

# The Home Bias: Evolution, Determinants, and Financial Crises

Rifa Atrous<sup>1</sup> & Ezzeddine Abaoub<sup>1,2</sup>

<sup>1</sup> Univ. Manouba, ESCT, LARIMRAF LR21ES29, Tunisia

<sup>2</sup> Faculty of Economic Sciences and Management of Nabeul, Tunisia

Correspondence: Rifa Atrous, Univ. Manouba, ESCT, Tunisia. Tel: 216-9743-3129. E-mail: at.rifaa@gmail.com

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## Abstract

This article examines the persistent phenomenon of “home bias” and its determinants in international portfolio management, with a particular focus on the inherent challenges posed by the puzzle of preference for domestic assets and its impact on financial markets, highlighting the period of the COVID-19 pandemic. Utilizing a multiple linear regression model, estimated through Ordinary Least Squares (OLS) method, applied to data covering 43 countries over a 15-year period, this study reveals that home bias remains more pronounced in emerging economies, with significant variations in terms of factors such as economic development, governance, financial openness, information asymmetry, technology, and other explanatory variables. The findings underscore the crucial importance of understanding the underlying mechanisms of home bias, especially during financial crises, for investors, regulators, and policymakers. Additionally, the article suggests that information asymmetry continues to play a vital role in this preference, but other economic and behavioral factors also influence foreign investment decisions.

**Keywords:** portfolio selection, international diversification, home bias, financial crisis, information asymmetry, governance

## 1. Introduction and Literature Review

In a global market characterized by seamless capital flows, traditional financial theory suggests that investors should optimize their risk-return profiles by fully allocating the risky portion of their portfolios to the global market, as per Sharpe’s Capital Asset Pricing Model (CAPM) from 1964. However, market reality reveals that investors often deviate from the approach asserting that international portfolio diversification is equivalent to domestic diversification (Solnik, 1973), exhibiting a “home bias” behavior by concentrating their investments in domestic assets, a tendency empirically observed (Obstfeld & Rogoff, 2000). This inclination, seen in both individual and institutional investors, has sparked significant interest in the field of finance and is commonly referred to as the “home bias puzzle” due to its deviation from portfolio compositions predicted by Markowitz’s portfolio theory in 1952. The initial findings of home bias were highlighted by French and Poterba (1991) in their analysis of portfolio compositions in three major world economies—namely, the United States, Japan, and the United Kingdom—in December 1989. Capital market models developed by Black (1974), Michaelides (2003), and Stulz (1981a, 1981b), along with empirical studies like those by French and Poterba (1991) in the U.S., the U.K., and Japan, demonstrate the persistent existence of this bias. The underlying reasons for this phenomenon have various explanations. Institutional factors such as taxes, transaction costs, and barriers to international investments are frequently discussed (Black, 1974; Michaelides, 2003), although their validity is controversial (Coñ, 2001; Glassman & Riddick 2001). Informational asymmetries among investors are also considered, reflecting informational advantages resulting from differences in national and international accounting standards (Ahearne et al., 2004; Bradshaw et al., 2004). Behavioral reasons related to emotional biases and optimism toward local assets are also put forth (Li, 2004; Solnik & Zuo, 2016). Additionally, familiarity and “pure familiarity” can induce home bias (Massa & Simonov, 2006). Hedging motives, aiming to protect against uncertainty, constitute another explanation (Choi et al., 2017), although their practical significance is questioned (Cooper & Kaplanis, 1994; Glassman & Riddick, 2001). Indeed, this phenomenon can have a significant impact on the diversification of investment portfolios and international financial stability. Excessive overweighting of domestic assets can increase the vulnerability of economies to financial shocks. Furthermore, financial crises can play a major role in investors’ decisions to favor domestic assets, while phenomena like contagion and volatility transmission can reinforce this preference. In reality, factors such as hedging against inflation, the nature of assets, and other

considerations including transaction costs and restrictions on the free movement of goods and capital also impact diversification choices in the realm of finance. Moreover, behavioral and individual investor-specific factors, such as optimism and familiarity with domestic assets, can also contribute to home bias.

This literature review distinguishes itself from previous works by Coeurdacier and Rey (2013), Ardalan (2019), and Gaar et al. (2022) in two major aspects.

Firstly, it primarily focuses on studies explicitly dedicated to home bias, marking a significant evolution in understanding this phenomenon.

Secondly, by adopting a more comprehensive approach, it encompasses the entire issue of home bias.

Building on the earlier works of eminent authors such as Black (1974), Stulz (1981b), Lewis (1999), Cooper and Kaplanis (1994), and Fidora et al. (2007), as well as the study by Gaar et al. (2022), the analysis in this article explores the evolution of measures, underlying reasons, and implications of home bias across various countries, with a particular emphasis on the COVID-19 period.

