



**UNIVERSITI PUTRA MALAYSIA**

***ECONOMIC ANALYSIS BETWEEN FOREIGN BIAS, HOME BIAS,  
ECONOMIC GROWTH AND RETURN CORRELATION***

**LEE PEI LING**

**FEP 2018 7**



**ECONOMIC ANALYSIS BETWEEN FOREIGN BIAS, HOME BIAS,  
ECONOMIC GROWTH AND RETURN CORRELATION**

By

**LEE PEI LING**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

**October 2017**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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**October 2017**

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Utilizing 650 country-pairs from the years 2001 through 2014, this research examines whether social trust influences foreign equity bias. Trust, the fundamental component in social capital, is neglected considering the high risks and uncertainty associated with foreign investment. The findings offer new evidence on the linkage between trust and foreign bias. Foreign investment decision depends largely on generalized trust put in other country. Evidently, less trusting society tends to have stronger bias towards foreign countries. However, no evidence provided that individualistic countries show greater preference towards foreign equity. Other traditional financial barriers such as home bias, geographical distance, financial development, common membership in the European Economic and Monetary Union are significant in explaining foreign bias based on the random-effect tobit model. The results are robust despite the use of different estimation methods and procedures. Additionally, understanding the development of home bias is pivotal to have a better grasp of global financial market integration. The second research objective is to investigate the impact of home bias on economic growth by utilizing dynamic panel estimation technique for a sample of 25 countries. Home bias, which is the tendency of over-investing in domestic stock bourse, is proposed to be the proxy of advanced financial integration. Declining home bias is found to hasten the pace of economic development. In other respects, countries with higher labor growth, higher trade openness, and lower exchange rate volatility enjoy higher growth rates. The last objective is to test the effect of portfolio concentration index on market correlation. The relationship between stock market linkages and portfolio concentration is investigated in order not only to reap diversification benefits but also for better understanding the vulnerability a country is subjected to during a global financial crisis. The empirical findings demonstrate the average portfolio concentrations significantly differing between crisis and non-crisis period in their stock market correlations. Portfolio concentration index, real interest rate differential, industrial production growth differential, and stock market size differential are statistically significant in influencing correlation in stock returns by employing the fixed effect model for a sample of 25 investing and 27 investee countries from 2001 to 2014.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

## **ANALISIS EKONOMI DI ANTARA BIAS ASING, BIAS TEMPATAN, PERTUMBUHAN EKONOMI DAN KORELASI PULANGAN**

Oleh

**LEE PEI LING**

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Dengan menggunakan 650 pasangan negara dari tahun 2001 ke 2014, kajian ini mengkaji jika nilai budaya kepercayaan mempengaruhi bias ekuiti asing. Ini adalah kerana, kepercayaan, aspek yang paling penting dalam permodalan social diabaikan bila mempertimbangkan kegentingan risiko dan ketidakpastian yang melibatkan pelaburan asing. Hasil penyelidikan adalah penemuan baru mengenai perhubungan antara kepercayaan dan bias asing. Keputusan pelaburan asing bergantung terutamanya kepada kepercayaan umum yang diamanahkan kepada sesebuah negara asing. Sepertimana yang dinyatakan, masyarakat yang memiliki nilai budaya kepercayaan rendah akan lebih bias terhadap negara asing. Walau bagaimanapun, tidak ada bukti yang menyatakan bahawa negara-negara yang mengamalkan budaya individualistik memaparkan kecenderungan terhadap ekuiti asing. Halangan kewangan yang tradisional seperti bias tempatan, jarak geografi, pembangunan kewangan, sama-sama ahli Kesatuan Kewangan dan Ekonomi Eropah – merupakan antara perkara ketara yang menjelaskan bias asing berdasarkan kesan rawak daripada model tobit. Keputusannya adalah teguh walaupun menggunakan kaedah dan prosedur anggaran yang berlainan. Tambahan pula, memahami kemajuan bias tempatan amat penting untuk memahami lebih baik integrasi pasaran kewangan sejagat. Objektif penyelidikan kedua adalah untuk mengkaji kesan bias tempatan terhadap pertumbuhan ekonomi dengan menggunakan panel berdinamik mengenai teknik penganggaran untuk sampel 25 negara. Bias tempatan, yang mempunyai kecenderungan untuk melabur lebih di bursa saham domestik, adalah dicadangkan sebagai proksi untuk integrasi kemajuan kewangan. Pengurangan bias tempatan didapati mempercepatkan pembangunan ekonomi. Dalam hal lain, negara yang mempunyai perkembangan tenaga buruh yang lebih tinggi, keterbukaan perdagangan yang lebih tinggi dan turun naik kadar pertukaran yang lebih rendah menikmati kadar pertumbuhan yang lebih tinggi. Objective terakhir adalah untuk menguji kesan indeks kepekatan portfolio terhadap korelasi pasaran saham. Hubungan antara rangkaian pasaran saham dan kepekatan portfolio akan diselidik bukan sahaja untuk memperoleh pelbagai faedah tetapi juga lebih memahami kelemahan negara yang tertakluk dalam jangka masa krisis kewangan sejagat. Penemuan empirikal mendemonstrasikan bahawa beza purata kepekatan portfolio antara krisis dan bukan krisis amat ketara semasa korelasi pasaran saham. Indeks kepekatan portfolio, kadar faedah sebenar pengkamiran, hasil perindustrian

