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The world price of home bias ☆

Sie Ting Lau [a,*], Lilian Ng [b], Bohui Zhang [c]

[a] Nanyang Technological University, Singapore
[b] University of Wisconsin, Milwaukee, USA
[c] University of New South Wales, Australia

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ABSTRACT

Theoretical arguments suggest that as the degree of a country's home bias increases, the global risk sharing between domestic and foreign investors will reduce and thereby increase the country's cost of capital. Consistent with this prediction, we find international differences in the cost of capital to be strongly and positively related to varying degrees of home bias for 38 markets. This finding is robust to different cost of capital proxies, different control variables, alternative home-bias measures, international tradability of stocks, and alternative specifications. Therefore, the overall evidence implies that countries may enjoy a significantly lower cost of capital by reducing the extent of their home bias and hence, increasing global risk sharing.

1. Introduction

Despite the apparent diversification benefits from cross-border investment, investors still invest disproportionately more in domestic stocks than standard portfolio theory would suggest as optimal allocation.[1] This home-bias phenomenon continues to exist in every country.[2] Explanations for this bias include explicit barriers to international capital flows, hedging motives, deviations from purchasing power parity, information asymmetries, behavioral biases, and accounting standards.[3] However, most of the explicit barriers were removed during the globalization process, and other single explanations are unable to explain the magnitude of the observed home bias. The observed home bias in investors' portfolio holdings possibly results from a myriad of explicit and unmeasurable implicit constraints investors face when making international investment decisions.

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* Corresponding author. Tel.: +65 6790 4649.
E-mail addresses: astlau@ntu.edu.sg (S.T. Lau), lng@uwm.edu (L. Ng), bohui.zhang@unsw.edu.au (B. Zhang).

[1] Lewis (1999) and Karolyi and Stulz (2003) provide extensive reviews of the home-bias literature.

[2] See Chan, Covrig, and Ng (2005) for more recent evidence.

[3] See, for instance, Black (1974), Stulz (1981a), and Errunza and Losq (1985) on explicit barriers to international capital flows; Solnik (1974), Adler and Dumas (1983), Stulz (1981b), and Baxter and Jermann (1997) on hedging motives; Cooper and Kaplanis (1994) on deviations from purchasing power parity; Kang and Stulz (1997), Jeske (2001), and Ahearne, Griever, and Warnock (2004) on information asymmetries; Shiller, Kon-Ya, and Tsutsui (1996) and Graham, Harvey, and Huang (2009) on behavioral biases; and Young and Guenther (2003), Bradshaw, Bushee, and Miller (2004), and Covrig, Defond, and Hung (2007) on accounting environments.

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If the persistence of home bias segments the market, then such a bias ought to have important implications for the cost of capital.[4] Thus, the main focus of our study is to explore this asset pricing implication of the home bias.

Even with the increasing globalization, securities markets are still not fully integrated with the world market. Empirical studies, such as de Jong and de Roon (2005) and Carrieri, Errunza, and Hogan (2007), show that there are substantial differences in the degree of market segmentation across countries and that the local risk still plays an important role in explaining expected returns. These findings suggest that foreign investors are not investing adequately in domestic markets, and/or that domestic investors are not holding internationally diversified portfolios. Other research such as Henry (2000) finds that stock market liberalization has a relatively small impact on the risk premium of the market, suggesting that market liberalization does not attract sufficient foreign investment into local markets. This strand of literature indicates that market segmentation affects asset pricing. If the observed home bias also influences equity prices, this implies that the home bias reflects market segmentation.

