

Foreign Bias in the Global Portfolio Investment of Selected OIC Countries

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Abstract: Home bias reflects the propensity of investors to invest substantially in the domestic market. When investing abroad investors' exhibit foreign bias, a tendency to overweight certain foreign markets based on their preferences. The existence of foreign bias offers a discovery of a new dimension that enables a thorough investigation of such phenomena. A thorough review of the literature reveals that foreign bias has not been thoroughly investigated in emerging countries, especially in the context of OIC countries. In addition, there is yet to see any attempt to explore the potential explanation of the home bias and foreign bias based on relative factors. In other words, the effect of relative factors between home and host countries' factors remains unexplored. Therefore, the current study undertakes a novelty approach to fill this gap by engaging on relative factors between home and host countries. Therefore, the purpose of this research is to examine the determinants of foreign bias in the global portfolio investment of selected OIC countries. An unbalanced bilateral panel data of 12 OIC countries' outward equity investment in 74 host countries from the year 2001 to 2016 is analyzed. The samples observed are based on the composition of host countries that comprise global, intra-OIC, and non-OIC. Cross-sectional analysis shows that OIC countries exhibit higher foreign bias towards their OIC counterparts especially in the MENA region. The results suggest, OIC countries not only exhibit foreign bias but also demonstrate regional bias. System Generalized Method of Moments (GMM) empirically shows that foreign bias is possibly explained by factors related to financial market openness, familiarity, information asymmetry, and global financial crisis. This study has a significant implication for the investors, fund managers and the regulators of the OIC countries. Investors and fund managers in OIC countries should be aware of the existence of foreign bias in their global portfolio investment that may potentially reduce the benefits of optimal diversification. It is a call for policy makers in the OIC countries to convince their local investors that international portfolio diversification offers risk sharing and eventually increases the investment return. In addition, policy makers in OIC countries need to design a comprehensive investment agreement to attract active participation and inter-regional investments among OIC countries.

Keywords: *Foreign bias, global portfolio investment, relative factors, gravity model, home bias.*

1. Introduction and Background

In the international market, the Capital Asset Pricing Model (CAPM) proposes that the world market portfolio is an efficient portfolio. The model suggests that the proportion of the wealth invested in a domestic equity market should be equal to its weight in the world market portfolio (Levy & Sarnat, 1970). Similarly, investors should hold securities from countries around the world in proportion to their weight in the world market capitalization. The underlying assumptions include that all investors have identical information and that markets function perfectly. However, a seminar paper by French and Poterba (1991) reported that domestic equity holding by investors in the United States, Japanese, and Britain were 98%, 94%, and 82% respectively. Their findings reveal that there is overinvestment in the domestic market beyond the optimal benchmark as suggested by CAPM, this situation is termed home bias.

Home bias reflects the propensity of investors to hold domestic securities rather than foreign assets in their portfolios. However, when investing abroad, investors tend to overweight or underweight certain foreign countries based on their preferences. This phenomenon is known as foreign bias, which was first explored by Chan, Covrig and Ng (2005). The authors claim that in comparison with home bias, foreign bias receives less attention. In a similar vein, Beugelsdijk and Frijns (2010) and Imazeki and Gallimore (2009) claim that efforts are needed to find conclusive explanations for the existence of foreign bias, which is still lacking in finance literature.

Some researchers opined that foreign bias is another manifestation of home bias. For instance, Dodd and Frijns (2015) claim that foreign bias is related to familiarity bias where investors perceive assets from certain

countries as riskier than others because they are less familiar with them. Furthermore, Bergin and Pyun (2012) claimed that investors are trapped in two anomalies in international investment; namely home bias and foreign bias. They prefer to hold substantial domestic assets, at the expense of international diversification benefits. When investing abroad, investors prefer countries with a high correlation with their home country. This will result in reduced benefits of global portfolio diversification. The researcher termed this as a correlation puzzle also known as a preference for familiarity. Niszczoła (2014) posits that home bias is attributed to divergence of rational behavior, overweight in domestic assets means that investors sub-optimally invest in foreign markets, thus foreign bias exists. While the world is becoming more globalized and capital markets are becoming more liberalized, an in-depth investigation of the barriers to international portfolio investment is significantly important. Most of the previous studies have concentrated on home bias research, but less attention was given to research on foreign bias (Beugelsdijk and Frijns, 2010).

A thorough review of the literature reveals that foreign bias has not been thoroughly investigated in emerging countries. Nevertheless, no attempt has been made to investigate these phenomena in the context of OIC countries. Consequently, this offers a new opportunity for research agenda in global portfolio investment. Therefore, the current study attempts to fill this gap by providing a systematic investigation of these phenomena in the context of OIC countries.

This study has a significant implication for the investors, fund managers and the regulators of the OIC countries. Investors and fund managers in OIC countries should be aware of the existence of foreign bias in their global portfolio investment that may potentially reduce the benefits of optimal diversification. It is a call for policy makers in the OIC countries to convince their local investors that international portfolio diversification offers risk sharing and eventually increases investment returns.

2. Literature Review

The gravity model originated from Newton's proposition of the Law of Universal Gravitation in 1687. It was discovered by a physicist, Sir Isaac Newton in the world's most well-known innovation in 1687; *Philosophiae Naturalis Principia Mathematica*. The law states that the attractive force between two objects is closely related to their size and inversely related to the distance between them. The application of the gravity model in financial assets started back in 1999 when Portes and Rey employed the model to examine the determinants of international portfolio investment in equity. Concentrating on 14 OECD countries, their results reveal that market size, technology efficiency, and distance are the most important determinants of investment flows.

Based on stock market data, Faruquee, Li, and Yan (2004) show that the gravity model provides the best explanation for international portfolio holdings. The findings show that market size, transaction cost, and information asymmetry are major determinants of cross-border portfolio choice. These findings shed light on alternative theories of international portfolio holdings, especially on the transaction and information cost-based explanations of home bias. Karolyi (2016) extends the gravity model to analyze the role of cultural distance in explaining foreign bias in international portfolio holdings. The result supports the previous empirical findings that cultural distance is negatively correlated with excess investment ratio (foreign bias).

Beugelsdijk and Frijns (2010) examine the existence of foreign bias in international asset allocation based on behavioral perspectives. They argue that culture and cultural distance are important in explaining foreign bias. Their findings show that societies that are more uncertainty-avoidant invest less in foreign equity and societies that are more individualistic invest more in foreign equity. Cultural distance between countries pairs shows that culturally distant country pairs invest less in each other than countries that are culturally closer together, a phenomenon that is especially held for developed countries. Focusing on the international bond portfolio of investment, Ferreira and Miguel (2011) find that although home bias is decreasing, the phenomenon is prevalent in all countries in the sample. Their results show that domestic bond bias is lower in countries with higher economic development, higher restrictions on foreign capital transactions, more developed bond markets, higher familiarity, and higher efficiency of the judicial system. In addition, familiarity variables, like geographic proximity, common language, and bilateral trade, are the major determinants for decreasing the foreign bias.

