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The determinants of home bias puzzle in equity portfolio investment in Australia

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ABSTRACT

Despite the well documented gains from international diversification, investors continue to show a strong preference for investing in domestic assets, a phenomenon referred to in the literature as 'home bias'. This bias comes at a price — a higher cost of capital for businesses. We estimate the share of foreign equity in a typical Australian equity portfolio to be approximately 17% while the standard portfolio theory suggests that the proportion ought to be in the order of 98%. Applying these proportions to the typical Australian portfolio would cause Australian borrowing costs to fall by approximately two percentage points. This paper provides a detailed analysis of the drivers of home bias from the perspective of an Australian investor. The results indicate that the typical Australian investor undervalues the benefits of international diversification by investing a proportionally larger share of their equity in domestic stocks relative to overseas markets. Evidence from our research indicates that trade, governance, market size, cross-border capital controls and transaction costs play a positive and statistically significant role in influencing Australian investor's home bias.

1. Introduction

The last decade has witnessed an increasing trend globally toward an international financial integration due in part to the removal and relaxation of controls on cross-border investment. The potential benefits of international portfolio diversification have been acknowledged in several studies where the risk and return performance of an internationally diversified portfolio significantly outweighs that of a domestic portfolio (De Santis & Gerard, 1997; Eldor, Pines, & Schwartz, 1988; Grauer & Hakansson, 1987; Grubel, 1968; Solnik, 1974; Stulz, 1997). The Lau, Ng, and Zhang (2010) research suggests 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. They find international differences in the cost of capital to be strongly and positively related to varying degrees of home bias for 38 markets. These authors estimate that if countries decreased their home bias investing, according to the standard portfolio theory, they would – on average – reduce their cost of capital by about 44 basis points (or .44% lower interest rates). In Australia, borrowing costs would fall by 174 basis points. Overall their 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.

However, despite these well documented gains from international diversification, investors continue to have a strong preference for investing in domestic assets, the characteristic referred to as 'home bias'. Theoretically the international capital asset pricing model (ICAPM) developed by Sharpe (1964) and Lintner (1965) predicts that mean–variance optimizing investors hold a proportion of local equities equivalent to the domestic weight in the world market portfolio (Adler & Dumas, 1983; Fama & French, 1998; Karolyi & Stulz, 2002; Solnik, 1983). Empirical evidences by Cai and Warnock (2004) indicate that the share of foreign equities in a typical US investor portfolio is only 15%, while the ICAPM would imply that investors hold approximately 56% weight in foreign equities. Using the same methodology as Cai and Warnock (2004), we estimate for 2003 that the share of foreign equity in a typical Australian equity portfolio is approximately 17% while the optimal holding suggests that the proportion ought to be in the order of 98%.

The objective of this paper is to provide an understanding of the extent of the home bias puzzle from an Australian investor's perspective. To investigate the determinants of home bias our research examines the role played by both direct and indirect barriers as factors causing a deviation in investment patterns from an optimally diversified international portfolio. Until 1997 the lack of a comprehensive database on cross border holdings presented significant obstacles to researching individual country bilateral investment patterns. To overcome this deficiency our paper employs data from the International Monetary Fund

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(IMF) Coordinated Portfolio Investment Survey (CPIS) which allows researchers access to more detailed data on cross border investments.

Overall, the paper presents evidence of a decrease in Australia's home bias in equity portfolio investment from 1997 to 2005. Investigating the potential determinants of home bias, the paper provides an analysis of the drivers of home bias focusing on transaction costs, cross-border capital controls, trade, governance and market size. The results suggest that capital controls and transaction costs are positive and statistically significant factors driving the home bias of Australian equity portfolio investment. In addition our results suggest that Australian investors invest a higher share of their portfolio in countries which uphold strong institutional governance and are relatively dominant in terms of market size.

The remainder of this paper is structured as follows. Section 2 reviews the literature on the home bias puzzle. Section 3 introduces the estimation model, describes the CPIS database and provides a description of the variables employed. Section 4 reports the empirical results. Finally, Section 5 provides concluding comments on the results.

2. Literature review

To develop an understanding of home bias we review a range of studies which focus on various explanations of home bias. The main drivers of home bias in international equity investment are explicit and implicit barriers to international investment. Explicit barriers to international investment are those that are directly observable and quantifiable. The explicit barriers include transaction costs; fees and commissions (Glassman & Riddick, 2001; Tesar & Werner 1995; Warnock, 2001) and capital controls (Black, 1974; Errunza & Losq, 1981; Stulz, 1981). Explicit barriers to international investment have gradually fallen over time because of international tax accords and the removal of foreign exchange controls. However, there are still other visible barriers to foreign investment, so that some home bias should still be expected to exist (Kang & Stulz 1997). French and Poterba (1991) and Cooper and Kaplanis (1994c) claim that explicit barriers to international investment are no longer large enough to explain the observed departure from holding a diversified international portfolio. They suggest that the home-bias puzzle is only partially explained by withholding taxes on foreign investors and point toward implicit barriers as the major reason for home bias.

