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International Review of Economics and Finance

journal homepage: www.elsevier.com/locate/iref

Foreign exchange intervention in Asian countries: What determine the odds of success during the credit crisis?



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ARTICLE INFO

JEL codes:

E58
F31

Keywords:

Central bank intervention
Credit crisis
Asian currency
Leaning-against-the-wind

ABSTRACT

This paper investigates the factors that increase the odds of intervention success by Asian central banks in the foreign exchange market from January 2005 to November 2013. The results show that leaning-against-the-wind intervention strategies are effective in Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, and Thailand, particularly to counter the pressure of appreciating domestic currency by purchasing US dollar. We find that coordinated and first day interventions are associated with higher odds of effective intervention. There is also evidence that central banks intervene to calm disorderly market.

1. Introduction

The voluminous literature on foreign exchange interventions has traditionally focused on advanced economies (Dominguez and Frankel, 1990, Leahy, 1995; Dominguez, 1998, 2006; Dominguez, Fatum, & Vacek, 2013; Chang & Taylor, 1998; Humpage, 1999, 2003; Baillie, 2000; Bordo, Humpage, & Schwartz, 2012a, 2012b; Ito, 2005; Ito & Yabu, 2007; Fatum & Hutchison, 2002, 2003, 2006; Kearns & Rigobon, 2005; Fatum, 2008; Neely, 2011). Nevertheless, in recent years the empirical stylized facts of foreign exchange interventions have changed in several important ways. Major central banks in advanced economies, particularly those in the G7, have intervened less frequently post-1996.¹ On the other hand, many central banks in emerging markets, especially in Asia, have experienced large balance sheet expansions through the accumulation of foreign reserves and accompanied by more frequent foreign exchange interventions. Cook and Yetman (2012) document that the asset expansions in Asian central banks' balance sheets have been caused by a build-up of foreign exchange reserves.² Although we have witnessed a recent rising trend of central bank engagement in competitive exchange rate management in emerging markets, evidence of intervention efficacy remains sparse.

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¹ Neely (2011) highlights the mid-1990s as the start of the post-intervention era. Authorities of developed countries doubted of the efficacy of foreign exchange intervention operations and stopped intervening or intervened less frequently in the foreign exchange market. For example, the Bank of Canada stopped intervening in 1988, while the European Central Bank has intervened very rarely since 1999. In addition, central banks over times have turned to inflation targeting rather than exchange rate targeting as a framework for monetary policy.

² Foreign exchange reserves made up more than 80% of central bank assets for eight Asian countries, comprising China, Hong Kong, India, Malaysia, Philippines, Singapore, South Korea, and Thailand. While Indonesia may be the only exception, its foreign reserves have constituted more than half of its central bank assets since 2006.

<http://dx.doi.org/10.1016/j.iref.2017.06.007>

Received 28 January 2016; Received in revised form 16 June 2017; Accepted 21 June 2017

Available online 23 June 2017

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This paper is the first to demonstrate the use of Reuters' news reports as a proxy for Asian central bank interventions, providing a contribution to empirically determine whether such interventions are effective using data from January 2005 to November 2013. This sample period is chosen because there are extensive intervention reports on currency markets by Asian central banks that coincide with the global credit crisis and U.S. quantitative easing. International funds have rapidly flowed in and out of Asian countries, giving rise to large fluctuations of Asian currencies during that period. In addition, the stronger external drivers driven by prolonged low interest rates in developed economies combined with excess global liquidity arising from quantitative easing measures have amplified short-term portfolio flows into Asian economies seeking higher returns. The influx of capital flows into Asian economies inadvertently impact on the respective country exchange rates. This study seeks to study (1) whether central bank's foreign exchange interventions were successful in Asian countries during the period of unconventional monetary policy in advanced economies, for which large capital inflow has resulted in appreciation pressure on the respective countries currencies; (2) what factors determine the central bank to intervene in the foreign exchange market; and (3) what intervention strategies were found to increase the odds of successful intervention.

