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Where do "impatient" mutual funds invest? A special attraction for large proximate markets and companies with strategic investors

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Où les mutual funds "impatients" préfèrent-ils investir ? Les grands marchés et la présence d'investisseurs stratégiques dans le capital des firmes comme déterminants de premier rang

Résumé

Nos travaux examinant les déterminants des investissements internationaux des mutual funds dans le cadre théorique de l'économie géographique. Nous examinons la spécificité des stratégies des investisseurs dits impatients sur la période (2005 – 2009) sur la base d'un échantillon de 22,996 mutuals funds de 35 nationalités. Nous montrons que ces investisseurs impatients sont attirés par de larges marchés de capitaux, où il existe une forte protection des actionnaires, dominés par des investisseurs stratégiques. Ils ont également attirés par les marchés avec des pratiques « institutionnelles » proches de celle du marché d'origine des fonds.

Mots-clés : Géographie de la finance, mutual funds, investisseurs "impatients", turnover des portefeuilles.

Where do "impatient" mutual funds invest? A special attraction for large proximate markets and companies with strategic investors

Abstract

Our study examines the investment determinants of worldwide mutual funds from the perspective of economic geography. In particular, we investigate the preference of "impatient" mutual funds for specific countries. By analyzing a sample of 22,996 worldwide mutual funds over the period (2005-2009), we demonstrate that "impatient" mutual funds are favorable to large stock markets, markets with a high level of protection for shareholders, markets with familiar institutional practices and markets dominated by the presence of "strategic" investors as main shareholders of large listed companies.

Keywords: geography of finance, mutual funds, "impatient" investors, portfolio turnover

JEL: G11, G15, G20, P10

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1. Introduction

Since June 2007, global finance has faced a crisis of great magnitude. The subprime financial crisis, initially regarded as a crisis of the U.S. housing market, soon spread to the international financial system confirming the globalization of equity markets. As underlined by Martin (2011), the subprime crisis is a real example of "glocalisation": its origins are to be found in the collapse of the U.S. subprime mortgage boom and house price bubble, yet its consequences are global. The evolution of global market capitalization over the period (2007-2008) clearly illustrates the magnitude of this financial crisis: by the end of 2008, the world's market capitalization was 32,575 billion dollars as against 62,747 billion dollars at the end of 200è, a decrease of 50% reflecting the crisis of confidence on international stock markets[1]. The subprime crisis has shown the interconnection of stock markets and has had a systemic impact on market capitalizations worldwide: between 2007 and 2008, capitalization of the NYSE-Euronext (USA) fell by 41.2%, the NYSE-Euronext (European) by 50.2%, the London Stock Exchange by 51.5%, the Shanghai Stock Exchange by 61.4%, the Hong Kong Exchange by 49.9% and the Nasdaq by 40.3%. On these international equities markets, a specific type of investor, mutual funds, also called investment managers, is currently dominant in terms of assets managed. Indeed, mutual funds today manage 75% of the financial assets of institutional investors.

Institutional investors have become dominant shareholders on national and international stock markets and are considered as key actors in contemporary financialized capitalism because of their common expectations regarding standards of disclosure, transparency and their requirements for shareholder value (Clark, 1999; Hawley & Williams, 2000; Hebb, 2006; Clark & Wójcik, 2007; Bauer, Braun & Clark, 2008). They have come to dominate Anglo-Saxon stock markets and the practice of corporate governance, especially among the largest firms (O'Sullivan, 2000; Clark & Wójcik, 2007). However, they are now accused of contributing to the financialization of economies and strategies of listed companies (Williams, 2000; Froud, Haslam, Johal & Williams, 2000). A majority of the studies have emphasized the high expectations of institutional investors in "finance-driven" capitalism: institutional investors expect increased returns on invested capital in a shorter time period and are said to be "impatient" and mobile actors (Martin & Minns, 1995; Froud *et al.,* 2000; Aglietta & Rebérioux, 2004; Pike, 2006; Goyer, 2006; Dupuy, Lavigne, Nicet-Chenaf, 2010). In particular, the study of Dupuy *et al.* (2010), carried out on the largest international equity investors, showed that U.S. institutional investors are the most volatile and "impatient" actors worldwide, confirming the very short-term nature of the American model.

This study focuses on the geographical location of assets managed by worldwide mutual funds and particularly on "impatient" mutual funds, i.e. investors whose portfolio turnover is less than one year. These "short-termist" investors, which are regularly identified by the economic and financial press and accused of favoring volatility in equity markets, often sell their stocks before companies have paid dividends and play on differences in stock prices to extract a short-term profit. More specifically this study attempts to highlight the determinants of the location of "impatient" mutual funds by focusing on two main questions: 1) Where do "impatient" mutual funds invest internationally? Do they systematically invest on the same markets (mimetic behaviors) or in different geographical areas (specific behaviors)? ; 2) What are the determinants of their decisions to internationalize their asset portfolios? More particularly, can the size of markets and the origin of the legal systems of host countries explain the strong presence of "impatient" funds in some specific stock markets? The central objective of this study is to explain the identity and the type of host

[1] *International Monetary Fund*, IMF, Data and Statistics, World Market Capitalization, January 2013.

countries that attract investments from these "impatient" mutual funds. This will allow an identification of the markets that are most vulnerable to "short-termist" investor strategies in periods of trend reversal.

Our study, carried out on a sample of the 22,996 largest international mutual funds, reveals that geographical and institutional criteria are key issues for understanding the investment behavior of "impatient" mutual funds. In this respect, our study validates the findings of studies in the literature regarding economic geography and law and finance.

The paper is organized in four sections. Section 2 introduces theoretical aspects of the importance of geography in global finance and reviews the importance of the institutional framework for understanding the investment behavior of mutual funds. Section 3 presents the sample of 22,996 worldwide mutual funds and the practical results of their global behavior on stock markets in 2009 and over the period (2005-2009). Section 4 presents the methodology used to introduce geographical criteria and test the preference of "impatient" mutual funds for certain stock markets. In particular, we demonstrate that "impatient" mutual funds prefer investing in large stock markets characterized by the same legal tradition and by the presence of "strategic" investors in company capital.

