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Asian foreign exchange risk exposure

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We find that about 25 percent of Asian firms experienced economically significant exposure effects to the US dollar and 22.5 percent to the Japanese yen for the period January 1993 to January 2003. The overall extent of exposure is not sample dependent; a depreciating (appreciating) Asian currency against foreign currencies has a net negative (positive) impact on stock returns. The extent to which firms are exposed to exchange rate fluctuations varies with return horizons; short-term exposure seems to be relatively well hedged, where considerable evidence of long-term exposure is found. Firms with weak liquidity positions tend to have smaller exposures. *J. Japanese Int. Economies* **21** (1) (2007) 16–37. Nijmegen School of Management (NSM), Radboud University Nijmegen, the Netherlands; NSM, Radboud University Nijmegen, the Netherlands; Institute of Financial Economics, (LIFE), Maastricht University, the Netherlands.

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1. Introduction

It is conventional wisdom that exchange rate movements are an important source of macroeconomic uncertainty that influence the profitability and value of firms involved in international activities. Standard economic analysis implies that movements in the exchange rate influence

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both the current and future expected cash flows of a firm's operation and the discount rate employed to value these cash flows, and this issue has spawned a considerable amount of research. The wide currency fluctuations experienced during the 1997 Asian financial crisis heightened interest in the potential vulnerability of internationally active firms to foreign exchange risk in general, and to the Asian exposure in particular.

Despite multinational firm's extensive involvement in international activities, the volatilities of floating exchange rates and the implication of economic theory, previous empirical evidence on exchange exposure seems conflicting and is mixed at best; contemporaneous exchange rate fluctuations affect—to a certain extent—shareholder wealth observed in international stocks.[1] The paradoxes revealed in the data have in turn influenced the developments of both new theoretical models and comparative research across a wider range of financial markets. For instance, the documented weak evidence of systematic exchange rate exposure may be attributable to the difficulty in obtaining stable measures of exchange exposures—as suggested by Levi (1994), or to restrictions imposed on the sample of data and the use of too aggregated economic measures in previous studies—as suggested by and Choi and Prasad (1995), Dahlquist and Robertsson (2001), Williamson (2001) and Dominguez and Tesar (2001), or to the ignorance of the intervalling effect—as suggested by Chow et al. (1997a, 1997b), or to systematically mispricing caused by investors' errors in estimating the linkage between exchange rate changes and stock returns—as suggested by Bartov and Bodnar (1994).

The weak and seemingly conflicting results warrant further investigation that is based on individual firms that actively engage in international trade. We are therefore motivated to look for evidence in the Asian markets. An exploratory investigation of Asian foreign exchange risk exposure is of interest for several reasons. First, the Asian economy is particularly well suited for investigating currency exposure issues since it is a very open and active economy. Second, the rapid growth in market capitalization and the growing significance of the Asian share of world trade over the past few decades has positioned Asia among the leading global economic powers. Third, since the trading relationships of the Asian economies with the US and Japan exhibit different patterns and have undergone many different economic episodes during the last ten years, it provides us a with a broad and diversified picture of the impact of external trade relationships on shareholder wealth.[2] Finally, to the best of our knowledge, no study has yet conducted a comprehensive analysis of the nature of the foreign exposure of Asian internationally active firms.

[1] For example, Jorion (1990) finds that the impact of exchange rate changes on stock returns is statistically significant for only 15 of 287 US multinational firms for the period 1971 to 1987. These results are consistent with Amihud (1994) who reports no significant contemporaneous exposure for the largest 32 US exporting firms from 1979 to 1988. Similarly, Bartov and Bodnar (1994) observed insignificant relationships between US exchange rate changes and stock returns of 208 firms with foreign operations between 1978 and 1990. Interestingly, the international exposure evidence differs substantially from the US experience. Bodnar and Gentry (1993), for instance, note that among 39 industry portfolios from the US, Japan and Canada 11 exhibit significant exchange risk exposure between 1979 and 1988. Similarly, He and Ng (1998) find that for the period 1979 to 1993, 25 percent of the 171 Japanese multinationals have significant positive exposure. Recently, in contrast to those studies, Griffin and Stulz (2001) suggest that exchange rate shocks have almost a negligible impact on the value of industries around the world.

[2] Our sample period is for January 1993–January 2003, covering three significant different economic episodes: sustained economic growth, the international financial crisis, and the current economic recovery and, thus, permit an additional test of the robustness of previous reported results, which could be more powerful than a marginally more sophisticated test of foreign exchange exposure to a broad sample of currencies already thoroughly studied.