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# Unbundling the Expense Ratio: Hidden Distribution Costs in European Mutual Fund Markets

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## Abstract

*Using data on more than 5,000 mutual funds domiciled in four European countries in 2006, we investigate whether distribution costs embedded into the expense ratio can be held responsible for the differences of expense ratios of mutual funds in different countries. We confirm the existence of relevant country effects in the pricing of mutual fund management services. Comparing load and no-load funds and using survey data on fee retrocession to the distribution channel, we provide evidence that these effects are heavily influenced by the cost of the distribution embedded in the expense ratio.*

**Keywords:** *Mutual funds, expense ratios, distribution costs*

**JEL classification:** *G11; G23*

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## 1. INTRODUCTION

A recent empirical stylized fact documented by academic research on mutual fund fees is the presence of relevant country effects not fully explained by observable differences (such as size, concentration and maturity) in the national asset management industries. Khorana et al. (2009) show that, depending on the country where an investor lives, the price paid for a similar mutual fund can be 100 basis points higher or lower. The authors try to reconcile these differences showing that factors, such as the investor protection guaranteed by the national regulations and the sophistication of the average mutual fund investor, affect the cost of investing in mutual funds. They also find that less obvious factors (such as the concentration of the national banking industry) play a role. They finally show that these effects may persist even among highly integrated national financial systems, such as most of the European countries.

In this paper we argue that the analysis of these country effects is made harder by the fact that in many countries management and distribution costs are bundled together with production costs (portfolio management, administration, etc.) in a unique measure of annual operating expenses, the so-called “expense ratio”, and cannot be observed separately. Using a sample of 5,357 mutual funds registered in four European countries (France, Germany, Italy, and United Kingdom) in 2006, we confirm the existence of relevant country effects and show that they are largely due to differences in the national costs of mutual fund distribution services.

According to Cerulli Associates (2005), mutual funds in the four countries analyzed are sold through a significantly different mix of distribution channels: for example, independent financial advisors account for 47% of the market (measured on the total assets under management) in the UK, while they account only for 4% in the French market (9% in Italy and 11.4% in Germany). Similarly, the Italian market is found to be dominated by commercial banks that distribute 65% of the funds (but only 28.2% in France and 8% in UK). Lastly, charity/endowment organizations and

corporate divisions managing pension obligations account for 26% of the French market, but are absent in Italy and Germany.

Such a different channel mix is bound to generate different distribution costs regardless of what happens on the production side of the national asset management industries. Where distribution costs are paid separately from the expense ratio, we can easily compare production costs of mutual funds across different countries, but, when all the cost components are lumped together, it is harder to evaluate the ability of investment companies to produce managed portfolios competitively. This opacity is generated by the common practice in Europe to remunerate the sales channel not only through explicit one-time fees like front- and back-end loads, but also through the retrocession to the sales channel of a portion of the management fee. A periodic remuneration of the sales channel is not unknown in the US experience, but in that setting an explicit fee, the so called *12-b1* or “distribution” fee, is charged, whereas the same information is kept confidential in Europe.

As anecdotal evidence, it is interesting to mention that the Investment Funds Institute of Canada formally complained to the authors of Khorana et al. (2009) about the reported evidence of Canada having a more expensive asset management industry with respect to a large sample of other countries. Among other issues, the complaint stated that: *“Recent research conducted in the Canadian funds market showed that 85% of Canadian investors purchase their funds through an advisor [...] The greater use of advisors by Canadian investors compared to the United States leads to a very different mix of business and price structure.”* And also that: *“It is very rare in Canada for additional fees to be charged over and above the MER [expense ratio, authors’ note] by either the fund company or the advisor working with the client. This leads to very transparent net return performance reporting.”*<sup>1</sup> Both these comments explicitly suggest that expense ratios in different countries may incorporate distribution-related costs to a different extent and thus cannot be used to compare the production functions of asset managers in different countries.

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<sup>1</sup> Verbatim quotation taken from the authors’ response to the formal complaints of the Investment Funds Institute of Canada. The letter is available on Peter Tufano’s webpage at <http://www.people.hbs.edu/ptufano/IFIC.pdf>.