2. When geography helps explain investors' behavior

The aim of the study is to demonstrate that geographical and institutional criteria can play a significant role in explaining the worldwide allocation of mutual fund portfolios. In particular, we make the assumption that geography (countries) and the institutional framework (legal regime of countries) are central elements for understanding the investment behavior of mutual funds. We therefore refer to two branches of research to demonstrate the centrality of those two factors: the literature on the geography of finance and the literature on law and finance.

2.1. Literature on the geography of global finance

Our study contributes to a growing and recent literature on the economic importance of geography in understanding global finance (Clark & Wójcik, 2003; Clark, 2005; Clark & Wójcik, 2007). The main argument in support of the geography of global finance concerns the exceptional development of stock markets, the importance of capital flows and the weight of institutional investors in those flows (Martin & Minns, 1995; Clark, 2005; Pike, 2006; Clark & Wójcik 2007; Pike, 2006; Martin, 2011). A large number of studies have highlighted the growth of a pension fund industry and more generally of a financial services industry developed around institutional investors (Clark, 1999; O'Sullivan, 2000; Clark & Hebb, 2004; Aglietta & Rebérioux, 2004; Clark & Wójcik 2007; Dupuy *et al.,* 2010). A majority of the studies have emphasized the high expectations of institutional investors in "finance-driven" capitalism and their demand for shareholder value. In particular, Bauer *et al.* (2008) have demonstrated the convergence of European systems of corporate governance on Anglo-Saxon expectations of short-term shareholder value.

As argued by Clark and Wójcik (2007), global finance comes from certain origins and it flows to certain destinations. In this paper, we refer to studies that question the behavior of mutual funds and in particular the destinations of their flows. Many studies on the home bias have shown that proximity plays an important role in determining investors' portfolio choices: investors prefer geographically proximate investment for their portfolios (Falkenstein, 1996; Coval & Moskowitz, 1999; 2001; Huberman, 2000; Glassman & Riddick, 2001; Portes & Rey, 2005). In particular, the study of Falkenstein (1996) on equity holdings by mutual funds for 1991 and 1992 reveals that mutual

funds prefer investing in stocks with high visibility and low transaction costs and are averse to small firms, low price stocks and stocks with low idiosyncratic volatility. While this study gives evidence of the ability of mutual funds to select stocks, it says little concerning the geographical dimension. Coval and Moskowitz (1999), for their part, investigated the effect of distance on domestic portfolio choice and demonstrated a preference for investing close to home, with U.S. investment managers having a preference for acquiring equity in locally-headquartered, small and highly-leveraged firms about which they have better knowledge and easier access to information.

Our study refers to recent studies that have emphasized this importance of geography for understanding the investment behavior of worldwide mutual funds. In their study of 2001, Coval and Moskowitz document a geographical link between the investments and performance of mutual funds. In particular, their study shows that mutual fund managers earn abnormal returns in their geographically proximate investments. The authors explain the substantial abnormal return by the information mutual funds may have acquired about local companies: mutual fund managers have access to private information of geographically proximate firms. Coval and Moskowitz (2001) conclude that the extent to which a company is held by nearby investors is positively associated with its future expected returns, attesting to an informational link between geography and investment decisions. Clark and Wójcik (2002) asked how and where portfolio managers should invest in Europe, while considering a basic question: should investment strategies be based on industries or countries? They demonstrate that geography helps explain the decisions of mutual fund managers: country-based strategies remain fundamental because markets differ in terms of corporate governance. In particular, they notice important differences between Anglo-Saxon markets and continental European markets that influence the investment strategies of mutual funds. Their study also questions the relationship between European stockholder ownership and the volatility of corporate stock market prices. They document a negative relationship between European stock price volatility and ownership concentration, proving once again the importance of geography. In the same vein, the study of Clark, Wójcik and Bauer (2005) showed a negative relationship between the quality of corporate governance and stock price volatility. Clark and Wójcik (2007) carried out a study on portfolio managers, the issue being whether they are better placed to pursue a passive-index strategy or an active investment strategy in the specific case of the German industry. They demonstrated that closed ownership structures promote higher volatility in quoted market prices and that the incursion of global portfolio managers into European stock markets has had significant effects on corporate governance. Indeed, some of Europe's largest companies have responded to investor activism with substantial changes in corporate governance, in order to become more consistent with the expectations of global financial markets. In his study on corporate governance in Europe, Wójcik (2006) has already documented a convergence within countries and industries, insisting nevertheless on differences between countries in terms of corporate governance practices. Finally, the work of Dupuy *et al.* (2010) investigated the geography of finance through a study of the behavior of 11,900 of the largest international equity investors. In particular, they tested the relationship between a type of equity investor, its portfolio turnover and its geographical origin, measured through its attachment to a specific model of capitalism. They demonstrated that U.S. investors are the most volatile and "impatient" investors in the world and they compared the proximity of investors from different countries with American investors. Their study shows that the U.S. market-based model is clearly the most active in terms of portfolio turnover management, confirming that this country is the archetype of "finance-driven" capitalism. Dupuy *et al*. (2010) demonstrated that differences in frequency of securities trading are largely explained by the geographical origin of investors, attesting that geography is central for understanding the behavior of key actors on global stock markets.

In the vein of these previous works, we will test the hypothesis that, if geography and distance can be powerful determinants for the location of investors' assets, institutional distance can also be

an important factor for justifying the preference of mutual funds for certain stock markets (in particular, markets with the same legal origins as the investor's own country).

