?

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ABSTRACT

The reduction of global imbalances observed during the climax of crisis is incomplete. In this context, currencies' realignments are still proposed to ensure global macroeconomic stability. These realignments are based on equilibrium rates derived from equilibrium exchange rate models. Among these models, we have the fundamental equilibrium exchange rate model introduced by Williamson (1994). This approach is often labelled as normative mainly because the equilibrium is not uniquely determined. If the FEER is not related either in the short run or in the long run to the real exchange rates, we see no clear justification to intervene in foreign exchange markets based on these equilibrium rates. In this case, the FEER does not include any element of long run predictive value and should not be used to reduce global imbalances. This paper provides panel empirical evidences that the FEER is related to real exchange rate in the long run and thus could be a useful tool to prevent the resurgence of large global imbalances and associated risks.

1. Introduction

> *"International trade would cease to be what it is, namely, a desperate expedient to maintain employment at home by forcing sales on foreign markets and restricting purchases, which, if successful, will merely shift the problem of unemployment to the neighbour which is worsted in the struggle".*
>
> [John Maynard Keynes (1936).]

As witnessed by the evolution of current account balances and net foreign assets, the reduction of global imbalances observed during the climax of crisis is incomplete. Indeed, current account imbalances in flow have been reduced with the global slowdown and the collapse of the world trade in 2009. However, these evolutions of current account imbalances have not been sufficient to reduce net foreign assets positions in stock. After the climax of the crisis, global imbalances in stock (i.e. the net foreign asset positions) represent more than 15% of world GDP in absolute value.

As pointed out by Blanchard and Milesi-Ferretti (2012), the persistence of large current account imbalances and large net foreign assets positions is a threat for the world economy. Firstly, large current account imbalances increase the systemic risks as countries with large deficits can be subject to sudden stops and their macroeconomic consequences. Secondly, they increase political tensions as a number of countries, which are suspected of unfair competition with undervalued exchange rates, could be threatened by retaliatory measures. Thirdly, in the current context of weak growth in advanced countries, the perpetuation of export-led growth strategies in some emerging countries could be a menace for the global recovery.

This last point is illustrated in the quotation above, Keynes (1936) emphasizes that the main economies must have mutually consistent objectives in terms of external trade and exchange rate policies in a context of depressed aggregate demand at the world level. If some countries lead aggressive exchange rate policies and restrict their internal demand in order to run current account surpluses, they will induce further downward pressures on the global aggregate demand.

Chinn et al. (2014) claim that current account imbalances of the USA and China will not disappear in the absence of radical policy change. Gagnon (2011) forecasts that current account imbalances will widen in larger proportion at the world level than projected by the International Monetary Fund (IMF). Feldstein (2011) argues that exchange rate adjustments (or currency realignments) could play a major role in the elimination of current account imbalances of the USA and China. He stresses that internal policies must be accompanied by external policies to maintain domestic macroeconomic balance. As the current account is equal to the difference between national saving and national investment, deficit countries must increase their national saving and/or reduce their national investment. To sustain such a change (maintain aggregate demand and non-inflationary full employment), a real effective depreciation is required in these countries. Surplus countries must decrease their national saving and/or increase their national investment. To eschew inflationary pressures, a real effective appreciation is required.

In this context, currencies' realignments are still proposed to reduce current account imbalances and ensure global macroeconomic stability at the world level. These realignments are based on equilibrium rates derived from equilibrium exchange rate models.

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Driver and Westaway (2005) provide an authoritative survey on the different concepts of equilibrium exchange rate in the current literature. Their contribution details under which circumstances a specific approach is likely to be appropriate. They quote 14 different approaches[1] and classify them according to the time horizon concerned by the measure of equilibrium exchange rate. They distinguish three time horizons, namely, the short run, the medium run and the long run. One of their main conclusions is that the relative relevance of an approach must be considered in the perspective of the question that the approach tries to tackle.

When the question at hand is the reduction of global imbalances, the potential candidates are the fundamental equilibrium exchange rate (FEER) introduced by Williamson (1994), the behavioral equilibrium exchange rate (BEER) introduced by Clark and Mac Donald (1998) and the natural rate of exchange rate (NATREX) introduced by Stein and Allen (1997).

Unlike the purchasing parity power (PPP) introduced by Cassel (1918), these approaches are clearly related to the global imbalances problematic. The FEER approach endeavors to stabilize the current account at a sustainable level in the medium run in order to assure a possible convergence towards the full stock-flow equilibrium in the long run (Driver and Westaway, 2005). Besides, the NATREX approach and recent versions of the BEER approach (Lòpez-Villavicencio et al., 2012) aim to stabilize the net foreign asset position in the long run thus they represent the full stock-flow equilibrium in the long run (Driver and Westaway, 2005).

Indeed, Lòpez-Villavicencio et al. (2012) show empirically that the FEER converges towards the full stock-flow equilibrium (i.e. the BEER) in the long run. In spite of an impressive endeavor in theoretical modelling, the empirical testing of the NATREX is extremely close to the empirical testing of the BEER in an overwhelming number of cases in the current state of the literature. From an empirical perspective, it is quite difficult to distinguish these two last approaches.