Aggarwal, Kearney and Lucey (2012) shed light on the role of culture and extend the set of cultural variables that have been investigated in gravity models of foreign portfolio investment. The researchers integrate Hofstede's cultural dimensions of originating and destination countries, cultural distances, geographic distance, and other gravity variables to determine the role of culture and extend the set of cultural variables. The results show that gravity always deters foreign portfolio investment, but aspects of culture and cultural distance can offset this by supporting foreign portfolio investment. Baltzer, Stolper and Walter (2015) argue that individual investors' local bias is not limited to the domestic sphere, but instead also determines their international investment decisions, indicating the presence of a cross-border local bias. Empirical findings show that the stockholdings of individual investors living within regional proximity to a foreign country display a significantly lower foreign investment bias towards investment opportunities in that country. Foreign investment bias level is disproportionately driven by investments in regionally close neighbor-country companies.

Pradkhan (2014) provides convincing evidence that patriotism is an important explanatory variable that deters foreign investment and increases overinvestment in domestic bonds. Investors from countries with higher levels of uncertainty avoidance will invest less in foreign debt markets. In addition, the researcher also finds that cultural distance is unlikely the factor affecting underinvestment in the foreign debt markets. Bose, MacDonald and Tsoukas, (2015) conclude that equity home bias is a complex phenomenon and is probably caused by a combination of behavioral and institutional biases. Kumar and Goyal (2015) claim that since there are no conclusive explanations for home bias, it remains a puzzle among market participants. Mishra's (2015) study on foreign equity bias measures for Australian-domiciled mutual funds suggests various sources of foreign equity bias; they are GDP per capita, exchange rate volatility, foreign listing, tax credit, global financial crisis and stock market development, familiarity, institution, and stock characteristic variables.

As factors explaining home bias may serve as a deterrent to global portfolio investment. Naturally, foreign bias is determined by the factors that can be used to promote global portfolio investment. Therefore, in the current study, the determinants of foreign bias are similar to home bias. However, the interpretation of the findings is reversed to those in the home bias.

Financial Market Openness: Concentrating on the restriction of capital flow data from the Economic Freedom Network, Chan et al. (2005) show that a destination country with more restrictions will increase home bias. Focusing on the intensity of capital control data from the International Finance Corporation, Ahearne et al. (2004) find a contradicted result where capital control no longer explains home bias. Earlier, a study by Lane (2008) shows that the influence of capital control on international investment position is negative and statistically significant. It indicates that high capital control will discourage international portfolio investment. Mishra (2007) provides evidence of the negative and significant impact of capital control on countries' aggregate foreign portfolio equity position. Ferreira and Miguel (2011) examine the determinants of domestic and foreign bond bias and find a contradicted result. The empirical result shows that capital control has a significant, but negative effect on domestic bias. This indicates that domestic investment is unattractive compared to foreign markets. Mhadhbi (2013) employs both home and host factors of capital control in his study to show that both variables used as a proxy to capital control are positively and significantly related to both home and host countries.

H1: There is a significant positive relationship between capital control and foreign bias across the samples.

Institutional Quality: Abdioglu et al. (2013) examine the influence of foreigners' country-level governance quality on their investment preferences when they invest in the United States. The result reveals that the institutional investors from countries with governance quality similar to that of the U.S. invest more in the U.S. firms, but investors from countries with governance quality just below (just above) that of the U.S. invest more (less) in comparison.

Poshakwale and Thapa (2011) examine the influence of investor protection on international equity portfolio investments using bilateral portfolio holdings data for 36 countries from 2001 to 2006. The study demonstrates that investor protection measures are important determinants of foreign equity portfolio investments. The authors suggest that any efforts to attract greater international equity portfolio investments from foreign investors are by improving the quality and enforcement efficiency of legal protections.

Dahlquist, Pinkowitz, Stulz, Williamson and Stulz (2003) opined that home bias is linked to corporate governance. When companies are controlled by large investors, portfolio investors are limited in the portion of a firm they can hold. This results in floating portfolio holdings for the investors. These controlling shareholders prohibit investors from holding the world market portfolio which results in the occurrence of home bias. An improvement in investors' protection in a country or a firm does not improve the foreign portfolio in the host country or firm in the U.S. investors' portfolio. However, an improvement in investor protection increases the share of a country or a firm in the float portfolio, thereby increasing the share of the country or firm in the portfolio of U.S. investors.

Giofré (2014) investigates the impact of domestic investor protection on equity cross-border investment based on the sensitivity of foreign investment to destination countries' corporate governance for those investors enjoying a higher degree of investor protection at home. The study provides evidence that investors benefiting from high levels of rights protection at home recognize that a large fraction of their portfolio, the domestic one, significantly contributes to the optimal level of corporate governance in portfolios. Consequently, these investors are less demanding about this dimension when constructing their foreign portfolios. As an unintended consequence, all other things being equal, assets issued by foreign countries with good investor protection are severely penalized in portfolios held by investing countries featuring higher standards of corporate governance. Based on flight to quality and familiarity arguments, Abdioglu et al. (2013) examine the role the distance of governance quality between home and target countries plays in investors' decision to invest in foreign markets. A priori is low governance quality at home, which will increase the cost of investing at home, compared to investing abroad; thus, investors will invest in foreign markets and reduce home bias.

Arouri, Nguyen and Pukthuanthong (2012) claim that direct barriers are institutional barriers that differentiate between domestic and foreign investors. They include legal restrictions on cross-border securities trade, foreign exchange regulation, repatriation limits, taxes, and transaction costs. Financial liberalization generally refers to the removal of such direct barriers to capital investment. In recent decades, the institutional barriers have been lowered significantly and, in some cases, they have been completely eliminated, especially in major developed countries. In theory, market liberalisation should allow global investors to enter the market and bid up domestic stock prices and reduce the cost of capital, which in turn leads to an increase in investment and ultimately higher economic welfare.

H2: There is a significant positive relationship between institutional quality and foreign bias.

Familiarity: Amiram (2012) defined familiarity as an increase in investor understanding of the business environment, but by leaving the quality of information constant. He notes that when people feel skillful or knowledgeable in an area, they would rather bet on their judgment or invest. But when people do not feel competent, they prefer not to bet. Investors may invest less in foreign markets because they know less about these markets, and their institutions and firms. The behavioral explanation for the familiarity effect suggests that people invest in familiar stocks but ignore the principles of portfolio theory. Investors who feel more competent will have more internationally diversified portfolios. Taken together, these findings suggest that the difference in information between local and foreign investors and lack of familiarity obstruct foreign investment.

In addition, Elona (2014) finds that familiarity affects foreign investment decisions. Empirical results on emerging markets show that familiarity factors and foreign investment environments (legal and political) have large impacts on investment allocation. Ke, Ng and Wang (2010) find that various facets of investors' familiarity explain the existence of foreign bias in foreign portfolio investment. Such factors assist in explaining home bias in foreign and domestic investment decisions. Using geographic proximity as a proxy for familiarity, Baltzer, Stolper and Walter (2015) reject the presence of information advantage (information asymmetry) of domestic investors over foreign investors. They argue that German households' preference for local equity is related to the familiarity factor due to strong and consistent overinvestment in geographically close companies.

