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DETERMINANTS AND PERFORMANCE OF OUTSOURCING IN THE EUROPEAN MUTUAL FUND MARKET

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Abstract

Most studies on mutual fund outsourcing have focused on the U.S. market. The objective of our study is to investigate the determinants of the decision to outsource and the impact of outsourcing on fund performance in the European market. The European market differs from the U.S. one in terms of market structure. In the U.S., banks play a minor role while the situation in Europe is the opposite: Banks dominate the market, and independent companies play minor roles. This difference in market structure can impact both the decision to outsource and the relationship between outsourcing and fund performance. In the U.S., banks and insurance companies that do not specialize in portfolio management tend to outsource their portfolio management services to external management companies. In Europe, banking and insurance groups often have management companies integrated into their groups, allowing them to keep their portfolio management in-house. In terms of fund performance, in contrast to recent studies based on the U.S market, our results show that outsourced funds perform at least as well as in-housed funds. They are even more performing than in-house funds in the short term.

Keywords: mutual fund outsourcing; European market; outsourced funds; in-house funds

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

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Introduction

By creating funds and selling them to investors, promoters provide investors with performance services (i.e., portfolio management) and non-performance services (e.g., fund distributions, fund marketing, other client services). Investors pay fees for the management of funds. However, few investors know that a significant number of mutual fund companies outsource the portfolio management to subadvisors.[1] In such relationships, promoters delegate only the portfolio management of the funds to the subadvisors; the fund promoters retain marketing and distribution fees, and the external advisors receive management fees. In general, investors are not aware of whether the management of their funds is outsourced. In this paper, a fund is considered as outsourced if its management company does not belong to the same group as its promoter whereas an in-house fund is one for which the management company is the same as its promoter or belongs to the same group.

Recently, there has been development of portfolio management outsourcing in the mutual fund industry. In the U.S. market, outsourced funds represent about 20% of funds offered to investors (Chuprinin *et al.,* 2015; Massa and Schumacher, 2020). In the European market, 12% of funds use external advisors (Cumming *et al.,* 2015). Outsourcing has developed because of its numerous advantages, such as economies of scale leading to a reduction of costs and ease of launching new funds in different regions (Cumming *et al.,* 2015). Because fund promoters cannot practice all management styles, they sometimes prefer to use subadvisors' services. However, such arrangements can create agency problems between fund promoters and subadvisors (Duong, 2010; Chen *et al.*, 2013, Chuprinin *et al.*, 2015; Moreno *et al.*, 2014; Moreno *et al.* 2018; Massa and Schumacher, 2020). For example, agents' (i.e., subadvisors') efforts may be weak, or they may treat clients unfairly, because management companies can treat in-house funds more favorably than outsourced funds. Some subcontractors not only manage funds on behalf of other fund promoters but also market their own funds.

In parallel with the development of outsourcing in the mutual fund industry, a small but growing stream of literature has been investigating this new organizational form and examining its impacts

[1] Fund promoters also can outsource non-performance services. Cumming *et al.* (2015) note that outsourcing of non-performance services is even more frequent than outsourcing of performance services.

on fund performance (Duong, 2010; Chen *et al.,* 2013; Chuprinin *et al.,* 2015; Moreno *et al.,* 2018; Massa and Schumacher, 2020). However, most authors have focused on the U.S. market, and few have examined the European market, even though it is the second-largest market in the world. Until now, only Cumming *et al.* (2015) have analyzed mutual fund outsourcing in Europe; they have investigated various services (e.g., custodian, distribution, transfer, advisor) of the mutual fund industry and examined the decision to outsource these services. Cumming *et al.* (2015) provide a general overview of mutual fund outsourcing in Europe. We go beyond Cumming *et al.* (2015) study, by analyzing advisory services of equity funds more specifically. By restricting the investigating sample voluntarily, we can go more deeply in theoretical explanations of driving forces behind the decision to outsource as well as its impact on fund performance. In addition, we believe that advisory services, in contrast to other services, can have a direct impact on fund performance. The objective of our study is to investigate the determinants of the decision to outsource and examine the impact of outsourcing on fund performance in the European market.

The European mutual fund market differs from the U.S. market in terms of market structure and regulation. In terms of organization, U.S. banks play a minor role for historical reasons: Compared with independent companies, U.S. banks have a relatively small market share, and their core competencies are not related to investment (Frye, 2001; Del Guercio and Reuter, 2014). Therefore, they tend to outsource portfolio management of their funds to independent management companies. The situation in Europe is the opposite: Banks dominate the market, and independent companies play minor roles (Otten and Bams, 2002; Ramos, 2009; Tran Dieu, 2015; Ferreira *et al.*, 2018). While large banks and insurance groups often have their own management companies, independent companies, specializing in portfolio management, do not have great powers of distribution. Yet, recent literature suggests a conflict of interest between funds affiliated to banking groups and their investors (Mehran and Stulz, 2007; Johnson and Marietta-Westberg, 2009; Berzins *et al.* 2013; Golez and Jose, 2015; Hao and Yan, 2012; Ferreira *et al.,* 2018). These authors observe that bank funds are more likely to be used to support banks' other activities such as lending and/or underwriting activities. The same authors show that bank-affiliated funds underperform unaffiliated funds. However, Ferreira *et al.* (2018) underline that conflicts of interest in bank groups and their impact on bank-affiliated funds are less pronounced in the US. market.

In terms of regulation, European market authorities have implemented new rules for European mutual funds. These rules may affect both (1) the incentive to operate in different markets and (2) the decision to outsource. In the first case, as a result of the 2011 Undertakings for Collective Investments in Transferable Securities (UCITS) directive in the European market, management companies must hold passports that allow them to manage funds that are domiciled in other countries. By obtaining European passports, management companies that receive authorization from their home-country authorities can manage funds in other countries belonging to the European Economic Area (EEA). This new regulation may be promoting the development of portfolio management outsourcing in Europe. In the second case, the new financial transaction tax (FTT) that will be applied in Europe may affect cross-country outsourcing, because it may create a disadvantage for European funds relative to non-European funds when they trade internationally. That is, there may be tax-related reasons for European outsourcing.

By studying a sample of more than 6,000 equity funds targeting retail investors from 12 European countries from 2002 to 2014, we prove that several factors drive the decision to outsource: capacity constraints, promoters' strategies of focusing on core competencies, information friction in asset markets, type of fund promoter, and power of promoters' distribution channels. For some factors, we observe results similar to those found in the U.S. market: Promoters are more likely to outsource their funds when they face capacity constraints, and funds that do not invest in the core competencies of their promoters tend to be outsourced. Moreover, promoters with large distribution channels are not willing to share their reputations with subadvisors and therefore are less likely to outsource their funds. With regard to type of fund promoter however, we observe a difference. Unlike U.S. banks and insurance companies that often outsource the management of their fund portfolios to subadvisors (Del Guercio and Reuter, 2014), European banking and insurance groups tend not to outsource their funds. This difference originates from differing market structures in Europe and the United States. In the United States, banks and insurance companies that do not specialize in portfolio management tend to outsource their portfolio management services to external management companies. In Europe, banking and insurance groups often have management companies integrated into their groups, allowing them to keep their portfolio management in-house.

With regard to the impact of outsourcing on fund performance, we observe that outsourcing relates positively to fund performance, but the relationship is not significant in the very long run. This result differs from that of studies of the U.S. market, which find outsourced funds underperform in-house funds (Chen *et al.*, 2013; Chuprinin *et al.*, 2015; Moreno *et al.*, 2018; Massa and Schumacher, 2020). Our contrasting result probably can be explained by the specificities of fund management in Europe: Unlike in the United States, banks and insurance companies in Europe have dominant positions as promoters, and they often have their own management companies inside their groups. These integrated management companies manage funds from their own banks and/or insurance companies as well as mutual funds from external investors, which face information asymmetry with regard to fund management. These external investors do not have detailed information about fund management or, at the very least, do not understand how fund managers are allocating their assets to various funds. For example, managers might assign underperforming assets to external funds (*i.e.*, mutual funds under their management) and keep overperforming assets for their own (internal) funds (*i.e.*, funds generating from their banking and/or insurance activities). When the funds are outsourced, it is impossible for banks or insurance companies to affect the results of these outsourced funds.

Our work thus broadens the debate about the need to separate asset management from other banking activities (*e.g.,* the underwriting or securities lending division) within universal banks. This is due to conflicts of interest between the asset management division and other divisions within the same institution (Mehran and Stulz, 2007; Johnson and Marietta-Westberg, 2009; Berzins *et al.* 2013; Golez and Jose, 2015; Hao and Yan, 2012; Ferreira *et al.*, 2018). For example, Berzins *et al*. 2013 find that conflicts of interest are pervasive in the asset management business held by investment banks. An underwriter may use its managed funds as a dumping ground for newly issued securities that are difficult to sell (Mehran and Stulz, 2007). Ferreira *et al.* (2018) highlight the conflicts of interest between asset management and lending divisions.