2.2. Literature on law and finance

The recognition that geography matters leads implicitly to the assertion that the institutional framework (laws and their enforcement) is central for understanding the behavior of investors. A large number of academic works has emphasized the importance of legal systems for understanding differences between countries in terms of stock market development, financing of companies or standards of corporate governance (La Porta, Lopez-de-Silanes, Shleifer, 1999; La Porta, Lopez-de-Silanes, Shleifer, Vishny, 1998; 2000). It is recognized that laws and the quality of their enforcement are determinants of i) the level of development of financial markets; ii) the number of listed companies on stock markets; iii) the ownership concentration in publicly traded firms; iv) the rate of Initial Public Offerings (IPOs); v) or dividend policies, to name just a few examples. Academic works focusing on the legal approach consider that differences in legal protection of investors explain why companies are financed differently in different countries. Some national systems are sufficiently similar in some respects to allow a classification into regimes of law (David & Brierley 1985; La Porta *et al.,* 1998, 2000). The commercial legal systems of most countries derive from specific legal traditions, including on the one hand the English Common Law, and on the other hand the French and German tradition deriving from Roman Law, with Scandinavian countries forming their own tradition[2]. La Porta *et al.* (2000) demonstrated on a sample of 49 countries that Common Law countries afford the best legal protection to outside investors regarding a large number of criteria (one share one vote, proxy by mail, cumulative voting, etc…) whereas Civil Law countries offer the worst legal protection to shareholders. In particular, civil law countries exhibit the lowest aggregate anti-director rights score, an index that measures how strongly a legal system favors minority shareholders against managers or controlling shareholders in the corporate decision process. The anti-director rights index, ranging from 0 to 6, is formed by adding one when 1) the country allows shareholders to mail their proxy to vote; 2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; 3) cumulative voting is allowed; 4) oppressed minorities mechanisms are in place; 5) the minimum percentage of share capital to call an extraordinary shareholders meeting is less than or equal to 10%; and 6) shareholders have pre-emptive rights that can be waived only by a shareholder's vote (La Porta *et al.,* 1998). Common Law countries afford the best legal protection to shareholders as they allow investors to vote by mail, never block shares before shareholders' meetings and require only a small share of capital to call an extraordinary shareholders meeting. While Common Law countries protect investors better than countries with Civil Law traditions, German Civil Law and Scandinavian countries have the best quality of law enforcement, the French Civil Law system having the worst[3].

Like Shleifer and Vishny (1997), La Porta *et al*. (2000) and Dahlquist, Pinkowitz, Stulz and Williamson (2003) demonstrated that companies in countries with poor protection of shareholders

[2] England and its former colonies (United States, Canada, Australia, New Zealand) and many countries in Africa and South East Asia today use the Common Law system based on the British Company Act: legal rules are made by judges, based on precedents and inspired by principles such as fiduciary duty (Coffee, 2000; Johnson *et al.*, 2000). Civil Law tradition is the oldest and the most widely distributed around the world (La Porta *et al*., 1998). In Civil Law systems, rules are made by legislatures and judges are not supposed to go beyond the statutes. The French civil law tradition, written under Napoleon in 1807, extends to Belgium, Italy, the French Caribbean Islands, Netherlands, part of Poland, western regions of Germany, Sub-Saharan Africa, Indochina, Oceania, Luxembourg, Portugal, Spain, some Swiss cantons and South America. The German tradition, based on the Bismarck code of 1896, extends to Austria, the Czech Republic, Slovakia, Greece, Hungary, Italy, Switzerland, Yugoslavia, Japan, and Korea

[3] Concerning law enforcement, La Porta *et al.* (1998) use indicators to determine whether a system gives enough investor protection. They refer to five indicators and to an estimate of the quality of a country's accounting standards: efficiency of the judicial system; rule of law, corruption, risk of expropriation, and likelihood of contract repudiation by government. Laws can be enforced by market regulators, courts or market participants.

have more concentrated ownership of their shares: in a context of poor investor protection, ownership concentration is extremely high and becomes a substitute for legal protection. By far the highest concentration of ownership is to be found in Civil Law countries (the average ownership by the three largest shareholders is 54% compared to 20% for the U.S. system)[4]. In countries with poor shareholder protection, the largest firms have controlling shareholders, attesting that concentration of ownership is an adaptation to poor legal protection. Dahlquist *et al*. (2003) have shown that there is indeed a relationship between the degree of presence of insiders (that we refer to below as "strategic" investors) and the presence of mutual funds, which depends on the level of liquidity. When a firm's ownership is concentrated, the availability of shares is limited and the frequency of trades is reduced. Mutual funds, which are usually minority shareholders, can only exchange stocks that are not held by "strategic" investors (who can be a family, the state, etc) and invest less in countries where large shareholders own a high fraction of equity.

3. The mutual funds industry: a geographically concentrated industry

Our study covers a sample of 22,996 international mutual funds investing in 35 countries[5]. The data come from Thomson Reuters' Thomson One Banker Ownership Equity (TOBO) database, which registers international capital flows and investors' equity portfolios across international stock markets.

The data indicate that the mutual funds industry is geographically concentrated in two geographic areas (North America and Europe) which accounted for 89.19% of global funds in 2009. Over the period of analysis (2005-2009), which includes the U.S. subprime crisis, there was a decline in the European share of mutual fund managers: while 29% of mutual funds came from Europe in 2005, the figure was only 23% in 2009, showing the decline of Europe as the origin of mutual funds. However, there was strong growth in the proportion of funds in two other geographical areas, Asia and Latin America: 2% of mutual funds were of Asian origin in 2005 against 4% in 2009 and 5% of investors were of Latin American origin in 2005 against 24% in 2009. As for the weight of the North American area, it remains very stable over the period and accounts for around 62% of all mutual funds (Table 1).

At country level, five countries (United States, United Kingdom, Canada, Germany and France) account for 82% of the assets of the global mutual funds industry, again attesting to the high concentration of the sector.

If we now examine where mutual funds invest, in relation to their country of origin, it is difficult to validate the hypothesis of an efficient geographical diversification of their portfolios. Portfolio concentration, mimetic behavior and home-bias[6] (i.e. high share of the total portfolio invested in domestic assets) are more appropriate strategies for mutual funds. Mutual funds invest as a priority in their own geographic area and especially when they originate from areas with well-developed financial markets (Table 2). For instance, North American funds invest 92% of their assets

[4] In the world as a whole, the average ownership of the three largest shareholders is 46% and the median is 45%. In short, the idea of dispersed ownership in large public companies is a myth. Even in the United States, the average for the 10 most valuable companies is 20% (La Porta *et al.*, 1998, p 1146).

