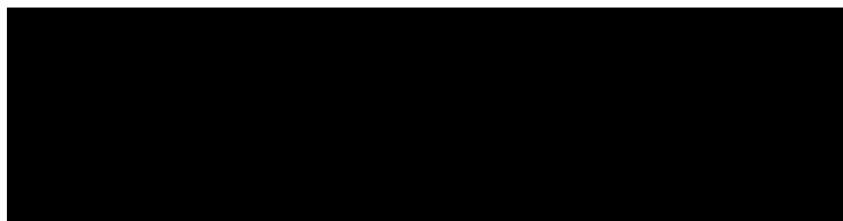# Foreign-promoted mutual funds in the continental European market

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Abstract: Although the European market regulators have implemented a lot of measures in order to make the market more integrated, a recent report of European Fund and Asset Management Association (EFAMA) in 2015 underlines that domestic actors remain principal participants in country members. My research questions the integration of the European market by investigating the place of foreign promoters in continental European markets. Using 12315 equity funds from 14 continental European countries for the period from 2002 to 2014, I analyze the competitiveness and the market shares of foreign-promoted funds. The results show that foreign-promoted funds seem to be more performing than domestic-promoted funds. However, they do not attract more investors. Foreign promoters appear to have significantly smaller market shares. These results highlight the existence of barriers to foreign promoters in the European mutual fund market.

Key words: mutual funds, foreign promoters, market shares of foreign promoters, competitiveness of funds.

JEL classification: G00, G10, G11, G28, G30.

Introduction

In July 2014, the European Commission announced a project of "Capital Markets Union" (CMU) whose objective is to promote the integration of the European capital market. Such integration would support a sustainable return to growth and job creation. A more competitive and integrated market for asset management can contribute to the smoothly functioning of the European capital market by decreasing the cost of capital. Therefore, the integration of the European mutual fund market is one important step to succeed the CMU project.

An integrated mutual fund market in Europe means that funds can be easily promoted in all country members. In such a market, there is no discrimination against foreign asset management products (Heinemann *et al*. (2003)). Although, the European market regulators have made a lot of efforts in promoting cross-border fund circulation in Europe with the improvement of UCITS directives[1] (Cumming *et al*. (2009)), a recent report of EFAMA in 2015 notes that domestic actors remain principal participants in the asset management market of state members. Moreover, laws and regulation are not the only barrier to foreign products. There may be other barriers to foreign funds such as cultural, language or even simply the name of a fund's manager (Merton (1987), Huberman (2001) and Bailey *et al*. (2011), Kumar *et al*. (2015)). For instance, Kumar *et al*. (2015) observe, for a sample of US equity funds, that fund managers having foreign-sounding names have 10% lower annual flows. These managers experience lower appreciation in flows when their funds obtain good results and are more penalized by outflows when their funds have poor performance. In addition, "local bias" – preference for products geographically close to home – is well known to affect the investment choices of investors (Merton (1987), Huberman (2001) and Bailey *et al*. (2011)). For the same quality of financial services, investors tend to invest in domestic products. Therefore, in order to compete against domestic ones, foreign funds should make more efforts.

My research questions the integration of the European mutual fund market by focusing on the place of foreign promoters in continental European countries. Specifically, I analyze the competitiveness of foreign-promoted funds and the market shares of foreign promoters in the continental European market. In a considered country, a fund is considered as "foreign-promoted" fund if its promoter (*i.e.* family) is foreign. A fund can be domiciled and sold in a country but belongs to a foreign promoter. If the European market shows some degree of

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[1] Undertakings for collective Investment in Transferable Securities (UCITS)

integration, the market shares of foreign promoters would be significant. If the European market is not completely integrated, foreign promoters can have some disadvantages in market funds in country members. They would try to compete against domestic-promoted funds by offering more competitive funds. In this paper, I try to respond to several questions. Which market shares do foreign promoters have? Are foreign-promoted funds more competitive than domestic-promoted funds? What are the determinants of a promoter's market shares?

Using a sample of 12315 equity funds marketed in 14 continental European countries, I show that foreign-promoted funds are more performing in compared to domestic-promoted funds. However, foreign-promoted funds do not attract more investors than domestic-promoted funds. At the family level, the market shares of foreign promoters are significantly smaller in compared with domestic promoters. These results highlight the existence of barriers to foreign promoters in the European mutual fund market. Even with a better quality of management services, foreign-promoted funds do not obtain higher market shares.

This paper can contribute to the growing literature questioning the European market integration. While recent academic works focus on the cross-border domiciliation (Lang and Köhler, 2011; Lang and Schafer, 2013) and the cross-border distribution (Cumming *et al*., 2009), there has been no research investigating the place of foreign-promoted funds in the European market. Indeed, the participation of foreign financial groups in country members is an important sign of the integration of the European mutual fund market. The results obtained in this study can have important implications for market regulators. The existence of discrimination towards foreign-promoted funds suggests that more efforts should be done in order to make the European market more integrated.

The paper is organized as follows. In Section 1, I briefly present the European mutual fund market. In this section, I underline the important role of UCITS Directives in the integration of the European mutual fund market. Section 2 presents the review of literature on the integration of the European mutual fund market. Section 3 presents the research design. The data description is presented in Section 4. Section 5 analyzes the competitiveness of foreign-promoted funds in compared to domestic-promoted funds. Section 6 examines the market shares of foreign promoters in compared to domestic promoters.

1. The European mutual fund market.

1.1. Oversight of the European mutual fund market

The European asset management market plays an important role in the economic development. The Green Paper of European commission (2015) underlines that the European asset management industry plays a pivotal role in channeling investors' money into the economy. More than 3300 asset management companies in Europe employ 90000 people directly in 2013 (EFAMA 2015a). The European market ranks as the second largest domicile for investment funds worldwide behind the United States (EFAMA 2104). Net sales of opened-ended funds in Europe are roughly twice as large as net sales in the United States (EFAMA 2015b). Despite the financial crisis in 2009, the European asset management continues to develop rapidly. Between 2003 and 2013, European investment fund assets have been doubled (EFAMA 2014). Total assets under management in Europe have increased 9% in 2013 and 15% in 2014 to reach EUR 19 trillion at the end of 2014 and represent 124% of the European GDP. According to EFAMA (2015b)'s forecasts, net assets of the European investment fund industry are expected to continue rising and can reach Euro 21.3 trillion by 2020. Overall, there are five European countries in the top 10 list of fund domiciles: Luxembourg, Ireland, France, Germany and the United Kingdom (EFAMA 2015). Concerning the asset allocation, equity funds have the first place in the asset management with 37% of all assets in 2013, followed by bond funds (28%), balanced funds (16%) and money market funds (13%) (EFAMA 2015a).

1.2. UCITS directives and the integration of the European mutual fund market

The European market regulators have tried to make the European mutual fund market more integrated by introducing many implementations in order to facilitate the cross-border selling of mutual funds. UCITS (Undertakings for collective Investment in Transferable Securities) Directive is an example. At the end of 2003, the cross-border fund assets in Europe are 40% of total European investment fund assets (EFAMA 2014). This is an example of the strength of the UCITS brand that transforms the European investment fund industry into a global industry.

UCITS Directive, firstly adopted in 1985, refers to a set of European Union Directives establishing a harmonized legal framework for the creation, management and marketing of collective investment schemes in the EU and EEA members. The UCITS directives, focusing on investor protection and product regulation, support the integration of the European mutual

fund market. Funds registered under the UCITS Directives have a European passport, which allows them to be marketed in other European countries than the origin country. The UCITS Directive has been recently revised in 2011 in order to promote a more integrated European market. According to the 2011 UCITS Directive, a key investor document (KID), a simplified prospectus, is designed for European funds. The same directive allows the cross-border fund merger. With the 2011 UCITS Directives, management companies can have also a passport which allows them to manage funds domiciled in other countries.

The introduction of the UCITS directive facilitates the distribution of funds in European countries. It is necessary to note that Switzerland is not a member of the European Economic Area (EEA) countries. The UCITS directive is not taken in place in this country. Nevertheless, Switzerland has adopted a lot of regulatory frameworks that facilitate the distribution of funds. In this country, funds cannot be sold to retail investors as easily as UCITS because they do not have their passport. However, UCITS can be marketed in Switzerland.

