

**„BABEȘ-BOLYAI” UNIVERSITY
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CLUJ-NAPOCA**

**Ph.D. THESIS
SUMMARY**

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

Ph.D. supervisor

Prof. univ. dr. Alexandru TODEA

Ph.D. student

**Erzsébet-Mirjám ORBAN
(SOCACIU)**

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TABLE OF CONTENTS

INTRODUCTION

CHAPTER 1 – RELIGION AND ECONOMIC ACTIVITY

- 1.1. Religion as an informal institution guiding human behavior
- 1.2. Religion and social and economic behavior
- 1.3. Risk aversion and ethical behavior
- 1.4. The effect of religion on economic decisions
- 1.5. Religiosity in the current context

CHAPTER 2 – PORTFOLIO INVESTMENTS BETWEEN DOMESTIC AND FOREIGN MARKETS

- 2.1. Puzzles in finance
- 2.2. Causes of home and foreign bias
 - 2.2.1. Causes of home bias
 - 2.2.2. Causes of foreign bias
- 2.3. Measures for home and foreign bias
- 2.4. Evolution of foreign portfolio investments
- 2.5. Evolution of home and foreign bias measures in developed and emerging markets

CHAPTER 3 – THE IMPACT OF RELIGIOSITY ON FOREIGN PORTFOLIO INVESTMENTS

- 3.1. Impact of religiosity on foreign bias: literature and hypothesis development
- 3.2. Sample and variable description
 - 3.2.1. Data and sample structure
 - 3.2.2. Dependent variable: equity foreign bias
 - 3.2.3. Main independent variables: religiosity and religious diversity
 - 3.2.4. Control variables
- 3.3. Results
 - 3.3.1. Descriptive statistics
 - 3.3.2. Impact of religiosity on foreign bias
 - 3.3.3. Effect of religious diversity on foreign bias
 - 3.3.4. Considering religion types
 - 3.3.5. The effect of religiosity during the Global financial crisis (2007-2009)
 - 3.3.6. The effect of religion on foreign bias – Subsample analysis
- 3.4. Robustness tests on the impact of religion on foreign bias

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

- 3.4.1. Addressing potential endogeneity
- 3.4.2. Robustness tests with alternative measures of religiosity
- 3.4.3. Alternative estimation methods

3.5. Chapter 3 conclusions

CHAPTER 4 – MODERATING FACTORS OF THE RELATIONSHIP BETWEEN RELIGIOSITY AND FOREIGN BIAS

4.1. Theoretical foundations and hypothesis formulation

- 4.1.1. Amplifying factors of the religiosity-foreign bias relationship: national identity, state support for religion, and the global financial crisis
- 4.1.2. The role of financial education in reducing the effect of religiosity on foreign bias

4.2. Description of the variables of interest

4.3. Basic results

- 4.3.1. Religiosity, national identity, state support, global financial crisis
- 4.3.2. The moderating effect of financial education

4.4. Robustness tests

- 4.4.1. Alternative instruments for IVTobit models
- 4.4.2. Alternative measures of religiosity in the context of moderating factors between religiosity and foreign bias
- 4.4.3. Alternative estimation methods

4.5. Chapter 4 conclusions

CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

REFERENCES

INTRODUCTION

Contrary to benefits of foreign portfolio diversification, financial literature emphasizes that investors tend to prefer local financial assets over foreign ones (French and Poterba, 1991). Thus, the question arises that: why do investors prefer to allocate a disproportionate share of resources to domestic markets, while tend to under-diversify internationally?

Based on institutional theory, the study identifies another determinant of foreign portfolio investments: the religious factor. Religion is a central element of informal institutions, influencing individuals' beliefs, values, attitudes, and behaviors. The motivation of the study comes from understanding how religiosity as an informal institution influences foreign portfolio investments. First of all, taking into account the information barriers and those related to non-familiarity, we demonstrate that religiosity can influence foreign bias through risk aversion. Moreover, investors' decision to under-invest abroad is influenced by the irrational factor through behavioral explanations related to unfamiliarity. Second, the association between religiosity and foreign bias is more pronounced in countries where religiosity and national identity are mutually reinforcing. The purpose of the research is to introduce a new determinant for foreign investment portfolio, which has been neglected so far in the literature. The marginal effect of religiosity is comparable to one of the most important determinants of foreign bias, such as geographical distance. The originality of the study can be assimilated with a "balance" through the factors that amplify and diminish the impact of religiosity on foreign portfolio diversification. When religion plays an important role in the manifestation of national identity, it tends to shape the attitudes and actions of individuals in accordance with dominant religious beliefs (Abdelsalam et al., 2021). But why would this interaction effect on foreign bias is relevant? The answer lies in the international context, where the interaction between religion and national identity has led to increased manifestations of religious nationalism. Christian nationalism in the U.S. and Europe, Orthodox nationalism in Russia, and Islamic nationalism with supranational manifestations are just a few examples. Therefore, the isomorphic effect between religiosity and national identity is much more pronounced in countries where the state supports religion. Second, the impact of religiosity, religious nationalism, and the global financial crisis on foreign bias can be mitigated by high levels of financial literacy.

SUMMARY OF CHAPTER 1 – RELIGION AND ECONOMIC ACTIVITY

Chapter 1 starts from the multidimensionality of religion and analyzes how this, as an informal institution, shapes social and economic behavior. Religion is interpreted in different fields such as theology, sociology, history, anthropology, psychology, and medicine. Although we might think that the definition of religion and religiosity is simple due to its application in different contexts, in reality the situation is exactly the opposite. Religion is a multifaceted, complex, vague and controversial concept. According to the literature, religion is a multidimensional term. The idea of the multidimensionality of religion was first mentioned in Durkheim's study (1915) by outlining religious practices, beliefs and communities. Given the complexity of religion, Glock (1962) considers that the religious manifestations of different cults can be classified into five theoretical dimensions: belief, knowledge, feeling, rituals and behavior. The first dimension of religion, also called the ideological one, is manifested through *faith*, and reflects the level of commitment and belief in a divinity or supernatural forces. The aspect of faith outlines the meaning of life. The second dimension of, *knowledge*, is related to the dimension of faith and explores the level of understanding of faith, texts and religious principles. In this context, emphasis is placed on the importance of religious knowledge and on the critical study of religious texts. Glock (1962) argues that this dimension influences the level of openness and intellectuality of religious people. The third dimension includes *the religious feeling* and is associated with extreme forms of religion such as: cases of conversion, experiences related to glossolalia¹, the effects of the Holy Spirit or healing incidents. This dimension of religion is more difficult to study due to the lack of data. However, Glock (1962) proposes the analysis of these religious feelings through the level of trust in divinity. The fourth dimension, which refers to religious rituals and practices, includes participation in religious services, ceremonies and activities, study and explanation of religious text, prayer, respect for the moral and ethical principles of other religions. The last dimension, that of *religious behavior*, is the result of the four dimensions defined above, which refers to the practice of religious values and responsibilities.