pengkamiran pertumbuhan, dan saiz pasaran saham pengkamiran adalah penting dari segi statistik dalam mempengaruhi korelasi pulangan saham dengan meggunakan model kesan tetap untuk sampel 25 negara pelaburan dan 27 negara penerima pelaburan dari tahun 2001 hingga 2014.



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I certify that a Thesis Examination Committee has met on 23 October 2017 to conduct the final examination of Lee Pei Ling on her thesis entitled "Economic Analysis Between Foreign Bias, Home Bias, Economic Growth and Return Correlation" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy. Members of the Thesis Examination Committee were as follows:

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## LIST OF ABBREVIATIONS

AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
EMU	European Economic and Monetary Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMM	Generalized Method-of-Moments
IMF	International Monetary Fund
ICAPM	International Capital Asset Pricing Model
ICRG	International Country Risk Guide
M&A	Mergers & Acquisitions
MSCI	Morgan Stanley Capital International
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
TFP	Total Factor Productivity
WGI	Worldwide Governance Indicators
WVS	World Values Survey

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Chapter 1 lays out the background of the research topics of interest and states the problem tackled respectively in Sections 1.2 and 1.3. Research questions and specific objectives are then developed based on the research problem. Justifications of the research are articulated at the end of the chapter.

### 1.2 Background of the Study

Since investors who hold home-biased portfolios face country-specific risk that cannot be diversified at national level, they can maximize their utility by diversifying their investment abroad. Foreign investment is less likely to be affected by changes in business and political climate in the domestic economy. Additionally, it yields higher returns with a given level of risk. However, extant research continues to show investors' stronger preference towards domestic assets. Investing public does not invest their money optimally across countries, but tend to under- or over-invest in certain foreign markets (Chan et al., 2005; Lau et al., 2010).

While the tendency of investors to invest disproportionately larger wealth in local securities is known as home bias, the differing preference and weightages domestic investors place in each foreign market is referred to as the foreign bias (Beugelsdijk and Frijns, 2010). The home investment preference contradicts the standard asset pricing theory where investors should have equal access to information and market functions perfectly (Beugelsdijk and Frijns, 2010). The existence of home bias and foreign bias implies investors hold suboptimal investment portfolios. These biases reduce global risk sharing and suggest market segmentation (Sorensen et al., 2007).

Under-diversification in foreign equity is not just a choice. Investors do not treat foreign investment as one category. Some foreign markets are given more weights in relation to portfolio investment over other countries. Of particular interest are the factors inducing disproportionate investment in foreign countries. Foreign markets differ from one another based on country-specific characteristics such as economic development, stock market development, transaction cost, and capital mobility.

A new and growing research attributes asset allocation bias to behavioral finance explanations along traditional economic lines (see Beugelsdijk and Frijns, 2010; Morse and Shive, 2011). Previous studies on cultural explanation of asset allocation bias have

generally been focused on Kogut and Singh's (1988) cultural distance (1988), Hofstede's (2001) cultural dimension, and patriotism. Trust, which is the most important component of social capital, should be considered as separate influence emanating from cultural differences in people's interaction with others and their decision making.

Additionally, there is an on-going interest on deepening financial integration. Financial integration refers to high capital mobility as well as to the removal of explicit and implicit barriers with regards to international investment. Similar-risk stocks should be priced similarly if equity markets are highly integrated (Bekaert et al., 2002). Integration enhances international risk sharing through a diminution in consumption volatility, consequently raising financial stability, which in turn leads to higher economic growth. Moreover, financial integration augments domestic investment.

Global stock markets are perfectly integrated when all barriers to cross-border investment such as transaction cost, information cost, and cultural bias diminish. Traditional economic theories predict as countries become more integrated, stock returns variability should get smaller, cross-border investment is expected to rise, and home bias should fall (Borensztein and Loungani, 2011). Evidently, greater financial integration can be seen within the Eurozone. The establishment of single currency and financial market results in integration of money market and credit market. Market integration leads to sharp declines in transaction cost and information cost associated with trades in financial assets.