Our paper contributes to literature at three levels. First, it contributes to growing literature on portfolio-management outsourcing of mutual funds (Chen *et al.,* 2013; Chuprinin *et al.,* 2015; Moreno *et al.,* 2018; Massa and Schumacher, 2020), most of which focuses on the impact of portfolio outsourcing on fund performance. Using a sample of U.S. funds for the period 1994–2007, Chen *et al.* (2013) find that in-house funds outperform outsourced funds, but the magnitude

of this performance difference depends on the types of benchmarks and funds (equity or bond). Chuprinin *et al.* (2015) and Massa and Schumacher (2020) both study samples of U.S. funds and observe that outsourced funds underperform in-house funds. With more recent data on U.S. funds, Moreno *et al.* (2018) obtain the same result. In summary, recent studies of the U.S. market indicate that outsourced funds underperform in-house funds.

With regard to the drivers of the decision to outsource, Massa and Schumacher's (2020) study is one of the rare ones investigating the determinants of the decision to outsource. By using a sample of global funds in the U.S. market, the authors highlight the role of information friction and reveal its impacts on fund performance; they suggest fund promoters tend to outsource funds in which they have information disadvantages, such as those invested in emerging markets. Even though outsourced funds seem to underperform in-house funds, Massa and Schumacher (2020) argue that outsourcing is not a suboptimal decision in such situations, because the performance of outsourced funds would be worse if the funds were not outsourced. In contrast with Massa and Schumacher (2020) though, we anticipate that fund promoters in Europe outsource for different reasons than promoters in the United States, due to the differing market structures and regulations. By using a larger sample of funds, in the second-largest market in the world, we complement literature on mutual fund outsourcing and provide new results.

Second, our research contributes to the most recent literature on promoters' strategies and the consequences of these strategies for investors. Prior literature has identified diverse strategies used by fund promoters. Massa (2003) and Khorana and Servaes (2012) suggest fund promoters often use a product proliferation strategy to gain market share. Investors tend to choose fund promoters first, before they choose funds from fund families. Thus, fund promoters try to offer wide ranges of products in response to investors' demands. Siggelkow (2003) considers an opposite approach of fund promoters, that is, a focused strategy that concentrates on a few investment objectives to allow for more effective fund management and deliver improved fund performance. However, this strategy may have a negative impact on cash inflows, thereby affecting profitability. Nanda *et al.* (2004) study another fund-promoting strategy: star-creating. Due to a spillover effect among funds within families, star funds can have positive impacts on the inflows of other funds. Gaspar *et al.* (2006) suggest fund families subsidize the performance of favorable funds, such as star funds, at the expense of others in the family.

Third, this article contributes to literature on industrial organization in general and firm boundaries in particular. Literature on firm boundaries analyzes the determinants of outsourcing in numerous industries (for a review, see Lafontaine and Slade 2007). However, the financial industry has received much less attention (Lafontaine and Slade 2007), even though decisions to outsource may differ from those in other industries. In outsourcing relationships with other industrial markets, a hold-up problem often occurs because of asset specificity that complicates make-or-buy decisions. When firms outsource parts of their production to subcontractors, the specificities of assets make them less valuable for alternative uses. Thus, subcontractors are unwilling to invest in the specific assets. This problem does not exist in the mutual fund industry, due to the liquidity of portfolio assets.

The paper is organized as follows. In Section 1, we present a theoretical framework and hypotheses. In section 2, we describe our sample and our measure of fund performance. In Section 3, we analyze empirically the determinants of the decision to outsource. In Section 4, we examine the impact of the decision to outsource on fund performance. Finally, we present the main results of our research in the conclusion.

1. Background and hypotheses

We first present the theoretical background involving the factors driving the decision to outsource, then the impact of outsourcing on performance.

1.1. Determinants of the decision to outsource: theoretical framework

Factors that affect the decision to outsource can be classified into four categories: fund promoter's strategy, information friction in the asset markets, type of promoter, and power of the promoter's distribution channel.

1.1.1. Fund promoter strategy: Core competencies, fund proliferation, and capacity constraints

Fund promoters choose between diversification and specialization strategies. By analyzing the relationship between degree of concentration and fund performance within the U.S. mutual fund industry from 1985 to 1996, Siggelkow (2003) finds that funds belonging to more focused providers outperform their counterparts. However, because investors tend to choose fund families

first and then choose funds from those families (Massa, 2003; Chan *et al.*, 2017), fund families try to offer a wider range of products in response to investors' demands (Khorana and Servaes, 2012). Therefore, fund proliferation can be a strategy for fund families to obtain more market share (Massa, 2003; Khorana and Servaes, 2012). Moreover, by offering large choices of products, fund families can increase their competitiveness; investors can switch freely from one management style to another inside families (Massa, 2003). In addition, fund families that follow a diversification strategy can reduce their risks and better respond to diverse investors' demands (Khorana and Servaes, 2012). However, fund families are limited in resources (Chen *et al.* 2013), which is an issue because they must bear high fixed costs if they want to set up new funds in investment styles they do not currently offer (Del Guercio and Reuter, 2014), such as those associated with hiring new managers and conducting research on these investment styles.

For fund families, outsourcing can be a solution (Chen *et al.,* 2013, Moreno *et al.,* 2018). Outsourcing allows promoters to launch new products in different markets at lower costs. Theories of industrial organization suggest companies should focus on the tasks or products for which they perform best (*i.e.*, core competencies) and outsource other activities (Prahalad and Hamel, 1990; Quinn, 1992; Ellram and Billington, 2001). By focusing on their core competencies, companies can improve their performance (Quinn, 1992; Ellram and Billington, 2001). In the mutual fund industry, promoters tend to outsource funds with management styles that do not match their core competencies (Moreno *et al.,* 2014). By doing so, the promoters can focus their efforts and skills on managing funds related to their expertise. Moreno *et al.* (2014) show fund families' core competencies affect the decision to outsource and that managers of families choose subadvisors according to the subadvisors' core competencies, such that the development of outsourcing might be due, at least partially, to fund promoters' efforts to compete by offering wider ranges of products and more differentiated funds.

Fund families that offer more choice to investors are more likely to outsource the management of some of their funds, due to capacity constraints. Chen *et al.* (2013) and Massa and Schumacher (2020) find a significant relationship between number of funds and firms' decisions to outsource and thus conclude that fund promoters outsource when they face capacity constraints. In turn, two hypotheses emerge:

H1: The probability of outsourcing is greater when promoters face capacity constraints.

H2: The probability of outsourcing is greater when funds are outside the core competencies of their promoters.

1.1.2. Information friction in asset markets

Information friction in asset markets can affect fund managers' investment decisions, especially with regard to foreign investment (Covrig and Ng, 2006; Ke *et al.*, 2010). Covrig and Ng (2006) show that because of information friction, fund managers that invest in foreign assets prefer to invest in corporations that are well known globally. Ke *et al.* (2010) analyze the U.S. equity holdings of more than 3,000 non–U.S.-based mutual funds from 22 countries and determine that fund managers show strong preferences for U.S. firms that are present in their home countries.

Similarly, the decision to outsource a fund's portfolio management may be driven by information friction; Chuprinin *et al.* (2015) argue promoters tend to outsource funds in which they have disadvantages related to information search and analysis. Because of these disadvantages, information friction affects international funds more than funds invested in domestic markets. Therefore, international funds are more likely to be outsourced. The delegation of portfolio management of international funds to local portfolio managers may provide wider access to information and better connection with local market authorities. That is, outsourcing may be a reflection of the underlying segmentation of asset markets (Massa and Schumacher, 2020). Managers of funds that specialize in global markets but are offered to domestic investors may delegate the management of the funds' portfolios to external management companies located in other countries, often close to the investments' geographical zones. Massa and Schumacher (2020) cite the example of a U.S. fund family that offers a fund invested in Asian stocks. Managers of the fund family have two options: managing the fund in-house or outsourcing it to an unaffiliated advisor in Asia. Because they lack information, the managers outsource the fund's management to an Asian management company that is more familiar with the Asian stock market. This type of arrangement frequently occurs in the U.S. market, in which over 20% of global mutual funds are managed by subadvisors (Massa and Schumacher, 2020). Similarly, Cashman and Deli (2009) assume that foreign assets require specific knowledge, because of the significant differences in business environments across countries that have significant impacts on investors (La Porta *et al.* 1997). Thus, the valuation of foreign assets requires understanding of differences in business,

legal, and tax environments. Cashman and Deli (2009) suggest that funds invested in countries with low transparency and weak legal environments are more likely to be outsourced.