There is a large body of work that has focused on rationalizing the causes and consequences of foreign currency reserve build-up in emerging Asian economies especially since 1998 (Aizenman & Marion, 2003; Bird & Rajan, 2003). These studies have concluded that Asia holds more than enough reserves as a financial safeguard, and that this sustained reserve build-up has been motivated by a desire to keep currencies from appreciating significantly. In an effort to shield the domestic financial system from volatile capital in- and outflows, many Asian economies central banks have massively accumulated reserves.³ In addition, during the global financial crisis, part of the large influx of international funds into Asia has been driven by the U.S. Federal Reserve's quantitative easing policy to stimulate the U.S. economy after the global credit crisis, which resulted in a long-term downward trend of the US dollar *vis-à-vis* Asian currencies. In the face of appreciation pressure on their currencies, several Asian central banks have frequently intervened in the foreign exchange market to stabilize their exchange rates with a view of promoting and maintaining their export competitiveness. This paper fills an important gap in the literature on foreign exchange intervention in Asian markets for reasons that (1) studies on Asian foreign exchange intervention is scarce due to intervention data paucity, and (2) the period that we examined coincides with unconventional monetary policy which has never occurred in the past and on that basis it presents an opportunity to study a plethora of Asian economies with different exchange rate systems.

This paper uses the analytical framework of Humpage (1999) who shows that the U.S. intervention against German Deutsche Mark and Japanese Yen has the ability to influence exchange rate movements under a weak leaning-against-the-wind criterion.⁴ This framework bodes well with the coordination channel of intervention in that intervention might be important in coordinating the expectations of market participants. Sarno and Taylor (2001), Taylor (2005), and Reitz and Taylor (2008) emphasizes the importance of this coordination channel in communicating the authorities' belief that the exchange rate is deviating substantially from its long-run value. In light of the appreciating Asian currencies against the US dollar recently, many authorities believe that this undue appreciation pressure does not reflect the true external value of their currencies, thus potentially hurting their exports.⁵

Following Fatum and Hutchison (2002), we use news reports on Asian central banks' interventions to analyze the effectiveness of exchange rate management by central banks in India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, and Thailand. The method of Humpage (1999) also permits the success of intervention operations, as proxied via these news reports to be judged within a probabilistic framework. This probabilistic framework squares well with the element of market psychology in the operation of the coordination channel, because it relies on traders recognizing the authorities' intervention operations as a coordinating effort implied by such intervention news. Evidence, supporting the coordination channel, leads to the probability of intervention success to be represented as an increasing function of the degree of intervention.

Our results can be summarized as follows. First, there is a strong correlation between Reuters' intervention reports and the changes of exchange rates for all eight Asian countries. In particular, firm intervention reports in the period post-2008 appeared to have increased following the adoption of unconventional monetary policy in advanced economies. Second, there is evidence that most Asian countries, with the exception of Indonesia and India, are purchasing USD as part of their intervention strategies to counter the pressure of rising external value of domestic currency caused by unconventional monetary policy in advanced economies.⁶ It was found that their learning-against-the-wind intervention policy was successful in reducing the speed with which exchange rates are appreciating. Third, when controlling for factors that explain the effectiveness of intervention by Asian central banks, we find that the odds of successful intervention are both statistically and economically influenced by the presence of joint/coordinated interventions and first-day interventions. Official statement of support also yields a significant effect on increasing the success of intervention. Finally, there is evidence to suggest that central banks intervene during the credit crisis period to calm disorderly market. It is important to recognize that while the evidence presented here is built on the premise of the accuracy of Reuters news reports of actual interventions, we can be confident that given the conservative estimates of newswire reports as a proxy for actual interventions, these results may underestimate the

³ The main reasons for holding reserves are the need to service government's foreign debt, to provide the option to intervene in the foreign exchange market for maintaining orderly market and to provide liquidity to banks in extreme situations.

⁴ Humpage (1999) refers to the predictive power of intervention as forecast value, which are defined more elaborately in Section 4 in terms of exchange rate movements.

⁵ There is also the traditional portfolio balance approach to exchange rate determination. The portfolio-balance channel explores the impact of changes in relative supply of domestic (change in the quantity of publicly held government debt) and foreign assets due to the intervention operations (Dominguez & Frankel, 1993). This approach suffers from data paucity; the data on domestic and foreign assets are, more often than not, available at annual frequency thus restricting the analysis of exchange rate intervention at the daily level.

⁶ Most trades around the world are invoiced in US dollar. Table A1 of Casas, Diez, Gopinath, and Gourinchas (2016) shows that in all of the countries examined in this study, which are reported in Table A1, their trades are invoiced in US dollar. For this reason our analysis is restricted to bilateral exchange rates *vis-à-vis* the US dollar.

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