Diyarbakirlioglu (2011) studied the preference for geographical proximity based on two components; the domestic country bias assesses investors' holdings within the domestic market and the foreign country bias

assesses investors' bilateral holdings within a particular host. The findings show that the equity portfolio held in only a small number of destination markets generates much of the countries' existing foreign assets. This situation is termed geographical shrinkage. The author concludes that the domestic bias coexists with an equally imperfect diversification of investors' foreign asset holdings.

H3: There is a significant positive relationship between familiarity and foreign bias.

Economic Development: Potential benefits from the growth differential of various financial markets appear to be one attraction of international portfolio diversification. The growth rates of mature and developed economies are generally slower than those of emerging ones. Investment portfolios can take advantage of this differential. Noman, Rahman, and Naka (2015) explain that successful diversification requires financial markets across borders that are not highly correlated. If returns across borders are highly correlated, international diversification might not offer any benefits. Economies rise and fall following different cycles, a carefully chosen set of national financial markets should offer prospects for lower risks to investors.

Kim et al. (2014) employed economic development and market development in studying the home bias phenomenon in emerging markets. Their findings show that market performance factors generally affect home bias more strongly than economic development factors. This indicates that an emerging market that is experiencing high economic growth and development may not require such benefits from international foreign investment. Rather, stock market performance is more detrimental to their international asset diversifications. This is justified by the fact that their stock market is relatively small compared to stock markets in developed countries.

H4: There is a significant positive relationship between **economic development** and foreign bias.

Market Development: Thapa and Poshakwale (2012) claim that foreign investors prefer to invest in larger and well-known markets which are having high liquidity, low trading costs, and possess a high degree of market efficiency. Similarly, Chan et al. (2005) find that stock market development has a significant influence on home bias. Their finding suggests that when a country is more developed, the costs for foreign investors investing in local equities are dropped, resulting in smaller domestic and foreign biases.

Mhadhbi (2013) shows a positive effect of financial market development on global portfolio investment. Higher financial market development in the destination countries indicates that foreign countries are more developed. This condition offers greater investment opportunities, making investors more inclined to hold portfolios in this economy.

H5: There is a significant positive relationship between **market development** and foreign bias.

Information Asymmetry: Information asymmetry is considered as implicit in nature, which is not directly observable. It arises from the asymmetry between home and foreign investors, where domestic investors may have an informational advantage on domestic information as compared to foreign investors. As information asymmetry arises, it will upsurge the information cost which will increase transaction cost.

Asymmetric information accounts for the strong negative relationship between international asset transactions and distance. The Internet plays an important role in mitigating information asymmetry between countries and it increases the volume of cross-border portfolio flows (Choi, Rhee, and Oh, 2014). Bae, Stulz and Tan (2008) compare the precisions of earnings forecast skill between resident and non-resident analysts in a sample of 32 countries. They find the local analyst advantage even after controlling for firm and analyst characteristics. The local advantage is high in countries where earnings are smoothed more, less information is disclosed by firms, and firm idiosyncratic information explains a smaller fraction of stock returns. It is negatively related to whether a firm has foreign assets and to market participation by foreign investors and by institutions, and positively related to holdings by insiders.

Based on an endogenous asymmetric information model, Ni (2009) provides empirical evidence that portfolio managers with larger assets tend to acquire more information regarding foreign equity and hence, hold more foreign equity holdings. Mishra (2008) shows that informational variables, like the share of the number of firms listed on the domestic market and the share of internet users in the total population of the host country, have a significant impact on equity home bias. The result suggests that the efficiency of information exchange

between home and host countries removes information barriers; hence, increases the international portfolio holdings and reduces home bias.

Similarly, Foad (2011) studied the subset of investors' information and the relationship between immigration and equity home bias. He finds that inward migration is positively correlated with increased foreign equity positions and reduced home bias. The results suggest that immigration generates a positive externality of increased information flows for the developed countries, but not for the developing nations. The effects of immigration on investment are stronger within the Euro-Zone, suggesting that this positive externality of immigration is larger when barriers to portfolio diversification (such as currency risk) are lowest. Leblang (2010) emphasizes the role of diaspora networks; the connections between migrants residing in investing countries and their home country. They demonstrate that migrant networks play an important role in decreasing information asymmetries and consequently promote both portfolio and FDI.

Choi, Rhee and Oh (2014) use the Internet as a proxy for information asymmetry between home and foreign countries. The authors found that asymmetric information explains the strong negative relationship between international asset transactions and distance. They suggest that the Internet plays an important role in mitigating information asymmetry between countries and increasing the volume of cross-border portfolio flows. Similarly, Mondria, Wu, and Zhang (2010) explore the joint determination of home bias and attention allocation theory. The authors use a new internet search query dataset; AOL to measure how much information investors decide to process. The authors found empirical evidence of a two-way causality between home bias and attention. The findings suggest that if all countries were to receive the same level of attention as the U.S., then the average home bias by U.S. investors would fall from 85.2 % to 57.3 %.

Although there is minimal foreign investor involvement in global portfolio investment, language appears to be an important factor to determine investment decisions. Mishra (2007) discovers that a common language between home and host countries increases bilateral equity investment between them by 35%. In similar shows, investors prefer to invest in shares of the companies that publish their annual reports using the investors' native language. Recently, Konara(2020) provides evidence that language barriers are the main contributor to home bias, suggesting a tendency of investors to invest frequently within-border than cross-border. Kalev, Nguyen, and Oh (2008) research on the nature of information asymmetry between local and non-local investors. All listed stocks are divided into single-listed, cross-listed and internationally well-known stock categories. Comparison is made to compare local and non-local investors' performance and trading advantages. Trading advantages are based on the notion that local investors have more information than non-local investors. The findings show that local investors have short-term trading advantages in all stock categories. These local advantages weaken only internationally well-known stocks.

H6: There is a significant positive relationship between information asymmetry and foreign bias.

Global Financial Crisis: The global financial crisis (GFC) is said to begin in July 2007. The credit crunch occurs when US investors lose their confidence in the value of sub-prime mortgages. The situation worsens when the US Federal Bank pumps large amounts of funds into the financial markets. By September 2008, the negative sentiment spread resulting in a domino effect to the stock markets around the world. Empirical findings show mixed results on the impact of the global financial crisis on home bias.

Elona (2014) confirms that home bias rises during a global financial crisis, investors are more inclined towards diversification benefits by allocating their assets to foreign markets that are more correlated with their home markets. Investors are more likely to hold their positions in less risky investments and prefer to invest in host countries that they are familiar with, especially their trading counterparts. Conversely, Wynter (2019) proves that home bias is reduced during the global financial crisis due to active portfolio rebalancing activities among investors.

