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Home Equity Bias: The Downward Trend

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Abstract: The aim of this paper is to empirically explore the factors that contribute towards lessening of home equity bias or increase in foreign diversification. Using the foreign diversification of nine developed countries over a period of fifteen years and studying the effects of six influential variables in this regard, we have tried to understand some aspects of the home equity biasness. We have seen that home equity bias is a phenomenon that is becoming extinct now, with investors diversifying their portfolios internationally. Our panel regression (random effects) results estimate that trade openness and easy access to information are two of the main reasons that have majorly contributed towards lessening of home equity bias.

Key words: Home Equity Bias · Foreign Diversification · Behavioral Finance

INTRODUCTION

Finance, as a field, has grown by leaps and bounds over the years. Its models, techniques and their implications have been widely researched and are being benefitted from. But there have always been some assumptions, conditions and restrictions associated with the applications of the finance models and techniques which need to be adhered to, while discussing and implementing the models. Standard finance does not incorporate the human element into its practices. For example, finance theory supports a portfolio to lie on the efficient frontier; but investors' preferences vary and as a result the portfolio might shift from the frontier in certain cases. This makes an argument that as long as an investor's self is satisfied and along with it their financial goals are met, any financial strategy and program is worth using. Christelis, Jappelli and Padula [1] argued that cognitive abilities of the investors, being closely related to process information abilities, strongly affect their financial choices.

Many individual biases (cognitive and emotional) related to investors and their investment perceptions have been well documented and researched in finance literature. A lot of puzzles exist in the international macroeconomics. Obstfeld and Rogoff [2] have identified six of these puzzles; home bias in trade puzzle[1], Feldstein-Horioka puzzle[2], home bias portfolio puzzle[3], consumption correlations puzzle[4], purchasing power parity puzzle[5], exchange rate disconnect puzzle[6]. With the evolution of economic and financial integration, international diversification is expected to increase. International capital markets have expanded with the passage of time, but still investors prefer their home assets and stocks [3-5].

International diversification allows the investors to manage risks and obtain high gains from their investments. Levy and Sarnat [6] emphasized on international diversification in order to achieve high returns with low risks. Grubel [7] and Grauer & Hakansson [8] have suggested that by adding foreign securities, investment portfolio risk can be minimized.

[1]Strong preference for consumption of home goods
[2]Current-account imbalances tend to be so small relative to saving and investment when measured over any sustained period
[3]Preference of home investors to hold home equity
[4]Small consumption correlation between countries
[5]The half-life of real exchange-rate innovations is three to four years
[6]Exchange rates being volatile and apparently disconnected from fundamentals

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Table 1: Foreign Diversification of Individual Countries

Country	1995	2002	2009
Australia	35.78	46.54	58.57
Canada	54.03	43.21	25.36
France	75.68	117.52	186.71
Germany	118.27	229.91	348.74
Japan	21.5	47.92	60.78
Netherlands	55.55	175.87	295.35
Switzerland	60.66	72.38	73.61
United Kingdom	49.87	78.49	156.82
United States	19.38	23.48	56.32

Note: Foreign diversification is multiplied by 100 for the ease of comparison.

Heston & Rouwenhorst [9] and Griffin and Karolyi [10] have also provided mentioned several advantages of cross-country diversification. International investment has increased, significantly, over the last two decades or so. Financial market deregulation, capital control relaxation and better information have all yielded to an increase in foreign diversification (investors' international equity holding). The risk of an investment can also be reduced by internationally diversifying the portfolio [8].

But being aware of the significance and advantages of international diversification, limited instances have been observed where investors prefer equity diversification. French and Poterba [3] observed that the Americans and Japanese held 94% and 98% of their equity wealth at home. Tesar and Werner [5] showed that the home equity home bias has declined by 1995, with 10% of the U.S. equity invested abroad; but still this international diversification was not as much as it should have been. Shapiro [11] calculated the monthly returns of different portfolios having US and non-US equities. After the analysis of the whole data, it was deduced that the optimal returns were of the portfolios having 40% investment in non-American equities and 60% investment in the American equities.

Home equity bias is the name given to the behavior of the investors to invest in home equities and not internationally diversifying their portfolios, although the gains of international diversification are well-documented [7, 12]. This bias is traditionally documented to be quite high; but in the recent years, it has decreased reasonably [13].

As shown in Table 1, foreign diversification has increased by reasonable limits from the year 1995 to the year 2009. This means that the investors now prefer to hold international equities in order to diversify their portfolios. The phenomenon, called the home bias, has reduced significantly nowadays.