[5] Appendix 1 presents the list of countries.

[6] The theory of diversification of portfolios explains that investing in foreign equities can help lower the amount of systematic risk in a portfolio because foreign investments are less likely to be affected by domestic market changes. However, despite the purported benefits of diversifying into foreign markets, investors from all over the world tend to be biased toward investing in domestic equities (home bias). This bias is notably explained by the difficulty of investing abroad and in particular by the additional transaction costs or legal restrictions.

in North America and European funds invest 57% of their assets in Europe. For South American funds, the relative weakness of the capital invested in their domestic area can be explained by the proximity of the North American market. For African funds, it is doubtless the shallow depth of domestic capital markets which is at the origin of the weakness of domestic flows. However, we note the preference of these funds for mature capital markets.

Table 1: Origin of mutual funds by countries

	Ranking in 2005	2005	Ranking in 2009	2009
1	United States	61.6%	United States	61.60%
2	United Kingdom	12.5%	United Kingdom	10.07%
3	Germany	4.8%	Canada	3.95%
4	Canada	3.9%	Germany	3.38%
5	Sweden	2.6%	France	2.98%
6	France	2.4%	China	2.55%
7	Japan	1.8%	Japan	1.99%
8	Switzerland	1.4%	Sweden	1.52%
9	Ireland	1.0%	Switzerland	1.50%
10	Belgium	0.7%	Brazil	1.41%
11	Bahamas	0.7%	Hong Kong	1.03%
12	Italy	0.7%	Mexico	0.92%
13	Singapore	0.7%	Singapore	0.85%
14	Netherlands	0.6%	Netherlands	0.49%
15	Hong Kong	0.5%	India	0.48%
16	India	0.5%	Belgium	0.47%
17	Spain	0.4%	Bahamas	0.46%
18	Denmark	0.4%	Ireland	0.46%
19	Norway	0.3%	Australia	0.41%
20	Luxembourg	0.3%	Denmark	0.39%
	Total	**100%**	**Total**	**100%**

Source: Thomson one Banker Ownership, Thomson Financial, 2009.

Table 2: Where do Mutual Funds (MF) invest: a regional preference?

Geographic areas	African MF	Asian MF	European MF	South American MF	North American MF
Africa	**25%**	0%	0%	0%	0%
Asia	2%	**46%**	2%	4%	0%
Europe	31%	18%	**57%**	28%	7%
Latin America	1%	1%	5%	**24%**	1%
North America	**41%**	34%	**36%**	**44%**	**92%**
Total	100%	100%	100%	100%	100

Source: Thomson one Banker Ownership, Thomson Financial, 2009.

When we now turn to the analysis of where "impatient" mutual funds invest, we find the same configuration as in Table 1: home-bias and concentration of portfolios on certain geographical areas are the two main features. However, the aim of the study is not to address the question of home bias (i.e. the tendency of investors to invest heavily in domestic equity). Instead we investigate what kind of country is selected by mutual funds and especially by "impatient" mutual funds, when they decide to invest abroad.

To identify countries in which "impatient" mutual funds may be over-represented or on the contrary under-represented, we construct an index. This index, noted A_i, is the ratio of the amount of "impatient" investors' investments in country i (II_{ii}) relative to the total amount of investment in

country i (TI_i) divided by the ratio of the amount of "impatient" investors' investments in the world (II_w) relative to the total amount of investments in the world (TI_w):

$$Ai = (II_i/TI_i) / (II_w/TI_w)$$

If $A_i = 1$, the presence of "impatient" investors in market i is identical to the global trend

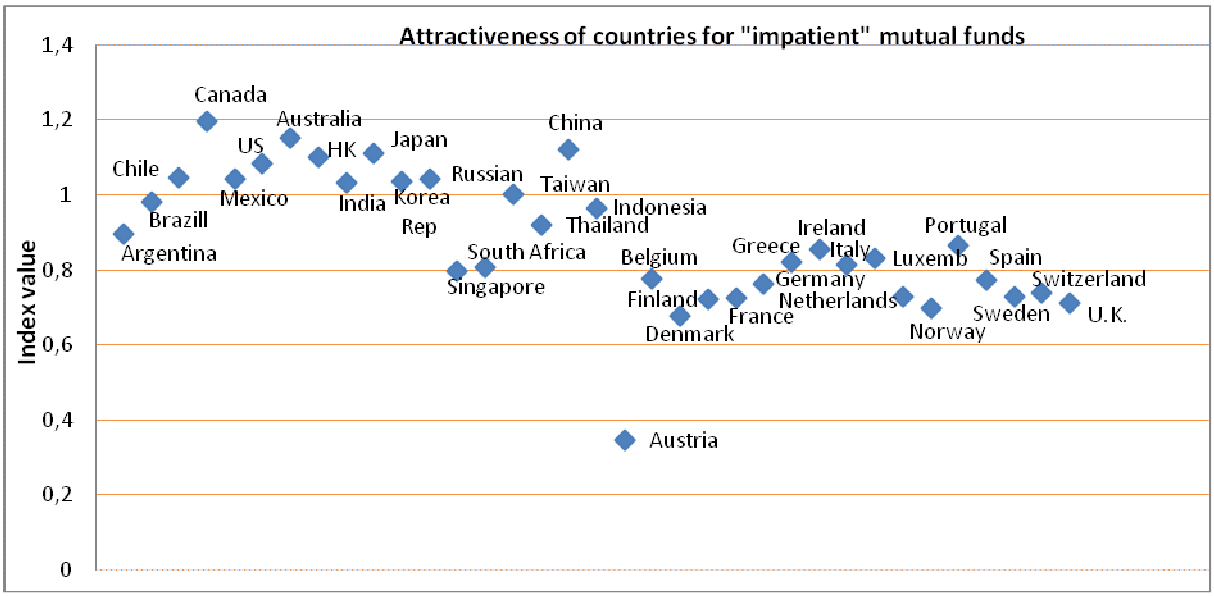
If $A_i > 1$, "impatient" investors are over-represented in market i.

If $A_i < 1$, "impatient" investors are under-represented in market i.