Chuprinin *et al.* (2015) also argue that fund promoters tend to outsource funds traded in assets that are distant from their expertise, both geographically and culturally. Thus fund family managers might be more likely to outsource to subadvisors located close to the geographical zones of their assets. In terms of cultural distance, Massa and Schumacher (2020) consider whether a fund invests in assets located in a country that shares the same official language with the promoter's country. In line with this reasoning, we offer a third hypothesis:

H3: The greater the distance between markets and promoters' expertise, the greater the probability that funds will be outsourced.

1.1.3. Market segmentation: bank and insurance companies versus independent companies

Del Guercio and Reuter (2014), in their U.S. market study, investigate whether subadvisors benefit from the decision to outsource. The authors emphasize that subadvisors are willing to pick stocks for other promoters, because they are not in direct competition with them; fund promoters and their subadvisors tend to target different segments of the clientele. Indeed, Capon *et al.* (1996) highlight that factors other than financial performance are important for investors when they make their investment decisions. Fund promoters enjoy economies of scale in distribution and often have close relationships with retail investors that would take subadvisors a long time to build. Similarly, banks and insurance companies may target different market segments than independent companies. Clients of banks or insurance companies appear to value services, whereas investors in independent management companies appear to value performance (Frye, 2001). In the U.S. market, insurance companies outsource the management of their funds to independent management companies. Both types of firms benefit from such outsourcing relationships: Insurance companies obtain the portfolio management expertise of the management companies, and subadvisor firms do not risk having their flows cannibalized by the inflows of the outsourced funds, because they target different types of investors. Del Guercio and Reuter (2014) results imply that in the U.S. market, banks or insurance companies are more likely to outsource the portfolio management of their funds.

However, the European market differs from the U.S. market. In the European market, the model of the universal bank, in which management companies often are integrated into large banking groups, is common. Funds promoted by large banking or insurance groups can be managed by management companies that belong to the same groups, whereas relatively small-sized promoters can focus on non-performance services and therefore outsource the management of their funds to subadvisors. Accordingly, our fourth hypothesis relates to type of promoter:

H4: European banks and insurance companies are less likely than independent management companies to outsource their funds.

1.1.4. Power of the promoter's distribution channel

Distribution channels can affect decisions to outsource (Massa and Schumacher, 2020). In outsourcing relationships, fund families maintain marketing and distribution services while their subadvisors carry out portfolio management. Massa and Schumacher (2020) suggest the international reach of fund families can drive the decision to outsource. Promotors with large international distribution channels tend not to cooperate with unaffiliated subadvisors that can promote their names via the promoters' distribution channels and become potential competitors. Lafontaine and Slade (2007), in their review of literature on vertical integration, suggest the integration decision occurs more frequently when upstream parties (i.e., promoters in the case of mutual fund industry) make more effort (e.g., by increasing the value of their trade names). We thus account for the potential impact of distribution channels on fund performance and predict:

H5: Promoters with large international distribution channels tend not to outsource their funds.

1.2. The impact of outsourcing on performance: theoretical framework

Previous studies, applied to the U.S. market, suggest outsourced funds underperform in-house funds (Duong, 2010; Chen *et al.*, 2013; Chuprinin *et al.*, 2015). Using a sample of the 50 largest promoters in the U.S. market from 1994 to 2004, Duong (2010) finds outsourced funds underperform in-house funds for management companies that manage both funds of other companies and their own funds. Chen *et al.* (2013), in their study of the U.S. market from 1994 to 2007, find a similar result: Outsourced funds underperform funds managed in-house. Moreover,

these funds underperform the fund benchmark; Chuprinin *et al.* (2015) confirm this finding for the more recent period of 2001 to 2008. These studies suggest two possible explanations for the performance difference between in-house and outsourced funds: (1) agency costs and preferential treatments arising from the outsourcing relation (Chuprinin *et al.*, 2015; Moreno *et al.*, 2014, 2018; Massa and Schumacher, 2020) and (2) contractual externalities associated with firm boundaries (Chen *et al.,* 2013).

1.2.1. The agency problem and preferential treatments arising from outsourcing relationships

In outsourcing relationships, agency problems may arise between fund promoters (the principals) and subcontractors (the agents). In the classic agency–principal relationship, there can be lack of effort on the part of agents. In the outsourcing relationship, subcontractors (i.e., external management companies) often affiliate with financial conglomerates that not only manage funds on behalf of other fund families but also market their own brands of funds. These subadvisors may treat their own funds more favorably than outsourced funds, because the subadvisors obtain much higher revenues from their own funds than from the outsourced funds (Moreno *et al.*, 2014; Chuprinin *et al.*, 2015). In typical outsourcing relationships, fund promoters outsource the portfolio management of their funds to external management companies while maintaining their funds' marketing and distribution services. Thus, the external management companies receive only advisor fees from the outsourced funds but are able to keep all fees (advisor, administration, distribution, and other) from their in-house funds.

Preferential treatment can be understood as a manifestation of the agency problem in the outsourcing market (Chuprinin *et al.*, 2015, Moreno *et al.*, 2014). Privileged treatments may be reflected in resource allocations between outsourced and in-house funds (Chuprinin *et al.,* 2015, Moreno *et al.,* 2014). For instance, Moreno *et al.* (2014) use a sample of U.S. funds from 1996 to 2011 to observe that management companies tend to give their own funds preferential treatment by assigning relatively poorly performing portfolio managers with relatively less tenure to manage outsourced funds. The authors observe that managers of in-house funds that performed poorly during the previous 18 months were more likely to have been transferred to outsourced funds; they also show that when a management company does not have its own funds, there is no difference in performance between outsourced and in-house funds. Similarly, Chuprinin *et al.* (2015) investigate whether the difference in performance between outsourced and in-house funds can be

interpreted as a form of preferential treatment of management companies of their own funds. Using a sample of U.S. funds from 2001 to 2008, the authors find management companies allocate more IPOs to their in-house funds than to their outsourced funds. They also find in-house fund managers receive privileged information, reflecting their greater likelihood of buying stocks before they appreciate; moreover, compared with the rest of the market, managers of in-house funds seem to cross-trade disproportionately more with affiliated outsourced funds. Cross-trading is more likely to happen when in-house funds are in distress—suggesting subcontractors are likely to regard outsourced funds as liquidity providers to in-house funds. The correlation between buy trades and subsequent stock returns is about one-third higher for in-house funds than outsourced funds, indicating privileged use of information.

However, Moreno *et al.* (2014) suggest outsourcing can be an efficient business model if subadvisors do not simultaneously manage both their own funds and external funds. Duong (2010) compares the performance of outsourced and in-house funds for a sample of the 50 largest fund families from 1994 to 2003, finding in-house funds outperform outsourced funds only when advisor companies have both types of funds.

In summary, previous studies underline the impact of agency problem on the performance of outsourced funds. This impact can be more pronounced if a subadvisor company manages both outsourced funds and their own funds.

1.2.2 Contractual externality

Chen *et al.* (2013) suggest there are capacity constraints when fund families have to offer many funds and thus need to outsource some of their funds. However, contractual externalities resulting from firm boundaries make it more difficult to extract output from outsourced relationships than from employees of firms. Indeed, when promoters outsource the management of their funds to external subadvisors, it is difficult to control numerous important variables, such as number of employees and amount of time and resources devoted to fund management. Therefore, promoters may not be able to control and effectively monitor the realization of their tasks, leading to underperformance of outsourced funds relative to in-house funds. This hypothesis is based on the work of Holmström (1999). Indeed, in multitask, principal-agent settings, though firms want to use lower-powered incentives to extract output from employees, they must rely on higher- powered

incentives in outsourcing relationships because principals cannot coordinate incentives with agents. Chen *et al.* (2013) test this hypothesis in the case of outsourcing in the mutual fund industry; they investigate whether fund families tend to close down outsourced funds when the funds perform poorly or show higher risk taking. In outsourcing relationships, because fund families cannot control external advisors, they must base their decisions on observable variables such as performance or risk. Empirical results show outsourced funds are more likely to be closed down when they perform poorly or when they take excessive risks. Extracting outputs from outsourced relationships is even more difficult when agents have high bargaining power (Chuprinin *et al.*, 2015).

From these theoretical aspects, we propose the following:

H6: Outsourced funds underperform in-house funds.