### *1.1 Empirical Evidence and Measures of Home Bias Existence*

Empirical evidence supporting the existence of home bias in financial investments is abundant and observable on a global scale. Researchers such as French and Poterba (1991), Cooper and Kaplanis (1994), Tesar and Werner (1995), Stockman and Dellas (1989), and Dziuda and Mondria (2012) have presented robust findings for OECD countries and beyond. In Germany for instance, Oehler et al. (2008) substantiated the presence of a substantial home bias among mutual fund investors, maintaining a disproportionately high allocation of German and European assets in their portfolios. Lütje and Menkhoff (2007) also validated the existence of home bias among German investors, while Dahlquist (2001) emphasized this trend among Swedish investors. Lippi (2016) confirmed home bias among Italian pension fund managers investing in government securities, corporate bonds, and stocks. The pioneering work of French and Poterba (1991) quantified the degree of home bias in three countries at the end of 1989, revealing predominant domestic investments, such as U.S. investors with 93.8%, Japanese investors with 98.11%, and British investors with 82% of their respective stock portfolios. Cooper and Kaplanis (1994) corroborated these results, calculating home bias in terms of “domestic stocks relative to the proportion of domestic stocks in the global portfolio”. In fact, these figures, while not accounting for the optimal weight in a diversified portfolio, underscore the persistence of home bias. Current measures of home bias vary but confirm its widespread existence. Fidora et al. (2007) provided detailed data, defining home bias in terms of the share of international assets in a country’s portfolio compared to the global market weight. Mature economies, on average, exhibit a home bias of 67.6%, while emerging economies show a higher degree of around 95%. Other approaches, such as those of Chan et al. (2005), Lau et al. (2010), and Anderson et al. (2011), add nuances to home bias measures, but all converge to confirm its existence. Some studies, like that of Cooper et al. (2018), integrated both home and foreign bias into a single model, identifying “pure home bias” as the portion unexplained by foreign bias. They concluded that this pure bias is observed only in emerging markets, with developed countries showing a preference for foreign investments, mainly influenced by geographical proximity.

### *1.2 Empirical Evolution of Home Bias Measures*

The empirical measurement of the variable degree of home bias reveals a downward trend over time, particularly notable among U.S. investors. Available data, largely focused on U.S. investors (Karolyi, 2016), has allowed for an in-depth analysis of the phenomenon (Eichler, 2012). An indication of this overall decrease in home bias is perceptible in the increasing proportion of foreign ownership in the Japanese stock market from the 1970s to the 1990s (Kang & Stulz, 1997). Explicit studies, such as those by Levy and Levy (2014) and Ahearne et al. (2004), confirm a reduction in home bias in the U.S. from 1988 to the 2000s. Although home bias experienced a slight increase in the early 2000s, it then decreased, persisting at a significant level of around 40% until 2012. The variability of home bias is also influenced by specific factors. The economic development of a country, often considered a determinant, does not show a statistically significant correlation with home bias in stocks (Bae et al., 2008; Dahlquist et al., 2003). Differences in financial development seem to be reflected more in stock prices than in home bias (Chan et al., 2005). However, evidence suggests that economic development can influence home bias in bonds (Ferreira & Miguel, 2011). Resource constraints of managers also play a crucial role, with limited resources leading to an increase in home bias (Pool et al., 2012). Investors with smaller amounts invested are also more prone to exhibit home bias (Karlsson & Nordén, 2007). Size, whether of countries or portfolios, also affects home bias, with larger size leading to an increased propensity for home bias (Mishra, 2015). Cultural elements, such as long-term orientation and masculinity, have been identified by Anderson et al. (2011) as influences on home bias, while uncertainty avoidance seems to increase this bias. Overconfidence, emphasized by Lütje and

Menkhoff (2007), and cultural variables, confirmed by Beugelsdijk and Frijns (2010), impact investment decisions, although more in connection with foreign bias. Despite a decrease in home bias with financial openness, Mondria and Wu (2010) note long-term persistence due to the complex interaction between portfolio and information choices. Several measures of home bias have been proposed by researchers. Warnock (2002) suggests a measure comparing the proportion of domestic assets in the investor's portfolio to that in the global portfolio, thus quantifying the degree of preference for domestic assets. Cooper et al. (2017) introduce the concept of "pure home bias" to assess national bias unexplained by foreign bias and distance effects. According to their findings, pure home bias strengthens in periods of market crises or turbulence. It should be noted that there is no standard measure to evaluate home bias, which may explain the contradictory results observed in studies. Researchers such as Chan et al. (2005) found differences in the magnitude of home bias between countries, while Fidora et al. (2007) obtained opposite results.

Table 1. The various measures of home bias for certain markets

	Year	U.S.	UK	Japan	Germany	France	Italy	Sweden
French & Poterba (1991)	1989	93.8	82.00	98.11	–	–	–	–
Cooper & Kaplanis (1994)	1987	98.0	78.5	86.7	75.4	64.4	91.0	100.0
Chan and al. (2005)	1999–2000	0.61	1.67	1.86	2.12	2.55	2.77	3.81
Lau and al. (2010)	1998–2007	0.695	1.714	2.363	2.171	2.651	3.028	3.927
Own calculation1	1999–2000	0.730	0.380	0.682	0.307	0.533	0.339	0.472
Own calculation2	1999–2000	0.3881	0.3493	0.6053	0.295	0.5095	0.3315	0.4571
Fidora and al. (2007)	2001–2003	75.1	67.1	89.3	61.6	72.4	57.3	–
Hau & Rey (2008)	2001–2002	92.1	65.4	–	55.4	55.4	55.4	–
Anderson and al. (2011)	2006	42.21	20.75	14.83	16.40	32.42	16.63	41.43
Mondria & Wu (2010)	1988–2004	0.82	0.73	0.91	0.7	0.82	0.83	0.77
Mishra (2015)	2011	0.6118	0.5629	0.7916	0.4609	0.6345	0.3902	0.5035

The "Own calculation" is based on data from Chan et al. (2005). The "Own calculation" is computed according to Fidora et al. (2007). The "Own calculation 2" is the national capital market weighting subtracted from the share of national investments. According to Mishra (2015), measurements using the International Capital Asset Pricing Model (ICAPM, weekly) are included.