However, the question arises why certain individuals, groups, or societies have higher levels of religiosity compared to others? The answer to this question can be analyzed from a microeconomic perspective (Iannaccone, 1998). Individuals allocate their time and resources between religious and secular "goods" to maximize their utility in this life, or in their afterlife.

¹ According to the Dex definition, this term is specific to theology and refers to the grace that the apostles received from the Holy Spirit to speak in other tongues.

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

On the supply side, religiosity is defined by expanding access to religious services. Thus, religious institutions are seen as "producers" of religion. From the perspective of demand side, the phenomenon of religiosity can be interpreted through the prism of secularization theory. Based on the works of Marx, Weber and Freud, this theory argues that economic development will gradually lead to the diminished levels of religiosity or eventually to the disappearance of religion. Contrary to these predictions, economic growth has not led to a decrease in the influence of religion in societies. Berger (1999), states that "today a large part of societies are deeply religious rather than secular".

The influence of religion over human behavior can be explained through institutional theory and social norms. Institutional theory emphasizes how organizations are influenced by norms, values, symbols, and beliefs. The interaction between formal and informal institutions influences the attitude of individuals towards uncertainty, by creating structures that facilitate cooperation at the social, political and economic levels (North, 1990). The theory of social norms is closely related to institutional theory, since it influences every aspect of human behavior, clearly establishing what actions are allowed and which actions are forbidden (Sunstein, 1996). The main theoretical contribution of research on social norms lies in the use of the behaviors and attitudes of others as a means of understanding human behavior.

The study also highlights how religion affects social and economic behavior. First, religion favors the cultivation of prosocial traits by creating stable and cooperative communities made up of individuals who are not genetically related. An essential prosocial trait promoted by religion is social trust, which, in turn, can be considered a fundamental characteristic that stimulates other prosocial traits, such as: altruism, cooperation, and optimism. Social trust refers to the degree of trust in an unknown member of society. The literature on the relationship between religion and social trust is controversial. According to Dingemans, and Van Ingen (2015) the contradictory results are due to the multidimensionality of religion. Uslaner (2002) argues that this relationship is complex, while Putnam et al. (2012) states that religious individuals generally have higher levels of trust compared to the secular group. Fox et al. (2024) argues that the relationship between religiosity and trust is influenced by the state support for religion. The study demonstrates on an international sample that the state's support of a dominant religion favors the formation of a homogeneous society, characterized by high levels of social trust ("top down" effect). In a close connection with trust is cooperation. Religious rituals and participation in religious services promote cooperation within a group. Belonging to a group determines feelings of solidarity, cohesion and trust within religious communities

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

(Sosis & Ruffle, 2003). Individuals are frequently motivated to collaborate with members of a group, either to obtain direct or indirect benefits, or to maintain a positive reputation in society (Bennett and Einolf, 2017). There is ample debate in psychology about the influence of religious values on altruism. On the one hand, people often offer help for selfish reasons, wanting to be seen as generous people in society, to prevent feelings of guilt associated with refusing to help, or to avoid feelings of discomfort caused by the suffering of others. A relevant question in this regard is whether religious people offer help outside religious communities, which is considered a true gesture of altruism. Results of the international study conducted by Bennett and Einolf (2017) demonstrate that religious people are much more inclined to offer help to strangers. Optimism is the inclination to adopt a positive outlook on expectations in the future. In religion, optimism is associated with trust in divinity and eternal life (Bennett, 2011). Even though the term "optimism" is not present in the Bible, the similar concept of "confidence" is highlighted 142 times in the Old Testament (Ciarrocchi, 2008). Religion contributes to the development of a belief system to provide believers with capabilities, vision, and guidance in the face of adversities in life.

In addition to the prosocial values presented above, religiosity diminishes behaviors related to opportunism and influences feelings of insecurity and anxiety. The behavior itself contains means of lying and non-compliance with promises and obligations. In this context there is a negative relationship between opportunism and the moral values promoted by religion. For example, in religious countries individuals will have moral constraints related to dishonest behavior, due to the beliefs that divinity will judge all their actions. Religiosity reduces feelings of insecurity, stress and anxiety. The relationship between religiosity and insecurity is illustrated by the insecurity hypothesis, a concept first introduced by Norris and Inglehart (2004). According to this hypothesis, people who face adverse and risky situations tend to value religion more, and to attend religious services regularly. As a person's anxiety level increases, they will perceive the future as much more unpredictable. In such moments of uncertainty, the solution is often sought in faith, which offers the promise of a future characterized by hope (Immerzeel et al. 2013).

Religion promotes two essential traits: risk aversion and ethical behavior. The idea that religion influences risk management originated in the 17th century, when philosopher Blaise Pascal argued that adopting Christianity involves minimal costs, while the potential benefits are considerable (Miller, 2000). Religious beliefs are positively correlated with risk aversion, given that religious people tend to manage danger by attending religious services and by prayer

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

(Malinowski 1925; Miller and Hoffmann 1995). Similarly, Hilary and Hui (2009) argue that believers prefer to live in safe areas and tend to avoid experimenting new activities in life. Frequently, religious individuals try to reduce their feelings of fear by making less risky decisions in life. Diaz (2000) empirically demonstrates that religiosity has a negative impact on gambling in Las Vegas. In the financial literature, the first study linking religiosity to risk aversion at the company level is conducted by Hilary and Hui (2009). The study demonstrated through an experiment that students who were given to read a religious text and/or attended religious services were less likely to accept riskier payments.