Our main hypothesis in this paper is that country effects are at least partially generated by a differential cost of distribution channels. While other papers hint at this possibility,<sup>2</sup> nobody so far has provided a formal test.

After having established and measured the country effects in our sample (both on the expense ratios and on a measure of total investment cost that considers also the one-time fees), we show how these effects are affected when we consider the sub-set of funds for which an explicit distribution fee is present. It is plausible that, whenever there is an explicit remuneration for the sales effort, the cost of the distribution channel will weigh less on the expense ratio of the fund. Lastly, we use survey data on the average retrocession paid by mutual fund companies to the sales channel in different European countries to estimate the portion of the expense ratio not influenced by distribution costs and show that, as these measures are taken into account, the country effects are greatly reduced.

Our empirical results relate to the debate concerning the disclosure issues relating to mutual fund costs. In fact, the existence of hidden costs and the lack of adequate transparency in the mutual funds' information on their fee structures call for the enforcement of new and enhanced regulation. The discussion is even more relevant in Europe because, in contrast to the US, where the SEC has harmonized the definition and the communication of mutual fund fees, no single definition of fees and expenses exists in Europe. To such extent, the IOSCO (2011) has recently set out some principles to provide guidance for markets and market authorities, requiring asset management participants to improve information and communication, including "*disclosures that inform the investor of the fundamental benefits, risks, terms and costs of the product and the remuneration and conflicts associated with the intermediary through which the product is sold*".

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<sup>2</sup> The correlation documented by Khorana et al. (2009) between the concentration of the banking sector in a country and the average cost of mutual funds, for example, can be interpreted as a signal that a reduced amount of competition between fund distributors affects country fixed effects.

The rest of the paper is organized as follows: Section 2 analyzes the main results of previous academic research on the determinants of mutual fund fees; Section 3 describes our sample; Section 4 estimates the country effects; Section 5 analyzes the relationship between country effects and distribution costs; Section 6 concludes.

## **2. MUTUAL FUND FEES: RELATED LITERATURE**

The expense ratio is the percentage of total fund assets used to cover expenses associated with the operation of a mutual fund. This amount is taken out of the fund's assets and lowers the return that fund holders achieve. Three major categories of mutual fund costs are included in a mutual fund's expense ratio: *i*) the management fee paid to the fund's investment company for the expenses incurred for providing services, such as the security research; *ii*) the distribution fees spent on advertising, marketing, and broker remuneration; and *iii*) a residual component that covers custodian, accounting, auditing and legal fees.

Previous research has highlighted a number of puzzles related to mutual fund fees. Gruber (1996) shows that, on average, expense ratios seem to be too high to be justified by the quality of the service provided, generating negative after-fee active returns. Christoffersen and Musto (2002), Hortaçsu and Syverson (2004), and Iannotta and Navone (2012) show that not only the mean value of the expense ratios is puzzling, but also their dispersion across the industry: investment companies seem to be able to charge very different fee levels for rather homogeneous products. Last but not least, Gil-Bazo and Ruiz-Verdú (2009) show that there is a negative relationship between expense ratios and fund gross returns, meaning a negative relationship between cost and quality of the service provided.

On the positive side, previous academic research has also identified a number of factors that do affect expense ratios in a meaningful way.

First of all, since some of fund expenses are fixed, there are potentially large economies of scale in the administration of mutual funds. In fact, several studies find a negative relationship between size (of the fund and of the fund complex) and operating costs (Ferris and Chance, 1987; Baumol et al., 1990; McLeod and Malhotra, 1994; Malhotra and McLeod, 1997; Dellva and Olson, 1998; Latzko, 1999; Rea et al., 1999; LaPlante, 2001). Hence, as the mutual fund industry is a competitive one, investment companies pass cost savings to investors through a reduction in the expense ratios. On a related note, Khorana et al. (2009) show that the expense ratio declines also as fund age increases. Hence, funds' operating costs seem to be affected by experience economies.