Luxembourg and Ireland are benefited from the introduction of UCITS. In fact, these countries have adopted these regulations as national law and enjoyed more liberal supervisory and taxation framework conditions for mutual funds. An example, the UCITS have adopted as national law in Luxembourg one year after the introduction of UCITS. The UCITS Directive is extremely well regarded thanks to its superior investor protection. Nowadays, several Latin American and Asian countries allow European UCITS to be distributed in these countries (Cumming *et al.*, 2009).

2. Related literature.

The European commission has implemented lots of measures to make the European mutual fund market more integrated. Recently, academic researchers have been interested in the analysis of the European mutual fund market integration. It starts with some studies analyzing the global European asset management market (Otten and Schweitzer, 2002; Bengtsson and Delbecque, 2011). This market integration can increase the cross-border domiciliation, distribution and management in the mutual fund industry (Lang and Köhler, 2011; Lang and Schafer, 2013). These studies focus on the decision of funds' cross-border domiciliation as well as their impacts on the funds' fees and the cross-border distribution of European mutual fund. Below I present some main results of these studies.

The integration of the European mutual fund market increases the competition among funds and thus incites the funds to relocate their activities and to domicile their investment funds in financial centers such as Luxembourg or Ireland. In general, these offshore centers offer the most favorable regulatory environment. Lang and Schafer (2013) examine the determinants of fund domiciliation. The authors realize a survey of 47 managers, who are responsible for the domiciliation decision of their companies' mutual funds in Germany. The results show that the decisions on where to domicile a UCITS fund is primarily driven by fund-specific legislation, conditions in the approval process and the cluster of specialized experts. In contrast, cost factors such as registration charges, fund company tax burden and labor costs appear to be less important in the determinant of the domiciliation decision of funds. Network conditions with respect to the knowledge-based production process of mutual funds and the interaction with regulating authorities such as the approval process embedded in the legal framework ant the quality of the workforce in a dense specialized cluster matter most.

Lang and Köhler (2011) analyze the impacts of fund domiciliation on fund fees. Using a sample of 11,735 mutual funds set up between 1997 and 2006 from 22 countries, the authors show that fees vary considerably across fund types and countries. The financial market integration can have some positive impacts on fund fees. However, UCITS funds seem to be more expensive. Fees are even higher for funds distributed in several countries.

However, in my knowledge, there has been no research focusing on foreign- promoted funds.

3. Research design

The objective of the paper is to study the place of foreign promoters in European markets. For this, I analyze the competitiveness and the market shares of foreign-promoted funds.

At the fund level, I compare whether foreign-promoted funds are more competitive than domestic-promoted funds. This competitiveness is reflected in two main aspects: performance and fees. To compete against domestic-promoted funds, foreign-promoted funds should be more competitive. I also examine whether foreign-promoted funds enjoy more net flows than domestic-promoted funds.

At the family level, I analyze whether foreign promoters have significantly smaller market shares than domestic promoters. For this, I examine the determinants of promoters' market shares.

4. Data description and performance measures.

The sample is obtained from Lipper Company and contains equity funds marketed in 14 continental European countries: France, Germany, Switzerland, Sweden, Norway, Italy, Greece, Portugal, Spain, Netherland, Austria, Belgium, Finland and Denmark for the period from 2002 to 2014. For each market, I have information on fund characteristics (age, investment geographical zones, country of the fund's promoter, fund domiciliation, fund distribution type, fund fees…) as well as monthly assets under management, monthly estimated net flows and monthly return[2]. Table 1, 2 and 3 show some statistic descriptions of the data. Overall, the percentage of foreign-promoted funds is less than 25% of all funds in the European market. Belgium is the country the most opened to foreign promoters with over 35% of funds offered by foreign promoters. When considering the number of foreign promoters in the market, Belgium is also in the top with 40% of promoters coming from other countries. In term of fund size, domestic funds seem to be larger than foreign funds. However, foreign funds appear to have higher return than domestic funds.

Performance measures

I use two measures of fund performance: alpha of the three-factor model and objective-adjusted return.

Alpha of funds

A fund's alpha is determined by the three-factor (Fama-French) model as following:

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_i\big(R_{m,t} - R_{f,t}\big) + s_i SMB_{i,t} + h_i HML_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where $R_{i,t}$ is the return of fund i in month t. $R_{f,t}$ is the risk free rate in month t. $R_{m,t}$ is the return of the corresponding index market in month t. $SMB_{i,t}$ and $HML_{i,t}$ denote the return on portfolios that proxy for common risk factors associated with size and book-to-market, respectively. α_i is a constant, β_i, s_i and h_i are the coefficients associated to the factors. $\varepsilon_{i,t}$ is the error term with its zero mean.

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2 In reality, Lipper company does not provide monthly return of funds. Instead, they provides monthly asset under management and monthly estimated net sales. The latter is calculated as follows:

$\text{flows}_{i,t} = \frac{AN_{i,t} - AN_{i,t-1}}{AN_{i,t-1}} - R_{i,t}$ Where $\text{flows}_{i,t}$ is the net flow of fund i in month t (or estimated net sales in month t). $AN_{i,t}$ is the asset of fund i in month t. I calculate the return of fund i in month t, $R_{i,t}$ by the following equation:

$R_{i,t} = \frac{AN_{i,t} - AN_{i,t-1}}{AN_{i,t-1}} - flows_{i,t}$

Using the information on geographical focus, I classify funds into 5 groups according to their investment specification (Europe, Asia including Japan, Asia excepting Japan, North America and Global). The selection of a fund's benchmark is based on its geographical investment focus.

I follow a two-stage estimation procedure, largely used in previous studies (Carhart, 1997; Gil-Bazo and Ruiz-Verdu, 2009, among others), to determine a panel of monthly estimated alphas. In the first stage, I estimate the coefficients (β_i, s_i and h_i) of model (1) by using the monthly returns of the fund for three years. In the second stage, the estimated alpha in month t of a fund is determined as the difference between the fund's excess return of this month and the corresponding realized risk premium, defined as the vector of estimated coefficients times the vector of factor realizations in month t. Alpha is determined only for funds that have at least 20 monthly-return observations. The parameters are estimated by using the Ordinary Least Square (OLS) method taking into account heterogeneity. A fund's yearly alpha is determined by the sum of its monthly alphas.

Objective-adjusted return of a fund

The objective-adjusted return of a fund is determined as the difference between the fund's return and the weighted average of returns in the same objective (i.e. geographical investment focus). As mentioned before, I consider 5 geographical investment zones (Europe, Asia including Japan, Asia excepting Japan, North America and Global). Therefore, the objective-adjusted return of a fund can be determined as following:

$$Objective\ adjusted\ return_{i,t} = R_{i,t} - \sum_{j=1}^{M} w_{j,t} R_{j,t} \quad (2)$$

Where $Objective\ adjusted\ return_{i,t}$ is the objective-adjusted return of fund i for year t. $R_{i,t}$ is the return of fund i for year t. $w_{j,t}$ is the weight of a fund within the investment objective for year t in a considered country[3]. The weight is the relative size of the fund within the considered objective. $R_{j,t}$ is the return of a fund in the objective in year t in a considered country. M is the number of funds in the investment objective. The objective-adjusted return therefore measures whether a fund generates a superior return in compared to the average return of the funds in the same objective.

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[3] I consider the investment objectives for each market because funds tend to be compete with other funds in the same market.

Table 1: Fund numbers and promoter numbers of foreign and domestic promoters

Variables	Number of funds			Number of promoters (families)		
	Foreign promoter	Domestic promoter	% of foreign-promoted funds in the market	Foreign promoter	Domestic Promoter	% of foreign promoters in the market
Austria	176	601	23%	10	19	34%
Belgium	300	530	36%	10	15	40%
Denmark	59	282	17%	6	24	20%
Finland	226	440	34%	7	19	27%
France	884	1928	31%	52	173	23%
Germany	305	1783	15%	25	55	31%
Greece	6	39	13%	3	5	38%
Italy	249	1731	13%	21	51	29%
Netherland	69	233	23%	5	14	26%
Norway	62	169	27%	8	17	32%
Portugal	16	101	14%	5	12	29%
Spain	85	568	13%	22	51	30%
Sweden	101	388	21%	14	41	25%
Switzerland	132	852	13%	25	59	30%
Total	**2670**	**9645**	**22%**	**213**	**555**	**28%**
Total	**12315**			**768**		

Table 2: Countries of foreign promoters

In parenthesis, the number of funds promoted by the main foreign country in a considered market.