Religion transforms feelings of guilt and shame into a sense of responsibility and devotion, thus influencing ethical decision-making. Weaver and Agle (2002) state that ethical decisions are influenced by both individual and organizational values. At the individual level, religious beliefs and values are internalized and determine one's self-identity. This religious identity can occupy a central or marginal role in an individual's life, and therefore will have different effects on ethical behavior. In the case of individuals or communities where religion plays a central role, they adopt religious values as fundamental principles and strictly follow religious social norms. In contrast, people motivated by extrinsic values use religion to gain social advantages (e.g., forming relationships or attracting new believers). Organizations operating in a religious environment are influenced by the religious values of the environment, according to the theory of social norms (Elster, 1989; Sustain 1996). Deviation of behavior from accepted social norms entails measures of punishment or discrimination on the members of the group. The literature provides numerous examples that show that ethical norms influence the management decision of companies. These values became even more important after the global financial crisis of 2007-2009. For example, the management of companies operating in a religious environment avoids manipulating information in financial reports (McGuire et al. 2012).

These two characteristics appear predominantly in the literature that analyzes the effect of religion on economic decisions. Longenecker et al. (2004) argues that religious teachings provide moral guidelines that can be applied in business relationships. McGuire et al. (2012) shows that the level of religiosity reduces conflicts of interest between management and investors, by limiting erroneous information in the financial reports of companies in the United States. Dyreng et al. (2012) argues that financial reports are less influenced by tax reduction strategies, and frequently report negative results. Kanagaretnam et al. (2015) highlights in an international sample of financial institutions, that in countries with a high degree of religiosity,

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

bank management is less inclined to manipulate income and to have high levels of risks in loan portfolios. Abdelsalam et al. (2021) showed that religiosity is positively correlated with the quality of income measured by an aggregate index that takes into account the evolution of debts, cash flows, volume of assets, operating income. This relationship between religiosity and the quality of bank income is much more pronounced within countries that have religion integrated into their national identity. The existence of a state religion or a dominant religion is associated with the adoption of the values promoted by this religion at the level of companies as well as individuals. Also, this impact of religiosity on bank revenues is much more pronounced in countries that have weak legislative protection. Hsieh et al. (2022) are the first to analyze the impact of religiosity on sovereign credit ratings and premiums. According to the "good traits hypothesis", also mentioned in previous studies, it has been shown that religiosity at the corporate level improves sovereign credit ratings by promoting ethical values. Callen and Fang (2015) investigate the impact of religiosity in companies in the United States on the risk of future stock price crashes. The way in which religiosity influences this risk is based on the theory of social norms that encourage ethical behavior. By internalizing religious values, the company's management will be less motivated to manipulate financial information. Conversely, if the company's management deviates from these ethical expectations specific to religious backgrounds, it can risk its reputation through social stigmatization. Blau (2018) addresses the ethical aspect of religion by examining the liquidity of US depository receipts (also called "cross-listed stocks"). The study emphasizes that religiosity promotes information transparency on the capital markets between companies and investors, which will lead to the intensification of trading activity and the increase in the liquidity of certificates of deposit.

The study conducted by Hilary and Hui (2009) is the first to associate religiosity with risk aversion in corporate decisions. The authors suggest that this relationship is influenced by feelings of anxiety and fear associated with uncertainty. Adhikari and Agrawal (2016) point out that local religiosity influences the risk aversion of financial institutions. Abdelsalam et al. (2021) shows that banks in religious countries have a low probability of using the asset portfolio securitisation method to transfer risks. This securitization practice is used by banks to reduce credit and interest risk, costs, and to diversify the asset portfolio. Blau (2015), investigates the influence of religiosity on international capital markets. Using the link between religiosity and investors' risk aversion, the study shows that religiosity is negatively correlated with the volatility of US depository receipts (ADRs). Maung et al. (2021) demonstrates that an increase in the level of religiosity in the home country leads to a decrease in mergers and acquisitions

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

between companies (measured both by the total amount invested and by the number of mergers and acquisitions). At the time of mergers and acquisitions, investors from religious countries tend to make the payment in shares, having the main purpose to reduce the buyer's exposure risk. Thus, after making the investments, the company in the destination country is also part of the "skin in the game" (participating in the company's total exposure risk).

Several studies in the financial field suggest that both ethical behavior and risk aversion influenced by religion have an impact on corporate decisions. For example, Dyreng et al. (2012) shows that the information in the financial reports of companies from religious backgrounds is much more accurate and has a lower probability of adjustment. These aspects are influenced by the values of honesty and risk aversion of company management. Adhikari and Agrawal (2016) demonstrate that banks in religious countries will have lower risky assets in their portfolio, due to cultural influences that promote information transparency and ethical values. Maung et al. (2021) demonstrates that in addition to the main feature of risk aversion, religiosity will influence the honesty of the management in the investing country, which will pay lower purchase premiums. In this sense, religiosity reduces the excessive trust of management generated by the over-evaluation of its own ability to create synergies with foreign companies. Contreras et al. (2023) associates the absence of opportunistic investor behavior with ethical norms and risk aversion promoted by religion. They note that in regions with high religiosity, the likelihood of investors trading on the basis of private information decreases, to the detriment of investors in secondary markets.

The last part of this chapter focuses on analyzing religiosity in the current context using information from the Pew Research Center, showing the global variation of religiosity, being much more pronounced in less developed countries and lower in developed countries (secularization hypothesis). One of the original aspects of my work and an important contribution to knowledge is the constructed measure of religiosity. I have measured the level of religiosity taking into account the arguments of multidimensionality mentioned in the literature (Cornwall 1989, Parbooteeah et al., 2008, Chen et al., 2016, and Hsieh et al. 2022). The data has been obtained from World Values Survey (WVS).