The idea is clearly to identify countries where "impatient" investors i) invest most of the assets they manage (over-representation); ii) invest little of their financial assets (under-representation).

Figure 1 shows that countries where "impatient" mutual funds are over-represented include Canada, Australia, Hong Kong, the United States and Chile. These countries function on the market-based model characterized by a developed stock market and the presence of institutional investors in company capital[7]. Canada's index has the highest rating which means that it is Canada that attracts more "impatient" investors (on the basis of the amounts of financial assets) compared to all other countries of the sample. The Canadian case can be explained by the proximity of the U.S. market and by potential 'overflow effects'. As far as the United States is concerned, we have already noted that North American funds invest 92% of their assets in North America and that 62% of mutual funds are of American origin. These facts easily explain the over-representation of "impatient" mutual funds in this geographical area. Countries where "impatient" mutual funds are under-represented include Belgium, Germany, France, Finland or Switzerland. These countries belong to the continental European model of capitalism, characterized by long-term finance and concentration of ownership structures. For example, Austria's index has the lowest rating which means that Austria attracts fewer "impatient" mutual funds (on the basis of the volume of financial assets) compared to all other countries of the sample.

Figure 1: 'Over' and 'under representation' of "impatient" mutual funds in the world (2009) (depending on the quantity of financial assets invested in each country)



[7] See Hall and Soskice (2001) and Amable (2003) for their analysis of varieties models of capitalism.

Figure 1 provides a statistical description of the presence of "impatient" mutual funds in some geographical markets, but we need to better understand the determinants of investment of "impatient" mutual funds. We now test the following two hypotheses: i) the geographical and institutional origin of countries affects the choice of location for investment; ii) some countries have characteristics that make them more attractive to "impatient" mutual funds (in particular the presence of insiders, or "strategic" investors, in the ownership structures of companies). These hypotheses are tested with two variables to control the analysis: the market capitalization of countries and the size of mutual funds' assets portfolios.

4. When "impatient" mutual funds find the specific characteristics of host countries favorable: an empirical study.

In our empirical study we analyze whether "impatient" mutual funds prefer investing in some countries rather than others. We question whether some countries attract more short-termist investors and why. We then investigate what kind of criteria (geographical and institutional) can explain the presence of "impatient" mutual funds in specific markets.

In the econometric analysis we consider the U.S. market as a localization reference and we question the investment behaviors of worldwide mutual funds. The empirical analysis involves two steps. First, we question the degree of relationship between investors' portfolio turnover (endogenous variable), their choices of location in 35 countries (see Appendix 1) and investors' portfolio size (considered as a control variable)[8]. Secondly, we analyze the relationship between the portfolio turnover of investors and four exogenous variables: i) the presence of 'strategic' entities in ownership structures of companies[9]; ii) the host country's market size; iii) the degree of legal protection for shareholders (measured by the anti-director rights index, see La Porta *et al.,* 1998); iv) the difference between the legal regime in the mutual fund's country of origin and the legal regime of the host country. The objective is to determine whether the choice of location of investment can be influenced by these geographical and institutional variables.

We extract two variables from the Thomson financial database: the amount of financial assets in mutual funds' portfolios ("Equity assets") and their portfolio turnover level (high, moderate, low)[10]. To include theses qualitative variables in our empirical study, we consolidate the three levels of turnover (high, moderate and low) into a single type of variable to enable a binary encoding[11]: "high" against "not high". If a mutual fund's turnover is high the variable takes a value of "one" and in all other cases (low and moderate turnover) the variable takes a value of "zero". The variable "High" refers to investors with a high portfolio turnover that we consider as "impatient" investors. Inversely, investors with a low or moderate turnover are called "patient" investors.

[8] Portfolio size (second exogenous variable) is always verified in the following econometrics tests.

[9] The Thomson financial database registers investors and opposes institutional investors (mutual funds, pension funds, etc) to "strategic" investors (family, state). We replicate this typology of investors in our study. "Strategic" investors are generally large shareholders or controlling shareholders in companies.

[10] See Appendix 2 for a presentation of the characteristics of variables. We consider an "impatient" investor to be any shareholder whose portfolio turnover is qualified as "high" in the Thomson financial database. High portfolio turnover refers to a holding period of portfolios of less than 12 months. Moderate portfolio turnover refers to a holding period between 12 months and 24 months. Low portfolio turnover refers to a holding period of more than 24 months.

[11] For the variable High: if investor's turnover is high the variable takes the value of "zero" and in all other cases (low and moderate portfolio turnover) the variable takes the value of "one".

4.1. Baseline model

Regarding the methodology and the data analysis, we use a binary probit model to test the probability that an "impatient" mutual fund j rather than a "patient" mutual fund j invest in country i. The sample consists of j mutual funds indexed by j = 1,…, 22996 and where index i represents the country (i =1,…,35) in which mutual funds invest. We thus consider Y_i, an endogenous variable, coded (0,1) and associated with these events ($\forall i \in [1,N]$):

yi = 0 if the condition "have a high turnover" is true for mutual funds j investing in country i

yi = 1 if the condition "have a turnover different from high" is true for mutual funds j investing in country i

With the probit model regression, we assess the probability of occurrence of the event "to have a high turnover" considering two exogenous variables (x_i: the host country i and x_2: equity asset).

We also propose a second binary probit model to test the probability that a "patient" mutual fund j rather than an "impatient" mutual fund j invest in country i. We thus consider Yi, endogenous variable, coded (0,1) and associated with these events ($\forall i \in [1,N]$):

y_i = 0 if the event "have a low turnover" occurs for mutual funds j investing in country i

y_i = 1 if the event "have a turnover different from low" occurs for mutual funds j investing in country i

We assess the probability of occurrence of the event "have a low turnover" considering the same two exogenous variables ($x_{i:}$ the host country i and x_2: equity asset). The models are estimated by the maximum likelihood method taking the U.S. market as a reference. The results with the endogenous variable "high" are presented in Table 3 and those with the endogenous variable "low" are presented in Appendix 2 (Table 7).