### 1.3 The Determinants of Home Bias

Several factors influence home bias in investment decisions. Taxes, transaction costs, and obstacles to international investments, as suggested by Black (1974), institutional restrictions (Coen, 2001; Glassman & Riddick, 2001), and informational asymmetries among investors (Coval & Moskowitz, 1999, 2001; Dziuda & Mondria, 2012) are considered plausible explanations for home bias. Additionally, hedging motives, such as protection against uncertainty (Choi et al., 2017), related to inflation risk, exchange rate risk, and purchasing power parity deviations (Fidora et al., 2007), have also been proposed as possible explanations for home bias. It is essential to note that home bias is not confined to national borders. Coeurdacier and Rey (2013) demonstrated that it can also be cross-border, especially when the neighboring country is sufficiently close. Moreover, geographical distance can influence home bias, known as the home bias puzzle. These findings underscore the importance of considering home bias in portfolio management to maximize returns and reduce risks (Ardalan, 2018). Familiarity, optimism, financial literacy, patriotism, loyalty, and hedging motives are behavioral and psychological factors that can contribute to home bias. The measurement of home bias may vary depending on the accuracy of data and measures used, which may explain some divergences in study results.

#### 1.3.1 Institutional Reasons

Home bias, characterized by a marked preference for domestic assets by investors, can be attributed to institutional and individual factors, as well as information considerations. The early research by French and Poterba (1991) explored institutional reasons, such as restrictions on capital flows, taxes, and transaction costs. However, the results did not significantly support these explanations, emphasizing that while institutional reasons may play a role, they are not sufficient to explain the extent of home bias. Among institutional reasons, barriers and taxes related to transactions have been examined. Black (1974) proposed a model including explicit barriers in the form of taxes on foreign investments, but empirical results did not confirm these hypotheses. Stulz (1981b) presented a similar model with similar results, suggesting that holding foreign assets implies higher costs for domestic investors. However, these models were not empirically supported. Transaction costs, considered potential obstacles, have also been examined. However, researchers like Cooper and Kaplanis (1994) questioned the

viability of this explanation, pointing out the need for unreasonable risk aversion levels. Tesar and Werner (1995) noted higher turnover rates for foreign stocks, undermining the validity of this explanation. Michaelides (2003) advanced the idea that small additional costs for foreign investments could contribute to home bias, while high tax rates could also play a role (Mishra et al., 2013). However, current policies seem to have mitigated these tax issues. Recent studies have questioned the relevance of explicit barriers, noting that they have a statistically significant but economically limited impact (Ahearne et al., 2004). Other researchers such as Dahlquist et al. (2003), Cořn (2001), Glassman and Riddick (2001), and Baltzer et al. (2013) have also cast doubt on the predominant influence of explicit barriers on home bias.

### 1.3.2 Internal Corporate Governance

On the other hand, internal corporate governance, an institutional dimension of home bias according to Dahlquist et al. (2003), plays a key role. In 51 countries, 32% of stocks are not publicly traded due to majority holdings, thus limiting public investors' access to the global portfolio. This phenomenon is particularly pronounced in countries like the United States. "Institutional quality," measured by Mishra (2015), has a significant correlation with home bias, indicating that higher governance standards lead to reduced home bias. Conversely, poor internal governance, characterized by excessive managerial control and high levels of internal control (Leuz et al., 2009), makes foreign investors wary of poorly managed companies. This wariness leads to an underrepresentation of foreign stocks in their portfolios, thereby accentuating home bias. In summary, the increasing correlation of markets and the institutional aspects of internal corporate governance are major factors explaining the persistence of home bias in investment decisions.

### 1.3.3 Informational Reasons for Home Bias: In-Depth Analysis

According to French and Poterba (1991), investors may perceive increased "risk" associated with foreign investments due to lesser knowledge of foreign markets, institutions, and companies. Shukla and van Inwegen (1995) emphasize informational asymmetries, showing that domestic investors have an advantage over foreign investors, thus inducing home bias. This asymmetry is attributed to linguistic and cultural differences by Hau (2001), while van Nieuwerburgh and Veldkamp (2009, 2010) highlight the fundamental role of human behavior in differentially valuing information based on its exclusivity. However, criticisms emerge. Lütje and Menkhoff (2007) question purely informational explanations, indicating that German fund managers perceive a local informational advantage, even if not entirely justified. Glassman and Riddick (2001) highlight that informational asymmetries combine with a differential perception of risk, but this alone does not explain home bias. Ivkovic and Weisbenner (2005) reverse the argument, suggesting that local informational advantage leads to better performance for concentrated portfolios.

#### 1.3.3.1 Accounting Standards and Reports: Predominant Information Asymmetries

Accounting standards and reports occupy a significant place in research on home bias. Bradshaw et al. (2004) show that the adoption of U.S. accounting standards encourages U.S. investors to invest more in non-U.S. companies, thus reducing home bias. Ahearne et al. (2004) demonstrate the strong link between information costs and asymmetries, emphasizing that companies reduce these costs by complying with foreign accounting standards. Covrig et al. (2007) confirm that the use of international accounting standards attracts more foreign investors, thus reducing home bias. Mishra (2015) examines the negative impact of foreign listing on home bias, while Eichler (2012) suggests that corporate disclosure can reduce home bias under certain conditions. Unlike other studies, Eichler (2012) specifies that formal regulatory requirements alone have no impact, highlighting the importance of the comprehensibility of disclosure statements for investors. In summary, informational dynamics, whether related to perceived advantages or accounting standards, play a complex role in the formation of home bias, emphasizing the importance of considering various factors for a holistic understanding of investor behavior.

#### 1.3.3.2 Information-Based Familiarity and Information Asymmetry

The informational advantages gained by an investor through familiarity with a company are often closely related to information asymmetries. It is crucial to distinguish this information-based familiarity from behavioral familiarity, as emphasized by Massa and Simonov (2006). Investors have a natural inclination to invest in assets they are familiar with, with familiarity interpreted by Massa and Simonov (2006) in the context of geographical, professional, and information-based proximity. Bodnaruk (2009) supports the thesis that familiarity, combined with information asymmetry, is an underlying reason for local bias. During transitions, such as a move, changes in familiarity can be observed. Pre-existing ties with companies may weaken, while new familial relationships form, especially in proximity to the new place of residence (Bodnaruk 2009). The evidence on information-based familiarity primarily focuses on local bias, and the two studies in question rely on Swedish data involving investors. Thus, the explanatory scope of these specific conclusions remains limited. However, considering information-

based familiarity as a normal component of informational reasons, without distinguishing it from general information asymmetry, the evidence related to informational explanations of home bias and local bias remains predominant.

