

The pricing of foreign exchange risk in the Australian equities market

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Abstract

The issue of whether foreign exchange risk is priced in financial markets is important in the context of international investment and diversification. Primarily using daily data, we implement a two-factor asset pricing model (incorporating a market factor and an exchange rate factor) in an attempt to provide some insight into the pricing of foreign exchange risk in the Australian equities market for the period 1988–1998. Initially testing a basic version of the model, we find that exchange rate risk is priced in the Australian equities market for the full sample period. Further, our analysis of four major subperiods indicates that the pricing occurs in periods of economic decline and a secularly weak Australian dollar (namely, 1990–1993 and 1997–1998). We extend our investigation by testing a zero-beta version, as well as an orthogonalized version, of the same model. The results of both analyses support our initial findings. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

Do investors earn a premium from being exposed to foreign exchange risk? This question is arguably one of the most important confronting financial managers internationally. With the implementation of flexible exchange rate regimes and the opening of markets across the world, the issue of whether foreign exchange risk is priced in stock markets or whether indeed hedging strategies add no value to the firm has become increasingly prominent in the financial decision-making process.

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In recent times, several studies have attempted to address this issue. Using an unconditional multi-factor pricing model with the assumption that the currency-risk premium remains constant over time, Jorion (1991) investigates the US stock market. He reports that although there is evidence of the relationship between stock returns and the exchange rate differing systematically across industries, there is no evidence that foreign exchange risk is priced in the market. In general, Jorion's (1991) results are supported by Loudon (1993b) in his study of the Australian equities market for the period 1980–1991. However, contrary findings (that is, evidence that foreign exchange risk is in fact priced) are reported by other empirical studies, for example Korajczyk and Viallet (1992), Ferson and Harvey (1994), Dumas and Solnik (1995), DeSantis and Gerard (1998), Choi et al. (1998) and Doukas et al. (1999). Specifically, Dumas and Solnik (1995) and DeSantis and Gerard (1998), implementing a conditional international asset pricing model and using stock market indices, report that the foreign exchange risk is priced for equity and currency markets of Germany, the UK, Japan and the US. Consistent with these studies, Doukas et al. (1999) allow the risk premium to change through time in their investigation of the pricing of currency risk in Japan. Their findings suggest that currency risk is priced for multinationals and high-export Japanese firms. Choi et al. (1998) also report that foreign exchange risk is priced in the Japanese stock market. Employing the bilateral yen/US dollar exchange rate, as well as a trade-weighted exchange rate, their investigation provides evidence of the pricing of foreign exchange risk using both a conditional and an unconditional model.

The current study investigates the pricing of foreign exchange risk in the Australian equities market for the period 1988–1998 in a multi-factor asset pricing model. Specifically, consistent with much of the relevant literature (see, for example, Jorion, 1991; Loudon, 1993a,b), we keep things simple by using a two-factor asset pricing approach – namely, a market factor and a foreign exchange factor.¹ Within this framework, primarily we examine the pricing of foreign exchange risk using one bilateral exchange rate factor – the AUSUSD.² Our analysis of the Australian market is motivated by several factors. First, the paucity of empirical evidence in the area of foreign exchange risk pricing in the Australian market. Beyond Loudon's (1993b) investigation there is, to our knowledge, no other published study in this area of research. Further, our data set extends well past 1991, the final year of Loudon's (1993b) analysis. Second, we attempt to redress the concern of data-snooping (see, for example, Leamer, 1983; Lo and Mackinlay, 1990). Notably, this issue has been specifically identified in prior foreign exchange risk pricing literature, see, for example, Doukas et al. (1999). They endeavour to deal with the matter by investigating the pricing of currency risk in Japan. Third, the relative importance of the Australian equities market in the Asia-Pacific region justifies our focus on this market.

¹ While the natural interpretation of our approach is in the context of the intertemporal CAPM, our analysis could equally be interpreted in an APT setting where the market portfolio is one of the factors. Regardless of which asset pricing setting is used, the pricing of a foreign exchange factor is of central interest.

² We also investigate the pricing of foreign exchange risk using the AUDJPY and the AUDTWI exchange rate factors although the results are not reported to conserve space.

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