2. Data description and performance measure

The data for our study come from the Lipper fund research service. The sample contains equity mutual funds from 12 European countries from 2002 to 2014, providing access to fund characteristics such as fund investment focus, name, launch date, and management company name. Lipper also provides information on the names of management companies and whether the companies belong to the same groups as the funds.

With information on the monthly returns of the funds, we can measure fund performance according to the Fama-French three-factor model, as follows:

$$R_t - R_{f,t} = \alpha + \beta\left(R_{m,t} - R_{f,t}\right) + s\, SMB_t + h\, HML_t + \varepsilon_t, \qquad (1)$$

where R_t is the return of a considered fund 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_t and HML_t denote returns on portfolios that proxy for common risk factors associated with size and book-to-market ratio, respectively; α is a constant; β, s and h are the coefficients associated with the factors; and ε_t is the error term with a mean of 0.

Table 1 presents the numbers of funds, management companies, and promoters in the sample. Overall, outsourced funds represent 20% of the sample. However, this proportion differs among

countries. Although France is the largest market in Europe, it has a relatively small number of outsourced funds. In contrast, outsourcing is very common in Spain, where more than 95% of funds are outsourced.

We classify management companies according to three categories, according to whether they manage only in-house funds (i.e., only-in-house-fund management), only funds for other promoters (i.e., only-outsourced-fund management), or both in-house funds and funds of other promoters (i.e., mixed management). Similarly, we classify promoters according to three categories: only-in-house-fund, only-outsourced-fund, and mixed promoters. Overall, about 50% of management companies and promoters in our sample manage and market only their own funds. Less than 20% of management companies manage both their own funds and other funds on behalf of other promoters. The proportion of mixed fund promoters also is relatively small: Less than 25% of promoters manage both in-house and outsourced funds. These numbers reflect the emergence of outsourcing in the European market.

Table 2 shows that mixed promoters who manage both in-house and outsourced funds tend to be large in size, whereas those that outsource all their funds tend to be small. The average size of a mixed promoter is more than 20 times larger than the average size of only-outsourced-fund promoters and about 3 times larger than the average size of only-in-house-fund promoters. Similarly, on average, mixed-management companies tend to be the largest, and only-outsourced-fund management companies tend to be the smallest. At the fund level (Table 3), outsourced funds appear smaller than in-house funds. On average, outsourced funds manage assets that are twice as small as in-house funds. In terms of fund performance, outsourced funds generate lower returns on average than in-house funds; however, they tend to charge higher fees.

Table 1: Numbers of funds, management companies, and promoters

Country	Number of funds	Number of outsourced funds	Number of in-house funds	Number of management companies	Number of mixed-management companies	Number of in-house-fund management companies	Number of outsourced management companies	Number of promoters	Number of mixed promoters	Number of in-house-fund promoters	Number of outsourced-fund promoters
France	1471	53	1418	167	32	126	9	173	20	140	13
Germany	978	330	648	189	27	61	101	58	32	18	8
Italy	732	77	655	79	21	47	11	43	10	24	9
Switzerland	630	123	507	110	26	48	36	60	15	34	11
Austria	522	215	397	64	10	23	31	21	12	9	0
Belgium	408	15	393	25	1	17	3	13	2	11	0
Finland	314	52	262	40	8	22	10	21	7	13	1
Spain	290	276	14	68	15	48	5	55	14	40	1
Sweden	276	47	229	51	12	34	5	42	7	32	3
Denmark	212	36	176	39	11	16	12	22	5	14	3
Norway	129	11	118	21	5	15	1	18	5	13	0
Portugal	70	12	58	16	3	11	2	11	3	7	1
Total	6,032	1,247	4,875	869	171	468	226	537	132	355	50

Note: A fund is considered as outsourced if its management company does not belong to the same group as its promoter whereas an in-house fund is one for which the management company is the same as its promoter or belongs to the same group. We classify management companies according to three categories; according to whether they manage only in-house funds (i.e., only-in-house-fund management), only funds for other promoters (i.e., only-outsourced-fund management), or both in-house funds and funds of other promoters (i.e., mixed management). Similarly, we classify promoters according to three categories: only-in-house-fund, only-outsourced-fund, and mixed promoters.

Table 2: Promotor and management company characteristics

	Average assets under management	**Average number of funds**
Only in-house-fund promoter	6,763.90	33.74
Only outsourced-fund promoter	816.94	6.79
Mixed promoter	19,053.28	81.47
Only in-house-fund management company	8,608.49	41.85
Only outsourced-fund management companies	929.59	6.8
Mixed-management companies	16,813.13	59.04

Note: This table presents the average size (in number of funds and in total amount of assets under management in € millions) of the different management companies and promoters.

Table 3: **Fund characteristics**

	In-house funds	Outsourced funds	Entire sample
Average assets under management	199.54	104.24	186.73
Average fund return	8.11%	7.50%	8.03%
Fund risk measured by standard deviation of 12 monthly returns	0.048	0.046	0.048
Average management fees	1.49%	1.53%	1.50%

Note: This table presents the average size (in total amount of assets under management in € millions), average return, risk and average fees of the different types of funds.

3. Determinants of the decision to outsource: empirical analysis

3.1. Variables and empirical model

3.1.1. Definition of variables

Capacity constraints of promoters.

Following Massa and Schumacher's (2020), approach, we measure the *capacity constraints* of fund promoters by the number of funds offered by a promoter at the date of inception, controlling for promoter size. We take promoter size into account by demeaning the

number of funds; that is, we subtract the average number of funds in the industry from the number of funds offered by the promoter at the date of inception. We expect a positive relationship between the probability of outsourcing and capacity constraints.

Core competency

Fund promoters may outsource some of their funds because they want to focus on their core competencies. Some fund promoters, such as insurance companies, specialize in non–portfolio-managing services and may outsource the portfolio management of their funds to subadvisors. Others specialize in specific management styles and therefore keep the management of these styles in-house while outsourcing other funds. As previously mentioned, management companies can improve their performance by focusing on few investment strategies. Siggelkow (2003) observes that funds perform better if their fund families are more focused. Therefore, we measure *style focus* as the ratio of in-house assets in a given management style to total assets of the fund promoter. The higher the ratio, the more the promoter specializes in the management style. We expect a negative relationship between *style focus* and the probability that a fund in the considered management style will be outsourced.

Information friction.

We also use three variables to consider the impact of information friction on choice of portfolio-management outsourcing. First, we consider whether a fund invests in the domestic market. Because of an information disadvantage, fund promoters are more likely to outsource their international funds (Massa and Schumacher, 2020) and maintain in-house management of their domestic funds. We introduce *domestic fund* variable, which equals 1 if the fund invests in the same country as its promoter and 0 otherwise. We expect this variable to have a negative impact on the decision to outsource.

Second, among international funds, we distinguish funds that invest in the European market from funds that invest in markets outside Europe. European promoters likely are more familiar with assets located in Europe but less able to search for and analyze information on assets located outside Europe, such as in Asia or the United States. Therefore, they are more likely to outsource non-European funds. We use the variable *outside Europe*, which equals 1 if the fund belonging to a European promoter invests in markets outside Europe and 0 otherwise, to capture the impact of

market segmentation on the decision to outsource. We expect a positive relationship between this variable and the decision to outsource.

Third, we test whether a fund that invests in a country that does not share the same language is more likely to be outsourced. If a promoter's country has the same official language as the country in which it invests (e.g., a Spanish promoter invests in Latin America), the information barrier can be mitigated. In contrast, if the fund promoter and the investing country do not share the same language, information friction is more pronounced. We introduce the variable *asset common language,* which equals 1 if a fund invests in a country that shares the same official language as the promoter and 0 otherwise. We expect a negative relationship between this variable and the decision to outsource.

Promotor type

To identify the impact of promoter type on the decision to outsource, we use the dummy variable of *promoter type*, which equals 1 if a fund's promoter is a bank or an insurance company and 0 otherwise. We expect a negative relationship between this variable and decision to outsource.

Power of promoter's distribution channels

Following Massa and Schumacher (2020), we measure the power of distribution channels of a promoter by the number of countries in which funds are sold. We expect a negative relationship between the variable *distribution power* and the decision to outsource.