Of course, the price of a service is also influenced by the effective production cost so, as we should expect, expense ratios are also affected by portfolio turnover (Dellva and Olson, 1998) and funds that manage stocks where analysis costs are higher, for example small caps or growth stocks, also charge higher expense ratios (Iannotta and Navone, 2012).

A third relevant stream of literature deals with the fact that mutual funds could cater to different clienteles and thus charge different fees. Along this line, Hogue and Wellman (2007) argue that mutual funds use loads to segment customers with lower financial sophistication and charge higher expense ratios (the same empirical evidence, with slightly different interpretations, is provided, among others, by Zhao, 2005; Christoffersen et al., 2005; Bergstresser et al., 2009). Similarly, Christoffersen and Musto (2002) argue that mutual funds that cater to less performance-sensitive investors can charge higher fees.

Attention has also been devoted to the effect of the institutional nature of the investment company parent company. Frye (2001) finds that expense ratios of bond funds managed by investment companies that are part of a bank group charge lower fees, supposedly because they are able to cover part of the relationship management fixed cost through charges on cross-sold products. Drago et al. (2010) show that the bank/non bank nature of the investment company owner (and even the commercial/mutual banking nature) is relevant in determining the level of the management fee.

Up to this point, we mainly addressed issues related to the national level and, with few exceptions, all the quoted papers drew their conclusions looking at the US market. A recent contribution by Khorana et al. (2009) tries to measure and explain the factors that affect the average fee level of different mutual fund markets. Their results confirm, at the international level, the main intuitions of the previous US-based research in terms of scale economies and known clientele effects, but they also point out that factors at the national level (such as the concentration level in the banking industry, the strength of the judicial system, the age and the size of the asset management industry) can heavily affect mutual fund fees generating “country effects” worth more than 100 bps. In a previous paper, Ramos (2009) found that the annual average charge in European countries is twice that of the US, explaining these regional differences with (i) the lower economies of scale enjoyed by the European industry, (ii) the impact of the cost of distributions (in particular, EU Undertakings for Collective Investment in Tradable Securities (UCITS) distributed simultaneously in several countries are likely to present higher fees), and (iii) the existence of different fund and investment cultures, the fees of US funds being more transparent, subject to a closer inspection from regulators and media, thus more exposed to investor-driven competition. Finally, Cremers et al. (2015) find that the prevalence of explicitly indexed funds in a country is negatively related to fees charged to investors in active funds.

### **3. DATA**

In this experiment we use data of all mutual funds domiciled in Italy (*IT*), France (*FR*), Germany (*DE*), and United Kingdom (*UK*) for which Lipper – Thomson Reuters provides the 2006 total expense ratio (TER).

Cross-country analysis of mutual funds data can prove to be particularly tricky because of the lack of homogeneity of national data providers: funds could be grouped into different categories, performances could be reported according to different fiscal treatments and expense ratios could be



measured according to different accounting rules. This problem generates the need of a unique data provider able to guarantee data homogeneity for the whole sample.

Following Khorana et al. (2009), we consider Lipper – Thomson Reuters as the main source for our expense data. The data provider calculates for each fund an expense ratio based on information sourced from statutory reports and financial statements, taking into account all charges borne by the fund and not simply the management fees or what prescribed by the local regulation. This gives us a sample of comparable observations divided into homogeneous fund categories across multiple countries. Another well-known problem is that, to the best of our knowledge, none of the available databases provide reliable historical data on mutual fund characteristics such as loads, investment objectives and fund complexes. So, again following Khorana et al. (2009), we consider a cross-section of mutual funds. This, of course, reduces the scope of our research, as we cannot analyze the time dimension of fund costs. It is important to restate that this is a limitation intrinsic to a well-known data availability problem for the European mutual fund market where, to the best of our knowledge, no commercial database vendor has made available a dataset with historically accurate data on mutual fund characteristics. Research in this area either uses time series data on fund size and return and a snapshot of fund characteristics (see for example Drago et al., 2010) or simply consider a cross-section of data (as in Khorana et al., 2009).