Market	The foreign country offering the highest number of funds in a considered market
Austria	Italy (101 funds)
Belgium	United States (142 funds)
Denmark	Sweden (54)
Finland	Sweden (133)
France	Switzerland (220)
Germany	Italy (112)
Greece	Netherland (3)
Italy	France (75)
Netherland	United Kingdom (27)
Norway	Sweden (34)
Portugal	Spain (13)
Spain	United Kingdom (16)
Sweden	Netherland (35)
Switzerland	Italy (35)

Table 3: Statistic description of fund characteristics

The size of a fund is measured by the assets under management of the fund (in Euro million). A fund's alpha is measured by the Fama-French alpha. The objective-adjusted return of fund i in year t is calculated as follows: Objective adjusted return$_{i,t}$ = $R_{i,t} - \sum_{j=1}^{M} w_{j,t} R_{j,t}$. Where $R_{i,t}$ is the return of fund i for year t. $w_{j,t}$ is the weight of a fund within the investment objective for year t. $Total\ expense = management\ fees + (Subscription\ fees\ + Redemption\ fees)/7$

Countries	Fund size		Fund age		Fund alpha		Fund objective-adjusted return		Fund return		Total expense	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
Austria	49.83	93.30	11.49	9.07	-0.0304	-0.0274	-0.0228	-0.0284	0.0726	0.0731	2.26	2.28
Belgium	164.76	106.67	8.62	8.79	-0.0240	-0.0218	-0.0008	-0.0018	0.0645	0.0689	1.55	1.40
Denmark	117.61	86.90	10.52	9.32	-0.0097	-0.0076	-0.0109	-0.0123	0.0904	0.0914	1.96	1.98
Finland	128.35	55.78	8.32	6.62	-0.0201	-0.0112	-0.0162	-0.0221	0.0927	0.0927	1.96	1.80
France	177.74	156.39	10.45	10.42	-0.0313	-0.0336	-0.0035	-0.0106	0.0700	0.0601	1.91	2.02
Germany	96.71	215.79	8.13	9.13	-0.0223	-0.0295	0.0029	-0.0130	0.0801	0.0656	2.10	2.12
Greece	14.50	21.11	6.85	6.02	-0.0870	-0.0685	-0.0122	-0.0226	0.0189	0.0159	3.09	2.60
Italy	100.67	219.27	6.85	7.63	-0.0402	-0.0379	-0.0177	-0.0072	0.0329	0.0443	2.21	1.96
Netherland	381.57	275.80	14.73	9.22	-0.0430	-0.0251	-0.0053	0.0008	0.0556	0.0641	1.26	1.41
Norway	55.40	201.56	11.13	10.89	-0.0194	-0.0100	-0.0367	-0.0317	0.1353	0.1330	1.97	1.95
Portugal	22.88	40.31	9.75	9.69	-0.0404	-0.0395	-0.0127	0.0030	0.0359	0.0377	2.22	2.28
Spain	35.41	48.48	8.88	8.91	-0.0303	-0.0246	-0.0236	-0.0244	0.0429	0.0538	1.82	1.89
Sweden	79.71	264.42	9.92	12.35	-0.0160	-0.0069	-0.0184	-0.0147	0.1196	0.1094	1.65	1.60
Switzerland	123.78	135.15	11.90	8.73	-0.0353	-0.0043	-0.0210	-0.0100	0.0529	0.0814	2.09	1.99
Total	139.12	160.26	9.76	9.20	-0.0283	-0.0259	-0.0088	-0.0128	0.0717	0.0673	1.93	1.96

5. The competitiveness of foreign promoters at the fund level.

The competitiveness of foreign-promoted funds can be reflected in a higher performance and lower fees. I first compare foreign and domestic-promoted funds in these two aspects. I then verify whether foreign-promoted funds enjoy higher net flows.

5.1. Are foreign-promoted funds more performing than domestic-promoted funds?

A fund's performance is explained by the main variable "*foreign-promoter*", which is equal to 1 if a fund's promoter is foreign and equal to 0 otherwise. I also add other control variables that can affect fund performance. The model is described as below:

$$Fund\ Performance_{i,t} = \propto + \beta Foreign\ promoter_i + \sum_j \delta_j control_{j,i,t-1} + \varepsilon_{i,t} \quad (3)$$

Where $Fund\ Performance_{i,t}$ is the performance of fund i for year t. $Foreign\ promoter_i$ is a dummy variable that is equal to 1 if the promoter of a fund is foreign and equal to 0

otherwise. If foreign-promoted funds are more performing than domestic-promoted funds, the coefficient associated to variable $Foreign\ promoter$ would be significantly positive.

$control_{j,i,t-1}$ are control variables which can affect the performance of a fund. $\varepsilon_{i,t}$ is the error term with its zero mean. Below I detail the constructions of the control variables in the model.

Control-variable description

Family size, measured as the logarithm of the total assets under management of all fund members, can have a positive impact on fund performance. In reality, many fund services such as research and administrative services can be shared at the family level. Therefore, funds belong to a large family can benefit from scale economies. Moreover, Chen *et al.* (2004) suggest that fund families tend to benefit from economies of scale from trading commissions and lending fees. These scale economies would improve performance. Chen *et al.* (2004), Ferreira *et al.* (2012) observe a positive effect of family size on fund members' performance.

The "*number of countries where funds are sold*" can be positively related to fund performance. First, a fund sold in several countries can be less sensitive to shocks in domestic flow, which often affect the fund's cash position (Ferreira *et al.*, 2012). Therefore the distribution of a fund in several countries can improve the fund's performance. Second, fund promoters tend to promote their "star" funds abroad and in marketing activities (Nanda *et al.*, 2004; Gaspar *et al.*, 2006). Thus, the number of countries where a fund is sold can be positively related to the fund's performance.

Fund size can influence the fund's performance. The literature on fund size and fund performance relation shows a negative relation between these variables (Dahlquist *et al.*, 2000; Chen *et al.*, 2004; Pollet and Wilson, 2008; Edelen *et al.*, 2007; Yan, 2008). These authors suggest that liquidity constraints, which lead to high transaction costs for large funds, are the main determinant of the diseconomies of scale in performance observed in mutual funds. I take into account this hypothesis by adding in the regression the variable "*Fund size*", which is measured by the logarithm of the assets under management of a fund.

Fund performance can be different between the funds which are directly distributed and those distributed by a third party. Direct-sold funds are marketed by the fund directly to investors while indirect-sold funds are distributed by an intermediary which can be a bank or a broker.

Many investors purchase mutual funds through intermediated channels and paying brokers for fund selection. These investors, often lack of investment expertise, need professional helps in selecting the best funds in terms of price and performance. Christoffersen *et al*. (2006) and Bergstresser *et al*. (2009) question the benefits that broker-channel mutual fund consumers enjoy in exchange for the costs of brokerage services. Christoffersen *et al*. (2006) seem to conclude that the main effect of brokerage advice is not on the consumers getting the advice but on the families getting their fees. Similarly, Bergstresser *et al*. (2009) show that relative to direct-sold funds, broker-sold funds deliver lower risk-adjusted returns. I verify this hypothesis by adding in the regression the variable "*third-party distribution*", which is equal to 1 if a fund is distributed indirectly and equal to 0 otherwise.

The type of fund promoters (bank, insurance company or independent management company) can affect the fund's performance. Frye (2001), Korkeamaki and Smythe (2004), Korpela and Puttonen (2006), Tran Dieu (2015a) among others question the difference between bank and non-bank funds in terms of performance and fees. The authors suggest, bank funds can have "market power" compared to non-bank funds for several reasons. Banks already have a large database on their deposit clients, who are potential investors in their funds. Banks can easily influence the investment decision of their clients because the latter often goes to the banks for financial services. The same explanation can be applied for assurance companies. I take into account this possibility by adding variable "*Bank-insurance*", which is equal to 1 if the promoter of a fund is a bank or an insurance company and equal to 0 otherwise. I expect a negative relation between fund performance and variable "*bank-insurance*".