3.1.2. Empirical model

In this model, the dependent variable is the probability of outsourcing, which is a binary variable. A common method used often for this case is a dichotomy model (Spector and Mazzeo, 1980; Amemiya, 1981). We consider the following model:

$$p_i = prob\left(y_i = 1 \middle| x_{i1}, x_{i2}, .., x_{ij}\right) = F\left(\sum_j \beta_j x_{ij}\right), \quad (2)$$

where p_i is the probability that a fund is outsourced; y_i is a dummy variable that equals 1 if fund i is outsourced and 0 otherwise; x_{ij} is an independent variable that affects the probability of the decision to outsource fund i, as previously described; β_j is the coefficient associated with the

explanatory variable x_j; and F is a cumulative function. Researchers often choose between two probability functions: cumulative logistic and cumulative normal. When we use a cumulative logistic function, we have a logistic model, whereas our use of a cumulative normal function entails a probit model. Logistic and probit models often provide similar results (Amemiya, 1981), and we choose a probit model.

3.2. Results and interpretation

Table 4 presents the results. Column A estimates the probability of outsource for the entire sample with the three categories of promoters: mixed promoters, only-in-house-fund promoters, and only-outsourced-fund promoters. Column B considers a subsample of only mixed promoters. Mixed promoters have both in-house and outsourced funds. For each new fund, because these promoters choose between outsourcing and managing portfolios in-house, the results may be more pronounced for the subsample of mixed promoters. Our result validates hypothesis H1: fund promoters tend to outsource their funds when they have resource constraints. The coefficient associated with *capacity constraints* is significantly positive; fund promoters are more likely to keep the portfolio management of funds investing in geographical zones where they are more specialized in-house. The coefficient of *style focus* is significantly negative. This result confirms our hypothesis H2 about the strategy of fund promoters to focus on their core competencies.

Information friction in asset markets also affects the decision to outsource. Fund promoters tend to keep the portfolio management of domestic funds in-house, because they often have good knowledge of their domestic markets. Furthermore, *domestic fund* is not significant in the context of the entire sample. With regard to mixed promoters only, we find a significantly negative relationship between *domestic fund* and probability of outsourcing. This result reinforces our hypothesis H3 about information friction in asset markets, namely, that mixed promoters, holding both in-house and outsourced funds, tend to keep domestic funds in-house.

We find European promoters are more likely to outsource funds that have investment objectives outside Europe. This result is in line with literature on portfolio choice of investors: Massa and Simonov (2006) suggest familiarity—that is, the tendency to concentrate holdings in stocks with which the investor is geographically or professionally familiar—plays an important role in portfolio choice. Moreover, they show familiarity is not a behavioral bias but instead is driven by

information. In the case of outsourcing, promoters that are not familiar with geographical investment zones of funds tend to outsource those funds to local management companies. This result strengthens our hypothesis H3 about the impact of information friction in asset markets.

Promoters tend to keep portfolio management of the funds that invest in same-language markets in-house, seemingly because the search for information is easier when the promoters speak the languages of the investing countries. This result supports our hypothesis H3 about information friction. Nevertheless, it is significant only for a subsample of mixed promoters.

The type of promoter (bank/insurance company or independent society) significantly affects the decision to outsource. The coefficient associated with *promoter type* is significantly negative, suggesting funds promoted by banking or insurance groups are less likely to be outsourced. This result confirms our hypothesis (H4) in the European market, in which banking and/or insurance groups often have their management companies integrated into their groups, unlike the U.S. market, in which banks tend to outsource the portfolio management of their funds because they do not have their own management companies.

Finally, our result confirms hypothesis H5: the power of the promoter's distribution channel, measured by number of countries in which a fund is marketed to investors, negatively affects the decision to outsource. As predicted, promoters who have large distribution channels often are well known to investors. Therefore, they are not willing to share their reputations with subadvisors, which are potential competitors. Funds marketed in a large number of countries are less likely to be outsourced.

Table 4- Determinants of the decision to outsource

Variable	Column A Prob (Outsource) Entire sample	Column B Prob(Outsource) Subsample of mixed promoters
Capacity constraints	**0.0048** **(0.000)**	**0.0039** **(0.003)**
Style focus	**-1.3850** **(0.000)**	**-0.7288** **(0.000)**
Domestic fund	0.0242 (0.793)	**-0.2249** **(0.089)**
Outside Europe	**0.5170** **(0.000)**	**0.4695** **(0.000)**
Asset common language	-0.3693 (0.233)	**-0.8383** **(0.088)**
Promoter type	**-0.1515** **(0.008)**	**-0.4389** **(0.000)**
Distribution power	**-0.0279** **(0.000)**	**-0.0289** **(0.000)**
Intercept	**-1,0280** **(0.000)**	**-0.6014** **(0.000)**
Pseudo-R-squared (R^2)	0.08	0.07

Note: This table reports probit regression results. The dependent variable is a dummy variable that equals 1 if the promoter decides to outsource the fund and 0 otherwise. Column A considers the entire sample of promoters (mixed promoters; only-in-house-fund-promoters, and only-outsourced-fund-promoters). There are 6,032 observations, corresponding to 537 promoters. Column B considers the reduced sample of mixed promoters, that is, those with both in-house and outsourced funds. There are 132 mixed promoters. *p*-values are in parentheses.
Capacity constraints are measured by the number of funds at the inception date offered by the promoter minus the average number of funds of the industry. The style focus is measured by the ratio of in-house assets in a given management style to total assets of the fund promoter. Domestic fund is equal to 1 if a fund invests in the same country as its promoter and 0 otherwise. *outside Europe* equals 1 if the fund belonging to a European promoter invests in markets outside Europe and 0 otherwise. Variable *asset common language* equals 1 if a fund invests in a country that shares the same official language as the promoter and 0. *promoter type* equals 1 if a fund's promoter is a bank or an insurance company and 0 otherwise. Distribution power is measured by the number of countries in which funds are sold.

4. Performance of outsourced and in-house funds: empirical analysis

In the previous section, our results show outsourcing can be optimal for fund promoters who have resource constraints, suffer from information friction in asset markets, do not own their own management companies, or do not have large distribution channels. However, is outsourcing beneficial to investors? That is, does outsourcing improve fund performance? In this section, we examine whether the decision to outsource affects the performance of European funds. We first present our empirical model, variable construction, and econometric method. Then, we interpret the results.

4.1. Empirical model, variable construction, and econometric method

4.1.1. Definition of variables

Dependent and main explanatory variables.

Our objective is to determine whether there is a causal relationship between the decision to outsource and fund performance. The variable *performance* represents the performance of a fund, and the variable $outsource$ is a dummy variable that equals 1 if fund *i* is an outsourced fund and 0 otherwise. The effect variable is then *outsource*. The sign of the coefficient associated with this variable indicates the impact of outsourcing on fund performance.

Control variables

To study the relationship between fund performance and outsource, we must control for some effects that may interact with performance. We consider several other factors that affect fund performance.

First, management fees can affect fund performance. The relationship between fees and performance in the mutual fund industry has been well analyzed by literature (Chevalier and Ellison, 1999; Gil-Bazo and Ruiz-Verdu, 2009). Investors who pay for management services expect the prices they pay to be reflected by the quality of the services or fund performance they receive. However, most studies find a negative relationship between fees and performance. For instance, Gil-Bazo and Ruiz-Verdu (2009) show funds that charge lower fees perform better than

funds that charge higher fees. Accordingly, we add the control variable *fees*, which we measure as a percentage of a fund's assets under management.

Second, with regard to the impact of intermediation, there may be a relationship between distribution channels and fund performance (Bergstresser *et al.*, 2009; Del Guercio and Reuter, 2014). Indeed, there are various channels of distribution in the European market. Investors can buy fund shares directly or through a third-party distribution. Fund promoters market direct-sold funds directly to investors, whereas indirect-sold funds are distributed by intermediaries (banks or brokers). Many investors purchase mutual funds through intermediate channels and pay brokers for fund selection. These investors, who often lack investment expertise, need professional help to select the best funds in terms of price and performance. However, previous studies propose that funds distributed by brokers have lower performance (Bergstresser *et al.*, 2009; Del Guercio and Reuter, 2014). We test this hypothesis by adding the dummy variable *third party distribution*, which equals 1 if a fund is sold by an independent channel and 0 otherwise. We expect the coefficient associated with this variable will be negative.

Third, with regard to the effect of promotion, the 1985 UCITS directives facilitated cross-country distribution in Europe. Funds can be sold in different European countries. Because Nanda *et al.* (2004) and Khorana and Servaes (2012) suggest fund promoters tend to highlight their "star" funds, often marketing them in numerous countries, we test whether there is a difference in performance between funds sold in one country and those sold in several countries. To do this, we add the variable *promotion*, which we measure by the natural logarithm of the number of countries in which funds are promoted. Because promoters tend to promote performing funds more, funds distributed abroad may perform better. We expect the coefficient associated with this variable will be positive.

