



Local risk factors in emerging markets: Are they separately priced?

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Abstract

We provide new evidence on the pricing of local risk factors in emerging stock markets. We investigate whether there is a significant local currency premium together with a domestic market risk premium in equity returns within a partial integration asset pricing model. Given previous evidence on currency risk, we conduct empirical tests in a conditional setting with time-varying prices of risk. Our main results support the hypothesis of a significant exchange risk premium related to the local currency risk. Exchange rate and domestic market risks are priced separately for our sample of seven emerging markets. The empirical evidence also suggests that although statistically significant, local currency risk is on average smaller than domestic market risk but it increases substantially during crises periods, when it can be almost as large as market risk. Disentangling these two factors is thus important in tests of international asset pricing for emerging markets.

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1. Introduction

Many emerging markets have experienced recurrent currency crises with negative impact on their economies and stock markets. Yet, there is no comprehensive study that looks at the separate effects of local currency risk and domestic market risk on equity returns and their empirical relationship over time.

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The issue of whether exchange risk is priced in the stock market has been the subject of debate in the empirical literature with mixed evidence and sometimes contradictory results. Early theoretical models of international asset pricing (IAPM) clearly show that under deviations from purchasing power parity (PPP), exchange risk should be priced and expected stock returns include a premium for bearing foreign exchange risk [see, for example, [Stulz \(1981\)](#) and [Adler and Dumas \(1983\)](#) as well as the review by [Karolyi and Stulz \(2002\)](#)]. Attempts to test such IAPMs in an unconditional setting were inconclusive.¹ However, using a conditional framework, studies such as [Dumas and Solnik \(1995\)](#) and [De Santis and Gerard \(1998\)](#) provide stronger evidence that foreign exchange risk is priced in major developed stock markets.² However, such evidence is not sufficient to conclude that exchange risk is a relevant pricing factor for equities in different market environments, such as emerging markets (EMs) where other sources of local risk could be more important.

Since there is significant evidence suggesting that expected returns in emerging markets are more likely to be affected by local rather than global risk factors, in this study, we attempt to assess the relative importance of local exchange risk pricing versus local market risk.³ Although risk from bilateral exchange rates of smaller currencies can be empirically small in an integrated world, it might be more relevant when viewed from a local EM perspective. The large impact of currency crises on emerging markets may indeed result in a significant and/or large exchange risk premium for these assets. However, such significance could be due to a model specification that ignores the effects of other competing sources of risk or it might suggest that exchange risk is separately priced from market risk. Thus, the goal of this paper is to enhance our understanding of the respective role of country-specific risk factors in explaining emerging market equity returns.

To date, the literature that focuses on exchange risk related to emerging market currencies and their impact on equity returns is very sparse. [Bailey and Chung \(1995\)](#) find evidence that Mexico's equity market premia are related to risk premia in the currency market. [Carrieri, Errunza and Majerbi \(in press-a\)](#) look at the impact of an aggregate measure of emerging market currencies on global risk pricing in both developed and emerging equity markets. They find that exchange risk stemming from emerging market currencies is significantly priced in global equity returns and that information about emerging market crisis episodes affect the prices of global risk factors. These results however do not shed light on the relative importance of EM currencies in local risk pricing of equities in these markets, in particular if we allow the pricing model to account for local market volatility on a country-by-country basis.

To our knowledge, only two empirical studies have looked specifically at the role of exchange risk stemming from local bilateral exchange rates in pricing emerging market equities. [Phylaktis and Ravazzolo \(2004\)](#) provide evidence within a dynamic integration framework that a model with a local currency factor is superior to a model without exchange risk for a number of Pacific Basin markets. However, in their setting, the local exchange risk competes with the country-specific market risk only in the period before the liberalization and not thereafter. [Carrieri and](#)

¹ For example, [Hamao \(1988\)](#) and [Jorion \(1991\)](#) found no evidence that exchange risk is priced on the Japanese and US stock markets respectively. More recently, [Vassalou \(2000\)](#), testing various unconditional asset pricing models for ten developed markets, found evidence that exchange risk can explain part of the within-country cross-sectional variation in returns.

² Other studies within a conditional setting [[Choi, Hiraki and Takezawa \(1998\)](#), [Doukas, Hall and Lang \(1999\)](#)] also tend to strongly support the hypothesis that foreign exchange risk is priced in stock markets of major developed countries.

³ See for example, [Harvey \(1995\)](#) and [Carrieri, Errunza and Hogan \(in press-b\)](#).

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