In spite of the vast theoretical advantages of international integration, financial integration-growth nexus is vague, in particular for developing countries (Eichengreen, 2001). Home bias measure offers an indirect indicator of financial market integration. The ratio reflects a divergence from optimal portfolio equity holdings to domestic stocks, such that a higher degree of home bias indicates non-optimal investment and, therefore, a less integrated stock market with the rest of the world.

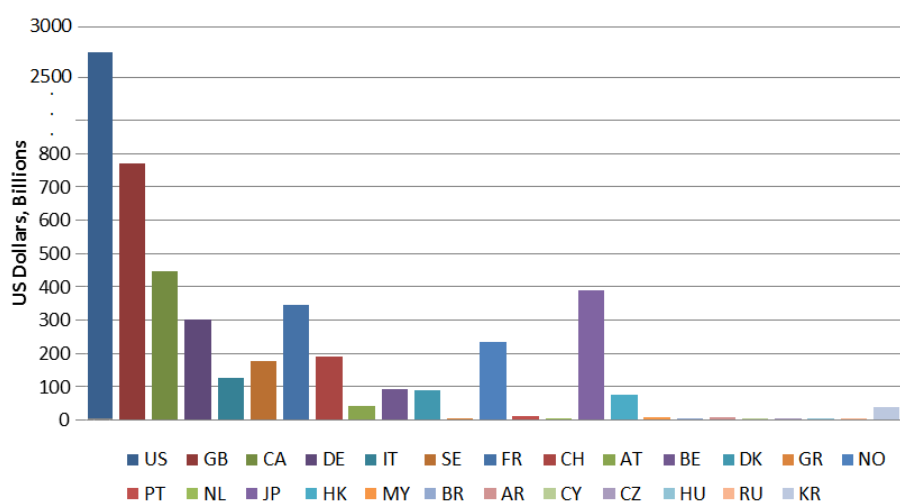
The use of home bias measure to gauge the extent of integration is sensible because the greater the over-investment in domestic stock market, the greater the influence of local factors and idiosyncratic risk on domestic stock returns. On the other side, the lower the degree of home bias, the higher the degree of integration of national stock markets. A study is, thus, warranted to examine the growth effect of home bias.

On the flip of the coin, greater integration among stock markets may increase the risk of spillover in times of market turmoil. Financial crisis can be extended to neighboring countries and regional partners maintaining stronger financial linkages. Although extant studies note home-biased portfolios experience higher economic deadweight costs, the benefits of optimal international diversification remain inconclusive and unappreciated by domestic investors. It is because financial contagion and volatility spillover negate the benefits of holding international diversified portfolios. It erodes the confidence of investors who intend to hold the global portfolio.

Home countries which invest more heavily in a particular subset of foreign counterparties might experience increased correlation in stock returns, particularly during global financial crisis. Increased equity market correlation potentially elevates financial spillovers. The effect of portfolio concentration on stock market correlation is less well-researched, with the exception of Shinagawa (2014). It is interesting to investigate whether the degree of portfolio concentration has effect on cross-market linkages.

### 1.3 Foreign Bias

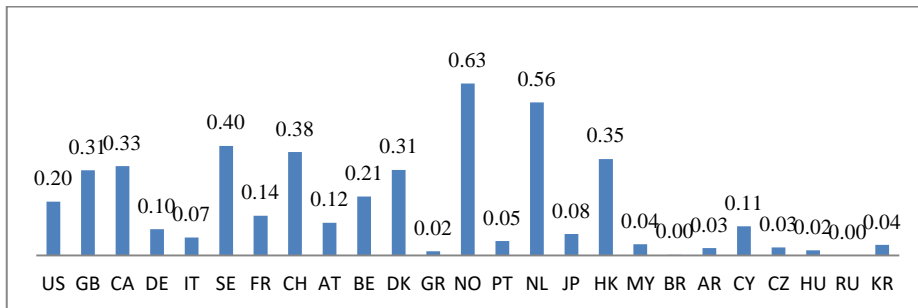
Foreign portfolio equity investment is referred to as the holdings of less than a 10% of ownership in a public company listed in a foreign country. Figure 1.1 provides an overview of the average values of the aggregate foreign portfolio equity investment made by 25 investing countries for 2001-2014. The figure below reveals that outward foreign equity investment is, on average, higher in developed countries, notably the United States, United Kingdom, Canada, Japan and France. The largest equity investor is the United States, with international equity position of \$2749 billion.



**Figure 1.1: Average Values of Total Foreign Portfolio Equity Investment Made by Investing Countries over 2001-2014**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund)

One of the important features of financial integration is an increase in the foreign portfolio equity investment-to-GDP ratio of a country. Figure 1.2 shows higher portfolio equity flows from developed markets like Norway, Netherlands, and Hong Kong SAR, China. On the other hand, less developed countries such as Hungary, Russia, Argentina, Brazil and Malaysia record lower outward private capital flows.