Vermeulen (2013) demonstrates during the global financial crisis, investors are actively rebalancing their global portfolio investment towards low-correlated countries. This implies that investors tend to maximize diversification benefits through active portfolio rebalancing. Furthermore, investors are willing to tolerate up to 3% of additional costs by switching from passive to active portfolio management.

H7: There is a significant negative relationship between the global financial crisis and foreign bias.

3. Research Methodology

The population of this study is based on the OIC countries comprising 57 states that are located in a few different regions. The majority of the OIC countries are also classified as emerging countries. OIC is the second largest governmental organization after the United Nations, comprising 57 countries around the world and across different regions. These countries represent four regions of the world namely, Middle East and North Africa, East Asia and Pacific, Europe and Central Asia, as well as South Asia. OIC represents the collective voice of the Muslim world with the main agenda to safeguard their interest in economic, social, and political areas. This study focuses on the sample of 12 selected OIC countries' global portfolio investment (GPI). The data represents bilateral GPI between OIC (home countries) across various host countries across the world. The data span over a period from 2001 until 2016. Home countries' region comprises the Middle East and North Africa (MENA), East Asia and Pacific (EAP), Europe and Central Asia (ECA), and South Asia (SA). The data represents a mixture of high-income, upper-middle-income, and lower-middle-income status countries. The majority of OIC countries in the sample of study are from the MENA region (6 reporting countries) and lower-middle-income status (5 reporting countries). The sample provides an interesting research exploration given its unique nature of diverse regional bases and income groups of countries in the sample. In this study, the GPI is analyzed based on three samples namely global sample, intra OIC and non-OIC samples. A global sample is the main sample that represents OIC's outward investment across the globe. On the other hand, intra and non-OIC samples are the sub-samples that represent OIC's GPI into their OIC counterparts and non-OIC members respectively.

Current research is engaged with the data from the International Monetary Fund's (IMF) Coordinated Investment Portfolio Survey (CPIS). It is a worldwide voluntary data collection exercise, conducted under the sponsorship of the IMF. CPIS records an economy's bilateral (from home country to host country) holdings of portfolio investment securities (quoted in USD at market prices). In particular, it records the amount of equity portfolio investment (in USD at market prices) that the country i 's residents own in country j at the end of December in year t . Specific to this study, country i represents the home (source) country while country j denotes the host (destination) country. In this research, the period of study is covering from year 2001 until 2016. The period is chosen because of the important time frame within the scope of OIC countries.

The dependent variable; foreign bias (FB) is derived based on the model-based approach that represents variations between the actual foreign portfolio holdings and the optimal benchmark (Mishra, 2011; Mishra and Ratti, 2013; Mishra and Conteh, 2014; Mishra, 2015; and Mishra, 2016). In this model, the optimal benchmark is based on the ICAPM benchmark. It suggests that the investors are expected to hold international assets of each country based on its share in the world market.

Based on this approach, the dependent variables were derived based on three main steps. The first step requires a computation of the share of home country equity in the host country. In the second step, the optimal benchmark was calculated based on the referred formula. Finally, proxies for home bias and foreign bias were derived accordingly.

Share of i 's equity in country j (I_j^i) is the ratio of i 's holdings of the country j 's equities to the country i 's total equity portfolio. The home country (OIC countries) is denoted as i , and the host countries are denoted as j .

$$I_j^i = \frac{\text{Country } i\text{'s holdings of country } j\text{'s equities}}{\text{Country } i\text{'s total equity portfolio}} \quad (1)$$

Country i 's total equity portfolio = investment by country i 's residents in home equities + investment by country i 's resident in foreign equities. (2)

Investment by country i 's residents in home equities = Country i 's market capitalization – country i 's equities held by foreign investors. (3)

The traditional ICAPM framework proposes that to maximize risk-adjusted return, investors should hold equities from around the world in proportion to their market capitalization. Thus, the share of the country i 's equities invested in country j (I_j^i) is the ratio of the market capitalization of country j in the world market capitalization.

$$I_j^* = \frac{MC_j}{MC_{world}} \quad (4)$$

While MC_j is the market capitalization of country j , MC_{world} is the world market capitalization. This (I_j^*) ratio represents optimal portfolio holdings (ICAPM benchmark) in which the actual portfolio is compared. The equity home bias is the deviation from the ICAPM benchmark, derived as one minus the ratio of foreign equities in country i and the world portfolio (Mishra, 2014). On the other hand, foreign bias is derived as one minus home bias ratio.

$$HB_{ij} = 1 - \frac{I_j^i}{I_j^*}, \quad (5)$$

Where, HB_{ij} is the home bias ratio and $\frac{I_j^i}{I_j^*}$ is foreign bias ratio.

Overall, the data on the country i 's cross-border equity investment, the country i 's equity held by foreign investors, investment by the country i 's residents in the home country and the host country were sourced from IMF, CPIS. The data were retrieved from three sources comprising Table 1 (representing a geographical breakdown of total portfolio investment), Table 2 (representing portfolio investment assets), and Table 3 (representing portfolio investment liabilities). While data for market capitalization were sourced from the World Development Indicators of the World Bank as well as the World Federation of Stock Exchanges. In addition, data for the world market capitalization were derived through the calculation of the total market capitalization of the related host countries in each sample of the years.

In detail, the country i 's total equity portfolio in equation (1) above was derived from equations (2) and (3). While the country i 's holdings of country j equities were sourced from Table 1. In Equation (2), investment by the country i 's residents in foreign equities was sourced from Table 2. While in equation (3), the country i 's equity held by foreign investors was sourced from Table 3.

In the current study, there are a few sets of explanatory variables that are categorized as relative factors and single factors. Relative factors represent a ratio between home countries' and host countries' factors. This measure allows for relative interpretation between home and host countries' factors. In addition, it is in line with the global perspectives of investment as discussed in Section 1.3.1 above. Generally, the explanatory variables were derived from the following formula of relative measures:

$$X_{ijt} = \frac{X_i}{X_j}$$

Where x_{ijt} represents the relative factors (ratio between home countries' proxy scaled by the host countries' proxy) of the explanatory variables between home and host countries in year t .

The home country's proxy is presented by X_i , while X_j represents the host country's proxy. This approach allows home bias and foreign bias to be examined within the same framework. It provides a new insight into this research area as it provides a thorough discussion on the relative influence of home and host factors towards the home bias and foreign bias. This approach of relative measure is considered a novelty contribution in the research on global portfolio investment.

Capital control represents direct barriers to international portfolio diversification. Although the majority of the countries in the world have lifted the restrictions on foreign portfolio investment and international capital flow, some countries still impose some restrictions. Thus, capital control influences cross-border investment. This study uses the Chinn-Ito index of financial openness sourced from Chinn and Ito (2006). The index is a measure of a country's degree of capital account openness. It focuses on the regulatory restriction on capital account transactions reported by the IMF. A high index score means less restriction on capital flow. In this study, the proxy for capital control ($KA0_{ij}$) was derived from the relative score ratio between the home and the host countries' index.