#### 1.3.4 Behavioral and Individual Investor-Specific Reasons

Behavioral and individual motivations behind home bias find their foundations in human psychology. These motivations are closely related to investors' beliefs, perceptions, and personalities, often escaping correlation with financial market development. Addressed behavioral reasons include optimism, ambiguity aversion, competence, experience, financial literacy, pure familiarity, patriotism, loyalty, and hedging against uncertainty.

##### 1.3.4.1 Optimism and Beliefs Regarding Domestic Assets

Investors, in general, exhibit a more pronounced optimism toward their domestic market, resulting in biased portfolio preferences. Two forms of optimism, absolute and relative, play a crucial role in explaining home bias. Relative optimism, where investors are more optimistic about their domestic market than their foreign counterparts, is particularly relevant. Studies such as those by Shiller et al. (1996) and Li (2004) confirm these observations, demonstrating that relative optimism significantly contributes to home bias. Fund managers, especially European and Japanese ones, exhibit absolute optimism, thereby reinforcing home bias. However, debates exist regarding the timing of absolute optimism compared to home bias.

##### 1.3.4.2 Ambiguity Aversion, Competence, Experience, and Financial Education of Investors

Ambiguity aversion, tested by Ellsberg (1961), can partially explain home bias in investors' portfolio choices. Recent studies, such as those by Dimmock et al. (2016), show a negative correlation between ambiguity aversion and holding foreign stocks. Prior national experience prompts investors to feel competent, thus favoring home bias. Additionally, financial literacy and the search for advice seem to influence investors' choices, although the direct relationship with home bias is not conclusively proven. Von Gaudecker (2015) demonstrates that financially literate households receiving advice exhibit lower levels of under-diversification and achieve superior investment outcomes.

##### 1.3.4.3 Pure Familiarity, Patriotism, and Loyalty

Pure familiarity, patriotism, and loyalty are interconnected, expressing investors' connection and solidarity with their country. Behavioral familiarity, where investors prefer local assets due to their knowledge, contributes to home bias. Studies such as those by Grinblatt and Keloharju (2001), Morse and Shive (2011), and Cohen (2009) support the relationship between patriotism and home bias. Loyalty, similar to patriotism, also motivates intranational investment decisions.

##### 1.3.4.4 Contagion Effect and Volatility Transmission

Recent technological advancements, such as the rise of electronics and algorithmic trading, have amplified the transmission of volatility shocks across different financial markets. This transmission is reinforced by the high correlation between different financial instruments on various markets, raising concerns about global financial stability and contagion phenomena. Information transmission, both in terms of returns and volatility, among stock markets, is crucial for investors and policymakers, especially due to increasing global financial integration (Bouri, 2013). During periods of turbulence or crises, these transmissions can spread from one market to another, requiring portfolio managers to adjust their asset allocations (Syriopoulos et al., 2015; Yousaf et al., 2019) and financial policymakers to modify their policies to reduce the risk of contagion.

##### 1.3.4.5 Uncertainty and Hedging Against Uncertainty

Choi et al. (2017) and Lehmann-Hasemeyer et al. (2019) confirm a positive correlation between home bias and global uncertainty. In times of uncertainty, investors seek the safety of domestic assets, thus justifying home bias. Hedging against uncertainty, specifically related to real exchange rate volatility, emerges as a plausible explanation for home bias. Empirical work, such as that of Fidora et al. (2007), supports this notion by showing a positive correlation between real exchange rate volatility and home bias. However, debates persist regarding the overall impact of hedging as an explanatory motive for home bias.

In this context, our study distinguishes itself from numerous studies that have discussed and examined home bias and the various determinants and possible reasons for its existence in global financial markets through a comprehensive analysis by integrating all variables that can generate home bias. Additionally, our study covers a period of 16 years, including the COVID-19 pandemic period, to obtain more conclusive results. To provide more comprehensive results, this study also includes a comparative analysis of home bias measures for both emerging and developed countries.

The structure of the article is organized systematically. The second section presents the data and empirical model, the third section provides an analysis of quantitative results and a detailed discussion of the degree of home bias as well as the study of possible justifications for its presence in developed and emerging markets, with a focus on the impact of financial crises. Finally, the fourth section concludes our research work.

## 2. Data and Methodology

In this study, we have two main objectives.

- Firstly, we aim to validate the hypothesis suggesting an evolution of the degree of home bias over time, accentuated by financial crises, especially the crisis related to the COVID-19 pandemic.

To achieve this, we calculated the home bias of 43 countries, covering the period from January 2006 to December 2020. The degree of national preference, commonly referred to as “home bias” (HB), is calculated according to the definition established by Ahearne et al. (2004) as follows:

$$HB_{i,t} = 1 - \frac{sfe_{it}^{world}}{sfe_{it}^{country}} \quad (1)$$

Where  $sfe_{it}^{world}$  is the share of foreign assets in the global portfolio, and  $sfe_{it}^{country}$  is the share of foreign equities in the portfolio of a given country. We combine data on market capitalization and data on the equity position of international investments (including assets and liabilities). These data were extracted from the statistical databases of the International Monetary Fund (IMF) and the World Bank for the entire sample. It is worth noting that the collected data are of monthly frequency, and an annual home bias was calculated for each observation.