In Table 3 the Coefficient column indicates marginal effects that measure the model's sensitivity to changes in turnover relative to the U.S. market. Column Prob (z) measures the probability associated with the significance tests. In the first estimation (Table 2) the z statistic indicates that numerous coefficients are significant at a risk level of 1% (P[Z/>z] <0.000).

Table 3: "Impatient" mutual funds' location strategies
(verified by the equity asset, variable: "High")
(Probability of the characteristic Y = 1, with the U.S. as a reference)

Number of observations = 22996	Iterations completed = 5		
Log likelihood function = -13314.27	Degrees of freedom = 35		
Chi squared = 1277.76	Pseudo R-squared = 0.0458		
Prob[ChiSqd > value] = 0.000000			
Variables	**Marginal Effects**	**z**	**P[Z/>z]**
Equity Asset	0.00003	8.44	0.000
Argentina	0.2288	2.70	0.007
Brazil	0.1717	18.25	0.000
Thailand	0.0989	4.44	0.000
Italy	0.0683	5.78	0.000
Austria	0.0544	4.40	0.000
India	0.0473	3.72	0.0000
Finland	0.0462	4.43	0.000
United Kingdom	0.0424	5.38	0.000
Netherlands	0.0336	3.51	0.000
Sweden	0.0237	2.15	0.031
Belgium	0.0232	2.37	0.018
Japan	-0.0703	-8.14	0.000
China	-0.0661	-6.11	0.000
Australia	-0.0616	-6.57	0.000
Taiwan	-0.0574	-4.74	0.000
Ireland	-0.0536	-6.57	0.000
Greece	-0.0449	-3.71	0.000
Canada	-0.0441	-6.12	0.000
Norway	-0.0409	-3.54	0.000
South Africa	-0.0408	-3.24	0.001
Korea	-0.0353	-2.70	0.007
Denmark	-0.0349	-2.99	0.003
Portugal	-0.0251	-2.03	0.043
Mexico	-0.0222	-1.71	0.087
Spain	-0.0129	-1.31	0.192
Indonesia	-0.0241	-1.21	0.225
France	-0.0163	-1.51	0.131
Honk Kong	0.0147	1.25	0.212
Luxembourg	-0.0087	-1.10	0.272
Chile	-0.085	-0.45	0.650
Germany	-0.0065	-0.61	0.545
Singapore	-0.010	-0.95	0.342
Switzerland	0.0004	0.05	0.957
Russia	-00153	-1.13	0.260

In the grayed parts, variables are not significant.
dy/dx is for discrete change of dummy from 0 to 1

The first model shows that there are two types of investor strategies in relation to the American market: being an "impatient" investor rather than a "patient" investor decreases the probability of preferring the following countries for investment: Canada, Mexico, Australia, Japan, Korea, South Africa, Taiwan, China, Denmark, Greece, Ireland, Norway or Portugal. Being an "impatient" rather than a "patient" investor increases the probability of preferring the following countries for investment: Argentina, Brazil, India, Thailand, Austria, Belgium, Finland, Italy, Netherlands, Sweden and the United Kingdom. Globally, we can underline that countries with significant negative elasticities (Japan, China, Australia, Taiwan, Canada, Korea, Mexico) are the countries where "impatient" mutual funds are over-represented while the countries with significant positive elasticities (Belgium, Italy, Finland, Austria, Netherlands) are countries where they are under-represented. It is not possible to conclude for the specific case of France, Germany or Switzerland, because their elasticities are not significant.

The visible contradiction between the index Ai and our econometrics results can be explained by the fact that with Ai, we only observe the invested amounts of mutual funds while with the econometric model we observe the probability that an "impatient' mutual fund will invest on specific stock markets. For example, if we consider the Japanese case, the econometric analysis indicates that "impatient" mutual funds do not favor this market (characterized by a negative elasticity) while the index Ai suggests that when "impatient" mutual funds invest in this country, they invest large amounts of financial assets. If we now consider an opposite case, the U.K., the econometric analysis indicates that "impatient" mutual funds favor this market (characterized by a positive elasticity) while the index Ai suggests that when "impatient" mutual funds invest in this country, they invest small amounts. We derive from these examples that the farther a country is from areas where "impatient" funds are found (such as Europe and the U.S.) the fewer the investments in the country concerned, but when "impatient" funds do invest there, they invest large amounts. The closer a country is to areas where many "impatient" funds are found the more investments there will be in this country but with smaller amounts (Belgium, Austria, United-Kingdom, etc). If geographical distance can partly explain the results, it is not sufficient to understand the behavior of mutual funds and particularly the behavior of "impatient "mutual funds. Other hypotheses thus need to be investigated.

4.2. Model with institutional criteria: presence of strategic investors as a determinant of location

Although we can highlight preferences of "impatient" mutual funds for some specific host countries, the previous model tells us little about the determinants of this location. We now make the assumption that these location strategies can be determined by four variables that we have constructed in our database: i) the size of the markets (measured by Market Capitalization) that we label MACA; ii) the percentage of capitalization held by "Strategic" Entities labeled SE; iii) the difference between the origin of the legal system in the investors' domestic market and host countries, labeled LO; iv) shareholders protection measured by the level of Anti-Director rights, labeled AD.

By introducing capital market size in our analysis we make the hypothesis that market capitalization offers the liquidity necessary for the strategies of "impatient" mutual funds. The size of markets is next considered as a control variable. In our model, to consider the influence of the host country's size on the choice of location of mutual funds, we construct four qualitative variables:

$MACA_0$, $MACA_1$, $MACA_2$, and $MACA_3$. $MACA_1$ is used when mutual funds only invest in large markets[12]. $MACA_2$ is used when they only invest in small markets and $MACA_0$ when mutual funds only invest in intermediate markets. $MACA_3$ is our benchmark and refers to cases where mutual funds can invest in all kinds of markets. Dahlquist *et al.* (2003) have shown that there is a relationship between the degree of presence of insiders (or strategic entities) in the ownership structures of companies and the presence of mutual funds. We analyzed the ownership structures of the 35 countries composing our sample while considering on the one hand the percentage of stocks owned by institutional investors and on the other hand the percentage of stocks owned by strategic entities (the state, families, etc). This allows us to consider two groups of countries: those coming from the Common Law tradition and exhibiting a higher level of institutional investors in their ownership structures, and those originating from the Civil Law tradition and characterized by the presence of large shareholders in their ownership structures (see Table 4).