SUMMARY OF CHAPTER 2 – PORTFOLIO INVESTMENTS BETWEEN THE DOMESTIC AND FOREIGN MARKETS

Chapter 2 starts from the synthesis of the most important puzzles in finance, including: equity premium puzzle, excess volatility puzzle, specific volatility puzzle, aggregate return predictability puzzle, closed-end fund puzzle, new issue puzzle, Feldstein-Horioka puzzle. In the chain of these puzzles Obstfeld and Rogoff (2000) claims that home bias is one of main puzzles in finance. According to classical portfolio theory, investors should diversify their portfolio by allocating part of their resources to a global market portfolio and part to the risk-free asset based on the International Capital Asset Pricing Model (ICAPM). However, in reality, investors do not diversify their portfolios internationally, having an increased preference for domestic financial assets. This phenomenon is called "*home bias*" (French and Poterba, 1991). The tendency to invest in domestic financial assets suggests that overall, foreign markets have a lower share in investors' portfolios. This deviation from optimal allocation in a foreign market is known as "*foreign bias*" (Chan et al. 2005).

Over several decades the studies in finance have analyzed in special the causes related to the phenomenon of home bias. Foreign bias has received lower attention due to the lack of accurate data. In addition, both home- and foreign bias are considered complex phenomena, influenced by a variety of factors which favor investors' preference for assets in domestic or foreign markets. Thus, among the main reasons related to home bias are the following aspects: country specific risk coverage, information barriers, familiarity, and behavioral factors. The financial literature points out that investors overinvest in domestic markets to hedge the specific risk of countries associated with: inflation risk, exchange rate risk and the risk related to non-commercial goods. To hedge against purchasing power parity (PPP) risk, investors who mainly consume local goods and services tend to prefer investments denominated in their national currency. This approach mitigates the risk of exchange rate fluctuations (Gehrig, 1993). The strategy of hedging inflation with domestic assets is effective only if investors have a high risk aversion and equity returns are negatively correlated with domestic inflation rates (Cooper and Kaplanis, 1994). Baxter et al. (1998) states that the existence of the level of home bias in a country depends on the substitution of commercial and non-commercial goods. Therefore, increased domestic investment in a country is due to commercial goods that are not traded on international markets.

The phenomenon of home bias can also be explained in terms of informational (rational) barriers. These barriers include: capital controls, transaction costs, advantages on the domestic

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

market. Restrictions on capital controls hinder investment in foreign assets, directly leading to high levels of home bias. These cross-border capital controls are difficult to quantify because there are no universal measures in the financial literature (Ahearne et al. 2004). Transaction costs fall into two broad categories: explicit and implicit. When diversifying internationally, investors are exposed to trading costs, and commissions that are included in the explicit category of costs. The implicit category of costs is difficult to quantify and is related to liquidity and other frictions in the markets such as obtaining information. The seminal study by French and Poterba (1991) suggests that these transaction costs do not result in higher levels of home bias. Moreover, Levy and Levy (2014) show that these foreign investment transaction costs have decreased significantly over the past twenty years.

The main cause of home bias related to informational advantages determines the preference of local instruments to the detriment of foreign ones. For example, investors can obtain these advantages through the effects of social networks represented by personal connections (Coval and Moskowitz, 1999). At the same time, the information asymmetry can be explained by the fact that local investors obtain more information about assets in the domestic market compared to foreign investors. In the context of globalization, marked by the increased flow of information, the question arises regarding the persistence of these information barriers. Van Nieuwerburgh and Veldkamp (2009) state that these informational asymmetries depend not only on exogenous factors (presented above) but also on the human one (the learning factor). In the model built by them, the informational advantage of local investors is incorporated. Investors have the choice between domestic and foreign information, gaining a greater advantage when they hold specific information (information inaccessible to others in the markets about domestic stocks). When local investors choose to acquire information about foreign instruments, they give up an advantage: excess domestic returns. Geographical distance is considered one of the strongest indicators of information asymmetry. Coval and Moskowitz (1999) highlight the link between information asymmetries and geographic proximity in the context of mutual funds in the United States. The authors argue that investors show a significant predisposition to allocate these funds to local markets (which are approximately 100 km from the company's location), due to the increased accessibility of information in these regions. They show that the measure of geographical distance explains a third of the measure of home bias.

Accounting differences and reporting standards imposes additional information processing costs for foreign investors who are interested in investing in a particular market. For this reason, accounting standards are frequently considered as essential factors in the literature

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

of home bias. Analyzing foreign investments of mutual funds from several countries Covrig et al. (2007) showed that the adoption of IAS standards, compared to the local regulations, has a positive effect on the reduction of home bias.

La Porta et al. (1998) are the first to associate corporate governance with the phenomenon of home bias puzzle, analyzing legislation in 49 countries. From a legal perspective, they point out that countries that adopt the common law system (English law) offer better investor protection compared to those that rely on civil law (French law). Giannetti et al. (2010) shows that minority investors prefer countries that offer superior investor protection because they have lower levels of risk expropriation by majority shareholders. Domestic stocks included in this category of increased protection will be preferred by both foreign and local investors, which will lead to an increased tendency to invest in the local market.

The financial literature has highlighted that investors are affected by behavioral "biases" that cannot be explained by portfolio theory (Ardalan, 2019). These explanations based on behavioral deviations influence investors' perception and personality. Numerous researchers have identified behavioral and cultural factors that affect investors' decisions regarding the choice between domestic and foreign assets. Among these explanations are: familiarity, optimism, competence, regret, patriotism (nationalism), loyalty, culture, religion.

Familiarity is manifested by investors' preference for local financial instruments, without it being supported by informational advantages. According to research, investors opt for these local instruments because they believe that these investments contribute to their state of happiness by connecting them to their native place. Closely related to familiarity is ethnocentrism, which affects both the consumption of goods and investors' preferences. Analyzing a sample of 53 Morse countries et al. (2011) demonstrated that the feeling of patriotism determines high levels of home bias.

According to the competence hypothesis proposed by Heath et al. (1991), a competent investor relies on his or her own assessment when making financial investment decisions. Examining graduate finance students from Germany and the United States, Kilka and Weber (2000) argue that individuals consider themselves to be much more qualified in the valuation of local assets. A specific behavioral explanation for home bias is the fact that investors are generally more optimistic about the local market. Strong et al. (2003) investigates investors' beliefs about local investment preferences in Europe, the United States, United Kingdom and Japan. In the analysis of investor sentiment, they differentiate between absolute and relative

optimism. The conclusion of the study is that both types of optimism influence the preference for local investments.