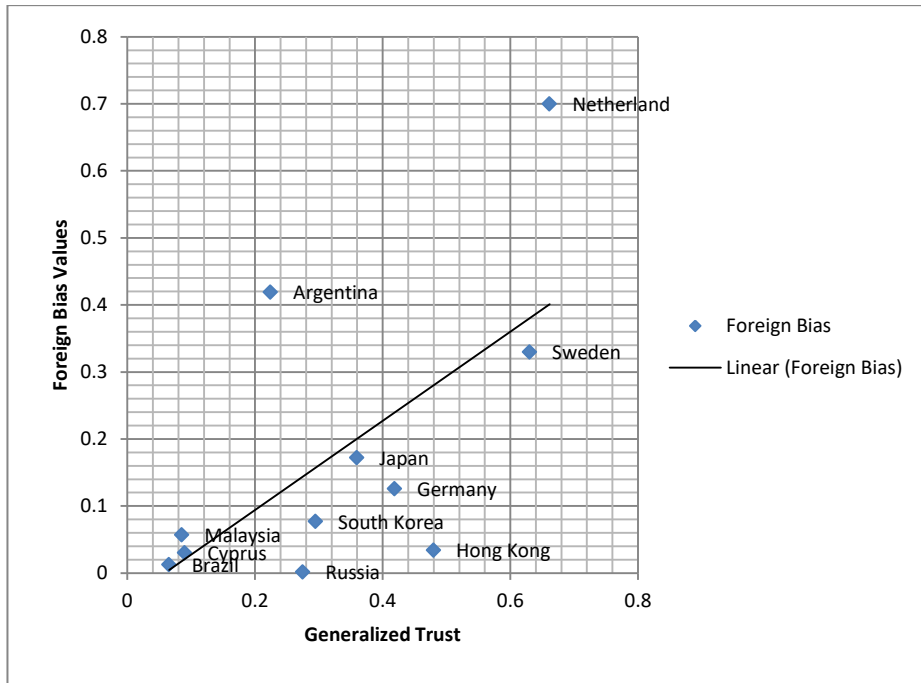
**Figure 1.2: Average Ratios of Foreign Portfolio Equity Asset to GDP of Investing Countries for 2001-2014**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund, World Development Indicators)

Nonetheless, underrepresentation of foreign equities in a country's portfolio cannot be detected without comparing its foreign portfolio equity holdings to the optimal market weights. The difference between the foreign shares in the aggregate equity portfolio and the optimal portfolio weightage indicate the extent of foreign bias. Specifically, foreign bias, which is the tendency to over- or underinvesting foreign equities, is computed by averaging foreign bias of country  $i$  towards country  $j$ . A positive foreign bias value suggests overinvestment; a zero value indicates no bias and a negative value implies underinvestment in a particular foreign country's equities.

Recently, a number of studies look at behavioral heuristics in foreign equity allocation (Beugelsdijk and Frijns, 2010; Niszczoła, 2013). The trust element, which is found important in cross-border mergers and acquisitions (M&A), has been neglected in investigating foreign bias.

To gain an intuitive impression of the correlation between trust and foreign bias, Figure 1.3 depicts generalized trust and foreign biases of various countries towards the United States based on the latest survey wave between 2010 and 2014 collected by World Values Survey (WVS). Generalized trust captures whether people believes most people can be trusted or not.



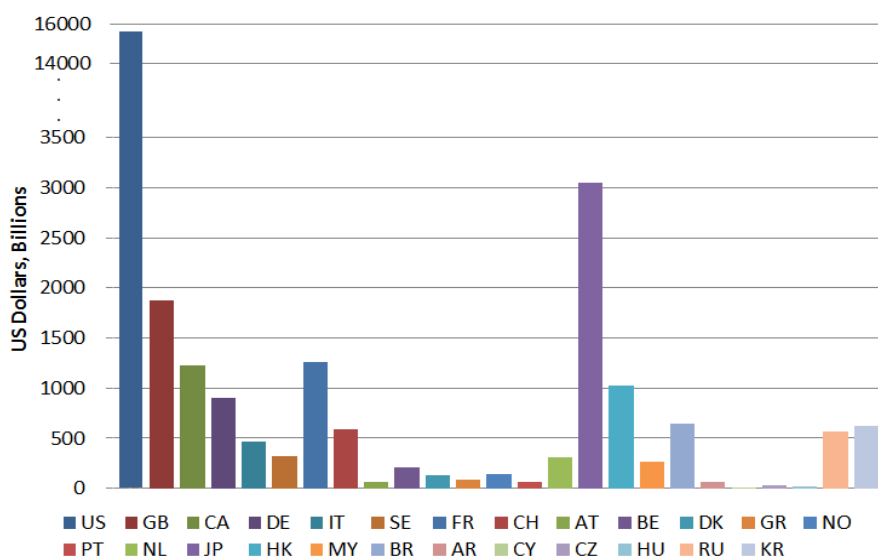
**Figure 1.3: Trust and Foreign Bias Values of Various Countries towards the United States**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund, World Values Survey)