Several attempts have been made to resolve the home equity bias puzzle. Capital immobility [14-16], internationally, has been one of the hypothesized reservations contributing towards the bias; information immobility being another. But both these hypotheses seem to be odd, considering significant capital flows among countries and information technology making easier access to information all around the globe. Ideas like better information about the domestic markets and additional costs associated with international diversification are widely available in the existing literature [17-20]. Black [21] and Stulz [14] have developed equilibrium international asset pricing models, explaining home bias in terms of transaction costs and tax barriers to international capital flows. Lewis [22] specified some reasons for home equity bias. The first point she described was that the home equities provide greater hedge against the risks of the home country. Secondly, the costs of international diversification are greater than their gains. Low [23] and Gehrig [17] termed asymmetries in available information as the main cause of the home equity bias. Because the investors have to bear greater cost for the collection of information about the foreign country's stocks than that of home country's stocks, they exhibit home equity bias. The culture, language difference and the poor corporate governance of the host foreign country are the lags of the asymmetries of the information between the domestic and the foreign investors.

There are two contrasting views with regard to foreign diversification. One view propagates an international diversification strategy based on the fact that it reduces risk whereas the other viewpoint also mentions the additional risk associated with investments abroad. According to Rockefeller [24], such additional risks get amplified in emerging markets where reporting/accounting standards are not enforced and investors are not protected. Some of the other associated risks with international investments are country specific risks such as currency risk, lack of trade openness and political uncertainty. Stock market liberalization in the early 90s for most of the emerging economies opened a gateway to foreign investors and thus proved to be a blow to home equity bias. It is also argued that the systemic risk[7] reduces with the international diversification as portfolios now are related with different markets having different structures.

[7]Risk that is related to the whole system or market.

Literature contains various factors affecting foreign diversification including information immobility, capital immobility, information costs, transaction costs, etc. This paper analyzes foreign diversification with reference to six different factors for nine developed countries (Australia, Canada, France, Germany, Japan, Netherlands, Switzerland, United Kingdom and United States). These six factors include country's market share of world capitalization, the difference between the returns (annual) of local market index and the world market index, the share of imports and exports in Gross Domestic Product (GDP), information and emerging markets' share in world capitalization. Although most of the factors impacting the home equity bias are well researched in literature, we believe that the election period dummy (created to capture the impact of election period) has not been checked for its impact on home bias. We believe that election periods in a country also play crucial factors in the lessening of home equity bias due to uncertain results and the scenario that is expected to prevail in the time to come, although this situation may impact home equity and prevail over a shorter horizon. We propose that a political change in a country makes an investor reserved over his investments in the home country. The investor is not sure about the policies that will be undertaken by the new political setup. For this reason, he/she prefers investing in foreign portfolios in order to avoid risk. So, this political instability (change in the political setup of the country – elections) leads to an increased international diversification.

Information advantages have been identified as one of the potential explanations to international equity flows [18], international consumption correlation puzzle [25], fluctuations in exchange rate [26] and the own-company stock puzzle [27]. Ahearne, Griever and Warnock [28] have also suggested that information cost (indirect barrier to international investment) is a significant factor behind a home bias.

The behavioral aspect of an investment also plays a vital role in deciding to invest locally or abroad. When an investor sees positive responses from international markets, he is bound to develop a mindset to invest in those securities (keeping other factors constant). Emerging markets have evolved significantly over the past years and significant investments are made in these markets now. These investments, as compared to investments in mature markets, are generally considered to be quite un-risky and expected to result in better returns because of the available market potential [29].

Research Methodology

Foreign Diversification: Foreign Diversification (dependent variable) was calculated by using the following formula from Amadi [13]:

$$\text{Foreign Diversification of a Country, } FD_{xt} = \frac{FEA_{xt}}{SMCAP_{xt} + FEA_{xt} - FEL_{xt}} \quad (1)$$

where,

FEA_{xt} = Foreign Equity Assets held by the country x at year t

FEL_{xt} = Foreign Equity Liabilities of the country x at year t

$SMCAP_{xt}$ = Stock Market Capitalization of the country x at year t

Empirical Specification: In this paper, we have taken several factors that influence foreign diversification. Our empirical specification is:

$$Fd_{xt} = \alpha + \beta_1(MWCAP_{xt}) + \beta_2(RDWLI_{xt}) + \beta_3(SIEGDP_{xt}) + \beta_4(Information_{xt}) + \beta_5(SEMCAP_t) + \beta_6(PI_{xt}) + trend + \varepsilon_{xt} \quad (2)$$

where,

$MWCAP_{xt}$ represents the country's market share of world capitalization. International Capital Asset Pricing Model needs investors to diversify their portfolios according to the country's share of world market capitalization, so this factor should have a significant relationship with foreign diversification.