Implicit barriers to international investment are not directly observable. The two main classes of such barriers are political risk differences between domestic and foreign investors and information asymmetries. Political risk differences arise if non-resident investors feel that there is some probability that they might have trouble repatriating their holdings or that their holdings might be expropriated altogether, so that their expected return on foreign shares is lower than the expected return for residents.

In a number of studies authors suggest that home bias is due to investors holding domestic securities to hedge non-traded goods consumption (Adler & Dumas, 1983; Cooper & Kaplanis, 1994a; Stockman & Dellas, 1989). More recently, psychological or behavioral factors are considered as potential drivers of home bias (Coval & Moskowitz, 1999; Grinblatt & Keloharju, 2000; Huberman, 2001).

Previous studies on home bias have investigated various kinds of barriers to international investment including direct controls on the import or export of capital, the risk of expropriation of foreign holdings, reserve requirements on bank deposits and other assets held by foreigners, restrictions on the fraction of business that is owned by foreigners and barriers due to information asymmetries. Black (1974) and Stulz (1981) developed a two country capital market equilibrium model where barriers to cross border investment are considered as a tax on net foreign investment. Buchanan, Le, and Rishi (2012) examined the impact of institutional quality on foreign direct investment (FDI) levels and volatility based on a panel data analysis of 164 countries they found that institutional quality has a positive and significant effect on FDI.

Cooper and Lessard (1981) developed an international capital market equilibrium model which allows for differential taxes on foreign investment depending on the country of investment and the origin of the investor. Merton (1987) introduces a model where investors hold only stocks with which they have a high degree of familiarity. In their model, investors believe that the risks of stocks they do not know are extremely high. Accordingly investors place more weight on domestic stocks relative to foreign shares.

A steady and growing literature has proposed several competing and complementary explanations for the home bias puzzle. An important strand of this literature focuses on the effect of transaction and information costs related to international portfolio positions (Cai & Warnock, 2004; Daude & Fratzscher, 2006; Fidora, Fratzsc, & Thimann, 2007; Portes & Rey, 2005). Shiller, Kon-Ya and Tsutsui (1991, 1996) provide some survey evidences which are consistent with the view that investors are more optimistic about their own (domestic) market than are foreign investors. Frankel and Schmukler (1996, 2000) examine informational asymmetry as an important aspect of portfolio investment in emerging markets. Several papers investigate the home bias puzzle by employing individual country data sets however most of these studies focus specifically on the USA (Ahearne, Griever, & Warnock, 2004; Dahlquist, Pinkowitz, Stulz, & Williamson, 2003). Kang and Stulz (1997) investigate the home bias in Japan employing the firm-level data. They report that the portfolio holdings of foreign investors in Japan are weighed toward stocks with high expected returns. Dahlquist and Robertsson (2001) explore the home bias puzzle in Sweden using firm level data for Swedish firms. They find that foreign investors allocate a disproportionately high share of their funds to large firms, as size might be a proxy for many underlying influences, including firm recognition. In addition, they conclude that market liquidity seems to be an important driving force for preferring local equities. Finally, Mishra (2008) discovers that the number of firms listed on the domestic market stock exchange and the share of internet users in the total population of the host country have a significant impact on home equity bias for Australian investors. He also finds that trade linkages have a mixed impact on equity home bias while a country's market share of the world market's capital and transaction costs appear not to impact on Australia's equity home bias.

3. Model and data description

The model is set up as follows:

$$HB_{i,t} = \alpha + \beta X_{i,t} + \varepsilon_{i,t}$$

where, $HB_{i,t}$ measures the Australian home bias against country i at time t, $X_{i,t}$ is a vector of explanatory variables (i.e. explicit and implicit barriers) which account for the determinants of Australian home bias.

3.1. CPIS database

The lack of a comprehensive database on cross border holdings presented significant obstacles to researching individual country bilateral investment patterns. This paper employs data from the International Monetary Fund (IMF) Coordinated Portfolio Investment Survey (CPIS) which allows researchers access to more detailed data on cross border investments. The CPIS database reports on cross-border holdings of securities and derived portfolio investment liabilities with the capacity of showing bilateral and partner economy data from the creditor or debtor perspective.

The first CPIS was conducted in 1997 and involved the participation of 29 countries providing information on the stock of cross-border holdings of equity securities in addition to long and short-term debt