Fourth, with regard to small-capitalization (small-cap) and effects of socially responsible investment (SRI) funds, we identify special investment types: funds that invest in small-cap stocks and SRI funds. We represent these fund types by the dummy variables *small-cap funds* and *SRI funds* in the regression. Investors can expect differing performance of these special investment types. For instance, literature suggests there is a difference in performance between SRI funds and unscreened investments (e.g., Reyes and Grieb, 1998; Bello, 2005). However, overall, studies seem to find mixed results.

Fifth, geographical focus can affect mutual fund performance. Indeed, funds invested in differing geographical areas may perform differently, because securities in different markets can be very different in terms of performance and risk and lead to different fund-management styles. We control for the possible effect of geographical focus on fund performance by adding dummy variables that represent geographical investment zones: *North America* equals 1 if a fund invests in North America and 0 otherwise; *Europe* equals 1 if a fund invests in Europe and 0 otherwise; *Asia excluding Japan* equals 1 if a fund invests in Asia (except Japan) and 0 otherwise; *Japan* equals 1 if a fund invests in Japan and 0 otherwise; and *Global* equals 1 if a fund is an international fund without a specific geographical zone. To avoid collinearity, we do not include the focus on Japan in the regression.

4.1.2. Econometric aspects

We consider a regression in which the decision to outsource and other control variables explain fund performance. We specify the model as follows:

$$performance_i = \propto + \rho * outsource_i + \sum_{i,t} \sigma_j control\ variables_{j,i} + \varepsilon_i. \quad (3)$$

However, our main explanatory variable, *outsource,* may be endogenous. The performance of a fund and the decision to outsource may be affected by the same characteristics that are omitted. For instance, the decision to outsource is often made at the promoter level, according to promoter strategies such as resource allocation or designation of talent managers to funds, which may affect fund performance. Similarly, unobservable characteristics of management companies may influence the decision to outsource and fund performance. To account for this endogeneity, we use an instrumental variable. Following Chen *et al.* (2013), we use the variable *number of funds offered by the promoter at the date of inception*, measured, as in the previous section, as an instrumental variable. This variable must satisfy two conditions: (1) There must be a strong relationship between *outsource* and the instrumental variable; and (2) there must be an exclusion restriction such that when we control for other variables, the number of funds offered by the promoter at the date of inception affects only the fund's performance, because of the decision to outsource. Because the first stage is a probit model, we cannot use the two-stage least squares method. Terza *et al.* (2008) propose the two-stage residual method in this case. In the first stage, we regress the variable *outsource* on the variable *number of funds offered by the promoter at the date of inception* as well

as other control variables of Model (3). The following equation describes the model of the first stage:

$$\Pr(outsource_i) = \mathrm{F}(\propto + \beta * \text{Number of funds offered at the inception date}_i + \sum_{i,t} \sigma_j control\ variables_{j,i}) \quad (4)$$

where F is a cumulative normal function, and the control variables are the same variables as in Model (3).

In the second stage, we add the residual of the first stage to Model (3). The model of the second stage is:

$$performance_i = \propto + \rho * outsource_i + \sum_{i,t} \sigma_j control\ variables_{j,i} + \theta * first\ stage\ residual_i + \varepsilon_i \quad (5)$$

where ρ θ and σ_j are coefficients associated with the explanatory variables.

4.2. Results and interpretation

Tables 5a and 5b present the results of the first and the second stages of the model. We observe a significant relationship between *number of funds offered by the promoter at the inception date* and *outsource*, thereby satisfying the first condition of the instrumental variable. In the second stage (Table 5b), we observe a positive relationship between fund performance and the decision to outsource when we consider 3-year alpha as a measure of performance. This result suggests outsourced funds perform better than in-house funds. Nevertheless, in the case of 5-year alpha, the coefficient associated with *outsource* is not as significant. Our results suggest that hypothesis H6 is not confirmed for the European market. These results differ from those obtained in the U.S. market, in which outsourced funds seem to underperform in-house funds (Chen *et al.,* 2013; Chuprinin *et al.,* 2015; Moreno *et al.*, 2018; Massa and Schumacher, 2020).

This result is probably a consequence of the market structure of fund management in Europe, in which banks and insurance companies play major roles in the market. In such situation, there can be conflicts of interests (Herring and Santomero, 1990; Mehran and Stulz, 2007). On the one hand, bank affiliated funds can re-use the information acquired by a bank as a lender for their trading and/or underwriting activities. This allows them to lower transaction and research costs. They can also use private information about firms that borrow from their banks to adjust their portfolio holdings (Massa and Rehman, 2008). On the other hand, Golez and Jose (2015) suggest that fund

managers are double agents, serving two principals: the fund's investors and the management firm's owners. Fund managers can have incentives to act on behalf of the parent company (*i.e.* banking and/or insurance groups). The same authors show that bank-affiliated funds support the stock price of the parent bank around important corporate events and crisis periods. Banks can also use their funds as vehicles to support their others activities such as underwriting or lending activities. Johnson and Marietta-Westberg (2009) find evidences that banks use their funds to help them earn more equity underwriting business. Similarly, Hao and Yan (2012) observe that bank affiliated funds are likely used to support the banks' underwriting business. These funds tend to hold the stock of the bank's worse performing clients. These trades to support prices can deteriorate the performance of the price-supporting funds. Ferreira *et al.* (2018) suggest that bank funds can also be used to support the stock of the bank's lending clients (*e.g.,* funds may overweight a lending client's stock). In addition, in financial conglomerates, management companies manage external funds that originate from their asset management clients (*i.e.,* mutual funds) as well as internal funds from their banking and/or insurance activities. In this situation, fund managers may privilege their internal funds over mutual funds, for instance, by attributing well-performing assets to internal funds and poorly performing assets to mutual funds. When funds are managed in-house, fund managers can act on behalf of the parent groups and thus may hurt the funds' performance. However, when funds are outsourced, banks and insurance groups cannot directly intervene in the portfolio management of the funds.

Literature suggests the impact of outsourcing on fund performance may be more pronounced if subadvisors manage both outsourced funds and their own funds (Duong, 2010; Chuprinin *et al.,* 2015). To test this hypothesis, we run the same regressions for a subsample of mixed-management companies (Tables 6a and 6b) that manage both their own funds and funds of other promoters. However, the results do not differ.

With regard to control variables, results show that management fees relate significantly to fund performance. As we predicted, we find funds marketed in numerous countries tend to perform better. We also find differing geographical zones have a significant impact on fund performance, and small-cap funds seem to underperform. The estimators of other control variables, such as funds distributed by third-party distribution or SRI funds, do not seem to be stable when we consider different performance measures.

Table 5a - First stage: impact of number of funds offered by fund promoter at inception date on the decision to outsource (entire sample of funds)

Variable	**Prob (outsource)**
Intercept	**-0.7556** **(0.000)**
Number of funds offered by fund promoter at the inception date	**0.0063** **(0.000)**
Management fees	0.0079 (0.852)
Intermediation	0.0209 (0.713)
Promotion	**-0.0357** **(0.000)**
Small-cap fund	0.0903 (0.378)
SRI fund	**-0.2647** **(0.016)**
Asia excluding Japan	-0.2337 (0.201)
Europe	**-0.6131** **(0.000)**
Global	-0.0023 (0.986)
North America	-0.1802 (0.239)
Pseudo-R^2	0.05

Note: This table estimates the probability of outsourcing (first stage) by using a probit model. In the first-stage probit regression, *outsource* is modeled as a function of the number of funds offered by the fund promoter at the inception date, management fees, intermediation, and other control variables. Variable *promotion* is measured by the natural logarithm of the number of countries in which funds are promoted. *Small-cap funds* and *SRI funds* are dummy variables which equal 1 if funds invest in small-cap stocks, respectively SRI funds. *Asia* equals 1 if a fund invests in Asia and 0 otherwise. *Europe* equals 1 if a fund invests in Europe and 0 otherwise. *Global* equals 1 if a fund is an international fund without a specific geographical zone. *North America* equals 1 if a fund invests in North America and 0 otherwise. The estimation is made on the entire sample of 6,032 funds. *p*-values are reported in parentheses.