- The second objective of this study lies in the analysis of explanatory variables for home bias.

To do this, we use the following linear model:

$$HB_{i,t} = \alpha + \beta_1 x_1 + \dots + \beta_n x_n + \varepsilon_{i,t} \quad (2)$$

The home bias  $HB_{i,t}$  is calculated for each country  $i$  for the period  $t$ , based on various explanatory variables  $x_1 \dots x_n$ .

The explanatory variables, statistical sources, definitions, and measurements are detailed in Table 2 and include a selection of variables related to economic development, stock market development, governance, capital flow frictions, familiarity, as well as dummy variables referring to financial crises and membership in emerging or European countries.

## 3. Results and Discussion of the Results

In 2020, Ukraine recorded the highest rate of domestic bias, reaching 100%, closely followed by India, Egypt, and Turkey, with rates of 99.5%, 98.9%, and 98.3%, respectively. However, the Czech Republic displayed the lowest rate at 45.6%, followed by Hungary at 49.4%. Among developed countries, Poland registered the highest domestic bias at 88.7%, followed by Japan at 66.5%. On the other end of the spectrum, Norway exhibited the lowest rate at 15.6%, closely followed by Austria at 22.2%.

It is noteworthy that, in developed countries, an increase in domestic bias was observed, especially in Poland, where the rate rose from 88.1% to 88.7%, in Austria from 61.3% to 62.2%, and in the United States from 51.3% to 53%. This increase can be attributed to the impact of the COVID-19 pandemic on the global economy. Conversely, for emerging countries, a decrease in domestic bias was observed, notably in Colombia, where it dropped from 82% in 2019 to 72.4% in 2020, and in Hungary, where it fell from 58.7% to 49.4%.

This decrease may be due to increased openness of these countries' economies to foreign businesses, along with an increase in competition in the domestic market.

These results align with previous empirical studies on domestic bias. For instance, French and Poterba (1991), based on end-1989 data, demonstrated domestic bias rates of 93.8% in the United States, 98.11% in Japan, and 82% in the United Kingdom. However, Levy and Levy (2014) showed a decrease in domestic bias in the United States from 1988 to the 2000s, confirmed by Ahearne et al. (2004).

### 3.1 Influencing Factors

The results from our linear model highlight several factors influencing investors' decisions to allocate funds abroad:

- GDP per capita and GDP growth impact domestic bias, with a growing economy and high GDP per capita seemingly encouraging investors to diversify their portfolios internationally.
- Market capitalization and turnover negatively impact domestic bias, indicating that large and highly liquid companies attract domestic investments.
- Corporate transparency did not show a significant impact on domestic bias.
- Capital controls and financial openness negatively impact domestic bias, suggesting that restrictions on capital movements may strengthen preferences for domestic assets.
- The volatility of the exchange rate has a positive impact on domestic bias, suggesting that investors may perceive exchange rate fluctuations as a risk factor.

Table 2. Variables and data sources

Variables	Description and data sources
<b>Economic development</b>	
GDP per capita	GDP per capita in US dollars,
GDP growth	Annual GDP growth,
Openness of the economy (Trade Openness)	and the country's Openness Rate (OR) to the rest of the world. These data are extracted from the World Bank.
<b>Stock market development</b>	
Market capitalization	Market capitalization as a percentage of GDP
Revenue	The ratio of the total value of traded stocks to market capitalization. These data are extracted from WDI, OMX Nordic Exchange, Thomson Reuters Eikon.
<b>Governance Variables</b>	
Shareholders' Rights	Index that assesses shareholders' rights on a scale of 0 to 10.5;
Protection of Minorities	Index that evaluates the protection of minority shareholders on a scale of 0 to 10;
Corporate Transparency	Index that assesses corporate transparency on a scale of 0 to 9;
Governance	Governance index constructed using principal component analysis based on six governance indicators; These data are extracted from the World Bank's Doing Business database.
<b>Frictions in Capital Flows</b>	
Capital controls	Index measuring restrictions on capital inflows and outflows on a scale of 0 to 10; excerpt from the Economic Freedom Network website.
Financial opening CHIN ITO	The Chinn-Ito <sup>1</sup> Index (KAOPEN), measures the degree of openness of the capital account derived from the balance of payments of each country; excerpt from the Heritage Foundation website <sup>2</sup> .
Exchange rate Volatility	This refers to the annualized volatility of monthly variations in the real exchange rate index of each country; excerpt from the Bank for International Settlements <sup>3</sup> <i>Familiarity Variables</i>
<b>Familiarity</b>	
Distance	Average distance between the capital of a given country and the capital of every other country in the sample; calculated using data extracted from the CEPII website.
Common Language	Share of countries whose official language is common to several countries; calculated using data extracted from the CEPII website.
Market Capitalization of neighboring countries	Sum of the market capitalization weights of neighboring markets for each country; calculated taking into account the border limit and market capitalization data extracted from the World Bank.
Foreign Residents	Share of the population born abroad.
Internet and Mobile Phone Usage, and International Departures	These three variables are proxy variables that refer to familiarity and information asymmetry; this data is directly extracted from the World Bank database.
<b>Dummy Variables</b>	
Global financial crisis	Dummy variable that takes the value of 1 if the reference year was marked by a global financial crisis (COVID-19 is also considered) and 0 otherwise.
EuroZone	Dummy variable that takes the value of 1 if the country is part of the Eurozone and 0 otherwise.
Emerging markets	Dummy variable that takes the value of 1 if the country is part of emerging markets and 0 otherwise.