Experimental studies indicate that people are skeptical of alternatives that deviate from their familiar/known point. In the context of ambiguity aversion, models have been developed that integrate this uncertainty factor into international portfolio diversification decisions. Cao et al. (2011) elaborates a theoretical measure of ambiguity in which investment decisions are influenced by deviation from an implicitly familiar position, also known as the 'status-quo'. In the presence of uncertainties, individuals tend to be pessimistic about new alternatives, thus leading to a predisposition towards already known options, represented by home bias.

Within cultural values, Anderson et al. (2011) shows that "uncertainty avoidance" is directly correlated with over-investment in domestic markets. Countries that have high levels of uncertainty avoidance tend to favor safe and well-known investments. Additionally, investors from countries with significant cultural distance tend to invest more in domestic assets while reducing their investments in culturally distant markets.

Foreign bias is influenced by the attractiveness of destination markets (Portes and Ray 2005; Chan et al. 2005; Bekaert and Wang 2009), informational asymmetries and factors related to unfamiliarity (Kang and Stulz 1997; Chan 2005; Choi and Skiba 2015; Karolyi 2020), investor protection (La Porta, 1998), complemented by aspects of behavioural finance related to cultural values (Beugelsdijk and Frijns, 2010; Anderson et al. 2011; Siegel et al. 2011; Aggarwal et al. 2012), nationalism (Pradkhan, 2016), personality traits (Niszczoła, 2014), competencies (Graham et al. 2009; Abreu et al. 2011), social trust (Drobotz et al. 2023), and social norms (Todea and Harin, 2023).

Certain destination markets have higher levels of attraction for investors than others. The literature on foreign bias emphasizes that investors prefer to invest in those markets that are economically developed as measured by GDP per capita (Chan et al. 2005). In this context, foreign investors are attracted to developed capital markets (market capitalization/GDP, total volume of traded assets) because they offer high levels of liquidity (Beugelsdijk and Frijns, 2010). Larger stock markets also benefit from increased international visibility and recognition by foreign investors (Chan et al. 2005). Although the level of taxes has decreased over the past two decades, dividend taxes and trading costs can lead to under-investment in certain foreign markets. As Levy and Levy (2014) have shown, the level of taxes becomes significant when

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

the markets are closely correlated. Chan et al. (2005) highlights that foreign investors prefer developed countries characterized by low transaction costs.

The aspects related to over-investment in domestic markets are determined by informational advantages. Investors have broader knowledge of the distribution of returns from local markets compared to foreign ones (Kilka and Weber, 2000). The costs associated with information asymmetry become visible when foreign investors decide to place capital in companies that are characterized by deficiencies in corporate governance, limited investor protection, lack of transparency of information, and challenges in the agency problem between management and the company's shareholders. These information costs create information barriers, causing investors to allocate a greater share of their portfolio to local markets, while discouraging international diversification.

Several empirical studies have shown that foreign investors prefer companies with international activity. Following the analysis of foreign investments in the Japanese market over a period of 16 years, Kang and Stulz (1997) highlight that large firms, and those with export activity, respectively firms offering American Depository Rights are attractive to foreign investors. Usually these companies are well-known internationally. Chan et al. (2005) demonstrate that investors are more likely to trust the shares of companies in countries with which there are bilateral trade links. The informational hypothesis, as suggested by Karolyi et al. (2020), posits that investors leverage information gathered from bilateral trade and foreign direct investment when making portfolio investment decisions.

The study by La Porta et al. (1998) shows that the high values for the investor protection index indicate a superior legislative protection of investors, which determines higher levels of international portfolio diversification. Analyzing foreign equity investments made by U.S. investors in 164 countries, Dahlquist et al. (2003) demonstrated that U.S. investors tend to invest less in countries with weak investor protection and/or high risks of expropriation, particularly where there is a high concentration of shareholders.

Grinblatt and Keloharju (2001) were the first to introduce the concept of familiarity in the context of portfolio diversification. They explored how Finnish investors make investment decisions based on familiarity factors such as geographical distance, and cultural and linguistic differences. Their analysis of Finnish companies revealed that investors prefer annual reports presented in their native language and tend to invest in shares of companies located nearby.

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

The study by Graham et al. (2009) shows that competent investors trade more frequently and hold internationally diversified portfolios. The results remain robust even when taking into account the level of optimism in the local market, where experienced investors have a low tendency to own local assets. According to Graham et al. (2009) competence has a psychological impact, as a competent investor will be much more confident in his estimates of future volatility and average expected returns. Abreu et al. (2011) demonstrates that investors' decision-making occurs in two distinct stages, often referred to as the "life cycle effect": initially, investors have a tendency to invest in local markets, and subsequently, they turn to foreign ones.

Numerous studies in the literature have highlighted the impact of Hofstede's (2001) cultural values on the preference for foreign investment. The results obtained regarding the influence of these cultural values are contradictory. Beugelsdijk and Frijns (2010) demonstrate that the cultural dimension of uncertainty avoidance has a negative impact on investments in foreign markets. This uncertainty avoidance is associated with greater risk aversion, leading anxious individuals to perceive foreign investments as much riskier. At the same time, high levels of individualism lead to over-investment in foreign markets. This occurs because individualistic investors are often overconfident and optimistic, resulting in lower perception of risks associated with foreign investments. These results are only partially validated by the study by Anderson et al. (2011), obtaining similar results to Beugelsdijk and Frijns (2010) only for the cultural dimension of uncertainty avoidance. Investors from these countries prefer to focus on safe and familiar investments. Anderson et al. (2011) do not find robust results for the cultural dimension of individualism but include other cultural dimensions in their model, such as masculinity and long-term orientation. Societies characterized by masculinity and long-term orientation tend to invest more in foreign markets. Contrary to previous studies, Aggarwal et al. (2012) complements the gravitational and institutional variables in the models, with the cultural factors specific to both the investing and destination countries. Similar to Anderson et al. (2011) they show that high levels for the cultural dimension of masculinity in the investing and destination countries have a positive impact on foreign portfolio investments. Additionally, they validate Beugelsdijk and Frijns' (2010) hypothesis regarding individualism at the country pair level, concluding that it positively influences the increase in foreign investments for both stocks and bonds.