Table 5b - Second stage: impact of outsource on fund performance (on the entire sample)

Variable	Column A Performance 3-year alpha	Column B Performance 5-year alpha
Intercept	**-0.0217** **(0.000)**	**-0.0070** **(0.000)**
Outsource	**0.0344** **(0.000)**	0.0050 (0.120)
Management fees	-0.0000 (0.968)	-0.0001 (0.219)
Intermediation	**0.0017** **(0.000)**	0.0001 (0.398)
Promotion	**0.0004** **(0.000)**	**0.0001** **(0.000)**
Small-cap fund	**-0.0013** **(0.005)**	**-0.0005** **(0.068)**
SRI fund	**0.0010** **(0.061)**	**-0.0006** **(0.099)**
Asia excluding Japan	**0.0028** **(0.002)**	-0.0009 (0.176)
Europe	**0.0128** **(0.000)**	**0.0047** **(0.000)**
Global	**0.0091** **(0.000)**	**0.0049** **(0.000)**
North America	**0.0071** **(0.000)**	**0.0019** **(0.001)**
First-stage residual	**-0.0335** **(0.000)**	**-0.0052** **(-0.107)**
R^2	0.11	0.08

Note: This table reports the second stage of regression of impact of outsourcing on fund performance. The dependent variable is *fund performance*, measured by 3-year alpha and 5-year alpha of funds. The independent variable, *outsource*, equals 1 if the fund is outsourced, 0 otherwise. Other control variables as management fees and intermediation are introduced. Variable *promotion* is measured by the natural logarithm of the number of countries in which funds are promoted. *Small-cap funds* and *SRI funds are dummy variables* which equal 1 if funds invest in small-cap stocks, respectively SRI funds. *Asia excluding Japan* equals 1 if a fund invests in Asia (except Japan) and 0 otherwise. *Europe* equals 1 if a fund invests in Europe and 0 otherwise. *Global* equals 1 if a fund is an international fund without a specific geographical zone. *North America* equals 1 if a fund invests in North America and 0 otherwise. *p*-values are reported in parentheses. First-stage residual is the residual obtained in the first stage of regression in table 5a. The estimation is made on the entire sample 6,032 funds. *p*-values are reported in parentheses.

Table 6a - First stage: Impact of number of funds offered by fund promoter at the inception date (on the reduced subsample of mixed-management companies)

Variable	**Prob(outsource)**
Intercept	-0.1337 (0.647)
Number of funds offered by fund promoter at inception date	**0.0150** **(0.000)**
Management fees	**-0.1494** **(0.062)**
Intermediation	0.0698 (0.569)
Promotion	**-0.0652** **(0.000)**
Small-cap fund	-0.0319 (0.869)
SRI fund	**0.3203** **(0.076)**
Asia excluding Japan	-0.5712 (0.090)
Europe	**-0.8019** **(0.001)**
Global	-0.2189 (0.390)
North America	-0.4288 (0.135)
Pseudo-R^2	0.08

Note: This table estimates the probability of outsourcing (first stage) by using a probit model. In the first-stage probit regression, *outsource* is modeled as a function of the number of funds offered by the fund promoter at the inception date, management fees, intermediation, and other control variables. Variable *promotion* is measured by the natural logarithm of the number of countries in which funds are promoted. *Small-cap funds* and *SRI funds* are dummy variables which equal 1 if funds invest in small-cap stocks, respectively SRI funds. *Asia excluding Japan* equals 1 if a fund invests in Asia (except Japan) and 0 otherwise. *Europe* equals 1 if a fund invests in Europe and 0 otherwise. *Global* equals 1 if a fund is an international fund without a specific geographical zone. *North America* equals 1 if a fund invests in North America and 0 otherwise. The estimation is made on the reduced subsample of mixed-management companies (171). *p*-values are reported in parentheses.

Table 6b - Second stage: Impact of outsourcing on fund performance (on the reduced subsample of mixed management companies)

Variable	Column A Performance 3-year alpha	Column B Performance 5-year alpha
Intercept	**-0.0226** **(0.000)**	**-0.0088** **(0.000)**
Outsource	**0.0142** **(0.000)**	0.0018 (0.493)
Management fees	**0.0007** **(0.044)**	0.0002 (0.453)
Intermediation	**-0.0012** **(0.030)**	-0.0001 (0.701)
Promotion	**0.0004** **(0.000)**	**0.0001** **(0.000)**
Small-cap fund	**-0.0017** **(0.029)**	**-0.0009** **(0.078)**
SRI fund	0.0002 (0.827)	-0.0004 (0.515)
Asia excluding Japan	**0.0068** **(0.000)**	0.0012 (0.264)
Europe	**0.0136** **(0.000)**	**0.0064** **(0.000)**
Global	**0.0121** **(0.000)**	**0.0062** **(0.000)**
North America	**0.0117** **(0.000)**	**0.0049** **(0.000)**
First-stage residual	**-0.0128** **(0.000)**	-0.0019 (0.453)
R^2	0.11	0.07

Note: This table reports the second stage of regression of impact of outsourcing on fund performance. The dependent variable is *performance*, measured by 3-year alpha and 5-year alpha of funds. The independent variable, *outsource*, equals 1 if the fund is outsourced, 0 otherwise. Other control variables as management fees and intermediation are introduced. Variable *promotion* is measured by the natural logarithm of the number of countries in which funds are promoted. *Small-cap funds* and *SRI funds are dummy variables* which equal 1 if funds invest in small-cap stocks, respectively SRI funds. *Asia excluding Japan* equals 1 if a fund invests in Asia (except Japan) and 0 otherwise. *Europe* equals 1 if a fund invests in Europe and 0 otherwise. *Global* equals 1 if a fund is an international fund without a specific geographical zone. *North America* equals 1 if a fund invests in North America and 0 otherwise. *p*-values are reported in parentheses. First-stage residual is the residual obtained in the first stage of

regression in table 6a. The estimation is made on the reduced subsample of mixed-management companies (171). *p*-values are reported in parentheses.

Conclusion

In this paper, we analyze the determinants and consequences of the decision to outsource on fund performance in the European market. We identify various factors that affect the decision. For some factors, such as resource constraints, the fund promoter's strategy of focusing on core competencies, information friction in asset markets, and the power of the promoter's distribution channel, we observe the same impact on the decision to outsource as in the U.S. market. That is, promoters that face resource constraints are more likely to outsource their funds; they tend to outsource funds that do not reflect their core competencies; they tend to outsource funds when they suffer from information friction; and those that own large channels of distribution are not willing to share their reputations with subadvisors, preferring to keep the management of their funds in-house.

However, with regard to the impact of type of promoter (banks and insurance companies vs. independent companies) on the decision to outsource, our result differs from those obtained from the U.S. market. Whereas U.S. studies show banks and insurance companies tend to outsource funds, the situation in Europe is opposite. This difference can be explained by the difference in market structure: In the U.S. market, because banks do not specialize in investment, they must outsource the portfolio management of their funds to external management companies, whereas in Europe, because banks and insurance companies have a dominant position in the market and often hold their own management companies, they tend to manage their funds in-house.

We also obtain different results with regard to the impacts of outsourcing on fund performance. Whereas previous studies of the U.S. market indicate underperformance of outsourced funds, we find, in the European case, that outsourced funds perform at least as well as in-house funds, and outsourced funds perform even better than in-house funds when a 3-year alpha is the measure of performance. In the U.S. market, conflicts of interest between external management companies and fund promoters explain the underperformance of outsourced funds. In the European market, a different type of conflict of interest between promoters and investors may lead to the under-performance of in-house funds: In Europe, management companies, which belong to banking and insurance groups, may act on behalf of the parent group. Funds belonging to these conglomerates

can be used to support other activities of the parent company when they are managed in-house. In addition, management companies managing funds from their own banking/insurance activities as well as mutual funds coming from external investors, can treat their own funds more favorably than mutual funds that are managed in-house. In contrast, when funds are outsourced, the management companies have no control and cannot intervene in the funds' portfolio management.

Overall, we contribute to growing literature on outsourcing by showing the important role of market structure in the decision to outsource and the impact of outsourcing on fund performance. We suggest a potential conflict of interest between fund promoters—especially banking and insurance groups—and investors. However, the magnitude and consequences of conflicts of interests can vary across countries (Ferreira *et al.* 2018). They can be more pronounced in bank-based financial systems such as continental European countries or Japan where banks play a leading role in the financial markets as compared to market-based financial countries such as England and the United States[2]. In contrast, conflicts of interests are less pronounced in markets with stronger regulation (Khorana *et al.* 2005, 2009; Ferreira *et al.* 2018). Khorana *et al.* (2005) suggest that countries where law protects fund investors better, have larger mutual fund industries. Lower management fees are observed in countries with a less concentrated banking sector or one where banks are not allowed to enter the securities business (Khorana *et al.,* 2009). Countries with higher investor protections can have business, legal and regulatory climates that may tend to moderate fees (Khorana *et al.* 2009). Ferreira *et al.* 2018 show that the underperformance of bank-affiliated funds is more pronounced in civil-law countries than in common-law countries[3]. Indeed, the separation between bank lending and asset management activities are more strictly enforced and fund investors' rights are better protected in common-law countries. Further studies on outsourcing in other countries may shed light on the role of market structure. In addition, the impact of this conflict on fund performance in the outsourcing relationship can be further investigated in future research. For instance, how managers allocate resources between internal funds originating from banking and insurance activities and mutual funds coming from external investors.