Fund performance can be affected by *fund fees*. The relation between fees and performance in the mutual fund industry has been largely analyzed in the literature. Investors who pay for management services expect that the price is reflected by the quality of the services or fund performance. However, most of previous studies find a negative relation between fees and performance. For instance, Gil-Bazo and Ruiz-Verdu (2009) show that less expensive funds are more performing than the funds charging higher fees. Ferreira *et al*. (2012) analyze the impact of fund fees on performance by distinguishing the two main types of funds: ongoing fees (i.e. management fees in a large sense) and one-time fees (loads). The later contains redemption and subscription fees. Chordia (1996) suggest that loads can dissuade redemptions in funds and that funds hold more cash when there is uncertainty about redemptions. The larger cash holdings can have a negative impact on fund performance. Previous empirical studies find mixed results between loads and performance. Chen *et al*. (2004), Ferreira *et al*.

(2012) find no relation between these two variables while Carhart (1997), Pollet and Wilson (2008), observe a negative relation. I control the possible influence of fund fees on performance by adding different types of fees: management fees, subscription and redemption fees in the regression. I also estimate the total expense of funds by summing management fees and loads divided by 7. By this method, I assume that an investor holds in general his portfolio during 7 years. This hypothesis is frequently assumed in the literature.

I also verify whether a fund domiciled in an "offshore" market can have a different performance level. For this, the variable "*offshore domiciliation*", which is equal to 1 if a fund is domiciled in an offshore market such as Luxembourg or Dublin and equal to 0 otherwise, is added in the regression.

Other characteristics of funds such as fund age, investment types can affect the fund's performance. *Fund age* is measured as the logarithm of the fund's age. I also identify special investment types: funds that invest in small capitalization stocks (*Small Cap funds*), investment socially responsible funds (*ISR funds*), index funds and funds managed by a team of managers (*multimanager funds*). These fund types are respectively represented by dummy variables: "*Small cap funds*", "*ISR funds*", "*index funds*" and "*multimanager funds*" in the regression. These special funds can have a different performance in compared to other funds. In general, small cap funds tend to generate higher return because their risk is often superior while index funds are supposed to be less performing than active funds. Concerning ISR funds, there has been a recent literature focusing on the performance comparison between ISR funds and unscreened investments (Hamilton *et al*., 1993; Reyes and Grieb, 1998; Bello 2005 among others). However, despite differences in data, these studies show that there is no difference in performance between ISR funds and their comparable unscreened funds. Along with the recent development of team manager funds, there has been increasing research on the impact of team management on fund performance. Prather *et al*. (2001), Chen *et al*. (2004), Massa *et al*. (2010) comparing the performance of team-manager funds and single-manager funds show that there is no significant difference in performance between these two types of funds.

I add dummy variables for years and countries.

Econometric method

I use the "cluster" method developed by Cameron *et al*. (2011) and Thompson (2011), that corrects the standard error bias in the presence of both time and firm effects. Indeed, the sample is a panel data. I have information about funds for 13 years (from 2002 to 2014). For this type of data, there may be two forms of dependence: individual and time effects. Petersen (2009) demonstrates that the cluster method produces a less biased standard error when there are both individual and time effects in the data. The same author notes that the double cluster (cluster on time periods and cluster on individuals) method can only be used when the number of the clusters on each dimension is high enough. When the number of the clusters in one dimension is quite small in comparison with the number of clusters in the other dimension, the results obtained by the double cluster method are similar as the results obtained by clustering on only the dimension whose number of clusters is large. I have only 13 clusters in the time dimension. This number is relatively small in comparison with the cluster number in the individual dimension (fund number). Consequently, the one-cluster dimension (individual) method will be applied.

Results

The results (Table 4) show that foreign-promoted funds are significantly more performing than domestic-promoted funds. This result is robust for different measures of fund performance. However, the model is better explained when considering return as dependent variable. Indeed, R^2 is much higher in panel 1 and 2.

Concerning the control variables, the results show that funds belonging to a larger family seem to be more performing. The different types of funds affect significantly fund performance. For instance, ISR funds appear to be less performing while Small Cap Funds significantly generate a higher performance. For index funds and multi-manger funds, the coefficients associated in these variables are not stables. For some performance measures, these coefficients are significant while for others, they are not. The number of countries where funds are sold is positively related to fund performance. This result is consistent with the hypothesis in which promoters try to market performing funds in several markets. Funds domiciled in offshore markets and bank funds seem to be less performing than other funds. The performance of a fund tends to decrease with the fund size. This result is consistent with the literature observing the diseconomies of performance. Investors buying funds through a third-party distributor do not have access to higher performance funds. Indeed, the coefficient

associated to variable "*Third party distributor*" is not significant in some cases and is even negative in the others. The result on the relation between fund performance and fund fees is mixed. While for some performance measures, there seems to be a negative relation between the total expense and fund performance, this relation is not significant for other measures. When going deeply in different types of fees, fund performance appears to be negatively related to the subscription fees of the fund. Finally, the relation between fund performance and fund age is not stable for different measures of performance.

Table 4: Determinants of fund performance

The dependent variable is fund performance. In Panel 1 and 2, fund performance is measured by fund return. In Panel 3 and 4, fund performance is measured by objective-adjusted return. In Panel 5 and 6, fund performance is measured by Fama-French alpha. *Foreign promoter* is equal to 1 if the promoter of a fund is foreign and equal to 0 otherwise. *Family size* is the natural logarithm of the total assets under management of the family. *ISR* is equal to 1 if a fund is defined as "investment socially responsible" and equal to 0 otherwise. *Small cap* is equal to 1 if a fund invests in small capitalization equities and equal to 0 otherwise. *Index* is equal to 1 if a fund is an index fund and equal to 0 otherwise. *Multi-manager* is equal to 1 if a fund is managed by a team of managers and equal to 0 otherwise. *Number of countries where funds are sold* is the natural logarithm of the number of countries where funds are registered for sales. *Offshore domicile* is equal to 1 if a fund is domiciled in Luxembourg or Dublin and equal to 0 otherwise. *Fund size* is measured by the natural logarithm of the assets under management of the fund. *Third-party distribution* is equal to 1 if a fund is distributed by a third-party distributor and equal to 0 otherwise. *Banque-insurance* is equal to 1 if the promoter of a fund is a bank or an insurance company and equal to 0 otherwise. $Total\ expense = management\ fees + (subscription\ fees + redemption\ fees)/7$. *Age* is measure by the natural logarithm of fund age. Numbers in bold signify that estimators are significantly different to 0. Estimators are obtained by the one-dimension cluster method (fund dimension) in order to take into account the individual effect. Dummy variables for countries and years are omitted.