It remains to two potential candidates to study issues surrounding global imbalances, namely, the FEER and the BEER. In spite of all its advantages, the BEER suffers from two important drawbacks: its time horizon and a strong assumption on the misalignments.[2] Firstly, the relevant time horizon for the BEER approach is the long run but as underlined by Lòpez-Villavicencio et al. (2012), the relevant horizon to treat the global imbalances question is the medium run. Secondly, as in the PPP and in the NATREX, the BEER makes the implicit assumption that the exchange rate was in equilibrium on average on the studied period (i.e. exchange rate misalignments are stationary by construction).[3]

This last assumption could be justified in large panel with the main economies and over a long period of time. But we see no justification to this hypothesis in a single country context or in a regional context over a short period of time. The FEER does not suffer from these two last important limitations. As its relevant time horizon is the medium run and as it makes any assumption on the stationarity of misalignments, the FEER seems to be a natural candidate to study the global imbalances question.

Nevertheless, the FEER suffers from its own limitations. This approach is often labelled as normative mainly because the equilibrium is not uniquely determined. If the FEER is not related either in the short run or in the long run to the real exchange rates, we see no clear justification to intervene in foreign exchange markets based on these equilibrium rates. In this case, the FEER does not include any element of long-run predictive value[4] and should not be used to reduce global imbalances. This paper provides panel empirical evidences that the FEER is related to real exchange rate in the long run and thus could be a useful tool to prevent the resurgence of large global imbalances and associated risks.

Several studies have examined the relationship between the FEER and the real effective exchange rate (REER). We can quote Zhou (1993), Barisone et al. (2006), Saadaoui (2011) and Duwicquet et al. (2013).

Zhou (1993) finds that FEERs are not cointegrated with REERs (i.e. the misalignments are not stationary) however we can underline an important drawback in her empirical study. She studies only two countries (Germany and Japan) over a relatively limited time span (1974–1988). Besides, during this period, it is well known that these two countries have used their exchange rate policy to boost their external competitiveness. Thus, the results of Zhou (1993) are not surprising since global consistency, mentioned above, is not ensured.

Contrary to Zhou (1993), Barisone et al. (2006) find that the FEERs are cointegrated with REERs for the G7 countries over the period 1973 to 1997. They use recent non-stationary panel econometric techniques. This study can be considered as more complete comparatively to Zhou (1993) as the number of countries and the number of observation are larger.

Saadaoui (2011) finds non-stationary panel evidences that the FEERs are cointegrated with REERs for a panel of 17 industrialized and emerging countries over the period 1982 to 2007. This study was the first to include emerging countries in the sample and constitutes an improvement towards a greater global consistency.

In Duwicquet et al. (2013), we can observe that the FEER approach does not require any assumption on the stationarity of the misalignment contrary to other approaches. They study a sample of member of the eurozone over the period 1994 to 2010. As witnessed by the euro crisis, European economies have experienced diverging paths in terms of competitiveness. Thus, these evolutions imply that the misalignments have been non-stationary over the period. This last study and that of Zhou (1993) show that the FEER is more flexible than other approaches.

Comparatively to these studies, this empirical investigation improves several points. We use recent non-stationary panel econometric techniques to investigate if the FEER is related to the REER for a large panel of 26 industrialized and emerging countries over the period 1982 to 2010. We find a positive long-run relationship between FEER and REER, confirming the validity of the use of FEER as instrument to correct currency misalignment and reduce in this way current account imbalances among the main areas of the world.

This paper is organized as follow. Section 2 presents a general framework suited to describe every FEER approach. Section 3 focusses on empirical evidences for a large panel of 26 industrialized and emerging countries[5] over the period 1982 to 2010. Section 4 concludes on the usefulness of the FEER approach to reduce global imbalances.

2. FEER methodology

In the literature on equilibrium exchange rates, the FEER approach has several variants. We can quote Cline (2008), Jeong et al. (2010), You and Sarantis (2011) and Carton and Hervé (2012) for example. These variants differ on the type and size of modelling (general

[1] See Driver and Westaway (2005) for more details.

[2] An exchange rate misalignment is defined as the difference between the observed exchange rate and the equilibrium exchange rate.

[3] In the BEER approach, the exchange rate is regressed against fundamental determinants. The exchange rate misalignments correspond to the difference between the observed values and the fitted values (i.e. the residuals). The residuals are stationary by definition.

[4] We think that our empirical results are a common feature of all FEER approaches. If we test several FEER approaches and find that they are related with observed rates, we can conclude that observed rates return to these array of fundamental rates in reason of real forces (trade evolutions) or public interventions (the Louvre accord, for example). This set of FEERs (REERs that are consistent with continued non-crisis evolution of the economy) have an element of long-run predictive value in saying that the exchange rate must follow one of those paths and the normative element only arises in choosing which. The author is grateful to John Williamson for his conceptual clarifications on this point.

[5] Country list is given in Appendix A.