In addition, the Globalization index was used as a measure of financial market openness. It was sourced from the KOF Globalization Index which measures the economic, social, and political dimensions of globalization. Globalization in the economic, social, and political fields has been on the rise since the 1970s, receiving a particular boost after the end of the Cold War. The index also represents openness with international

linkages. This proxy denotes a relative factor between the home and the host countries that may indicate the state of liberalization between the two countries.

Institutional quality is represented by a proxy of the World Governance Index (WGI). The index was derived from a survey of various respondents that are comprised of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. A high score (scale of 2.5) shows high governance performance. A low score (scale of -2.5) shows low governance performance. It has been used widely in the previous literature (Barbopoulos, Marshall, MacInnes, and McColgan, 2014; Giofré, 2014b; Frank Obenpong Kwabi, 2015; Abdioglu et al., 2013; Mishra, 2014). In this study, the proxy used is the average score of components of the WGI that consists of six components: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The proxy which represents institutional quality ($AWGI_{ij}$) was derived from the ratio between the home country and the host country.

Economic development was represented by Gross Domestic per Capita ($GDPC_{ij}$) which was sourced from the World Bank. It measures the degree of economic well-being of a country. A high level of economic development offers greater potential for investment opportunities. Following Mishra and Conteh (2014), GDP per capita may influence a country's propensity to engage in international asset trade. Higher income per capita is associated with lower risk aversion which may promote international portfolio investment. The proxy for $GDPC_{ij}$ was derived from the ratio between the home and the host country.

Following Mhadhbi (2013), market development was represented by two categories of proxy, namely market-based and bank-based, that were sourced through the World Development Index (WDI). Market-based was proxied by the number of listed domestic companies in the home market relative to the host market (LDC_{ij}) and stock traded, turnover ratio of domestic shares (in percentage) relative to the host market ($STOT_{ij}$). On the other hand, the bank-based variable is proxied by both domestic credits provided by financial institutions (percentage of GDP), ($DCR1_{ij}$); and domestic credit to the private sector provided by banks (percentage of GDP), ($DCR3_{ij}$).

Variables that represent information asymmetry consist of standard proxies that represent information gaps between the home and host countries, such as fixed telephone subscription (per 100 people), (FTS_{ij}); and individuals using the internet (percentage of population), (INT_{ij}). Both proxies were derived from relative factors between the home and host countries. Another set of proxies that represents information asymmetry variables was sourced from the Centre of D'Etude Prospectives Ent D'informations Internationales (CEPII). It is a well-known set of gravity variables developed by Mayer and Zignago (2005) to analyze market access difficulties in global and regional trade flows. The proxies used, among others, include contiguity (contig), common language (comlang), common colony (comcol), and capital city distance between the home and host countries ($\ln Distance$). Contiguity represents a dummy variable that indicates if two countries share a common border. Common language represents a dummy variable that indicates if a common language is spoken by at least 9% of the population of the two countries. A common colony represents a dummy variable that indicates if two countries have a colonial link in their past histories. The distance variable represents a logarithm of the distance between the two countries' largest cities, as weighted by the share of each city on the total population of the country.

The familiarity variable ($MiXiGDP_{ij}$) is based on the import and export (trade) between OIC countries with the rest of the world. The proxy is calculated by dividing the amount of import and export of home countries by the sum of the Gross Domestic Product (GDP) of both home and host countries. The data used in this regard were sourced from WDI.

In addition, another variable is the real exchange rate ($REXi$) of the home country relative to the US Dollar. It represents an additional proxy for economic development. Local investors in the global market face the exchange risk when their home countries' currency appreciates. This situation increases their cost of investment abroad. When profits from investment are repatriated, this appreciation decreases their total returns on investment.

Lastly, the year effect variable of the global financial crisis (GFC) is also included as an explanatory variable. It is a dummy variable that represents the global financial crisis that occurred in 2007-2008. During the analysis period, 1 was assigned to denote a crisis that happened between the years 2007 and 2008, while the other years were assigned as 0.

Overall, it was learned that the literature search to find the appropriate proxies as presented in the previous empirical studies is quite complicated, particularly in dealing with the emerging country sample (Ian Cooper, Sercu, and Vanpee, 2013). The main issue is due to missing and un-reporting data of those countries. The following Table 1 tabulates the variables used to examine the determinants of home bias and foreign bias in the global portfolio of selected OIC countries.

Table 1: Variables Measurements

	Proxy	Measurement	Sources
Dependent Variables			
Foreign Bias (FB)	Outward equity portfolio investment (USD) that country <i>i</i> 's residents own in country <i>j</i> at the end of December in year <i>t</i> .	$HB_{ij} = 1 - FB_{ij}$	CPIS, IMF
Explanatory variables	<u>(i) Relative factors</u>	$X_{ijt} = \frac{X_i}{X_j}$	
Financial market openness	Capital control Globalization index	KA0ij GLOij	Chinn Ito Index KOF Globalization Index
Institutional quality	Governance index	AWGIij	World Governance Index
Economic development	Gross domestic per capita	GDPCij	World Bank
Market development	Market-based Bank-based	LDCij, STOTij DCR1ij, DCR3ij	World Development Index
Information asymmetry	Information and telecommunication	FTij, INTij	World Development Index
Information asymmetry	<u>(ii) Single factors</u> Gravity variables	Contig, comlang, comcol, lnDistance	Centre of D'Etudre Prospectives Ent D'informations Internationales (CEPII)
Familiarity	Import-export (global trade)	MiXiGDPij REXi	World Development Index
Economic development	Real exchange rate	GFC (dummy variable)	World Development Index
Year effect	Global financial crisis	1= 2007 and 2008 crisis years 0= other years	n/a

4. Results and Discussion

Descriptive Analysis: Table 2 exhibits foreign bias phenomena in three different samples, namely global, intra-OIC, and non-OIC samples. The mean scores indicate that the foreign bias phenomenon among OIC countries is substantial; with more than the 100% threshold. Overall, OIC countries exhibit 186.34% overinvestment in certain foreign countries. When the sample observation is split into intra-OIC and non-OIC samples, OIC countries display a higher foreign bias towards their own OIC counterparts (196.92%) as compared to their non-OIC counterparts (154.85%). These findings specify that OIC countries display higher investment preferences towards their OIC counterparts as compared to non-OIC countries.

Table 2: Foreign Bias across the Samples

Mean score	Samples		
	Global	Intra-OIC	Non-OIC
Foreign Bias	1.8634	1.9692	1.5485

Table 3 reports the descriptive statistics for foreign bias. Generally, the mean score of foreign bias in global, intra-OIC, and non-OIC samples are 9.89, 11.39, and 5.42, respectively. The mean score is higher in the intra-OIC sample, as compared to the non-OIC sample. The minimum score is around 0.50 across the samples. This represents Saudi Arabia's investment in the United Arab Emirates in 2014 and its investment in Lebanon to Greece in 2013. The maximum score is between 107.7341 (investment of Malaysia to Namibia in 2011) and 284.4926 (investment of Kuwait to Bahrain in year 2009). In summary, it is observed that OIC countries showed a preference for global portfolio investment towards their OIC counterparts, as compared to non-OIC countries.