Note. <sup>1</sup> [https://web.pdx.edu/~ito/Chinn-Ito\\_website.htm](https://web.pdx.edu/~ito/Chinn-Ito_website.htm)

<sup>2</sup> <https://www.heritage.org/index/about>

<sup>3</sup> [https://www.bis.org/statistics/full\\_data\\_sets.htm](https://www.bis.org/statistics/full_data_sets.htm)

### 3.2 Familiarity Variables

We also explored the impact of familiarity variables, such as geographical distance, the number of foreign residents, and international departures, on domestic bias in foreign transactions and investments. Our results indicate that only a common language, the use of the Internet, and mobile telephony are significant factors in

explaining domestic bias.

In conclusion, our findings align with the conclusions of Iseli and Wallmeier (2022), emphasizing the role of information asymmetry in generating a preference for domestic assets. These observations shed light on the importance of understanding the underlying mechanisms of domestic bias in both developed and emerging markets, especially during financial crises and geopolitical tensions. This knowledge can be valuable for investors, regulators, and policymakers to anticipate market reactions and implement appropriate measures.

Table 1. Summary of Linear regression results (2006-2020)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C	1.935 (0.000)	0.862 (0.000)	0.499 (0.000)	1.001 (0.000)	0.727 (0.000)	0.579 (0.000)	-2.849 (0.000)
Ln (GDP/cap.)	-0.127*** (0.000)						0.364*** (0.000)
GDP Growth	0.015** (0.001)						0.004 (0.359)
Openness rate of the economy	0.000 (0.468)						0.001** (0.013)
Market Capitalization		-0.001*** (0.002)					-0.001 (0.375)
Turnover		-0.001*** (0.004)					-0.001 (0.350)
Shareholders' Rights			-0.016** (0.012)				-0.003 (0.770)
Protection of minorities			0.080*** (0.000)				-0.009 (0.686)
Corporate Transparency			-0.002 (0.802)				0.027* (0.041)
Governance			-0.093*** (0.000)				-0.073*** (0.001)
Capital controls				-0.022*** (0.005)			-0.008 (0.286)
FO CHIN ITO				-0.138*** (0.000)			-0.084*** (0.001)
Exchange rate Volatility				0.008* (0.072)			0.012*** (0.001)
Ln (Distance)					-0.018 (0.753)		-0.008 (0.903)
Common Language					0.005*** (0.006)		0.017*** (0.000)
Market Capitalization of neighboring countries					-0.009*** (0.000)		0.000 (0.906)
Foreign Residents					0.002 (0.253)		-0.019 (0.000)
LN (internet)					-0.081*** (0.000)		-0.159*** (0.000)
Ln (mobile)					0.118*** (0.000)		0.164*** (0.001)
Ln (int. departure)					-0.038 (0.140)		-0.027 (0.381)
Global financial crisis						-0.016 (0.537)	-0.026 (0.367)
EuroZone						0.029 (0.418)	0.152*** (0.001)
Emerging Market						0.315*** (0.000)	0.334*** (0.001)
Observations	547	518	549	487	465	549	414
R2	0.254	0.047	0.317	0.249	0.274	0.213	0.449
Adj R2	0.231	0.017	0.294	0.224	0.239	0.209	0.418

(\*\*\*), (\*\*) et (\*) represent the significance levels of 1%, 5%, and 10% respectively.

The numbers in () represent the standard deviations.



#### 4. Conclusion

The results of our study align with the seminal work of Iseli and Wallmeier (2022), shedding light on the significance of familiarity, economic growth, and governance efficiency in explaining home bias. However, we introduced a variable specific to financial crisis periods, and our tests support the findings of Iseli and Wallmeier, emphasizing the role of information asymmetry in the preference for domestic assets.

It is important to note that our results are consistent with Barron and Ni's (2008) findings, highlighting the impact of information asymmetry on the value of domestic assets in the context of international finance. Barron and Ni's rational anticipation model, which endogenously incorporates information acquisition, establishes a significant relationship between portfolio size, information cost, and the degree of home bias in the examined countries.

Nevertheless, a more recent study by Ferreira, Matos, and Pereira (2017) demonstrates that local information advantage is associated with better performance. Their analysis, based on a sample of large-scale mutual funds, indicates that foreign managers outperform local managers in terms of performance.

Markowitz's (1952) portfolio theory advocates for asset diversification to optimize returns and minimize risk. However, investors tend to favor domestic assets over foreign ones, a phenomenon observed in many countries and for various asset types. This results in a gap between the optimal composition predicted by Markowitz's theory and the actual portfolios of investors. Our literature review reveals several explanatory factors for this preference for domestic assets, such as inflation risk hedging, market restrictions, transaction costs, taxes, information asymmetry, and behavioral factors unique to each individual investor.

In this context, we deem it essential to assess the evolution of home bias over a period spanning the COVID-19 pandemic to compare bias prevalence before and after this crisis. Our analysis over a 15-year period across 43 countries reveals a more pronounced prevalence of home bias in emerging markets, with a tendency to gradually decrease, except during the pandemic period, which had a disruptive impact on the global economy.

Furthermore, the results obtained demonstrate that factors such as governance efficiency, financial openness, technology usage, and information access have a positive impact on foreign transactions and investments, thereby contributing to the reduction of home bias. In conclusion, our study confirms our initial hypothesis that home bias predominates, primarily due to information asymmetries. However, it is worth noting that other factors such as economic development, financial market maturity, investor protection, capital flow frictions, and familiarity also exert influence on foreign investment decisions, although their impact may vary based on their nature and intensity.