Todea and Harin (2023) analyzes the effect of social norms on foreign portfolio diversification. In their study, social norms are examined through the lens of cultural tightness-

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

looseness (CTL). Their results indicate that investors from rigid (strict) countries have less internationally diversified portfolios compared to those from flexible societies. Drobetz et al. (2023) examines international portfolio diversification from the perspective of social capital. In a sample of 33 investor countries with investments in 84 destination markets, their results show that investors from countries with high levels of social trust exhibit a lower tendency to under-invest in foreign markets.

SUMMARY OF CHAPTER 3 – THE IMPACT OF RELIGIOSITY ON FOREIGN PORTFOLIO INVESTMENTS

As highlighted in Chapter 2, the literature explores a variety of factors that identifies the causes of international under-diversification. Obstfeld and Rogoff (2000) points out that home bias is one of the most significant puzzles in finance. The phenomenon of “financial globalization”, fueled by the opening of capital markets, the international standardization of financial reporting methods, lower transaction costs, and easier information exchange, has significantly boosted portfolio investment abroad. However, recent data of investors’ portfolios indicate a reluctance to take advantage of international diversification, showing a preference for holding local assets (Coeurdacier et al., 2013).

It is obvious that this preference for assets listed on local stock exchanges is not the only factor that explains the level and differences of under-diversification in foreign markets. The rational aspects that influence over- or under-investment in certain markets are related to market attractiveness (financial development, capital market opening), diversification opportunities (risk-return profile), intensity of economic and trade links between countries, and information barriers (Bekaert and Wang, 2009). The limited capacity of rational factors to explain the phenomenon of international portfolio diversification has determined the orientation of the literature towards the identification of factors that come from the field of behavioral finance.

Empirical results also show that investors are less inclined to invest in foreign markets if they come from cultures that avoid uncertainty or have collectivist behavior (Beugelsdijk and Frijns 2010; Anderson et al., 2011). At the same time, cultural distance as a manifestation of unfamiliarity is also a barrier to foreign portfolio investments. These cultural discrepancies lead to institutional differences related to legal systems and investor protection measures between countries, which in turn increases information costs (Giannetti and Yafeh, 2012).

Religion, serving as the foundation of social norms, shapes individual behaviors and spiritual beliefs. Religious investors who are characterized by risk aversion (Hilary and Hui,

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

2009), tend to under-invest in countries towards which they experience a sense of the unknown. This "fear of the unknown" or uncertainty is the main factor that connects religiosity with the preference for domestic investments to the detriment of foreign ones. Risk aversion can be influenced by rational factors, such as informational barriers, as well as irrational ones, such as unfamiliarity associated with the field of behavioral finance. Cao et al. (2011) developed a theoretical model demonstrating that the fear of the unknown, driven by the lack of familiarity, explains under-diversification of international portfolios. The model particularly shows that individuals tend to focus on pessimistic or unfavorable scenarios when faced with uncertainties, which is defined by their deviation from a familiar or known focal point. Individuals do not consider the uncertainty of decisions as a negative aspect when choosing to preserve the status quo (status-quo bias) or the current situation. In this regard, investors are influenced by their initial endowments in their preference for home bias. Behavioral psychology studies show that individuals perceive a higher degree of risk associated with active decisions (those that change the status quo) compared to maintaining the preexisting, familiar situation. These behavioral aspects highlight that investors are less inclined to invest in foreign markets due to the perception of high uncertainty and lack of information about these markets.

There is a positive correlation between high levels of religiosity and superstitious tendencies (Torgler, 2007). Individuals with superstitious beliefs are more likely to make irrational economic decisions (Block et al., 2009). These tendencies also impact investors' decisions and increase their risk aversion. Based on all of these arguments, we can formulate the following hypothesis: *Investors from more religious countries tend to invest less in foreign markets, due to lack of information and unfamiliarity. (H₁).*

The sample consist of 36 investor countries with foreign investments in 35 destination markets, covering the period from 2004 to 2021, resulting in a total of 22,680 observations (36×35×18). The core sample included all developed and emerging markets, as classified by MSCI. We obtained this final sample by applying several filters.

The dependent variable of foreign bias ($FBIAS_{i,j}$) is constructed based on the study of Bekaert and Wang (2009). It illustrates the extent to which investors over- or underinvest to foreign markets compared to a theoretically optimal portfolio, having a primary aim to achieve high levels of diversification. To measure the level of religiosity within the sample of investing countries we have used the three dimensions of religion: (i) cognitive, (ii) affective, and (iii) behavioral. We have calculated the percentage of respondents who fall into these three

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

categories for all the four waves from the WVS (covering the period of 2004-2022). Another variable used in this paper is the degree of religious diversity, taken from the study by Alesina et al. (2003). The religious diversity variable is calculated as a Herfindahl-type index, showing the probability that two selected individuals belong to different religious groups. Among the control variables we have included the following: (i) Corporate transparency; (ii) Access to information; (iii) Macroeconomic transparency; (iv) Bilateral trade. The second set of variables corresponds to unfamiliarity barriers, which influence foreign portfolio investments through factors such as: linguistic and geographical distance (Chan et al. 2005), cultural distance between peer countries (Beugelsdijk and Frijns, 2010), different legal system, different currency. The group of control variables also includes variables related to the attractiveness of the destination market.

Using Tobit and instrumental models, we demonstrate that religiosity has a positive and significant impact on foreign bias. This indicates that religiosity contributes to under-investment into foreign markets due to risk aversion driven by the fear from the unknown, partially validating H_1 hypothesis. Instrumental models emphasize that this effect is explained mainly by factors related to unfamiliarity, rather than information barriers (validating fully hypothesis H_1). Moreover, we have shown that investors' religiosity is one of the most important factors of the foreign bias, the economic effect being comparable to that of geographical distance or bilateral trade.