Table 3: Descriptive Statistics of the Dependent Variable across the Samples

Variables	Summary Statistics	Samples		
		Global	Intra-OIC	Non-OIC
Foreign Bias	Obs.	477	357	120
	Mean	9.8897	11.3912	5.4227
	Std. Dev.	30.0847	33.7537	13.6053
	Min	0.5026	0.5026	0.5068
	Max	284.4926	284.4926	107.7341

Regression Analysis: Table 4 presents details of empirical findings on the determinants of foreign bias across the samples. The empirical model of foreign bias employed a two-step system GMM for both global and intra-OIC samples. A constant and lag-dependent variable has a positive significant relationship with foreign bias in both global and intra-OIC samples. With the non-existence of all explanatory variables, foreign bias in global and intra-OIC samples is 1.172 and 1.374, respectively. The foreign bias score is higher in intra-OIC samples compared to the global sample. The lagged dependent variable in global and intra-OIC samples are 0.537 and 0.921, respectively. This indicates that the previous year's foreign bias has a higher influence on intra-OIC samples compared to global samples. Two two-stage least Square method was used for the non-OIC sample due to the small sample size of data in this sample.

Table 4: Determinants of Foreign Bias across the Samples

Dependant Variable (Foreign Bias)	(1) Global	(2) Intra-OIC	(3) Non-OIC
Constant	1.172** (0.535)	1.374 (0.869)	-3.163 (2.274)
FB _{t-1}	0.537*** (0.0298)	0.921*** (0.0495)	-
KAOij	0.0740** (0.0312)	0.0541 (0.0805)	-0.0455 (0.115)
GLO_ij	0.746* (0.417)	0.908 (0.627)	-2.104** (1.040)

Dependant Variable (Foreign Bias)	(1) Global	(2) Intra-OIC	(3) Non-OIC
AWGI _{ij}	0.0364** (0.0178)	0.0132 (0.0173)	-0.577 (0.383)
MiXiGDP _{ij}	0.314*** (0.0655)	-0.207* (0.116)	0.391* (0.232)
GDFC _{ij}	0.368 (0.424)	-0.204 (0.459)	4.911** (2.069)
ReXi	-0.0360* (0.0212)	-0.0600* (0.0353)	0.0279 (0.0557)
DCR1 _{ij}	-0.102 (0.0974)	0.0974 (0.124)	1.329*** (0.497)
DCR3 _{ij}	0.0702 (0.157)	-0.614*** (0.181)	-0.680 (0.570)
STOT _{ij}	0.0229 (0.0352)	0.138*** (0.0476)	0.0132 (0.0927)
LDC _{ij}	-0.0663 (0.0516)	-0.110** (0.0523)	0.0970 (0.125)
FTS _{ij}	0.175*** (0.0629)	0.113 (0.130)	0.205 (0.204)
INT _{ij}	-0.437*** (0.112)	-0.0352 (0.105)	-0.797** (0.318)
Contig	-0.395*** (0.135)	-1.013* (0.558)	-0.854 (0.967)
Comlang	0.125 (0.0998)	0.184 (0.190)	0.365 (1.049)
Comcol	0.0508 (0.102)	-0.303* (0.158)	0.194 (0.423)
Distcap	-0.170*** (0.0393)	-0.241*** (0.0696)	0.171 (0.125)
GFC	0.327*** (0.0547)	0.301*** (0.106)	0.587** (0.277)
AR (1)	0.001	0.002	
AR (2)	0.070	0.161	
Observations	324	268	108
Number of CODE	60	36	
R-squared			0.285

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Capital account openness (KAO_{ij}) and globalization index (GLO_{ij}) are the proxies used for financial market openness. Consistent with the hypothesis, capital control has a significant positive influence on foreign bias in the global sample. The positive relationship between capital account openness and foreign bias exists at the p<0.05 level of significance. The result specifies that for any 1% increase in the relative score of capital control between home and host countries, foreign bias also increases by 7.40%. This indicates that a higher relative score of the capital account openness between home and host countries increases foreign bias. However, the influence of capital control on foreign bias in the sub-samples is insignificant.

Globalization has a positive significant influence on foreign bias in global samples. The relationship is significant at p<0.01 level of significance. The globalization coefficient of 0.327 suggests that as the relative

score of the globalization index between home and host countries increases by 1%, foreign bias will also increase by 74.6%. However, globalization has a significant negative influence in explaining variation in foreign bias in non-OIC samples. The beta coefficient indicates that for every 1% change in the relative score of the globalization index between home and host countries, foreign bias will decrease by 210%. However, the influence of globalization on foreign bias is not significant in the intra-OIC sample.

Institutional quality has a significant positive influence on foreign bias in the global sample. The relationship is consistent with the hypothesis and significant at $p < 0.05$ of significance level. The beta coefficient indicates that for any increase in the relative score of institutional quality between home and host countries, foreign bias will also increase by 3.64%. The results indicate that OIC countries prefer to invest in the host countries with higher institutional quality compared to home countries. However, institutional quality is not a significant factor in explaining foreign bias in both intra-OIC and non-OIC samples.

The familiarity variable has a positive significant influence on foreign bias in global samples. The result is consistent with the prior expectation at $p < 0.05$ significance level. The coefficient indicates that for any increase in the import-export activities of home countries around the world, foreign bias will also increase by 31.4%. However, familiarity has a significant negative influence on foreign bias in intra-OIC samples. The result is inconsistent with the prior expectation, but it is significant at $p < 0.10$ level of significance. The coefficient indicates that for any increment in import-export activities of home countries around the world, foreign bias will also decrease by 20.7%. Familiarity has a significant positive influence on foreign bias in non-OIC samples. At $p < 0.05$ level of significance, any increase in the import-export activities of home countries around the world, foreign bias will also increase by 39.1%.

Economic development is represented by both GDP per capita between home countries and host countries and the real exchange rate between home countries and USD. GDP per capita is not a significant factor in explaining foreign bias in both global and intra-OIC samples. However, it has a positive significant relationship with foreign bias in the non-OIC sample. At a 5% significance level, any 1% increase in the relative score of GDP per capita between home and host countries, foreign bias will increase by 491.1%. The real exchange rate has a significant negative influence on foreign bias in both global and intra-OIC samples. The relationship is significant at $p < 0.1$ level of significance. The result shows that for every 1% increase in the relative score of GDP per capita between home and host countries, foreign bias in global and intra-OIC samples will decrease by 3.60% and 6%, respectively. However, the real exchange rate is not significant in explaining variation in foreign bias in non-OIC samples.

