Volume 34, Issue 1

International reserves and the mercantilist approach: some further evidence

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Abstract

Using data from 59 economies for the period 1996-2011, we assess whether international reserves depreciate the exchange rate, as the mercantilist motive for accumulating international reserves holds. Our results suggest that international reserves tend to be associated with appreciations of the real exchange rate; this evidence is opposite to the mercantilist view, implying that they do not contribute to growth and development.

1. Introduction

The mercantilist approach has been ascribed as one of the motives[1] for the unprecedented hoardings of international reserves witnessed since the mid-1990s, particularly in the developing world. In this perspective, the accumulation of international reserves is seen as a part of an active industrial policy in the sense that these resources allow the monetary authorities to maintain a stable and undervalued real exchange rate, promoting thus, via the tradable goods sector, economic growth and development.

The empirical evidence has in general supported − though in some cases with a certain suspicion − the argument that countries accumulate official reserves having in mind mercantilist objectives (see, Pelterovich and Popov, 2002, Aizenman and Lee, 2007, Ghosh et al, 2012, and Delatte and Fouquau, 2012).

This view, however, has omitted to consider that international reserves might not be used by the monetary authorities in situations where they simply prefer to maintain these resources for precautionary reasons, allowing the exchange rate to continue appreciated (see Aizenman and Hutchinson, 2010). It is also possible, as suggested by Kaldor (1978), that the existence of large hoardings of international reserves in developing economies might even delay the necessary adjustments of the exchange rate to promote the tradable goods sector (and to correct their structural trade deficits), avoiding the costs of a large depreciation. There is in sum the possibility that official reserves would work in the opposite direction to the mercantilist objective, putting downward pressure on the real exchange rate, hindering thus growth and development.

The aim of this paper is to further empirically assess whether international reserves tend to be associated with depreciation of the real exchange rate. Unlike previous studies, we attempt to shed light in our objective by estimating a real exchange rate equation that includes among its determinants the level of official reserves. We use data from 59, mainly developing, economies for the period 1996-2011. We select this period due to the fact that during the mid-1990s the strategy of purposely accumulate reserves started. The paper is structured as follows. The next section comments the links among the real exchange rate and growth and presents the determinants of the real exchange rate. Section 3 then discusses the results of our econometric exercise. The final section concludes.

2. The real exchange rate, its link with growth and its determinants

Recent empirical evidence has shown that a competitive (namely depreciated) real exchange rate has been a key element in past successful growth and development stories (see Rodrik, 2008, and Berg and Miao, 2010). This evidence, in other words, has demonstrated that a competitive real exchange rate promotes growth and development through the tradable sector. This occurs via different but interrelated mechanisms: one is the Keynesian growth and employment channel; other is increased profits and thus increased investment in the tradable sector; furthermore, higher investment and demand in the tradable sector leads to rising productivity and higher wages, which in turn might promote structural change and increase domestic demand, respectively. In sum, there

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[1] The precautionary motive, which suggests countries hold large and ever increasing amounts of reserves to augment their liquidity, mitigating in this way the risk of suffering speculative attacks, namely sudden stops or exits of capital, has also ascribed as a motive for the accumulation of international reserves.

are several mechanisms through which a devalued real exchange rate can aid an economy in its growth and development goals.

It is important to notice, that in a globalized context like the one that currently prevails, in which by definition trade barriers had disappeared, the exchange rate has been left as one of the few policy instruments available for policy makers to promote the tradable sector and to achieve, at the same time, an external balance, which is essential to maintain sustained growth. The exchange rate, therefore, has become a paramount policy instrument for growth and development purposes.

Now, manage and achieve a competitive real exchange rate is not an easy task. This because there are, as it is well-known, different structural and nominal forces that continuously are influencing it. Among the variables that the literature has suggested that determine the real exchange rate we can mention productivity growth —capturing the well-known Harrod-Balassa-Samuelson effect—, the current account deficit, the terms of trade, the external real rate of interest and government expenditure (see Nassif et al, 2011; Galstyan and Lane, 2009; Gala, 2008; Ricci et al, 2008; López Villavicencio and Raymond Bara, 2008; Amudeo-Dorantes and Pozo, 2004; and Edwards, 1988). These variables tend to have an opposite influence in the exchange rate.

For example, theoretically, both productivity growth and the current account deficit undoubtedly appreciate and depreciate, respectively, the real exchange rate. On the other hand, the final effect of the terms of trade, the external real rate of interest and government expenditure on the real exchange rate is unclear.

To these traditional variables, we must add international reserves. This variable has become relevant since the aftermath of Mexican financial crisis of 1994-1995, as most of the developing countries started a purposeful strategy of reserve accumulation. As a result, international reserves have increased to unprecedented levels. In fact, during the period 1995-2012 official reserves had increased 1,421% in the developing world.

Now, foreign reserves have an unclear effect on the real exchange rate. On the one hand, and according to the mercantilist approach, it might depreciate the exchange rate as it allows the monetary authorities to maintain a competitive exchange rate. On the other hand, it might appreciate it if the authorities decide to postpone the necessary adjustments to correct the external imbalance or if they simply prefer to use their reserves for precautionary purposes. For these reasons, it is valuable to assess empirically in which direction they are affecting the exchange rate.

3. Assessing the effect of international reserves on the real exchange rate

In order to know the influence of international reserves on the real exchange rate, we estimate a real exchange rate[2] equation that includes as independent variables those mentioned above. More specifically, we included in our estimation per capita income in real US dollars (*ypc*), as a proxy of productivity growth, to measure the Harrod-Balassa-Samuelson effect[3]; an index of the terms of trade (*tot*); government

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[2] The real exchange rate was constructed as E(P*/P), where E is the nominal exchange rate (local currency/per US dollar) and P and P* are the domestic and US consumer prices indexes, respectively; increases in the real exchange rate, thus, indicate depreciation whereas decreases indicate appreciation.

