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Financial market liberalization and the pricing of idiosyncratic risk

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ABSTRACT

We test the impact of idiosyncratic risk on stock returns for emerging markets that experience financial market liberalizations. Idiosyncratic risk is positively associated with returns prior to financial market liberalization, but liberalization diminishes this effect. Moreover, prior to liberalization, the number (concentration) of stocks available in the market is negatively (positively) correlated with the pricing of idiosyncratic risk. The decrease in the pricing of idiosyncratic risk can explain the reduction in the cost of capital around liberalizations. Additionally, the change in the pricing of idiosyncratic risk may be a useful measure of the success of financial market liberalization.

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1. Introduction

If the number of available assets in an economy is small, idiosyncratic risk may be positively priced as investors are unable to fully diversify their risks.[1] We consider emerging markets which have over time introduced (and sometimes reversed) financial market liberalization as a natural experiment for this hypothesis. Thus, we expect that idiosyncratic risk will be priced before liberalization, but that the degree to which such risk is priced should diminish after liberalization. Moreover, we expect the impact of idiosyncratic risk to be largest in markets where the number of available stocks is smallest or the concentration of stocks is highest. Hughes et al. (2007) provide a convenient APT-based model which illustrates these effects, and we frame the discussion below using their notation.

We test our hypotheses using data before and after financial market liberalization events from 17 emerging market economies. We estimate a stock's idiosyncratic risk as the variance of the residual

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[1] Idiosyncratic risk may be priced under an APT, but not a CAPM model. See Section 2 for further discussion.

from a four factor model, where the factors capture local market returns, world market returns, size, and book-to-market (see Rouwenhorst, 1999 for an application of Fama–French factors to emerging markets), and we consider several alternative factors for robustness.

Overall, our results support our hypotheses. Idiosyncratic risk appears to be positively priced prior to financial market liberalization, but this effect diminishes after liberalization. Moreover, we find that prior to liberalization the effect of idiosyncratic risk is, on average, larger for countries with fewer stocks or countries with more concentrated market capitalization.

A number of papers address the impact of financial market liberalization on returns, the cost of capital, and investment behavior.[2] For instance, Kim and Singal (2000) and Henry (2000a) show that financial market liberalization is associated with positive stock returns. Bekaert and Harvey (2000) show that financial market liberalization is associated with a decrease in the cost of capital of between 5 and 75 basis points. Our analysis suggests that this decrease in the cost of capital may be explained by a decrease in the pricing of idiosyncratic risk. Specifically, we estimate that the change in the pricing of idiosyncratic risk implies a 26 basis point decline in expected returns on average.

Bekaert and Harvey (1997) show that financial market liberalization is typically associated with a reduction in market volatility, while Henry (2000b) shows that liberalization is associated with an increase in investment. Further, Chari and Henry (2004) show that the impact of financial market liberalization on an individual stock depends on the relative covariance between the stock, the local market, and the world market. Bae et al. (2006) provide evidence that the information environment becomes more open following financial market liberalization. A related literature also examines which factors are associated with developing country market segmentation; see for instance Bekaert et al. (2011) and Carrieri et al. (2013).

In contrast to this academic literature, which largely finds benefits to financial market liberalization, the popular press often stresses the negative impacts of more open financial markets. For instance, in the popular press, Thomas (2010) reports that there is an increasing belief among policy makers and some economists that financial market liberalization has significant drawbacks. He discusses how a number of countries either have or are considering raising barriers to capital mobility.

A separate literature addresses the impact of idiosyncratic risk on asset returns. Whereas traditional capital asset pricing models argue that only systematic risk factors should be incorporated into asset prices, a number of papers (see Brown and Ferreira, 2004; Fu, 2009; Goyal and Santa-Clara, 2003; Lehmann, 1990; Malkiel and Xu, 2006) find a positive relation between idiosyncratic risk and returns. On the other hand, Ang et al. (2006, 2009) find a negative relation between idiosyncratic risk and return, while Wei and Zhang (2005), Bali et al. (2005), Jiang and Lee (2006), Guo et al. (forthcoming), and Fink et al. (2010) find no robust relation between idiosyncratic risk and returns.

We add to the literature on idiosyncratic risk and financial market liberalization by providing a straightforward test of the degree to which idiosyncratic risk is priced in an environment where the financial markets are closed, then open, then, in some cases, closed again. Our basic results largely support the theoretical implications. Moreover, the degree to which idiosyncratic risk is priced could help measure how effectively a particular financial market liberalized. That is, the variation between countries in the degree that financial market openings impact the pricing of idiosyncratic risk suggests that certain liberalizations were more effective than others.

Section 2 reviews the theoretical basis for our tests. Section 3 describes our empirical methods and data. Section 4 presents our empirical results, and Section 5 concludes.

2. Theoretical foundations

In a general APT model idiosyncratic risk should not be priced in a large economy regardless of whether investors have access to private information.[3] However, for a small closed economy, idiosyncratic risk can

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[2] Flood and Rose (2005) also attempt to measure market integration, and they provide a macroeconomic perspective on why such an exercise is important. See, however, Marshall (2005) and Parsley and Schlag (2007) for critiques of their methods.

[3] See also the discussion regarding the pricing of idiosyncratic risk in APT models in Varian (1992), p. 378. Malkiel and Xu (2006) also show that if some investors do not hold the market portfolio, idiosyncratic risk will be priced.