Table 4: Ownership structures of large companies in different geographical areas

	North America	Australia	South Africa	Europe	Asia
Institutional investors	**60.20%**	**56.84%**	**52.53%**	44.33%	39.39%
Strategic entities	39.98%	43.16%	47.47%	**55.67%**	**60.63%**

Source: Thomson one Banker Ownership, Thomson Financial, 2009.

To introduce differentiated strategies of mutual funds according to the presence (or not) of strategic entities in the capital of large listed companies, we created three qualitative variables: SE_0, SE_1 and SE_2. SE_1 is used when mutual funds only invest in markets with a strong presence of strategic investors[13]; SE_2 designates cases where mutual funds only invest in markets with few strategic investors; SE_0 is our benchmark and occurs when mutual funds invest in both kinds of market[14].

We also include the variable AD which is the anti-director index (ranging from 0 to 6). It measures how strongly the legal system favors minority shareholders against managers or dominant shareholders in the corporate decision making process. We consider two cases: i) when mutual funds invest in a country where the index value is between 0 and 2.5; ii) when mutual funds invest in a country where the index value is higher than 2.5. If the share of investments realized in countries where the index value is low *(i.e*. weak protection) is greater than 50%, the variable AD takes the value 0, and 1 in the other cases. The variable AD enables us to measure the tendency of mutual funds to prefer countries where the level of shareholder protection is high.

Finally, the variable LO measures the institutional distance between the host country and the domestic countries of investors. We consider two cases: i) when mutual funds invest in markets where the legal regime is the same as the regime of law of its domestic country; ii) when mutual funds invest in markets where the legal regime is different to that of its country of origin. If the share of investments in countries where the legal origin is the same as the mutual funds' country is superior to 50%, the variable takes the value 1, and 0 in the other cases. With the variable LO, we measure the tendency of mutual funds to prefer investments in countries where the legal regime is the same as the legal origin of their own countries.

[12] If mutual funds invest only in a market the variable takes the value "one" and if not the variable takes the value "zero". See Appendix 1 (List of the markets classified by categories).
[13] If mutual funds only invest in markets where there is a strong presence of strategic investors, the variable takes the value "one" and "zero" in all other cases.
[14] Strong presence correspond to cases when there is more than 35% of strategic investors, weak presence design cases where there is less than 35% of strategic investors.

With these new variables, we again consider Y_i, endogenous variable, coded (1,0) and associated with these events ($\forall i \in [1,N]$):

yi = 1 if the event "have a high turnover" occurs for mutual funds j investing in market i

yi = 0 if the event "have a turnover different from high" occurs for mutual funds j investing in market i

With this probit model (Table 5), we assess the probability of occurrence of the event "have a high turnover" considering five exogenous variables (equity assets of mutual funds, market capitalization of host countries, presence of strategic investors, differences regarding legal origin and level of anti-director rights). We use this second binary probit model to test the probability that an "impatient" mutual fund j rather than a "patient" mutual fund will invest in markets categorized by the five variables (see Table 5).

Table 5: Investors' location strategies
(Variable "High")

Number of observations = 24529	Iterations completed = 4		
Log likelihood function = -14789.342	Degrees of freedom = 35		
Lr Chi squared = 186.95	Pseudo R-squared = 0.0063		
Prob[ChiSqd > value] = 0.000000			
Variables	**Coeff.**	**z**	**P[Z/>z]**
Equity Asset	0.0000439	6.86	0.000
SE_1	0.086794	3.10	0.0000
SE_2	-0.006534	0.20	0.838
$MACA_2$	-0.18158	-4.15	0.000
$MACA_1$	0.25001	6.28	0.000
$MACA_0$	-0.1350	-4.68	0.000
LO	0.0773	4.63	0.000
AD	-0.1135	-3.64	0.000
Constant	0.54978	10.79	0.000

In the greyed parts, variables are not significant.

In this model each variable (excluding SE_2) has a significant coefficient. This probit model shows that being an "impatient" mutual fund rather than a "patient" mutual fund increases the probability of preferring to invest in markets with a strong presence of strategic investors (SE_1 has a positive significant coefficient: 0.086794). However, "impatient" investors are indifferent to the weak presence of strategic investors (the coefficient SE_2 is not significant). The model also shows that being an "impatient" mutual fund rather than a "patient" mutual fund increases the probability of preferring large stock markets ($MACA_1$ has a positive significant coefficient of 0.25001) while being an "impatient" mutual fund rather than a "patient" mutual fund decreases the probability of preferring small and intermediary stock markets ($MACA_0$ and $MACA_2$ have significant but negative coefficients). With the variable LO we can find that "impatient" funds prefer markets where they understand the legal system (LO has a positive and significant coefficient of 0.0773). Lastly, with the variable AD we highlight that being an "impatient" mutual fund rather a "patient" one decreases the probability of preferring a market with weak shareholder protection (the variable AD has a significant but negative coefficient). We now turn to a ranking of mutual funds' investment criteria (see Table 6).

Table 6: Mutual funds' location strategies (Variable "High")

Variables	Marginal effects	z	P[Z />z]
Equity Asset	0.0000151	6.87	0.000
SE_1	0.03039	3.1005	0.0002
SE_2	-0.002252	0.20	0.838
$MACA_2$	-0.0597	-4.36	0.000
$MACA_1$	0.09031	6.28	0.000
$MACA_0$	-0.04553	-4.78	0.000
LO	0.02672	4.35	0.000
AD	-0.03806	-4.35	0.000

In the greyed parts variables are not significant.