Performance measure	Return		Objective-adjusted return		Fama-French alpha	
Variables	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6
	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)
Constant	**0.0742** **(17.11)**	**0.0728** **(16.96)**	**-0.0298** **(-7.54)**	**-0.0307** **(-7.85)**	**0.0959** **(28.80)**	**0.0968** **(29.28)**
Foreign promoter	**0.0060** **(4.57)**	**0.0057** **(4.34)**	**0.0039** **(3.20)**	**0.0037** **(3.03)**	**0.0051** **(5.19)**	**0.0051** **(5.19)**
Family size	**0.0040** **(12.44)**	**0.0040** **(12.29)**	**0.0030** **(9.68)**	**0.0029** **(9.58)**	**0.0028** **(10.96)**	**0.0028** **(10.94)**
ISR	**-0.0181** **(-9.18)**	**-0.0181** **(-9.14)**	**-0.0189** **(-10.09)**	**-0.0188** **(-10.08)**	**-0.0151** **(-9.52)**	**-0.0151** **(-9.51)**
Small cap	**0.0452** **(24.54)**	**0.0454** **(24.66)**	**0.0457** **(27.40)**	**0.0458** **(27.50)**	**0.0123** **(8.44)**	**0.0123** **(8.37)**
Index	-0.0015 (-1.09)	-0.0017 (-1.26)	**0.0031** **(2.44)**	**0.0030** **(2.30)**	-0.0012 (-1.18)	-0.0009 (-0.85)
Multi-manager	0.0023 (0.48)	0.0024 (0.51)	-0.0045 (-1.35)	-0.0044 (-1.32)	**0.0083** **(1.81)**	**0.0078** **(1.72)**
Number of countries where funds are sold	**0.0132** **(13.99)**	**0.0132** **(13.97)**	**0.0107** **(12.64)**	**0.0107** **(12.62)**	**0.0040** **(5.77)**	**0.0039** **(5.62)**
Offshore domicile	**-0.0168** **(-9.85)**	**-0.0171** **(-10.03)**	**-0.0149** **(-9.55)**	**-0.0151** **(-9.70)**	**-0.0110** **(-8.44)**	**-0.0111** **(-8.54)**
Fund size	**-0.0045** **(-10.42)**	**-0.0045** **(-10.44)**	**-0.0028** **(-7.18)**	**-0.0028** **(-7.19)**	**-0.0017** **(-5.38)**	**-0.0017** **(-5.33)**
Third party distributor	-0.0020 (-1.42)	**-0.0025** **(-1.73)**	**-0.0031** **(-2.31)**	**-0.0034** **(-2.53)**	-0.0009 (-0.84)	-0.0005 (-0.50)
Bank-insurance	**-0.0030** **(-2.15)**	**-0.0028** **(-2.02)**	**-0.0032** **(-2.47)**	**-0.0031** **(-2.38)**	**-0.0051** **(-4.62)**	**-0.0049** **(-4.42)**
Management fees	0.0002 (0.33)		-0.0002 (-0.37)		**-0.0061** **(-8.91)**	
Subscription fees	**-0.0011** **(-3.44)**		**-0.0008** **(-2.81)**		-0.0004 (-1.93)	
Redemption fees	-0.0003 (-0.68)		-0.0003 (-0.70)		**0.0008** **(1.95)**	
Total expense		-0.0010 (-1.34)		**-0.0011** **(-1.71)**		**-0.0051** **(-8.60)**
Age	**0.0027** **(3.25)**	**0.0027** **(3.26)**	**0.0018** **(2.31)**	**0.0018** **(2.32)**	0.00001 (0.03)	-0.0001 (-0.19)
R2	0.65	0.65	0.02	0.02	0.40	0.40
Observation number	83648	83648	83648	83648	83648	83648

5.2. Are foreign-promoted funds less expensive than domestic-promoted funds?

In this section, I analyze whether foreign-promoted funds charge lower fees to investors in compared to domestic-promoted funds. For this, I realize a regression where fund fees are explained by the variable "*foreign promoter*", which is defined in the same way as previously and other control variables. The model is described as below:

$$Fund\ fees_{i,t} = \alpha + \gamma foreign\ promoter_i + \sum_j \delta_j control_{j,i,t-1} + \varepsilon_{i,t} \quad (4)$$

Where $Fund\ fees$ is the fees of funds, α is the constance of the model, $control_{j,i,t-1}$ represents control variables which can affect the fund's fees, $\varepsilon_{i,t}$ is the error term with its zero mean, γ and δ_j are coefficients associated to corresponding variables.

If foreign-promoted funds are more competitive and charge lower fees, the coefficient associated to "*foreign promoter*" would be significantly negative.

Control variables that can have impacts on fund fees are taken into account.

Fund size and *Family size*, which are defined in the same way as in the previous section, can negatively influence the fund's fees. Previous studies observe the existence of the transfer of scale economies to investors through the reduction of fund fees with fund size (Khorana *et al*., 2008; Tran-Dieu 2015b).

The *number of countries where funds are sold* captures if having a broader national footprint is associated with higher or lower fees. Khorana *et al*. (2008) find that fees are higher for funds distributed in more countries. I examine this hypothesis by adding the variable "*number of countries where funds are sold*" in the regression.

The *domiciliation in an offshore market* can have an impact on fund fees. Traditionally, one can suggest that funds prefer to domicile in offshore centers for cost advantages. In Europe, Luxembourg is well known for fund domiciliation. EFAMA report (2011) notes that one out of four European funds was domiciled in this country. However, the success of Luxembourg in term of fund domiciliation seems not to be explained by the advantage in fund-administration costs. Indeed, Lang and Schäfer (2013) suggest that the decision on where to domicile a fund is not primarily driven by traditional cost factors. Khorana *et al*. (2008) observe that fees are higher for funds domiciled in certain offshore centers.

Funds distributed by an intermediary can be more expensive because third party distributors take commissions on fund sales. I then consider the variable "*third-party distribution*" which is measured as previously in the regression.

Funds whose promoter is a bank or an insurance company can have higher or lower fees. On the one hand, banks and insurance companies have more market power and thus can increase their fees without losing their market shares (Tran-Dieu, 2015a). On the other hand, funds promoted by banks can have lower fees because most of the fund's services are provided by bank. Thus, bank funds can have these services with lower costs. The coefficient associated to the variable "*bank-insurance*" can be positive or negative, depending on these hypothesis.

Index funds have in general lower fees due to their passive strategy which requires lower management cost. In contrast, *multi-manager funds* can have higher fees due to higher coordination costs among managers.

ISR funds and *small cap funds* can have higher fees because the management of these funds can require higher costs in information searching and analyses.

Dummy variables for countries and geographical investment focus are also included in the regression.

Results

Overall, the impacts of explanatory variables on fund fees vary among different types of fees. The results (Table 5) show that there is no significant difference in total expense and management fees for foreign-promoted funds. The coefficient associated to variable "*foreign promoter*" is not significant when considering the total expense and the management fees. However, subscription fees seem to be higher for foreign-promoted funds, which can have some disadvantages in fund distribution in compared to domestic-promoted funds. In contrast, redemption fees appear to be lower for foreign-promoted funds.

Involving the control variables, the total expense of a fund seems not decrease with the size of its family. However, the impacts of family size on subscription and redemption fees are mixed. Subscription fees tend to increase with fund size while the impact is opposite for redemption fees. ISR funds do not charge higher fees while this is not the case of small cap funds, which have significantly higher management fees. As predicted, index funds have significantly lower management fees. In contrast, the total expense and the management fees

of funds managed by multi-managers are larger. Funds registered for sales in many countries charge higher total expense and management fees. In contrast, funds domiciled in offshore markets appear to have lower total expense. The same impact is observed for fund size and funds proposed by a bank or an insurance company. For funds distributed by third-party distributors, their management fees are lower but their loads are significantly higher. Fund age is positively related to management fees and subscription fees but negatively related to redemption fees.

Table 5: Determinants of fund fees

In panel 1, the dependent variable is the total expense. In panel 2, the dependent variable is management fees. In panel 3, the dependent variable is subscription fees. In panel 4, the dependent variable is redemption fees. *Foreign promoter* is equal to 1 if the promoter of a fund is foreign and equal to 0 otherwise. *Family size* is the natural logarithm of the total assets under management of the family. *ISR* is equal to 1 if a fund is defined as "investment socially responsible" and equal to 0 otherwise. *Small cap* is equal to 1 if a fund invests in small capitalization equities and equal to 0 otherwise. *Index* is equal to 1 if a fund is an index fund and equal to 0 otherwise. *Multi-manager* is equal to 1 if a fund is managed by a team of managers and equal to 0 otherwise. *Number of countries where funds are sold* is the natural logarithm of the number of countries where funds are registered for sales. *Offshore domicile* is equal to 1 if a fund is domiciled in Luxembourg or Dublin and equal to 0 otherwise. *Fund size* is measured by the natural logarithm of the assets under management of the fund. *Third-party distribution* is equal to 1 if a fund is distributed by a third-party distributor and equal to 0 otherwise. *Banque-insurance* is equal to 1 if the promoter of a fund is a bank or an insurance company and equal to 0 otherwise. $Total\ expense = management\ fees + (subscription\ fees + redemption\ fees)/7$. Numbers in parenthesis are t-statistics of estimators. Numbers in bold signify that estimators are significantly different to 0. Estimators are obtained by the one-dimension cluster method (fund dimension) in order to take into account the individual effect. Dummy variables for countries and geographical investment zones are omitted.