It shows the most trusting countries, Netherlands, has the highest amount of portfolio equity investment in the United States, reflecting a country that is more trusting of others have stronger preference to invest in foreign stocks. By contrast, Brazil, which is observed to have the lowest degree of trustfulness, shows the least amount of foreign equity investment on average for 2001-2014.

#### 1.4 Home bias

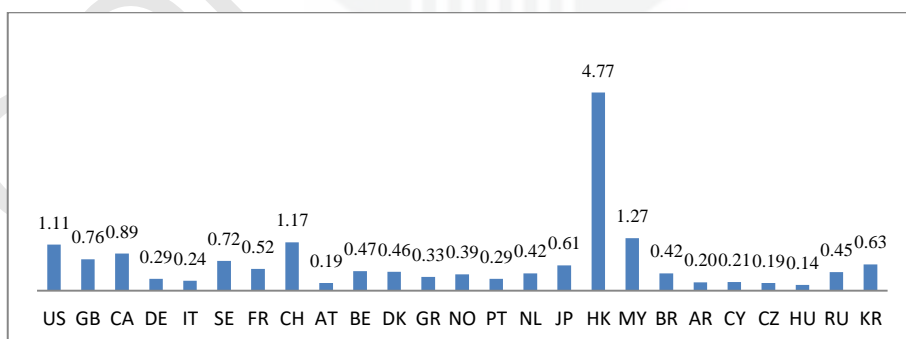
Domestic portfolio equity investment refers to the holdings of less than a 10% of shares in a publicly traded company listed on the domestic stock exchange. Figure 1.4 exhibits the average values of the aggregate foreign portfolio equity investment for 25 investing countries for 14-year sample period. Based on the figure, it is observed United States has the highest domestic investment in portfolio equity (\$15599 billion), while Cyprus invests the lowest amount in domestic equities, with a mere \$4 billion.



**Figure 1.4: Average Values of Total Domestic Portfolio Equity Investment Made by Investing Countries over 2001-2014**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund)

Figure 1.5 illustrates the average ratios of domestic equity shares to GDP of home countries over 14 years. It can be seen that Hong Kong has the highest domestic equity holdings to GDP on average, which is 4.77. The domestic equity shares is calculated as the difference between total market capitalization of domestic listed companies and total shares held by foreign investors. The data are sourced from Coordinated Portfolio Investment Survey. The average ratio of domestic equity asset to GDP of Hong Kong is large, possibly due to Hong Kong has sizeable market value relative to its GDP and foreign portfolio equity liabilities.

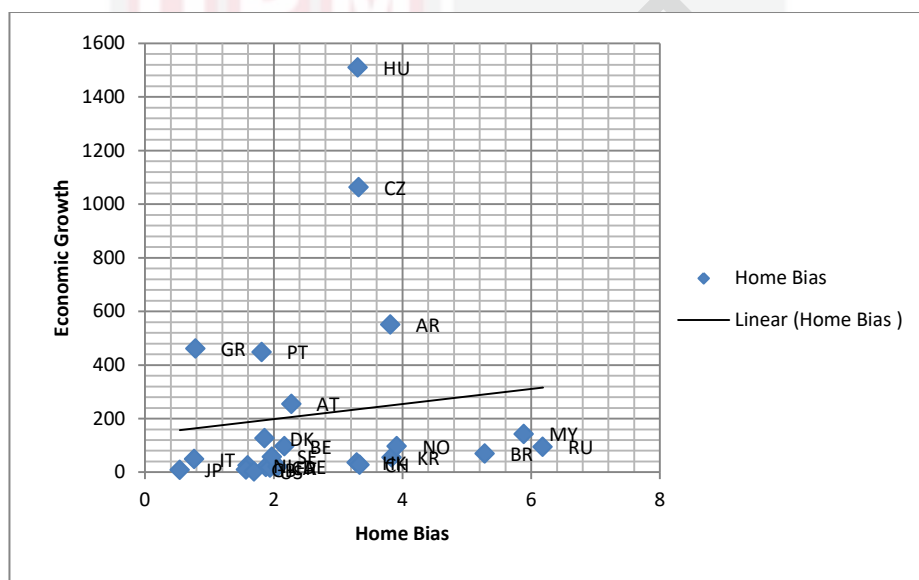


**Figure 1.5: Average Ratios of Domestic Portfolio Equity Asset to GDP of Investing Countries for 2001-2014**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund, World Development Indicators)

Further, home bias refers to the tendency of investors to invest disproportionately larger wealth domestically. It is measured as the domestic portfolio equity holdings to the market weight of the domestic country in the world market portfolio. According to De Santis and Gérard (2006) and Pungulescu (2015), if an equity market is fully integrated with the world market, home bias should fall. Declining home bias is associated with greater financial integration and is deployed to assess the integration-growth nexus in this study.