Marginal effects (Table 6) indicate different sensibilities according to variables and allow the variables to be classified by order of importance for mutual funds. They indicate that i) the size of market capitalization of countries (an indicator of market liquidity) plays a central role for "impatient" mutual funds (with an elasticity equal to 0.09031). Then come, in order of importance ii) the level of shareholders' protection (variable AD with an elasticity equal to -0.03806), iii) the presence of strategic investors (variable SE_1 with an elasticity equal to 0.03039), iv) the institutional distance (variable MO with an elasticity equal to 0.02672) and v) the variable 'equity asset' of mutual funds' portfolios which plays a minor role (elasticity of 0.0000151).

5. Conclusion and discussions

Our findings contribute to a growing literature on the importance of geography to the study of global finance. We demonstrate that geography and the institutional frameworks of countries are two factors that help understand the way mutual funds, and in particular "impatient" mutual funds, select the countries in which to invest. More generally this study provides new insights into the mutual fund industry and offers evidence of mutual funds' tendency (with a focus on "impatient" mutual funds) to select stocks in specific countries.

First, despite financial globalization, the global mutual fund industry remains very focused on two geographical areas and five countries, all characterized by developed financial markets. Second, mutual funds prefer investing in nearby markets provided mutual funds come from countries where financial markets are developed. Third, some countries attract more "impatient" mutual funds than others: this is mostly the case of countries whose legal systems are based on the Anglo-Saxon model. Inversely, "impatient" mutual funds are under-represented in some countries (essentially countries following the European continental model). Finally, "impatient" mutual funds are comfortable with large stock markets, markets with a high level of protection for shareholders and markets with an institutional proximity. More surprisingly, "impatient" mutual funds have a preference for companies with 'strategic' investors (family owners, the state, etc.) as dominant shareholders of large listed companies. On markets with a strong presence of strategic investors, closed ownership structures promote higher volatility in market prices, which attract "impatient" mutual funds. Our study validates and completes the results of Dahlquist *et al.* (2003) according to which markets with strategic investors attract mutual funds: stock markets with strategic investors especially attract "impatient" mutual funds. This could be even more the case in the event of reversal on financial

markets where the number of shares traded is considerably reduced but there are no studies to date on this issue. These results open the way for new research in the field of the geography of finance questioning the relationship between location strategies of mutual funds and the liquidity of markets.

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APPENDIX 1

Market capitalizations of countries (2009, million $)

Countries	Market capitalization	Size of Capitalizations
United States	11732768,30	Large Markets
Japan	3220481,10	
China	2438008,10	
United Kingdom	1851913,00	
France	1492150,00	
Russia	1321628,04	
Germany	1106804,50	
Canada	1002464,40	
Spain	946460,30	
Switzerland	862638,00	
Australia	675121,30	
India	645269,70	Intermediate Markets
Brazil	590189,60	
Italy	520513,30	
Korea	494291,80	
South Africa	491249,00	
Hong Kong	468601,60	
Netherlands	388013,30	
Sweden	252490,00	
Mexico	232393,00	
Taiwan	191705,20	
Singapore	179948,50	
Belgium	167687,80	
Finland	154355,00	Small Markets
Norway	145906,34	
Chile	122348,28	
Denmark	131585,30	
Thailand	103128,24	
Indonesia	98762,90	
Greece	90270,40	
Austria	72450,10	
Portugal	68681,30	
Argentina	52212,00	
Luxembourg	66468,50	
Ireland	49311,50	

Source : IMF.

APPENDIX 2

In the second estimation (Table 5), the z statistic indicates that few coefficients are significant at the risk level of 1% (P[Z/>z] <0.000). The explanatory capacity of the model is weaker for patient investors.

However the model shows once again that there are two types of investor strategies in relation to the U.S. market: being a "patient" investor rather than an "impatient" investor decreases the probability of preferring the following countries for investments: India, Russia, Brazil, Honk Kong, Canada and the Netherlands. Being a "patient" investor rather an "impatient" investor increases the probability of preferring the following countries for investments: Australia, Portugal, China and Ireland. These investors are less inclined to choose Indian or Russian markets than Canadian markets. In the same way, investments in Australia are characterized by high positive elasticities compared with low positive elasticities for China. Investors are more inclined to choose Australia than China.

Table 7: Investors' location strategies
(verified by the equity asset, variable "Low")
(probability of the characteristic Y = 1, with the U.S. as a reference)

Number of observations = 22996	Iterations completed = 5		
Log likelihood function = -8759.0379	Degrees of freedom = 35		
Chi squared = 349.40	Pseudo R-squared = 0.0196		
Prob[ChiSqd > value] = 0.000000			
Variables	**Marginal Effects**	**z**	**P[Z />z]**
Equity Asset	-0.000003	-4.01	0.000
India	-0.0586	-7.98	0.0000
Russia	-0.0523	-5.94	0.000
Brazil	-0.0329	-5.62	0.000
Honk Kong	-0.272	-3.50	0.000
Canada	-0.219	-4.27	0.000
Netherlands	-0.0158	-2.36	0.019
Australia	0.0251	3.31	0.001
Portugal	0.0239	2.35	0.019
China	0.0142	1.66	0.097
Ireland	0.0120	1.88	0.060
Argentina	0.0478	1.59	0.113
Thailand	-0.0131	-1.01	0.312
Italy	-0.0023	-0.28	0.779
Austria	-0.0002	-0.03	0.979
Finland	-0.0001	-0.02	0.981
United Kingdom	0.0012	0.22	0.0824
Sweden	-0.0053	-0.68	0.495
Belgium	0.0095	1.31	0.191
Japan	0.0018	0.29	0.775
Taiwan	-0.0004	-0.05	0.957
Greece	0.0030	0.32	0.749

Norway	0.0076	0.83	0.404
South Africa	0.0151	1.53	0.126
Korea	0.00002	0.00	0.998
Denmark	0.0074	0.82	0.410
Mexico	-0.0017	-0.17	0.868
Spain	0.0043	0.60	0.551
Indonesia	-0.0029	-0.21	0.833
France	-0.0126	-1.62	0.105
Luxembourg	0.0041	0.71	0.477
Chile	-0.0240	-1.62	0.106
Germany	-0.0108	-1.38	0168
Singapore	-0.0005	-0.08	0.940
Switzerland	0.0076	1.25	0.212

In the grayed parts the variables are not significant.

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