Variables	Panel 1	Panel 2	Panel 3	Panel 4
	Total expense	Management fees	Subscription fees	Redemption fees
	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)
Constant	**2.2071** **(45.26)**	**1.6041** **(38.63)**	**3.3238** **(27.64)**	**1.0307** **(15.50)**
Foreign promoter	0.0258 (1.48)	-0.0120 (-0.78)	**0.3497** **(8.64)**	**-0.1081** **(-4.08)**
Family size	0.0015 (0.35)	-0.0038 (-1.00)	**0.0647** **(6.33)**	**-0.0184** **(-3.38)**
ISR	0.0014 (0.05)	0.0118 (0.51)	-0.0834 (-1.39)	-0.0113 (-0.29)
Small cap	**0.0906** **(3.65)**	**0.0940** **(4.19)**	-0.0464 (-0.82)	0.0093 (0.28)
Index	**-0.2773** **(-12.90)**	**-0.2742** **(-14.69)**	**-0.1224** **(-2.53)**	**0.1016** **(3.49)**
Multi-manager	**0.2198** **(2.22)**	**0.2207** **(2.54)**	0.1740 (0.77)	**-0.1913** **(-3.99)**
Number of countries where funds are sold	**0.1040** **(7.95)**	**0.0917** **(7.97)**	**0.1240** **(4.11)**	**-0.0495** **(-2.66)**
Offshore domicile	**-0.1477** **(-5.98)**	**-0.1378** **(-6.50)**	0.0971 (1.59)	**-0.1773** **(-5.36)**
Fund size	**-0.0323** **(-6.13)**	**-0.0282** **(-5.99)**	**-0.0289** **(-2.43)**	-0.0040 (-0.63)
Third party distributor	**-0.1387** **(-6.78)**	**-0.1839** **(-9.94)**	**0.2107** **(4.32)**	**0.0977** **(2.98)**
Bank-insurance	**-0.2205** **(-10.40)**	**-0.1729** **(-9.26)**	**-0.4578** **(-8.83)**	**0.1322** **(3.95)**
Age	**0.0599** **(6.50)**	**0.0573** **(7.09)**	**0.0699** **(3.47)**	**-0.0915** **(-7.36)**
R2	0.13	0.13	0.37	0.10
Observation number	83648	84626	84254	84113

5.3. Do foreign-promoted funds obtain lower net flows than domestic-promoted funds?

The results obtained in the two previous sections show that foreign-promoted funds seem not to be more expensive but more performing than domestic-promoted funds. In other words, for

the same price, foreign-promoted funds offer better quality. The question is whether foreign-promoted funds attract more investors than domestic-promoted funds. For this, I realize the following regression:

$$Net\ flows_{i,t} = \alpha + \beta_1 Foreign\ promoter_i + \sum_j \delta_j control_{j,t} + \varepsilon_{i,t} \quad (5)$$

Where $Net\ flows_{i,t}$ are the net flows of fund i in year t and determined as following:
$$flows_{i,t} = \frac{AN_{i,t} - AN_{i,t-1}}{AN_{i,t-1}} - R_{i,t}$$

where $AN_{i,t}$ is the net assets of fund i in year t, $R_{i,t}$ is the return of fund i in year t. With this method, inflows and outflows are assumed to occur at the end of the year. This approximation of the net flows is widely used in previous studies (for example, Sirri and Tufano, 1998). Moreover, Ber and Ruenzi (2006) show that this calculation of the net flows does not produce significantly different results compared to the case where net flows are properly measured.

The main explanatory variable is "*foreign promoter*" which is defined in the same way as previously. If domestic-promoted funds obtain larger net flows than foreign-promoted funds, the coefficient associated to variable "*foreign promoter*" would be significantly negative.

I also consider control variables that can affect the net flows of a fund.

Fund performance is an important variable, which may have an impact on fund flows. I use a piecewise model to take into account the possible non-linearity of the flow-performance relation, largely studied in the literature (for instance, Sirri and Tufano 1998). This method is used for the first time in Sirri and Tufano (1998) and adopted by other works on this question. The variables representing a fund's performance are defined in the same way as in Sirri and Tufano's (1998) work:

$$low_{i,t} = min(0.2, rank_{i,t}) \quad (6)$$

$$medium_{i,t} = min(0.6, rank_{i,t} - low_{i,t}) \quad (7)$$

$$high_{i,t} = min(0.2, rank_{i,t} - medium_{i,t} - low_{i,t}) \quad (8)$$

Where $rank_{i,t}$ is the performance rank of fund i in year t. A fund's rank is calculated in the following way: I rank all of the funds belonging to the same investment category according to their performance in year t. The rank of a fund in year t is normalized by dividing by the

number of funds in the category. The funds' ranks then have values between zero and one. A higher rank denotes a better performance

The literature on flow-performance relation suggests a positive and convex relation between these variables (Chevalier and Ellison, 1997; Sirri and Tufano, 1998; among others). Low performance funds are not penalized by outflows of funds. In contrast, high performance funds are compensated by large inflows.

The channels of distribution can have an impact on fund flows. Retail investors, often lack of financial expertise, tend to use broker services in the fund selection. Therefore third-party distributor funds can attract more flows than direct-channel funds.

Investors can be sensitive to some special funds (ISR, small cap, index and team management funds). Net flows of a fund can be different depending on these types of funds.

Bank (or insurance company) funds can obtain larger net flows thanks to their advantage in fund distribution.

When selecting a fund, investors can be sensitive to the fund's fees. However, Barber *et al*. (2005) suggest that investors are more sensitive to "visible" fees such as load fees and they are less sensitive to operating expense ratios. I take into account this possible hypothesis by considering different types of fees in the regression.

Number of countries where funds are sold may influence the inflows of funds. Indeed, funds that are registered for sales in several countries have more distribution channels and are often underlined in marketing activities. These funds can enjoy larger net flows.

The domiciliation can be a criteria of fund selection for tax reasons. Therefore, funds domiciled in some offshore centers can attract more investors.

Because the dependent variable is calculated as a ratio of net flows, I expect a negative relation between the dependent variable and the fund's size.

Fund age can have an impact on net flows. Chevalier and Ellison (1997) suggest that young funds tend to enjoy higher net flows because their promoters often allocate more resources to these funds.

A fund's risk might influence its net flows. I use the standard deviation of monthly returns as a measure of risk. In general, given a return level, investors prefer less risk. Therefore, I assume a negative link between the net flows and the fund's risk.

The size of a fund's family can affect the fund's net flows. In general, large families have a reputation and attract more investors' attention. This reputation reduces the investors' search costs and thus can increase the net flows to the fund's members. I expect a positive relation between the net flows and the family's size.

Results

The results (Table 6) show that foreign-promoted funds do not obtain significantly higher net flows. Indeed, the coefficient associated to variable "*foreign promoter*" is not significant. This result is robust for different measures of fund performance and fees.

Concerning the control variables, the results show that there is a positive and convex relation between fund flows and performance. The coefficients associated to performance variables (i.e. low, medium and high) are significantly positive. However, the coefficient associated to variable "High" is much higher (9 times higher than the coefficient associated to variable "medium" and over 4 times higher than the coefficient associated to variable "low"). This result means that the most performing funds enjoy much larger net flows.

Funds sold through a third party distributor tend to obtain higher net flows. However, the result is not stable for different measures of fund performance.

While small cap funds seem to have significantly smaller net flows, ISR, multimanager and index funds do not have a significant difference in net flows in compared to other funds. Funds promoted by banks or insurance companies have significantly lower inflows. Investors seem to take into account management fees in their investment decision. Indeed, there is a negative relation between net flows and management fees. The result remains the same when total expense is considered. The inflows of funds seem to increase with the number of markets where funds are registered for sales. Funds belonging to a large family can enjoy the family reputation and thus obtain higher inflows. In contrast, funds domiciled in offshore markets obtain lower inflows. The inflows of a fund seem to be negatively related to fund age. As predicted, net flows are negatively related to fund size. Finally, net flows appear to be positively related to fund risk.