Market development consists of bank-based (DCR1ij and DCR3ij) and market-based variables (LDCij and STOTij). Bank-based variables are insignificant factors in explaining foreign bias in the global sample. In the intra-OIC sample, only DCR3ij has a significant negative influence on foreign bias. The relationship is significant at $p < 0.01$, suggesting that for any increase in the relative score of domestic credit to the private sector provided by banks between home and host countries, foreign bias will decrease by 61.4%. However, DCR1ij has a significant positive influence on foreign bias. At significance, $p < 0.05$ level, any 1% increase in the relative score of domestic credits provided by financial institutions (% of GDP) between home and host countries, foreign bias will increase by 132.9%.

Results in global and non-OIC samples show that LDCij and STOTij are not significant variables in explaining foreign bias. In contrast, results in intra-OIC samples show that both proxies have a significant influence on foreign bias. LDCij has a significant negative influence on foreign bias, which is contrary to the hypothesis. The relationship is significant at $p < 0.05$ level of significance, suggesting that for any increase in the relative score of listed domestic companies in home and host countries, foreign bias will decrease by 11%. In the intra-OIC sample, STOTij has a significant positive influence on foreign bias. The relationship is significant at $p < 0.05$ level of significance. The result suggests that for any increase in stock turnover between home and host countries, foreign bias will increase by 13.8%.

Information asymmetry variables are represented by several proxies, including communication channel variables (FTSij and INTij) and gravity variables (contiguity, common language, common colony, and capital city distance). FTSij has a significant positive influence on foreign bias in the global sample. Consistent with

the prior expectation, the relationship is significant at $p < 0.01$ level significant. The coefficient indicates that for every 1% increase in the relative score of fixed telephone subscription between home and host countries, foreign bias will increase by 17.5%. However, FTS_{ij} is not an important variable in both intra-OIC and non-OIC samples. INT_{ij} has a significant negative influence on foreign bias in global and non-OIC samples. The result is not consistent with the hypothesis, although the relationship is significant at $p < 0.01$ level of significance. The result suggests that for any increase in the relative score of internet subscription between home and host countries, foreign bias in global and non-OIC samples will decrease by 43.7% and 79.7%. Internet subscription appears to have a negative relationship with foreign bias. This indicates that global portfolio investment decreases when there is an information gap between home and host countries. The negative impact of the gap is higher in the non-OIC sample as compared to the global sample.

However, it is not a significant variable in explaining foreign bias in intra-OIC and non-OIC samples. The findings on contiguity are contradicted to the prior expectation. Contiguity has a significant negative influence on foreign bias in both global and intra-OIC samples. The result is significant at $p < 0.01$ and 0.10, respectively. Statistically, when home and host countries are contiguous, foreign bias in global and intra-OIC samples will decrease by 39.5% and 101.3%, respectively. However, contiguity is not a significant variable in non-OIC samples. Common language is not a significant factor in explaining variation in foreign bias across all samples. This may be because English is a globally accepted means of communication; therefore, the common language is an insignificant factor in explaining any variation in foreign bias. The common colony is not a significant variable in explaining foreign bias in global and non-OIC samples. However, the common colony has a significant negative influence on foreign bias in intra-OIC samples. The relationship is significant at $p < 0.10$, suggesting that when home and host countries have the same colonial history, foreign bias will decrease by 30.3%. Capital city distance has a significant negative influence on foreign bias in both global and intra-OIC samples. The relationship is significant at $p < 0.01$, suggesting that if the home and the host countries are at a distance, foreign bias in global and non-OIC will reduce by 17% and 24.1%, respectively. However, the result is insignificant in the non-OIC sample.

Year effect represents a control variable of the 2007-2008 global financial crisis (GFC). GFC has a significant positive influence on foreign bias across all the samples. The relationship is significant at $p < 0.01$, suggesting that during GFC, foreign bias in global, intra-OIC and non-OIC countries increased by 32.7%, 30.1%, and 58.7% respectively.

Discussion: Based on the empirical evidence in the global sample, foreign bias can be explained by factors related to financial market openness, institutional quality, economic development (real exchange rate of home countries against USD), familiarity, information asymmetry (information and communication variables, contiguity, and capital city distance), as well as the global financial crisis. However, market development variables are not significant in explaining any variations in foreign bias in both global and non-OIC samples. In addition, there exist three explanatory variables that contradict the stated hypotheses, namely internet subscription, contiguity, and global financial crisis.

In the intra-OIC sample, the explanatory variables that are statistically significant in explaining variation in foreign bias include economic development (real exchange rate of home countries against USD), market development, familiarity, information asymmetry (contiguity, common colony, and capital city distance), as well as the global financial crisis. However, there are a few variables that diverted from the prior expectation. Among others include familiarity, contiguity, and global financial crisis.

In the non-OIC sample, financial market openness (globalization), familiarity, economic development, market development (bank-based), information asymmetries and global financial are significant in explaining variation in foreign bias. Despite the mixed results across the samples, the main findings on the determinants of foreign bias are summarised as follows:

Financial Market Openness: Generally, empirical results suggest OIC countries prefer to invest in the host countries with higher financial market openness than their home countries. These findings also provide support to the information asymmetry hypothesis. In addition, these results are consistent with Chan et al.

(2005) and Vermeulen (2013) where the positive significant influence of capital control on foreign bias is documented.

However, OIC countries refuse to invest in non-OIC countries that are more globalized than their home countries. From an investment point of view, globalization (that induces integration of financial markets around the world) may possibly reduce the diversification benefits due to the high correlation between market returns. This will result in high investment concentration in the domestic market rather than abroad and thus, foreign bias decreases.

Familiarity: Foreign bias increases when OIC countries have frequent import and export activities around the globe. In particular, OIC countries are inclined to invest in non-OIC countries when they are familiar with the host countries. This finding provides support to the information asymmetry hypothesis. These results are also consistent with the finding of Ferreira and Miguel (2011) that transactions in goods and services induce global portfolio investments around the world, thus foreign bias increases.

However, frequent import and export activities around the world have neglected the potential of global portfolio investment between OIC countries. This implies that import and export transaction does not have any continuation to encourage global portfolio investment between OIC countries. It may possibly indicate that over-concentration on import and export activities in goods and services around the world has neglected the potential of global portfolio investment within the OIC countries.

Information Asymmetry: OIC countries prefer to invest in the host countries with greater access to communication channels (telephone line subscription) compared to their home countries. Conversely, OIC countries refuse to invest in host countries that have higher internet subscriptions as compared to their home countries. These findings signal that OIC countries prefer to invest in host countries that are easily accessed by telephone calls. In contrast, internet subscriptions create an information gap between OIC and host countries, discouraging global portfolio investment, thus foreign bias decreases.

Foreign bias decreases when the OIC and host countries share the same borders (contiguity). This indicates that OIC countries prefer to invest in their region but have less preference to invest in their neighboring countries within their region. Furthermore, foreign bias decreases when both home and host countries are at a distance. OIC displays lower foreign bias when host countries are at a distance from their home countries. The result also stands in the intra-OIC countries suggesting foreign bias decreases when OIC countries are far from each other. This finding is well supported by the result of the cross-sectional analysis (see Section 5.1.2) that shows OIC countries display higher foreign bias within their own MENA region.