$RDWLI_{xt}$ represents the difference between the returns (annual) of local market index and the world market index. This variable is included to see if the investors increase their foreign diversification based on the performance of the foreign markets. This variable also helps us in checking the mindset of the investor, whether he follows trends or changes mind due to a positive shift in the foreign market's returns.

$$RDWLI_{xt} = \text{Local Market Return} - \text{World Market Return} \quad (3)$$

$SIEGDP_{xt}$ represents the share of imports and exports in Gross Domestic Product (GDP). It is a measure of the willingness of an investor to invest using foreign portfolios. $SIEGDP_{xt}$ has a significant influence on foreign diversification [30].

$$SIEGDP_{xt} = 0.5[\text{Imports} + \text{Exports}] / GDP \quad (4)$$

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Minimum	Maximum
FD	135	0.827	0.851	0.164	6.685
MWCAP	135	8.369	12.443	1.112	49.961
RDWLI	135	0.011	0.120	- 0.409	0.285
Information	135	45.523	26.581	1.594	89.964
SEMCAP	135	11.110	6.230	4.743	24.027
SIEGDP	135	0.247	0.127	0.069	0.579
PI	135	0.259	0.440	0	1

Information is argued to the most influential factor hindering or accelerating foreign diversification [28, 31, 32]. An indirect measurement of information is incorporated in our model by using the number of internet users, in the country x at year t, as a proxy for information. $SEMCAP_t$ represents emerging markets' share in world capitalization. This variable is used to see the role of emerging markets in foreign diversification.

Pi_{xt} represents the political instability in the country x at year t. A election period dummy variable is created for political instability based on the year of election in the country. We argue that when an election takes place in a country, the investors are not sure about the policies to be adopted by the new government; therefore, they feel uneasy about investing in that country until the policies are formally made and announced. So, political instability can be a significant factor affecting foreign diversification.

Data Sources: Data relating to the variables for the panel of nine developed countries ranges from 1995 to 2009. Foreign equity holdings, imports and exports data was obtained from International Monetary Fund (IMF) IFS database. Stock, world and emerging markets capitalization data was obtained from Standard and Poor's Global Stock Markets Fact book. Local and World market returns were gathered from Morgan Stanley Capital International (MSCI). Gross Domestic Product (GDP) data was obtained from World Bank World Development Indicators (WDI) database. Internet users' data was collected from International Telecommunications Union Yearbook Statistics. The dummy variable for political instability was created by obtaining election dates data from various local and international sources. Descriptive statistics for the variables are given in Table 2.

RESULTS

Random effects model was specified for equation (2) based on the result of the Hausman test. The results for the empirical specification of equation (2) are presented in Table 3.

Table 3: Panel Random Effects Model Estimates

Variables	$\beta(t)$
MWCAP	0.005 (0.40)
RDWLI	- 0.039 (- 0.09)
Information	0.007 (2.57)**
SEMCAP	0.018 (1.64)
SIEGDP	4.079 (3.48)***
PI	- 0.02 (- 0.14)
Constant	- 0.74 (- 1.97)*
R^2	0.33
Durbin-Watson Stat	1.39

Foreign diversification is the dependent variable.

Random effects model was specified based on Hausman test.

***, **, * denote significance at 1%, 5% and 10% level, respectively.

The significance of the coefficient for the variable SIEGDP indicates that openness of trade flows has a reasonable impact on foreign diversification. Therefore, our hypothesized reason for the increase in foreign diversification is justified on the grounds that trade openness (accompanied by stock markets' liberalization) leads to an enhanced foreign diversification on the part of investors. It can also be deduced that as long as an economy is open (like emerging markets etc.) there exist huge opportunities for the market to attract foreign investors.

Information is a lso found to impact foreign diversification in the analysis of this study. This may validate the argument that internet has played an important role in causing acceptability to invest. The argument of increased availability of information leading to an increased international diversification is justified by the empirics of this study. Our analysis supports the information-related reasoning for foreign diversification by Brannan and Cao [18] and Ahearne, Griever and Warnock [28].