Table 6: Determinants of fund flows

The dependent variable is fund flows. In panel 1 and 2: Performance is measured by Fama-French alpha. In panel 3 and 4: performance is measured by fund return. In panel 5 and 6: performance is objective-adjusted return. *Foreign promoter* is equal to 1 if the promoter of a fund is foreign and equal to 0 otherwise. *Family size* is the natural logarithm of the total assets under management of the family. $low_{i,t} = min(0.2, rank_{i,t})$ $medium_{i,t} = min(0.6, rank_{i,t} - low_{i,t})$ $high_{i,t} = min(0.2, rank_{i,t} - medium_{i,t} - low_{i,t})$. Where $rank_{i,t}$ is the performance rank of fund i in year t. *ISR* is equal to 1 if a fund is defined as "investment socially responsible" and equal to 0 otherwise. *Small cap* is equal to 1 if a fund invests in small capitalization equities and equal to 0 otherwise. *Index* is equal to 1 if a fund is an index fund and equal to 0 otherwise. *Multi-manager* is equal to 1 if a fund is managed by a team of managers and equal to 0 otherwise. *Number of countries where funds are sold* is the number of countries where funds are registered for sales. *Offshore domicile* is equal to 1 if a fund is domiciled in Luxembourg or Dublin and equal to 0 otherwise. *Fund size* is measured by the natural logarithm of the assets under management of the fund. *Third-party distribution* is equal to 1 if a fund is distributed by a third-party distributor and equal to 0 otherwise. *Banque-insurance* is equal to 1 if the promoter of a fund is a bank or an insurance company and equal to 0 otherwise. $Total\ expense = management\ fees + (subscription\ fees + redemption\ fees)/7$. Fund risk is the standard deviation of monthly returns. *Fund age* is the natural logarithm of a fund's age. Numbers in parenthesis are t-student. Numbers in bold signify that estimators are significantly different to 0. Estimators are obtained by the one-dimension cluster method (fund dimension) in order to take into account the individual effect. Dummy variables for years and countries are omitted.

Performance measure	Fama-French alpha		Return		Objective-adjusted return	
	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6
Variables	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)
Constant	**0.4296** **(11.10)**	**0.4423** **(11.38)**	**0.3808** **(11.14)**	**0.3925** **(11.49)**	**0.3962** **(11.59)**	**0.4080** **(11.99)**
Foreign promoter	-0.0112 (-1.04)	-0.0084 (-0.79)	0.0117 (1.10)	0.0138 (1.30)	0.0100 (0.93)	0.0120 (1.13)
Low	**0.4905** **(5.13)**	**0.4888** **(5.11)**	**0.4428** **(4.94)**	**0.4435** **(4.95)**	**0.3517** **(3.88)**	**0.3512** **(3.89)**
Medium	**0.2018** **(10.40)**	**0.2033** **(10.50)**	**0.1940** **(8.09)**	**0.1952** **(8.16)**	**0.2077** **(9.05)**	**0.2089** **(9.15)**
High	**1.8713** **(12.05)**	**1.8680** **(12.02)**	**1.9759** **(14.01)**	**1.9718** **(13.97)**	**2.0791** **(13.32)**	**2.0757** **(13.30)**
Third party distribution	0.0103 (0.95)	0.0143 (1.29)	**0.0267** **(2.43)**	**0.0306** **(2.74)**	**0.0281** **(2.55)**	**0.0319** **(2.86)**
ISR	0.0046 (0.34)	0.0038 (0.28)	-0.0069 (-0.50)	-0.0077 (-0.55)	-0.0079 (-0.57)	-0.0086 (-0.62)
Small Cap	**-0.0589** **(-4.97)**	**-0.0600** **(-5.05)**	**-0.0972** **(-7.80)**	**-0.0982** **(-7.86)**	**-0.0949** **(-7.62)**	**-0.0959** **(-7.68)**
Index	0.0002 (0.02)	0.0025 (0.21)	-0.0064 (-0.52)	-0.0039 (-0.32)	-0.0073 (-0.59)	-0.0048 (-0.39)
Multimanager	0.0599 (1.47)	0.0580 (1.42)	**0.0681** **(1.62)**	0.0656 (1.57)	**0.0702** **(1.62)**	0.0678 (1.57)
Bank-insurance	**-0.0565** **(-4.77)**	**-0.0579** **(-4.99)**	**-0.0815** **(-6.91)**	**-0.0822** **(-7.13)**	**-0.0803** **(-6.81)**	**-0.0810** **(-7.02)**
Management fee	**-0.0514** **(-6.88)**		**-0.0506** **(-6.76)**		**-0.0507** **(-6.77)**	
Subscription fee	0.0021 (0.78)		0.0010 (0.39)		0.0009 (0.36)	
Redemption fee	-0.0030 (-0.38)		-0.0006 (-0.08)		-0.0006 (-0.08)	
Total expense		**-0.0404** **(-5.60)**		**-0.0400** **(-5.53)**		**-0.0401** **(-5.55)**
Number of countries where funds are sold	**0.0899** **(11.03)**	**0.0900** **(11.00)**	**0.0705** **(8.85)**	**0.0704** **(8.82)**	**0.0747** **(9.35)**	**0.0745** **(9.32)**
Offshore domiciliation	**-0.1072** **(-6.40)**	**-0.1053** **(-6.34)**	**-0.0940** **(-5.58)**	**-0.0926** **(-5.55)**	**-0.0946** **(-5.62)**	**-0.0933** **(-5.59)**
Age	**-0.1435** **(-18.16)**	**-0.1436** **(-18.09)**	**-0.1444** **(-18.13)**	**-0.1448** **(-18.06)**	**-0.1454** **(-18.25)**	**-0.1457** **(-18.18)**

Family size	0.0276	0.0281	0.0471	0.0474	0.0476	0.0480
	(7.72)	(7.94)	(13.52)	(13.84)	(13.65)	(13.98)
Fund size	-0.1105	-0.1104	-0.1185	-0.1184	-0.1181	-0.1180
	(-16.22)	(-16.25)	(-17.15)	(-17.19)	(-17.17)	(-17.22)
Risk	1.8670	1.8161	0.9319	0.8847	0.8570	0.8096
	(3.59)	(3.48)	(1.90)	(1.80)	(1.77)	(1.67)
Observation number	83648	83648	83648	83648	83648	83648
R2	0.06	0.06	0.06	0.06	0.06	0.06

6. Market shares of foreign promoters.

In this section, I examine whether the market shares of a fund family are higher for domestic promoters. The dependent variable, market shares of a family, is explained by the following regression:

$market\ share_{i,t} = \propto + \beta_1 foreign\ promoter_i + \beta_2 family\ performance_{i,t-1} + \beta_3 Family\ fees_{i,t-1} + \beta_4 Family\ innovation_{i,t-1} + \beta_5 number\ of\ star\ funds_{i,t-1} + \beta_5 family\ focus_{i,t-1} + \varepsilon_{i,t}$ (9)

Where $market\ share_{i,t}$ is the market share of promoter i in year t and determined by the ratio of total assets under management of promoter i in year t to the total assets of a considered country in year t.

$family\ performance_{i,t-1}$ is the performance of promoter i in year (t-1). If investors are sensitive to fund performance, family performance can have a positive impact on the market share of the family. I use the same family performance measure as in Khorana and Servaes (2012). Abnormal return of a family is then computed as following:

$Family\ performance = \sum_{i=1}^{N}\{w_i[R_i - \sum_{j=1}^{M} w_j R_j]\}$ (10)

Where w_i is the weight of fund i the considered family, w_j is the weight of a fund in the geographical investment zone. R_i is the return of fund i, R_j is the return of a fund in the same geographical investment zone. N is the number of funds in a considered family and M is the number of funds in a geographical investment zone.

Therefore, $\sum_{j=1}^{M} w_j R_j$ is the weighted average return of the geographical investment zone to which fund i belong.

$R_i - \sum_{j=1}^{M} w_j R_j$ then represents the abnormal return of fund i in compared with the average return of funds in the same investment objective.

The performance of a family is thus the weighted average abnormal return of all fund members of the family.

Family fees are determined in the same ways as family performance.

$$Family\ fees = \sum_{i=1}^{N}\left\{w_i\left[Fees_i - \sum_{j=1}^{M} w_j Fees_j\right]\right\} \quad (11)$$

Where Family fees is the fees of a family, $\sum_{j=1}^{M} w_j Fees_j$ represents the weighted average of fund fees in the geographical investment zone. $Fees_i - \sum_{j=1}^{M} w_j Fees_j$ is the fee difference between fund i and the weighted average fees of the funds in the geographical investment zone (or "abnormal" fees charged by fund i). Family fees then measures the weighted average "abnormal" fees of the fund members of the family. It is necessary to underline that the total expense is used for fund fees.