Interestingly, the effect of religiosity remains significant even when we take into account the degree of religious diversity in the investing country. Although, religious diversity reduces the impact of religion on foreign bias. Individuals in countries characterized by religious diversity are more tolerant, open to new ideas, and have a better understanding of the nuances of religiosity that influence human behavior. In addition, in these countries, religious diversity can increase competition in the market for religious services, thus improving quality and stimulating active participation in religious activities (Iannaccone, 1998). This can lead to high levels of trust and cooperation within societies.

In addition to examining the impact of religiosity, we have also taken into account the various types of religions. Among all the religions considered, Protestantism has a particularly strong influence on investment behavior. The model shows that Protestant investors are more likely to diversify their portfolios internationally. This behavior is linked to their lower risk aversion and higher confidence levels (Renneboog et al. 2012). Similar trends are observed in Jewish and Oriental religions, though their impact is significantly smaller. In contrast, Muslim

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

and Orthodox religions have a diminishing effects on foreign investments. Putnam (1993) demonstrated that in religions with hierarchical structures, such as Orthodox Christianity, levels of cooperation and trust among individuals decrease.

The relationship between religiosity and foreign bias is mainly driven by the cross-sectional differences in religiosity between countries. However, when considering the effects of the global financial crisis of 2007-2009, we observe that this relationship is amplified during periods of market uncertainty. In general, individuals are more religious in times of crisis, and religion is used as a coping mechanism in unforeseen situations.

We have also divided the group of investing countries into two sub-samples: developed and emerging countries. The results showed that religiosity significantly affects foreign bias only in the case of emerging countries sub-sample. Thus, the relationship between religiosity and international portfolio diversification is mainly driven by emerging countries, supporting the secularization hypothesis.

SUMMARY OF CHAPTER 4 – MODERATING FACTORS OF THE RELATIONSHIP BETWEEN RELIGIOSITY AND FOREIGN BIAS

In this chapter, we identify a series of moderating factors of the relationship between religiosity and foreign bias. Understanding these factors could provide authorities with tools to mitigate the negative impact of religiosity on the international diversification of portfolios. Previous studies show that investors' patriotic sentiment contributes to the trend of "selection bias". Thus, investors with a strong sense of patriotism are likely to allocate capital to local financial assets at the expense of effective portfolio diversification. This sense of patriotism becomes more pronounced during conflicts and wars. For example, throughout history, the United States has issued "freedom bonds" in World War I, "war bonds" during World War II, and "patriotic bonds" to fund the fight against terrorism (Benos and Jochev, 2013). Taking these aspects into account, the literature emphasizes that the feeling of patriotism, as an integral part of national identity, affects financial decisions and investor behavior. This sentiment is positively correlated with over-investment in domestic markets (Morse and Shive, 2011) and inversely correlated with over-investment in international markets (Pradkhan, 2016).

The concept of nationalism is different from patriotism. Nationalism emphasizes the idea of national superiority and promotes the interest of one's own nation to the detriment of international cooperation, having as its main objective the establishment of a distinct and independent nation. It is based on political structures to guarantee the functioning of cultural,

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

social and economic fields. The study conducted by Kosterman and Fesbach (1989) provides a definition of nationalism, which emphasizes the characteristics of superiority and the tendency towards dominance at the national level.

Both religiosity and nationalism are multidimensional concepts, and their connection can be interpreted from various perspectives. Brubaker's seminal study (2012) provides theoretical foundation for understanding the relationship between religiosity and nationalism, while also highlighting the evolution of this connection. In a simplistic approach, Grzymala-Busse (2019) starts from the classification made by Brubaker (2012) and synthesizes three types of relationships. In the first relationship, nationalism is part of modernism and replaces religiosity. This is similar to the theory of secularism highlighted by Durkheim (1915). In the second one, religiosity is perceived as a complementary element of nationalism, where national identity is based on religious values. For example, American nationalism is based on Protestant values. Finally, there is a two-way relationship, in which religiosity shapes nationalism, and nationalism in turn reinforces religiosity. This form of relationship is specific to religious nationalism.

The impact of religious nationalism on the economy remains unexplored in the literature. Religious nationalism shapes the distribution of resources by advocating policies and practices that benefit sectors or economic activities aligned with the dominant religious ideology. The state supports the dominant religion through subsidies, tax reductions, or by incorporating religious doctrines into school curriculum. It is very likely that the effect of the international portfolio under-diversification is more pronounced for investors from countries marked by religious nationalism, compared to countries where nationalism and religion are not closely interconnected. In certain contexts, religious nationalism can lead to the formation of autocratic regimes by discriminating against minority religions (Rebe, 2012). These autocratic regimes are characterized by capital flow restrictions (Ghosh et al., 2020). Kemme et al. (2021) empirically demonstrates that countries characterized by autocratic regimes have lower foreign portfolio investments in countries belonging to the Organization for Economic Co-operation and Development (OECD). In these situations, religious nationalism is perceived as a reaction to the negative effects of globalization (Kinnvall, 2004). In contradiction to this theory of the effect of globalization, the following hypothesis is proposed: *The link between the degree of religiosity and foreign bias is much more accentuated (more attenuated) in countries where religion reinforces (diminishes) nationalist sentiments (H₂).*

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

State support for religion leads to the creation of predominant and homogeneous beliefs within a society (Fox et al. 2024). This endorsement of religion reduces religious diversity in a country. The primary purpose of the state in supporting a particular religion is to cultivate a sense of cohesion at the national level. Additionally, the state support a religion for political reasons, with politicians aiming to maintain their leadership positions for as long as possible (Gill, 2008). Moreover, the state's support for a particular religion can lead to diminished legitimacy and trust in government and parliamentary authorities (Fox et al., 2024). Considering the variation in state support for religion across countries, the following hypothesis can be formulated: *The link between religious nationalism and foreign bias is much more pronounced in countries where the state supports religion (H₃).*

The exogenous event of the 2007-2009 global financial crisis could be considered as a factor which moderates the relationship between religion and foreign bias. During this period, international capital flows decreased, having a negative impact especially on emerging markets (Milesi-Ferretti and Tille, 2011). Bentzen (2021) demonstrates that in times of financial crises associated with high levels of risk, individuals tend to be more religious. Based on these considerations, the following hypothesis can be formulated: *The relationship between foreign bias and religiosity is much more pronounced during the global financial crisis (H₄).*