To obtain an intuitive understanding of the relationship between home bias and income disparities across countries, Figure 1.6 exhibits the scatter plot of the home bias and economic growth. However, the scatter diagram below does not show a negative slope as expected. From the figure, Japan has a lower home bias, showing Japanese stock market is more integrated with the world capital market.



**Figure 1.6: Home Bias and Economic Growth**

(Source: Calculated from the Coordinated Portfolio Investment Survey of the International Monetary Fund, Penn World Table 8.0 and 8.1)

## 1.5 Correlation between stock markets

Financial market integration is a broad concept and can be referred to as the integration of bond markets, money market or equity market. This research study limits the scope to stock market integration. It is expected that stock returns are impacted by idiosyncratic or country-specific risk. Hence, testing of correlation between stock markets can be an indirect test of the effectiveness of portfolio diversification motives.



It is widely accepted that international portfolio diversification minimizes risk and increases portfolio return accrued to investors. Diversification gains occur when the returns of two securities are negatively correlated (Markowitz, 1952). As world equity markets become increasingly integrated, the benefits of risk diversification through investing in foreign markets diminish. Stock market linkages can be captured by co-movement in asset returns and spillover volatility (Wanigasuriya, 2013). Methods that are used extensively include Generalized Autoregressive Conditional Heteroskedasticity, probit, co-integration, and pairwise correlation coefficients.

It is crucial to distinguish between stock market correlations with financial contagion. Financial contagion is defined as transference of common financial shocks from the origin country to other countries around the globe via certain transmission mechanisms and channels (Wanigasuriya, 2013). Financial shocks result in inefficient allocation of capital. Funds are not allocated to the parties who have optimal and feasible investment opportunities. Notably, contagion only occurs when cross-country correlation significantly rises after the crisis period (Wanigasuriya, 2013). Financial spillover can be triggered by real and financial linkages between two markets.

However, if the two stock markets are strongly linked even during normal period, increased stock return correlation merely an indication of a continued correlated relationship that existed before crisis (Wanigasuriya, 2013). Further, higher correlation or co-movement in stock market returns across countries suggests non-existence of international diversification opportunities.

Brushko and Hashimoto (2014) propose countries that are more geographically diversified in their foreign portfolio equity holdings react more strongly to the changes in macroeconomic triggers compared to high-concentration countries. Moreover, Shinagawa (2014) suggests high-portfolio concentration countries may earn higher returns from their foreign investment and the return earned help to contain the financial spillover. It is interesting to assess whether portfolio concentration significantly affect equity market correlation, especially in times of financial crisis, while controlling for macroeconomic fundamentals such as inflation, real interest, industrial production growth, output growth and stock market size.

## **1.6 Problem Statement**

In 1990, Robert Lucas observed little capital flows from industrialized countries to developing countries. This contradicts the diminishing returns of capital suggested by the standard neoclassical model. The “Lucas Paradox” is related to major puzzles in international economics for instance, the asset allocation puzzle.

While the over-investment in domestic assets is known as the home bias, the issue of investors showing differential investment preference towards foreign countries is referred to as foreign bias. There are numerous benefits for holding an internationally

diversified portfolio. Systematic risk, such as changes in business climate, interest rates, GDP and inflation are country-specific which cannot be diversified if investors hold a home-biased portfolio. Investors can maximize their returns at given risk by investing in foreign stocks. It is puzzling domestic investors continue to invest larger proportion of their wealth in domestic securities and under-or over-invest in foreign countries, despite increasing financial globalization and easing investment barriers.

The explanations of home bias and foreign bias have generally been focused on gravity effects (geographical distance, stock market size and gross domestic product (GDP) growth), information cost and familiarity (shared legal origin, language and border, trade linkage), transaction cost, capital control and institutional strength (see Chan et al., 2005; Berkel, 2007). The inclusion of cultural variables explicitly in modeling foreign portfolio investment pattern is relatively recent. Some of the studies employ cultural dimension in Hofstede (2001) and cultural distance in Kogut and Singh (1988) (Beugeldisjk and Frijns, 2010; Diyarbakirlioglu, 2011; Aggarwal et al., 2012) in investigating foreign bias, while, Morse and Shive (2011) emphasizes the importance of patriotism in driving observed home bias effect.