Further, financial theory argues that as the home bias decreases, the cost of capital falls. For example, Stulz (1999) argues that the extent of the home bias determines the impact of financial globalization on the cost of capital. In his presidential address at the 2005 American Finance Association meetings, Stulz postulates that one of the economic benefits of financial globalization is that it facilitates the sharing of risks globally. However, faced with "twin agency problems,"[5] investors of a country cannot fully enjoy this risk sharing advantage of financial globalization. Such agency problems are implicit barriers to cross-border investment and hence, in part contribute to the observed home bias in domestic stocks.[6] The home-bias effect might limit the cost of capital benefits of globalization, because global risk sharing between domestic and foreign investors is reduced. Thus, any evidence that the home bias has a cost of capital effect would imply that home bias does contribute to the documented varying degrees of market segmentation across countries.

In this study, we examine whether the existence of home bias matters for asset prices. As investors face different sets of explicit and implicit investment constraints, they tend to exhibit different degrees of home bias. Therefore, we investigate whether and how these varying degrees of home bias exhibited by domestic investors from 38 countries are related to cross-country variation in the cost of capital. Our measure of home bias allows us to gauge the extent to which this bias segments a market from the world market on a continuous scale. We implement several models to estimate the cost of capital of a country. Results show that countries' home-bias measures are statistically and significantly related to international differences in the cost of capital. Specifically, countries with stronger home-bias effects exhibit a higher cost of capital, even after controlling for traditional risk proxies, country-specific characteristics, and availability of market substitutes. While the evidence is consistent with theoretical arguments, it is imperative to emphasize that a reduction in the home bias could potentially lower the cost of capital as long as both domestic and foreign investors collectively decrease their home bias and increase their cross-border investments, thereby fostering greater global risk sharing.[7] In other words, investors can move their capital freely across countries and can diversify their portfolios internationally.

We measure the degree of a country's home bias by using the information on how domestic mutual funds in different countries allocate their equity portfolios between domestic and foreign stocks. Such information on mutual fund holdings is available from Thomson Reuters for the 10-year period from 1998 to 2007. A much shorter time period of this data set has been employed by Chan, Covrig, and Ng (2005) and Hau and Rey (2008) to examine the home-bias phenomenon. Our analysis employs Chan, Covrig, and Ng's country-level home-bias measure as the main variable of our analysis and also a firm-level home-bias measure, similar to Hau and Rey's fund-level home bias, in our robustness checks.

We recognize that such measures would be more precise if they are based on stockholdings of both domestic individual and institutional investors, including mutual funds. Mutual funds have, however, become a popular investment vehicle among individual investors worldwide, and have contributed to the tremendous growth of this industry in this past decade. As of December 2007, there were 66,350 mutual funds worldwide with their total net assets worth $26.2 trillion.[8] Furthermore, Hau and Rey (2008) compare the geographic distribution of their sample of fund holdings with the best aggregate data available on international investment, i.e., the Coordinated Portfolio Investment Survey (CPIS) of the International Monetary Fund (IMF). Their statistical analysis suggests that the mutual funds are representative of foreign equity positions in the world economy. Our robustness tests show that the home-bias effect on the cost of capital still holds when a country's home bias is measured using the CPIS data.

Our empirical design is based on the approach of Hail and Leuz (2006). In their study, the authors examine whether differences in countries' legal institutions and

[4] Throughout this study, the term "cost of capital" refers to "cost of equity capital," unless otherwise stated.

[5] The existence of twin agency problems suggests that all investors risk expropriation by the country and that outside investors additionally risk expropriation by those who control the firm (see Stulz, 2005).

[6] See Dahlquist, Pinkowitz, Stulz, and Williamson (2003) and Kho, Stulz, and Warnock (2009).

[7] Stulz (1999) argues that the home-bias impact on the cost of capital of a country depends on the extent of coordinated international investment efforts by both domestic and foreign investors. Alexander, Eun, and Janakiramanan (1987) show that, compared with a stock with no dual listing, a dually listed stock would enjoy a reduction in its required rate of return if the stock is held by both domestic and foreign investors, who both share the risk associated with the stock.

[8] See Investment Company Institute's Web site at http://www.ici.org/stats/mf/arcglo/index.html#2007.