Year Effects: The global financial crisis has a significant negative relationship with foreign bias across all samples in the study. This indicates that OIC countries continuously invest in the global market even though there is a global financial crisis. Although these findings contradict the priori expectation, they suggest that OIC countries continuously diversify their global portfolio investment even though there is a global financial crisis.

Economic Development: Regression analysis shows a significant negative relationship between, the real exchange rate of home countries against USD, suggesting higher cost investment abroad discourages global portfolio investment, thus foreign bias decreases.

Market Development: Empirical findings show OIC indicates that OIC countries refuse to invest in their OIC counterparts that are debt-oriented (bank-based), resulting in a reduction in foreign bias. In addition, OIC countries are inclined to invest in their OIC counterparts that have higher stock market turnover than their own home countries. This indicates that OICs prefer to invest in their OIC counterparts with higher liquidity stock markets. In contrast, a significant negative relationship between a number of listed domestic companies and foreign bias indicates OIC countries refuse to invest in local companies of their OIC counterparts. OIC countries may have a preference to invest in multinational companies that are listed in the host (OIC) countries. These findings contradicted the previous study that claimed investors may enjoy the benefits of international diversification through investment in the Multinational Companies (MNCs) of the domestic

market (Hagan-luff and Berrill, 2015; Cai and Warnock, 2012; Salehizadeh, 2003). These contentions indicate that OIC is inclined to invest in the MNC that resides in the host countries.

5. Managerial Implications and Recommendations

The results of this study have called for the attention of the regulators of OIC countries. The findings of this study complement the existing empirical evidence of the need for greater economic cooperation, integration and investment opportunities among the OIC countries (Hassan, 2003; Kabir Hassan, Sanchez, and Ershad Hussain, 2010; Jafari, Ismail, and Kouhestani, 2011 and Raimi and Mobolaji, 2008). Foreign bias tends to discourage global portfolio investment among the OIC countries. This is evidenced by the OIC countries that have a preference to invest within their own MENA region. This outcome may hamper the initiative to enhance cooperation among the OIC countries, defeating the agenda of the OIC to promote Islamic solidarity by coordinating social, economic, scientific, and cultural activities.

As suggested by Hassan (2003), intra-trade among OIC countries can be improved when richer countries invest their surplus fund through either direct investment (foreign direct investment) or indirect investment (stock market participation). This enables to promote of portfolio investment and helps to develop the capital market of OIC member countries. He added the low correlation among the OIC stock market is the best option for optimal portfolio diversification. In addition, Driessen and Laeven (2007) suggest that most of the benefits are obtained from investing outside the region of the home country.

Thus, any concerted effort to reduce foreign bias should be centered to encourage inter-regional portfolio investment among the OIC countries. OIC countries should capitalize on the inter-government linkages to promote intra-OIC global portfolio investment. Capital market regulators in the OIC countries may encourage market participants to introduce inter-OIC investment funds (regional oriented) as potential investments, especially in the mutual fund industry. Special incentives, such as tax exemption on investment, may help to encourage market participation.

Previous studies show wide potential benefits of global portfolio investment in emerging countries. Europe appears to be a successful story for economic integration. Ferreira and Miguel (2011) show that investors from EMU countries invest more in their market compared to non-EMU countries. Leveraging from EMU experience, the researchers conclude that global portfolio investment in OIC countries is imperative as the economies are emerging. Li, Sarkar and Wang (2003) investigate the relative magnitude of the international diversification benefits for local investors in various foreign markets. They conclude local investors particularly from East Asia (Malaysia and Indonesia) and Latin America (Turkey) benefit more from both regional and global portfolio diversification. In a similar study Vein, Bahlous and Mohd. Yusof (2014) evaluate the benefits and potential of global diversification among Islamic funds. Empirical findings show investors that invest geographically in Asia Pacific, MENA or Europe fund enjoy the diversification benefits in both the short and long run.

In addition, Bouslama and Ouda (2014) found there are substantial economic gains from global portfolio diversification in emerging markets, despite the issue of growing market correlations. Asset allocations in emerging markets and frontier markets enhance portfolio returns. Recently, Liu, Park, and Sohn (2018) diversification benefits in emerging markets still exist, especially during financial crises. Furthermore, OIC countries have a wide presence around the world and are represented by various regional bases. This diversity may encourage greater risk sharing across the regions as well as increase diversification benefits among the OIC countries.

Based on the above justification, the regulators in OIC countries need to encourage global portfolio investment among OIC countries. This initiative may assist and promote a strategic plan for greater economic integration among the OIC countries. The concerted effort may focus on the major player in the market by encouraging intra-OIC portfolio investment among institutional investors. The regulators may provide incentives to encourage the establishment of regional funds among the OIC countries. These funds are attractive enough as OIC countries are experiencing high economic growth. This may offer attractive returns and promote greater risk-sharing among the OIC countries.

Suggestions for Future Research: Future researchers may extend the current research by considering different asset classes (bonds) as well as different groups of investors (institutional and non-institutional). CPIS data segregates various asset classes and types of investors. Segregation of samples may provide robust findings that will enable proper justification of the research results. As evidenced in the current research, sub-samplings into different host countries sample enable for thorough comparison of research results. Recently, Park, Taniguchi, and Tian (2019) researched the determinants of domestic bias and foreign bias in the global bond market. The findings show that, foreign investors overweight the market with higher risk-return profiles, lower volatility, and greater openness. In contrast to domestic investors, foreign investors prefer to invest in markets with higher returns and lower volatility.

As evidenced in various empirical findings from sub-sampling, it is worth extending the future research into the period of before and after GFC. Empirical findings in this study have shown that GFC produces consistent results across the sample that facilitates a thorough analysis. Detailed analysis of GFC may contribute to new findings that may offer new knowledge. With the existence of the recent global pandemic of COVID-19, there are new opportunities for additional research agendas. The effect of this time effect variable may provide new insight into the existing study on home bias and foreign bias phenomenon.

Conclusion: Foreign bias may be explained by factors relating to financial market openness, familiarity, information asymmetry, and global financial crisis. OIC countries prefer to be in host countries with higher financial market openness. However, OIC countries refuse to invest in non-OIC countries that are more globalized. Frequent import and export transaction between OIC countries and the world encourages global portfolio investment with non-OIC countries. However, global import and export trade has hampered global portfolio investment between OIC countries. The information gap has deterred global portfolio investment between OIC countries and the host countries. OIC countries continuously diversify their portfolio even though there is a global financial crisis. However, the concentration of investment is focused on the MENA region. This signals OIC countries not only exhibit foreign bias but also have a tendency to regional bias.

Specific to the scope of intra-OIC, foreign bias can be explained by factors related to economic development and market development. OIC refuses to invest in their OIC counterparts when the cost of investment in host countries is expensive. In addition, OIC countries prefer to invest in the domestically established public listed companies of the host countries.

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