However, trust, which is the most pivotal component in social capital, is neglected in the studies of foreign portfolio bias. Financial contracts and economic transactions mostly take place between strangers and depend largely on generalized trust placed in strangers. Trust reflects social cohesion and unity. In some cultures where people are more trusting of others, they are more willing to acquire or dispose equity stakes. The study on the role of trust in the context of foreign portfolio investment is dearth (Guiso et al. 2009), notably institutional trust. Investors from high trusting society may view foreign investment as less risky than they actually are. It is noteworthy to assess whether trust exerts influence over the financial outcome in global stock markets.

Apart from that, economic growth is one of the issues garnering most interest and generating intense debate in the field of economics. Traditionally, it has been indicated economic growth is driven by physical investment and labor. As time evolves, large volume of growth empirics show several contrasting theme, different variables are found to explain cross-country divergence in growth rates, including human capital, politico-institutional variables, social capital, foreign direct investment (FDI), financial integration and the like.

Elevated financial integration through lifting restrictions on capital propels countries to coordinate their economic policies and to adopt sound macroeconomic policies resulting in collective economic growth. Nevertheless, there is unsettled debate on the relationship between financial integration and economic growth due to the different proxies of market integration used in prior research (see Pungulescu, 2015).

Financial liberalization that proxied by a binary variable of capital flow restrictions from IMF captures a singular aspect of market integration (Pungulescu, 2015). The measure is flawed in the sense it only captures initial phase of market integration. Nonetheless, financial integration is a continuing process, rather than a one-time event.

Academic studies on the relationship between financial integration and growth have been incongruent calling for other proxies for capital account liberalization or integration. Nevertheless, the study of the influence of home bias as one of the determining factors of growth has been barely considered. Home bias exists in all countries regardless of their economic development. The persistence of home bias is an evidence of international barriers which hinder financial market integration. Global stock markets are perfectly integrated when all barriers to cross-border investment such as transaction cost, information asymmetric, and cultural bias are eliminated.

Home bias encapsulates a more advanced stage of integration. A vast amount of research has been dedicated to explain the effect of financial market integration on output growth (Levine and Zervos, 1996, 1998; Henry, 2000). Only a very few studies use home bias as a proxy for integration (Pungulescu, 2015). Therefore, this study investigates whether home bias affects per capita real GDP growth. In addition to that, the reverse causation between home bias and economic growth is addressed using two-step system GMM estimator.

Increasing international integration may stimulate economic growth (see Bekaert et al., 2001, 2005; Longin and Solnik, 1995). However, on the other hand, stock market correlation brings about fears of financial contagion. When the degree of stock market correlation grows, any upheaval in global financial markets can spread rapidly to the regional and domestic stock markets. Global financial meltdown once again brings the issue of cross-market linkages to the forefront.

Policy makers and academics cast doubts on the merits of stock market correlation in the aftermath of the global financial crisis. Bhagwati (1998) asserts foreign capital flows create panic and potentially brings a destabilizing effect on domestic stock bourse. During the periods of financial turbulence in 2007-2009, which affected the US and European financial intermediaries, foreign portfolio flows turned away and pulled out from many countries.

Evidently, investing countries with higher concentration in its international portfolio holdings, respond differently, with regards to low concentration countries, to changes in macroeconomic variables before and during the 2007-2010 financial crises (Brushko and Hashimoto, 2014). Extant research concentrates on the economic fundamentals, global economic factors and equity market development in explaining stock market co-movement (Bracker et al, 1999; Bekaert et al. 2002; Pretorius, 2002). Empirical studies on the relationship between portfolio concentration of the investing country and stock market links are rather limited, with the exception of Shinagawa (2014). However, Shinagawa (2014) takes no account of macroeconomic triggers in investigating stock return correlation. The current research determines whether portfolio concentration explains the degree of stock market correlation. Hence, the following research questions are formed:

- Is trust significant in determining foreign bias?
- Is home bias significant in explaining economic growth?
- Is portfolio concentration associated with equity market correlation?

## 1.7 Research Objectives

Generally, this study aims to analyze the allocation bias in foreign portfolio equity and its impact on economic growth and correlation in stock returns. In order to achieve these, the specific objectives are:

1. To examine the impact of trust on foreign bias in selected developed and developing countries.
2. To investigate the impact of home bias on economic growth in selected developed and developing countries
3. To test the effect of portfolio concentration index on market correlation.

## 1.8 Significance of Study

Formal institutions, including information cost, transaction cost, capital control and institutional quality can only explain part of the foreign equity bias. Earlier research papers measure culture indirectly using proxies like language (Chan et al., 2005), legal origin (Berkel, 2007) and geographical distance. However, culture should be measured explicitly in terms of shared values and belief in a society as argued by Beugelsdijk and Frijns (2010). Trust is the fundamental and the most important component in social capital. The trust element, which is crucial in portfolio choice, considering high uncertainty and risk perception associated with foreign stock investment, is neglected.