[3] Recall that the Harrod-Balassa-Samuelson effect assumes growing productivity is reflected in increasing income (wages). Income per capita can, thus, be a productivity proxy.

expenditure as a share of GDP (*g_y*); the current account as a share of GDP (*ca_y*); the real rate interest of the US (*r_us*). To these variables, we add international reserves in real terms (*rir*), deflacted by the US GDP deflator (2005=100). We used annual data from 59 economies for the period 1996-2011(31 from sub-Saharan Africa, 10 from Latin America and 18 from Asia)[4]. All the data come from the World Development Indicators of the World Bank (online) and the International Financial Statistics of the IMF (CD-Rom, 2012), and all the variables, except the current account, were transformed into logs.

As is standard in this type of exercises, we allowed for fixed-effects in our estimation to account for country heterogeneity and reported robust standard errors to correct for heteroscedasticity that could affect it given that we are estimating an unbalanced panel (see Asteriou and Hall, 2011). Table 1 shows the estimated results. Column 1 presents the results using the whole sample of countries. Columns 3, 4 and 5 exhibit the results of countries grouped geographically. Finally, columns 2 and 6 present the results excluding China and Japan as they are the major holders of international reserves on the sample and their presence might have undesired effects on the estimated results.

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[4] The countries included in the exercise grouped geographically are: sub-Saharan Africa: Angola, Benin, Botswana, Burkina-Faso, Burundi, Cameroon, Cape Verde, Chad, Congo Republic, Ivory Coast, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea-Bissau, Kenya, Madagascar, Mauritius, Mozambique, Niger, Nigeria, Ruanda, Senegal, Seychelles, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia; America Latina: Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Guatemala, Honduras, Mexico, Peru and Uruguay; Asia: Australia, China, Fiji, India, Indonesia, Japan, South Korea, Malaysia, Mongolia, New Zealand, Papua New Guinea, Philippines, Samoa, Salomon Islands, Thailand, Tonga, Vanuatu, Vietnam.

Table 1. Determinants of the real exchange rate, 1996-2011

Independent variables	All sample (59 countries) (1)	All sample (exc. China & Japan) (2)	Africa (3)	Latin America (4)	Asia (5)	Asia (exc. China & Japan) (6)
ypc	-0.250**	-0.312**	-0.301	0.359	-0.179	-0.331**
	(0.133)	(0.145)	(0.212)	(0.365)	(0.156)	(0.164)
tot	-0.114	-0.094	-0.519	-0.263	-0.285*	-0.261*
	(0.095)	(0.099)	(0.119)	(0.251)	(0.094)	(0.103)
g_y	-0.117	-0.115	-0.130	-0.225***	-0.061	-0.051
	(0.087)	(0.088)	(0.123)	(0.139)	(0.088)	(0.082)
ca_y	0.006*	0.005*	0.001	0.025*	0.012*	0.012*
	(0.001)	(0.001)	(0.001)	(0.008)	(0.002)	(0.002)
r_us	-0.075*	-0.080*	-0.068***	-0.129*	-0.031	-0.033
	(0.024)	(0.025)	(0.035)	(0.036)	(0.021)	(0.024)
rir	-0.063*	-0.063*	-0.054*	-0.211**	-0.076**	-0.065
	(0.026)	(0.025)	(0.026)	(0.081)	(0.038)	(0.038)
Constant	4.31*	4.77**	7.56**	0.436	4.25**	5.57*
	(1.26)	(1.34)	(1.40)	(0.081)	(1.70)	(1.77)
Observations	772	746	402	149	220	194
Wald (joint)	0.000	0.000	0.000	0.000	0.000	0.000
Wald (dummy)	0.000	0.000	0.000	0.000	0.000	0.000
AR(1) (*p*-value)	0.000	0.000	0.000	0.017	0.003	0.005
AR (2) (*p*-value)	0.000	0.000	0.001	0.041	0.430	0.505

Notes: Robust standard errors are shown in parenthesis.
*, ** and *** denotes statistical significance at the 1, 5 and 10 per cent level, respectively.

The key findings to note are as follows. As can be seen, our estimated parameter for the variable international reserves is consistently opposite to what has been found in the literature. In other words, in all our exercises, the sign of the coefficient indicates that international reserves are correlated with the appreciation of the real exchange rate. Furthermore, all of these parameters, except the one of column 6, are statistically significant. These results, then, suggest that the accumulation of international reserves has not been associated with any mercantilist purpose around the developing world, and on the contrary, it has been hindering economic growth and development, via the tradable sector. It is important to note that although the effect of international reserves on the real exchange rate, according to the size of the estimated parameter, might not be considered large enough to cause a major concern (except in Latin America), it is indeed contributing, as most of the variables included in the estimation, to appreciate the real exchange rate. This suggests that as economies adopt a strategy of hoarding ever increasing amounts of reserves, they are putting additional downward pressure on the exchange rate, affecting their price competitiveness and making, ultimately, more costly the process of adjustment, which necessarily will occur.

4. Conclusions

In this paper, using a sample of 59 countries, we assessed whether international reserves depreciated the real exchange rate, as the mercantilist view of foreign reserves accumulation suggests. Our panel data results indicate that reserves tend to be

associated with appreciation of the exchange rate, suggesting therefore that they, via the tradable sector, have hindered growth and development. This result is in line with other concerns pointing out real and potential costs derived from the strategy of accumulate ever increasing amounts of international reserves. If countries, at the end, accumulate reserves mainly for precautionary reasons, an alternative strategy might be to use temporary capital controls, as the IMF has recently suggested.

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