Exchange rate exposure in the Asian emerging markets

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ABSTRACT

This paper investigates the impact of foreign exchange rate change on stock returns in the Asian emerging markets. The asymmetric exchange exposure framework and real exchange rates are used in this paper to capture the different exposures between currency appreciation and depreciation and the high inflation effect in the emerging markets. My empirical results show that there did exist extensive exchange rate exposure in the Asian emerging markets from 1997 to 2010. Moreover, foreign exchange exposure became more significant or greater during the 1997 Asian crisis and the 2008 global crisis periods, despite the frequent central banks’ interventions during these periods. The greater exchange exposure during the crisis periods can be attributable to net exporters or firms with dollar assets, implying that firms can reduce exchange exposures by decreasing their export ratio or dollar assets holding during times of crisis.

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1. Introduction

Foreign exchange risk is one of the important factors in international asset pricing. We start by adopting the view that asset prices are determined in a world where financial markets are completely integrated with global markets and people all over the planet face the same consumption and investment set. In such a world, there are no barriers to international investment and products can be exported and imported freely across different countries and therefore, an asset should have the same price regardless of where it is traded. Under such completely integrated markets, the asset pricing model would contain only global pricing factors. By contrast, if markets are assumed to be fully segmented, local pricing factors would determine what price assets should have. In other words, under completely segmented markets, the price of an asset depends on where it is traded.

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Neither of the above extreme cases can be directly applied to the real world, because markets are not completely integrated nor completely segmented, that is, they fall in between in what are called partially segmented markets (see Bekoert and Harvey, 1995). Under such conditions, asset prices are not the same across different markets, thus purchasing power parity (PPP) is violated, in which case foreign exchange rate risk should be priced (see Solnik, 1974; Stulz, 1981; Adler and Dumas, 1983). Therefore, compared with purely global pricing or purely domestic pricing models, based on either completely integrated or completely segmented assumptions, asset pricing models under partially segmented markets should include foreign exchange risk pricing factors, in addition to global and domestic pricing ones.

The goal of this paper is to investigate the impact of foreign exchange rate changes on stock returns in the Asian emerging markets. Apart from the fact that the Asian emerging markets are partially segmented markets, I concentrate on these because as Erb et al. (1998) discovered the 1997 Asian crisis had a widespread impact on currency valuation, with many of the countries’ currencies severely declining in value during the event. More recently, quantitative easing policy has been used by: the United States, the United Kingdom and the Eurozone during the financial crisis of 2008–2010, causing new money flow into emerging markets, which has led to substantial fluctuating currency valuation. Given that the Asian emerging markets experienced these currency shocks, with overwhelming negative impacts on their economies and stock markets, this may have affected the perception of investors with respect to the importance of foreign exchange rate risk, resulting in them putting more weight on this risk factor in pricing models.

On the other hand, Asian emerging countries are classified under the “managed float” exchange rate regime, with the central banks of these Asian emerging countries intervening in the foreign exchange market so as to influence the exchange rate in favorable directions. When, for instance, a nation’s currency gets over-valued because of some shock and the central bank believes that this is a temporary fluctuation, it may want to devalue the currency in order to dampen this fluctuation. Moreover, some Asian emerging countries have followed the policy of deliberately keeping their currencies a little undervalued so as to boost exports. Given the intervention by central banks in the foreign exchange market, I can conjecture that foreign exchange exposure might be not easy to detect. However, by considering foreign exchange exposure on stock returns we contend that it is possible to investigate, empirically, the foreign exchange exposure on stock returns in the Asian emerging markets, so as to see whether such exposure became of greater significance during the crisis periods of 1997 and 2008.

Past research shows that exchange rate shocks provide little explanation for the performance of stocks and the most plausible explanation for the absence of empirically significant exchange rate exposure is that these previous studies have ignored the possibility that firm value may respond asymmetrically to exchange rate changes. Nevertheless, the possibility that the firm’s value reacts asymmetrically to currency appreciations and depreciations has received some attention (see Miller and Reuer, 1998; Koutmos and Martin, 2003). More specifically, Koutmos and Martin (2003) argue that asymmetric foreign exchange exposure is implied in some theoretical models that describe firm behavior, such as those of: asymmetric pricing-to-market (see Knetter, 1994), hysteretic behavior (see Baldwin and Krugman, 1989), and asymmetric hedging behavior. They investigate whether returns on nine sector indexes across four major countries are asymmetrically affected by exchange rate movements. The results show that there are some examples of asymmetric exposure. However, the theoretical models suggest that asymmetric foreign exchange exposure may be more likely to occur at the individual firm level. As a result, in this study I also focus on the firm level data to examine the effect of foreign exchange exposure.

In this paper, I attempt to provide some answers to the following related questions: (1) under the asymmetric exchange exposure framework, is foreign exchange exposure an important factor that can explain a significant portion of equity returns movement in the Asian emerging markets and did such exposure become more significant or larger during the crisis period? (2) Can central bank intervention successfully prevent the occurrence of exchange rate exposure? (3) Is there any action that financial managers can take to decrease firms’ exchange rate exposure?
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