Hence, the thesis contributes to the growing field of cultural research by including generalized trust and institutional trust beyond the basic paradigm of foreign equity bias in order to provide a more nuanced understanding of cultural biases in international portfolio flows. By uncovering trust aspects that affect investors' allocation overseas, this study provides empirical evidence stating foreign bias is explained not only by rational portfolio choice but also by behavioral finance heuristics. Moreover, examination of foreign bias is pertinent for asset pricing. Understanding the factors of foreign bias helps explain large re-allocation of financial resources worldwide.

Furthermore, monitoring the evolution of asset allocation bias is essential in understanding financial market integration. The association between financial integration and economic performance is not supported unanimously in extant literature. The issue engendered continual debate due to different measures of financial integration used in growth regression. Existing de jure and de facto measures do not capture all aspects of financial integration (Pungulescu, 2015). For instance, the binary variable measuring whether the economy is opened or closed captures the initial phase of market integration. There is a scant study using home bias as a proxy for equity market integration, except Pungulescu (2015).

In view of these, the thesis contributes to the extant literature by considering home bias as an intuitive measurement of financial integration in investigating cross-country differences in economic growth. The analysis involves weighting domestic portfolio assets holdings against the optimal investment indicated by International Capital Asset Pricing Model (ICAPM). Home bias measure reflects the degree of which the country is effectively integrated in the world capital market and provides more information relative to total portfolio flows and Chinn-Ito index that are commonly used in the literature.

This research contributes to the continuing debate on the relationship between financial integration and economic prosperity by deploying a finer quantitative measure of integration. It employs rule-based measure of financial liberalization in addition to home bias to understand differences in growth performance across countries. Declining home bias is associated with greater financial integration in earlier papers (Adam et al., 2002; De Santis and Gérard, 2006; Baele et al., 2007; Pungulescu, 2015). It is a signal financial integration is not perfect (De Santis and Gérard, 2006). This research uncovers the relationship between overinvestment in home assets and growth performance by addressing the potential endogeneity bias of home bias and economic growth using cross-country panel.

Besides that, this study contributes to the current body of research; analyzing which type of investment strategy (high or low investment concentration) induces greater stock market co-movement. The decision to concentrate investment in certain foreign countries compared to others, shapes the geographical preference of an investing country. Since increased stock market correlation may lift spillover risk, an investigation into the link between concentration in portfolio holdings and stock market correlation may help to understand the mechanisms responsible for the propagation of external shocks during financial crisis.

The results are of direct interest to policy makers and financial market regulators to evaluate the effect of equity portfolio concentration on stock price movement. Besides, investors will be able to allocate capital to their most efficient uses, with better integrated stock markets. Degree of market correlation affects financial stability and global diversification. Policymakers can determine the flow and resources between stock markets in the world.

Additionally, the findings provide empirical insight to investors and portfolio managers as to whether invest evenly in foreign markets or invest heavily in a subset of foreign countries. The study of correlation between financial markets is a central issue in finance as it has critical implication on portfolio risk management. This research sheds light to the recent debate of the declining benefits of foreign portfolio diversification.



## 1.9 Structure of the Thesis

Chapter 1 provides the overview of the three specific topics, which are foreign bias, financial integration on economic growth, and portfolio concentration on stock market correlation. The problem statement is discussed and the research questions are formulated in Section 1.6. The research questions are answered by the three objectives formed in this study. Lastly, the significance of study are highlighted and shown at the end of Chapter 1.

Chapter 2 reviews both theoretical and empirical literature about the determinants of foreign bias. The impact of trust variables on foreign equity bias, too, which is the hypothesis of interest in this research, is discussed in the chapter. In addition, the factors of economic growth found to be significant in prior empirical works are reviewed. The importance of financial integration and economic integration on growth are discussed. Theoretical predictions, with regards to equity market correlation, are presented along with prior empirical evidence on factors of return co-movement.

Chapter 3 describes variables, sample selection procedures and data sources. Besides that, the econometric specification and research methods are shown in this chapter. Chapter 4 presents the regression results on foreign bias by deploying the random-effectstobit model. Then, the determinants of economic growth are uncovered by employing the dynamic generalized method-of-moments technique (GMM). This is followed by the discussion of results on stock market correlation using static panel model. A series of robustness tests are conducted to ensure a more rigorous validation of the regression models.

Finally, Chapter 5 contains the conclusion. Policy implications are, also, given. The chapter discusses the caveats of this research and suggests a direction for future studies at the end.

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