The consequences of the 2007-2009 global financial crisis motivated politicians and financial experts to reevaluate the importance of financial education in the context of integrated markets. The literature highlights that financial education is positively correlated with the quality of financial decisions, as financially educated individuals make better financial choices both personally and in the corporate environment, showing increased interest in complex financial instruments (Grohmann et al. 2018). Empirical studies indicate that high levels of financial literacy are directly associated with active participation in the stock markets and the holding of equity portfolios (Van Rooij et al. 2011; Thomas and Spataro 2018). Investors with higher levels of financial knowledge tend to achieve more effective portfolio diversification (Abreu and Mendes, 2010). Based on these arguments, the following hypothesis are proposed: *Financial education attenuates the relationship between religiosity and foreign bias (H₅).* *Financial education diminishes the impact of religious nationalism on foreign bias (H₆).* *Financial education diminishes the impact of religiosity on foreign bias during the global financial crisis (H₇).*

The results show that national identity, state support for religion, and the global financial crisis amplify the impact of religiosity on foreign bias. Overall, nationalist and not patriotic

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

sentiments influence foreign portfolio investments. The isomorphic effect between national identity and religiosity on foreign bias is much more pronounced in the case of countries where the state supports religion and during the global financial crisis. Thus, state support for a religion leads to a dominant and homogeneous belief within the population, with adverse effects on investment decisions.

On the other hand, the level of financial education in the investing country diminishes the negative impact of religion on the international diversification of the portfolio. Financial education is considered a tool for authorities, as its improvement leads to better financial decisions and, consequently, better portfolio diversification. Financial education plays a crucial role in shaping individuals' attitudes and behaviors toward foreign portfolio investment in the context of religious nationalism. It can be considered a factor in reducing biases and stereotypes associated with foreign investment.

CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

Building on the existing literature that examines the factors behind foreign bias, this study focuses on the influence of religiosity, as an informal institution on shaping human behavior. Using the analysis of instrumental variables, we have demonstrated that religiosity has a positive impact on foreign bias, through risk aversion generated by the fear of the unknown. In this sense, taking into account the informational barriers and those related to non-familiarity, we demonstrate that behavioral arguments (irrational factors) influence the relationship between religiosity and foreign bias.

Regarding religious diversity in the investing country, we show that it reduces the effect of religiosity on foreign bias, as individuals in these countries tend to be more tolerant and open to new ideas. The relationship between religiosity and foreign bias is mainly driven by cross-sectional differences which is statistically significant especially in the case of emerging markets. However, we note that the effect of religiosity on foreign portfolio investments is much more pronounced during the global financial crisis. In this sense, religion is considered an adaptation mechanism against financial difficulties.

We show that investors belonging to Protestant religions tend to invest in foreign markets, since they are characterized by high levels of confidence and risk tolerance. Jewish and Oriental religion followers also exhibit similar investment tendencies, but the impact of religion is less pronounced compared to Protestantism. Conversely, individuals belonging to the Muslim and Orthodox religions have under-diversified international portfolios. This can be

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

explained by the fact that these religions have hierarchical structures characterized by low levels of trust and cooperation within a society.

Additionally, the effect of religiosity becomes more pronounced on international portfolio diversification in countries where religiosity and national identity mutually reinforce each other. Unlike previous studies, we demonstrate that investors' nationalistic sentiments, not patriotic ones, influence foreign bias. The impact of religious nationalism is stronger in context where the state supports religion.

The rise of religious nationalism in recent decades has negatively affected international portfolio investment and international financial stability. Thus, regulators should take into account the country's religiosity and the level of its interaction with national identity when deciding on financial liberalization. Additionally, the tendency of religious investors or religious nationalists to deviate significantly from the global portfolio is another aspect to consider. The authorities should therefore strengthen formal institutions that allow for the reduction of information asymmetry and unfamiliarity with the country of destination. Improving financial education can be considered a tool in this regard.

This paper presents some limitations in terms of the obtained empirical results. Firstly, the analysis of the relationship between religiosity and foreign bias is conducted at the country level. However, religiosity can vary significantly within different regions of the same country. Therefore, a more granular approach, applied at the company location level, could provide a more accurate representation of how religiosity influences risk-aversion behaviors. Additionally, the religiosity level of portfolio investors may differ from that of the general population. Data limitations prevent us from quantifying religiosity at the company level or analyzing the personal characteristics of investors. Secondly, the variability of religiosity over time is limited, as an individual's religiosity tends to remain relatively constant throughout their life, limiting the use of fixed effects at the country level. Thirdly, foreign portfolio holdings are determined across countries rather than at the individual investor level, with data available on annual basis. Furthermore, some countries may not have foreign investments in certain destination countries, which causes the use of Tobit models. The relationship between religiosity and foreign bias is based more on theoretical arguments from the literature and less on the application of mathematical models.

As for future research directions, there would be several ideas to explore. Therefore, it would be interesting to consider how xenophobia or racism influences foreign portfolio investments. Abubakar et al. (2022) states that there are high levels of xenophobic sentiments

RELIGIOSITY AND FOREIGN PORTFOLIO DIVERSIFICATION

globally, influenced by religion, ethnicity, race, skin color, immigration status, political context and recently by the COVID-19 pandemic. Although discriminatory attitudes may target individuals belonging to certain religious groups, the concepts of religiosity and xenophobia are distinct.

At the same time, we could study within religiosity the effect of discrimination against religious minorities (Fox, 2020) on foreign investment. Failure to respect religious freedom leads to the violation of democratic values and frequently leads to conflict and violence in a society. Such a study would contribute to the existing literature by analyzing the effect of religious freedom and political regimes (Grim 2008; Rebbe 2012). Another possible extension of the study could involve analyzing the impact of religiosity at the level of the destination country. Promoting ethical values and increasing informational transparency and corporate governance can enhance the attraction of portfolio investments.

In conclusion, religiosity has long been overlooked in economics and finance due to the theory of secularization. However, it is a crucial factor often omitted in studies analyzing foreign portfolio investment. Foreign bias cannot be solely interpreted through the lens of religiosity; rather, rational factors and aspects of behavioral finance collectively explain the international diversification of portfolios.

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