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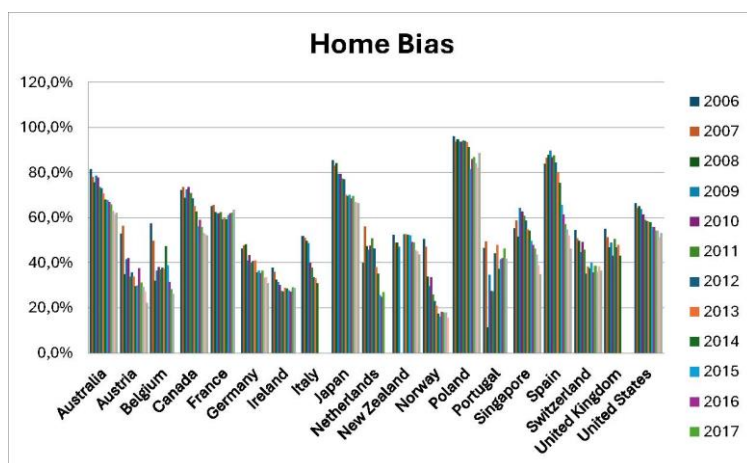
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## Appendix

### Measurement of home bias: Developed market

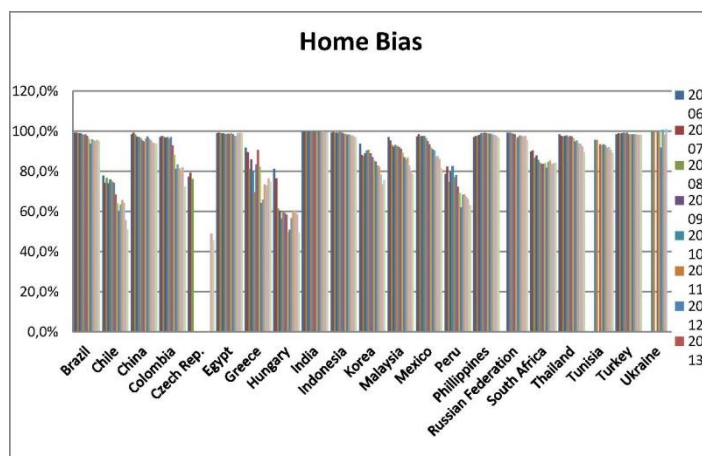
HB	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	81,3	77,9	75,5	78,5	77,8	73,5	73,1	70,5	67,8	67,7	66,8	65,9	62,9	61,3	62,2
Austria	52,9	56,4	34,8	41,5	41,8	33,7	35,6	33,8	29,5	29,7	37,4	31,1	29,4	27,2	22,2
Belgium	57,4	49,6	32	36,5	38	36,9	37,7	37,1	47,2	38,9	31,5	28,3	26,1		
Canada	72,1	73,4	68,7	72,5	73,6	70,8	68,5	65,1	62,6	56	58,9	55,9	53	52,7	52,1
France	65	65,4	62,4	61,9	61,7	62,3	59,1	60	59,3	61	61,9	62,1	63,5		
Germany	46,3	47,6	48	40,9	43,2	39,8	40,6	41	35,7	36,4	35,3	36,4	33,3	33,4	30,9
Ireland	37,6	35,9	32,49	31,4	30	27,5	27,1	28,8	28,5	27,5	27,1	29	28,6		
Italy	51,8	51	49,6	48,6	39,8	37,8	33,4	33,1	30,9						
Japan	85,5	83,1	84,1	79,2	79,2	77,2	77,1	70	69,4	70	68,3	69,4	66,9	66,5	66,5
Netherlands	39,8	55,9	47,3	45,7	47,5	50,6	46,2	38	35	25,7	24,9	26,9			
New Zealand	52,3	48,9	48,9	46,9			52,6	52,6	52,2	52,1	49,1	48,8	45,4	45	43,5
Norway	50,4	46,9	33,8	29,6	33,4	25,8	22,9	20,8	17,4	16	18,1	17,8	17,9	15,6	
Poland	96	93,7	94,6	93,6	93,6	94,1	93,8	93,5	91,3	81,4	85,9	86,8	84,1	82,1	88,7
Portugal	46,6	49,3	11,3	34,5	27,4	27,2	44,1	47,7	37,3	41,4	41,9	46,2	41,7		
Singapore	55,2	58,8	51,4	64,2	62,6	60,8	58,8	54,8	54,1	49,8	47,7	46,1	43,5	38,9	34,9
Spain	83,8	86,4	87,9	89,7	86,8	87,5	84,3	80	75,4	65,4	61,4	57,1	54,6	52,1	46,2
Switzerland	54,5	50,7	49,7	44,6	49,3	45,7	35,2	38,2	37,5	40,1	35,7	38,6	35,8	38,2	36,5
United Kingdom	54,9	51,3	46,6	48,9	43	50,6	46,7	47,8	43,0						
United States	66,3	64,3	65	63,8	61,4	58,8	58,4	58,1	57,9	55,9	55,9	54,1	54	51,3	53