[2] See Dermirguc-Kunt and Levine (2001) for the classification of countries as either market-based or bank-based.
[3] La Porta *et al.* (1997) suggest that common-law countries protect both shareholders and creditors the most, civil- law countries the least.

References

Amemiya T. (1981), Qualitative Response Models: A Survey, *Journal of Economic Literature*, 19(4), pp 1483-1536.

Bello Z.Y. (2005), Socially Responsible Investing and Portfolio Diversification, *Journal of Financial Research*, 1(28), pp 41-57.

Bergstresser D., Chalmers J.M.R., Tufano P. (2009), Assessing the Costs and Benefits of Brokers in the Mutual Fund Industry, *Review of Financial Studies*, 22(10), pp 4129-4156.

Berzins J., Liu C.H., Trzcinka C. (2013), Asset Management and Investment Banking, *Journal of Financial Economics* 110, pp 215-231.

Capon N., Fitzsimons G.J., Prince R.A. (1996), An Individual Level Analysis of the Mutual Fund Investment Decision, *Journal of Financial Services Research* 10, pp 59-82.

Cashman G., Deli D.N. (2009), Locating Decision Rights: Evidence from the Mutual Fund Industry, *Journal of Financial Markets*, 12(4), pp 645-671.

Chan C.Y., Lai C.W., Lee L. C. (2017), Strategic Choice of Risk: Evidence from Mutual Fund Families, *Journal of Financial Services Research* 51, pp 125-163.

Chen J., Hong H., Jiang W., Kubik J.D. (2013), Outsourcing Mutual Fund Management: Firm Boundaries, Incentives, and Performance, *Journal of Finance*, 68(2), pp 523-558.

Chevalier J., Ellison G. (1999), Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance, *Journal of Finance* 54(3), pp 875-899.

Chuprinin O., Massa M., Schumacher D. (2015), Outsourcing in the International Mutual Fund Industry: An Equilibrium View, *Journal of Finance*, 70(5), pp 2275-2308.

Covrig V., Ng L (2006), Do Domestic and Foreign Fund Managers have Similar Preferences for Stock Characteristics? A Cross-Country Analysis, *Journal of International Business Studies*, 37, pp 407-429.

Cumming D., Schwienbacher A., Zhan F. (2015), The Scope of International Mutual Fund Outsourcing: Fees, Performance and Risks, *Journal of International Financial Markets, Institutions and Money*, 38 (September), pp 185-199.

Del Guercio D., Reuter J. (2014), Mutual Fund Performance and the Incentive to Generate Alpha, *Journal of Finance*, 69(4), pp 1673-1704.

Dermirguc-Kunt A., Levin R. (2001), Bank-based and Market-based Financial Systems: Cross-country comparisons, in Asli Dermirguc-Kunt and Ross Levine, eds.: *Financial Structure and*

Economic Growth: A Cross-Country Comparison of Banks, Markets and Development (MIT Press, Cambridge, MA).

Duong T. (2010), Outsourcing in the Mutual Fund Industry, Working Paper, National University of Singapore.

Ellram L., Billington C. (2001), Purchasing Leverage Considerations in the Outsourcing Decision, *European Journal of Purchasing & Supply Management*, 7(1), pp 15-27.

Ferreira M.A., Matos P., Pires P. (2018), Asset Management within Commercial Banking Groups: International Evidence, *Journal of Finance*, 78(5), pp 2181-2227.

Frye M.B. (2001), The Performance of Bank-Managed Mutual Funds, *Journal of Financial Research*, 24(3), pp 419-442.

Gaspar J M., Massa M., Matos P (2006), Favoritism in Mutual Fund Families? Evidence on Strategic Cross-Fund Subsidization, *Journal of Finance*, 61(1), pp 73-104.

Gil-Bazo J., Ruiz-Verdu P. (2009), The Relation between Price and Performance in the Mutual Fund Industry, *Journal of Finance*, 64(5), pp 2153-2183.

Golez B., Jose M. (2015), Price support by bank-affiliated mutual funds, *Journal of Financial Economics* 115, 614-638.

Hao Q., Yan X. (2012), The Performance of Investment Bank-affiliated mutual funds: conflicts of interest or information advantage? *Journal of Financial and Quantitative Analysis* 47, pp 537-565.

Herring R.J., Santomero A.M. (1990), The Corporate Structure of Financial Conglomerates, *Journal of Financial Services Research* 4, pp 471–497.

Holmstrom B. (1999), The firm as a Subeconomy, *Journal of Law, Economics and Organization* 15, pp 74–102.

Johnson W., Marietta-Westberg J. (2009), Universal Banking, Asset Management, and Stock Underwriting, *European Financial Management* 15, pp 703-732.

Ke D., Ng L., Wang Q (2010), Home Bias in Foreign Investment Decisions, *Journal of International Business Studies*, 41, pp 960-979.

Khorana A., Servaes H. (2012), What Drives Market Share in the Mutual Fund Industry? *Review of Finance*, 16(1), pp 81-113.

Khorana, A., Servaes H., Tufano P. (2005), Explaining the Size of the Mutual Fund Industry around the World, *Journal of Financial Economics* 78, pp 145-185.

Khorana, A., Servaes H., Tufano P. (2009), Mutual Fund Fees around the World, *Review of Financial Studies* 22, pp 1279-1310.

La Porta R., Lopez-De-Silanes F., Shleifer A., Vishny R. (1997), Legal Determinants of External Finance, *Journal of Finance* 52(3), pp 1131-1150.

Lafontaine F., Slade M. (2007), Vertical Integration and Firm Boundaries: The Evidence, *Journal of Economic Literature*, 45(3), pp 629-685.

Massa M. (2003), How do Family Strategies Affect Fund Performance? When Performance-Maximization is not the Only Game in Town, *Journal of Financial Economics,* 67, pp 249-305.

Massa M., Rehman Z. (2008), Informational Flows within Financial Conglomerates: Evidence from the banks-mutual funds relation, *Journal of Financial Economics* 89, pp 288-306.

Massa M., Schumacher D. (2020), Information Barriers in Global Markets: Evidence from International Subcontracting Relationships, *Journal of Financial and Quantitative Analysis*, 55(6), pp 2037-2072.

Massa M., Simonov A. (2006), Hedging, Familiarity and Portfolio Choice, *Review of Financial Studies*, 19(2), pp 633-685.

Mehran H., Stulz R.M. (2007), The Economics of Conflicts of Interest in Financial Institutions, *Journal of Financial Economics* 85, pp 267-296.

Moreno D., Rodriguez R., Zambrana R. (2014), The Relevance of Portfolio Management Core Competencies in Outsourcing Decisions, Working Paper, University Carlos III.

Moreno D., Rodriguez R., Zambrana R. (2018), Management Subadvising in the Mutual Fund Industry, *Journal of Financial Economics*, 127(3), pp 567-587.

Nanda V., Wang Z J., Zheng L. (2004), Family Values and the Star Phenomenon: Strategies of Mutual Fund Families, *Review of Financial Studies*, 17(3), pp 667-698.

Otten R., Bams D. (2002), European Mutual Fund Performance, *European Financial Management*, 8(1), pp 75-101.

Prahalad C.K., Hamel G. (1990), The Core Competence of the Corporation, *Harvard Business Review*, 68(3), pp 79-93.

Quinn J.B. (1992), Intelligent Enterprise: *A Knowledge and Service Based Paradigm for Industry*, New York: Free Press.

Ramos S.B. (2009), The Size and Structure of the World Mutual Fund Industry, *European Financial Management*, 15(1), pp 145-180.

Reyes M.G., Grieb T. (1998), The External Performance of Socially-Responsible Mutual Funds, *American Business Review*, 16(1), pp 1-7.

Siggelkow N. (2003), Why Focus? A Study of Intra-Industry Focus Effects, *Journal of Industrial Economics* 51, pp 121-150.

Spector L.C., Mazzeo M. (1980), Probit Analysis and Economic Education, *Journal of Economic Education*, 11(2), pp 37-44.

Terza J.V. (2008), Two-Stage Residual Inclusion Estimation in Health Services, *Research and Health Economics*, 53(3), pp 1890-1899.

Tran Dieu L. (2015), "A Comparison of Bank Funds and Non-bank Funds in the French Mutual Fund Market", *Journal of Financial Services Research, 47(3).*