Khorana and Servaes (2012) suggest that investors can response asymmetrically to family expense. They seem to avoid families with excessively high expenses. To take into account this possibility, I consider the cross-variable "*Family Fees*Dummy high expense*", that is the product of variable "*Family fees*" and the dummy variable "*Dummy high expense*", which is equal to 1 if the fees of a family are superior to the median and equal to 0 otherwise.

The market shares of a family can be influenced by the degree of innovation of the family. In this paper, the family innovation is measured by the number of new funds created each year. It is rarely that a family sets up a new fund with the same characteristics as other funds in the family. A new fund, in general, has some different characteristics or shows some innovations in compared to existing funds in the family. A family that creates a high number of new funds should be more innovative. On the one hand, investors can response positively to family differentiation, which allows the family to increase its market shares. On the other hand, new funds can cannibalize existing funds in the family for several reasons. First, news funds can better response to investment choice of investors. Second, families tend to allocate more resources or marketing activities on new funds (Gaspar *et al*., 2006). Therefore, the number of new funds can have a positive or negative impact on the market shares of the promoter, depending on these hypotheses.

The number of "star" funds in a family can have a positive impact on the market shares of the family. A star fund is defined as a fund whose performance belongs to 5% of the highest performing funds in the same investment objective. The literature on flows-performance of funds shows that the highest performing funds obtain significantly larger inflows (Chevalier

and Ellison, 1997; Sirri and Tufano, 1998 among others). Therefore, families tend to promote star funds in their marketing activities and allocate higher resources (Gaspar *et al*., 2006). A family having a high number of star funds can obtain larger market shares. However, there may be a co-linearity between family performance and the number of star funds in the family. A family with high performance tends to have more star funds. Therefore, these two variables cannot be in the same regression. I run separately regressions for these two variables.

The degree of family focus can have an impact on the family's market shares. Indeed, some families can focus on certain investment objectives while others pursue a diversification strategy and offer a large number of investment choices to investors. On the one hand, families with a high degree of focus can enjoy scale economies from "learning by doing" and therefore may provide better funds in term of performance and fees. Siggelkow (2003), analyzing the relation between the degrees of focus and fund performance within the US mutual fund industry over the period 1985-1996, find that funds belong to more focus providers outperform their counterparts. On the other hand, families following the diversification strategy can diminish their risk and better respond to the diversification in investors' demand. Khorana and Servaes (2012) consider two levels of family focus: fund focus and objective focus. According to the former form, a family can focus on a small number of funds. In the latter form, a family focuses on some investment objective. I follow the literature on diversification and use the Herfindahl index as a measure of family focus (see Montgomery (1994) for a literature on corporate diversification). The two measures of family focus are described as following:

$$fund\ focus_{i,t} = \sum_j \left(\frac{assets\ of\ fund\ j\ at\ time\ t}{total\ assets\ of\ its\ family\ at\ time\ t} \right)^2 \qquad (12)$$

$$objective\ focus_{i,t} = \sum_j \left(\frac{assets\ of\ family\ i\ in\ investment\ objective\ j\ at\ time\ t}{total\ assets\ of\ its\ family\ at\ time\ t} \right)^2 \qquad (13)$$

As the two Herfindahl index can be correlated, these variables cannot be in the same regression. I run independent regressions for each variable.

The objective of UCITS Directives IV is to make the European market more integrated. I verify whether the introduction of UCITS Directives in 2011 has a positive impact on foreign promoters' market shares. I include in the regression a cross-variable "*Foreign promoter * Dummy UCITS Directive IV*" where *Dummy UCITS Directive IV* is equal to 1 for the period after 2010 and equal to 0 otherwise. If the introduction of UCITS Directives IV contributes to

an increase significantly the market shares of foreign promoters, the coefficient associated to the cross-variable would be positive.

Results

The results (Table 7) show that the market shares of foreign promoters are significantly smaller in compared to domestic promoters. Indeed, the coefficient associated to variable "*foreign promoter*" is significantly negative for all cases. As predicted, family performance leads to an increase in the market shares of the family. Similarly, families with a high number of star funds enjoy larger market shares. The impact of fees on the market shares of a family depends on the level of family fees. Families having lower fees enjoy larger market shares. In contrast, market shares decrease significantly for families charging excessive fees. This result is consistent with the previous studies suggesting that investors are sensitive to fees when fees are excessively high (Barber *et al*., 2005; Khorana *et al*., 2012). Family innovation has a positive impact on the family's market shares. In contrast, the degree of concentration in a family affects negatively the family's market shares.

Table 7: Determinants of promoters' market shares.

The dependent variable is family market shares. Numbers in parenthesis are t-student of estimators. Numbers in bold signify that the estimators are significantly different to 0. Estimators are obtained by the one-dimension cluster method (family dimension). Dummy variables for years and countries are omitted. *Foreign promoter* is equal to 1 if a promoter is foreign in a country member and equal to 0 otherwise. *Dummy UCITS Directive IV* is equal to for the period after 2010 and equal to 0 otherwise. *Family Performance* is measured as in equation (10). Family Fees is measured as in equation (11). *Dummy high expense* is equal to 1 if family fees are superior to the median and equal to 0 otherwise. *Family innovation* is measured by the yearly number of new funds in a family. Because there is a co-linearity between family performance and the number of star funds in a family, these two variables cannot be in the same regression. Similarly, there is a co-linearity between "objective focus" and "fund focus", these two variables cannot be in the same regression.

Variables	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6
	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)	Estimator (t-student)
Constant	**0.0399** **(6.38)**	**0.0244** **(4.40)**	**0.0224** **(4.33)**	**0.0671** **(6.82)**	**0.0393** **(4.53)**	**0.0399** **(6.30)**
Foreign promoter	**-0.0103** **(-2.21)**	**-0.0085** **(-2.03)**	**-0.0081** **(-1.97)**	**-0.0101** **(-2.14)**	**-0.0084** **(-1.99)**	**-0.0105** **(-2.34)**
Foreign promoter * Dummy UCITS Directive IV						0.0003 (0.12)
Family performance	**0.0124** **(1.73)**			**0.0222** **(2.94)**		**0.0124** **(1.73)**
Family Fees	**0.0179** **(3.18)**	**0.0148** **(2.91)**	**0.0146** **(2.87)**	**0.0230** **(3.82)**	**0.0188** **(3.38)**	**0.0179** **(3.18)**
Family Fees*Dummy high expense	**-0.0264** **(-3.63)**	**-0.0206** **(-3.33)**	**-0.0199** **(-3.23)**	**-0.0380** **(-4.64)**	**-0.0292** **(-4.15)**	**-0.0264** **(-3.63)**
Family innovation	**0.0009** **(6.26)**	**0.0006** **(5.01)**	**0.0006** **(5.00)**	**0.0009** **(6.48)**	**0.0006** **(5.14)**	**0.0009** **(6.25)**
Number of star funds (alpha measure)			**0.0100** **(10.00)**			
Number of star funds (return measure)		**0.0089** **(8.88)**			**0.0092** **(8.95)**	
Objective focus				**-0.0586** **(-6.20)**	**-0.0361** **(-4.33)**	
Fund focus	**-0.0521** **(-9.40)**	**-0.0367** **(-7.59)**	**-0.0350** **(-7.38)**			**-0.0521** **(-9.39)**
Observation number	6768	6768	6768	6768	6768	6768
R2	0.26	0.36	0.37	0.24	0.35	0.27

Conclusion

In this paper, I analyze the place of foreign promoters in European countries. Using a sample of 12315 equity funds for the period from 2002 to 2014, the results show that foreign-promoted funds seem to be more performing than domestic-promoted ones. However, foreign-promoted funds do not enjoy larger net flows. There are evidences showing that foreign promoters obtain significantly smaller market shares. These results imply that despite a lot of measures implemented by the European market regulators in order to make the market more integrated, there still exist some barriers to foreign promoters. The latter may have some disadvantages in marketing their funds aboard. What are the main constraints and how to make the market more integrated? I leave these questions for future research.

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