Home bias of Developed market

Measurement of home bias: Emerging market

HB	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brazil	99,3	99,3	98,9	99,1	98,6	98	98,5	97,7	96,2	93,8	95,8	95,3	95,2	95,5	95
Chile	77,9	74,3	76,8	73,8	75,9	74,9	74,2	68,4	63,8	60,2	63,4	65,5	64,1	55,5	50,9
China	98,5	99,2	98,3	97,2	97	96,5	95,2	94,7	96,3	97,2	96,1	95,4	94,3	94,1	93,6
Colombia	96,9	97,6	97,3	96,6	97	96,2	96,9	93	88,2	81,1	83,3	81,4	80	82	72,4
Czech Rep.	77,2	79,3	76,3											48,8	45,6
Egypt	99	99,2	98,9	98,9	98,8	98,3	98,8	98,8	98,8	98,5	97,7	97,6	99,1	99,1	98,9
Greece	91,6	89,5	81,1	86	80,5	69,4	83,4	90,7	82,4	64,1	66	73,4	72,9	76,6	74,8
Hungary	81,2	76,4	61,5	60,2	56,3	59,5	59,2	58,3	49,4	50,9	56,8	60	60,6	58,7	49,4
India	99,8	99,9	99,9	99,9	99,8	99,8	99,7	99,6	99,6	99,7	99,6	99,7	99,8	99,6	99,5
Indonesia	99,4	99,4	99,1	99,1	99,4	99,4	99,2	98,6	98,6	98,1	98,3	97,9	97,7	97,3	96,8
Korea	93,7	88,2	87,7	89	90,2	90,7	88,9	87	85,3	84,9	82,8	82,4	78,5	73,5	75,7
Malaysia	97,2	95,3	93,2	92,4	93,1	92,5	92,1	91,1	89,2	87,1	85,9	86,8	83	80,4	78,3
Mexico	97,4	98,5	97,2	97,7	97,5	96,5	95,1	93,4	91,9	90,9	90,2	87,2	87,7	86,1	81,4
Peru	78,7	82,4	74,6	79,8	82,5	77	78,1	72,2	69,2	62	68,4	68,3	67,2	66,1	63,2
Phillippines	97	97,6	97,7	98,2	99	99,1	99,2	99	99	98,7	98,6	98,3	98,2	97,6	96,8
Russia				99,2	99,1	99	98,7	98,5	96,5	97	98	97,5	97,3	97,5	95,8
South Africa	89,7	90,3	86,7	87,8	85,6	84,3	83,8	83,6	84	81,6	84,5	85,3	83,6	83,9	84,2
Thailand	98,3	97,7	97,2	97,5	97,7	97,1	97,5	97,3	96,4	94,9	95,2	94	93,8	92,2	89,5
Tunisia					95,6	95,6		93,3	92,9	93,3	92,8	91,9	92,1	90,5	89,3
Turkey	98,4	99	98,6	99,1	99,2	98,9	99,2	98,4	98,5	98,4	98,4	98,4	98,1	98,1	98,3
Ukraine					99,8	99,8		99,6	99,1	91,9	100,6	98,2	100,9		



Home bias of Emerging market

## Descriptive Statistics

	Home Bias	GDP/Cap	GDP Growth	Openness rate of the economy	Market Capitalization	Turnover
Mean	0.748474	9.799375	2.233190	85.70106	76.26215	69.55632
Median	0.792053	10.05134	2.329100	67.02300	60.09820	50.61925
Maximum	3.683172	11.54164	25.17600	437.3200	322.7100	480.2870
Minimum	-0.147310	6.693018	-15.13000	22.10500	3.373370	1.610100
Std. Dev.	0.327658	1.110695	3.803252	58.70252	58.73157	63.59689
Skewness	1.942850	-0.554820	-0.458316	2.727571	1.599016	2.162576
Kurtosis	17.63715	2.199306	6.780575	13.12379	5.588439	9.974059
Jarque-Bera	5246.262	50.32109	406.6984	3543.189	387.2150	1453.517
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	410.9123	6320.597	1440.407	55105.78	41867.92	36030.17
Sum Sq. Dev.	58.83321	794.4663	9315.284	2212323.	1890270.	2091040.
Observations	549	645	645	643	549	518

	Shareholders' Rights	Protection of minorities	Corporate Transparency	Governance	Capital controls	FO Chin-ito	Exchange rate Volatility
Mean	6.790698	6.386047	6.637209	1.698533	6.086400	1.232279	4.940919
Median	8.000000	6.300000	7.000000	2.109113	6.153000	2.321950	4.030050
Maximum	10.00000	8.300000	9.000000	4.533714	10.00000	2.321950	24.94500
Minimum	1.000000	4.200000	2.000000	-2.273976	0.769000	-1.923900	0.751500
Std. Dev.	2.206971	0.975455	1.577947	2.036322	2.561112	1.425489	3.490811
Skewness	-1.074041	-0.058311	-0.722002	-0.263705	-0.318306	-0.828800	1.996595
Kurtosis	3.580529	2.622699	3.562564	1.603176	2.017478	2.081868	8.769086
Jarque-Bera	133.0654	4.191342	64.54375	59.91189	34.37985	90.06438	1230.698
Probability	0.000000	0.122988	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	4380.000	4119.000	4281.000	1095.554	3664.013	741.8321	2964.551
Sum Sq. Dev.	3136.744	612.7744	1603.507	2670.415	3942.137	1221.244	7299.271
Observations	645	645	645	645	602	602	600

	Distance	Common Language	Market Capitalization of neighboring countries	Foreign Residents	Internet	Mobile	International Departure
Mean	8.803693	11.03279	4.261740	8.843763	15.44063	17.45658	16.35681
Median	8.634073	6.977000	1.568000	7.819800	15.17585	17.57683	16.16335
Maximum	9.586411	39.53300	44.17900	45.39100	19.99667	21.28073	18.95677
Minimum	8.464080	0.000000	0.000000	0.052000	10.68842	15.15111	13.14412
Std. Dev.	0.328223	11.55617	8.117526	8.937065	1.349999	1.343412	1.177147
Skewness	0.556704	0.844442	3.518941	1.571143	0.452603	0.470950	0.196538
Kurtosis	1.988336	2.410176	15.44166	6.179164	3.444509	2.719048	2.387476
Jarque-Bera	60.82186	86.00603	5372.092	536.9906	27.11959	25.72264	12.40368
Probability	0.000000	0.000000	0.000000	0.000000	0.000001	0.000003	0.002026
Sum	5678.382	7116.150	2689.158	5704.227	9882.006	11154.75	9192.529
Sum Sq. Dev.	69.37813	86002.97	41513.36	51437.01	1164.577	1151.434	777.3633
Observations	645	645	631	645	640	639	562

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