CONCLUSION

The aim of this study was to identify the potential factors that mold an investor's preference towards investing in international securities as compared to home securities. An analysis of the calculated data shows that there has been a significant upward trend in foreign diversification indicating the fact that investors are not home biased any more. Information and trade openness (share of imports and exports in GDP) have played significant parts in trending foreign diversification.

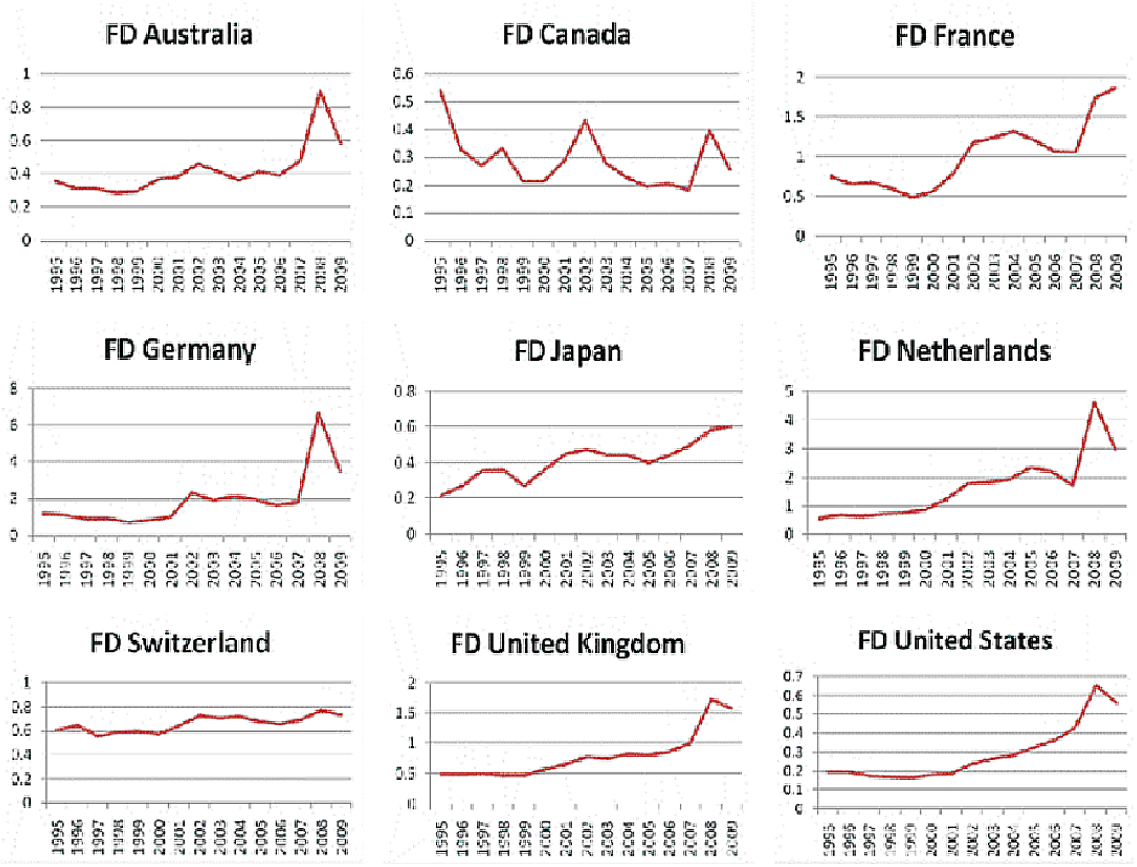

Fig. 1: Foreign Diversification (FD) Trends of Individual Countries

With technological developments and easy access to information, investors are well aware of the advantages of investing internationally. Also our sample contained developed countries only where access to information is quite easy and readily available. We believed that political instability has also an effect in increasing foreign diversification. Based on the estimation, our argument that political instability yields to greater international diversification is not valid.

In short, home equity bias is a phenomenon that is becoming extinct now, with investors diversifying their portfolios internationally. Trade openness and easy access to information are the reasons that have mainly contributed towards lessening of home equity bias. Future research may incorporate wider data sets and try to further establish the positive link between political instability and foreign diversification by incorporating different measures of accessing political instability in a country.

Figure 1 clearly show the enhanced nature of foreign diversification (indicating lessening of home equity bias) over the period 1995 – 2009. Almost all the countries show structural breaks starting around 2008. The underlying reason can be, arguably, the global financial crisis that hit most of the countries under consideration.

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