Our data set consists of 5,150 funds, classified in five asset class categories (Bond, Equity, Hybrid, Money market and Other).<sup>3</sup>

Table 1 reports the number of funds and the total asset under management in the four countries in our sample together with the breakdown for asset class. France is the largest country in terms of number of funds (37% of the sample), while UK is the largest in terms of asset under management (32%). The share (based on asset under management) of funds belonging to the five asset class

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<sup>3</sup> Lipper provides different levels of categorization for mutual funds. In this paper we will consider the “Asset Class” and the “Lipper Global Fund Strategy”. According to the former, we can produce five groups and, according to the latter, 137. We will use Asset Classes to present our results and “Strategies” as fixed effects to control for strategy-level determinants of the expense ratios.

categories differs significantly across the four countries: in terms of asset under management the equity mutual funds are the largest category in all the countries, ranging from a share of 64% in the UK to 35.4% in Italy.

**[Insert Table 1 about here]**

Table 2 reports descriptive statistics for some relevant characteristics of the four mutual fund industries considered in the paper. We also test the significance of the differences between each of the three continental countries and the United Kingdom. Italian funds are, on average, significantly larger and younger than UK funds and are managed by larger investment companies. According to the theory, both size effects should generate lower expense ratios due to scale economies, while learning economies should play in the opposite direction. Interestingly, the smallest funds are the French ones, even if the average French investment company is quite large, significantly larger than the average UK one. The four countries also differ significantly in terms of percentage of load vs. no-load funds, with Italy being the country where front loads are less relevant (only 66% of the funds charge them, with a significantly lower average value of the load when charged). Conversely, the proportion of Italian funds with deferred loads is higher than the average (17.4% vs. 11.7%) and the average load is not statistically different from the average deferred load of UK funds, but is statistically higher than those charged by both French and German funds.

**[Insert Table 2 about here]**

It is interesting to note that there are significant differences between the four countries and that these differences are relevant for the determination of the average level of mutual fund fees. Part of the gross country effect will be thus due to these differences.

The four national markets considered in this paper also differ in terms of industry structure. Looking at statistics provided by EFAMA, the European Fund and Asset Management Association and Lipper FMI (see Table A1 in the Appendix), we observe, for example, that Germany has a much more concentrated industry than the UK (the top 5 asset managers account for 90% of asset under management in the first country, but only 35% in the second). We also notice that countries have a different mix of retail and institutional investors, with the former category accounting for 65% of asset under management in Italy, but only 23% in the UK.

Another interesting difference between the countries is the role of the banking sector in both the production and distribution sides of the industry. On the production side, we observe that 58% of the asset managers in Germany have a bank as parent company, while this percentage is much lower for the other three countries (34% for Italy, 23% for France, and 18% for the UK). On the distribution side, banks dominate the market in Italy (67% of AUM) and Germany (58%), while they have a marginal role in the UK (8.3%), where the market is dominated by independent financial advisors.

Albeit it is very difficult to link individual institutional characteristics to specific pricing effects, it is not impossible to see how some of the differences among these four European countries can lend support to our hypothesis that distribution costs are at least partially responsible for documented country effects in the pricing of mutual funds. For example, let us consider how advisory services (financial planning, asset allocation etc.) are priced under different institutional arrangements: independent financial advisors are usually remunerated by the investors via a specific advisory fee, while when mutual funds are distributed by the same bank that also owns the asset management company, it is more likely for the cost of these services to be bundled into the expense

ratio of the fund. Since from the data described in the Appendix we see that financial advisors represent more than half of the market in the UK but less than 10% in all the three continental European countries, it is easy to see how this institutional difference may lead to difference in the cost of similar mutual funds, with the continental products charging an higher expense ratio that will cover also the cost of the advisory service.

#### 4. EMPIRICAL EVIDENCE ON COUNTRY EFFECTS

In order to get a first impression on the possible existence of country effects, we look at the average level of expense ratios across countries and asset classes. Panel A of Table 3 shows that, when we consider UK as the reference case, the three continental countries exhibit some relevant differences: for example bond, hybrid and equity funds domiciled in Italy are significantly more expensive than their UK counterparts, whereas this is not true for money market funds. On the other hand, both Germany and France have lower costs for money market and bond funds.

A first possible criticism to this evidence is that the expense ratio is only one component of the cost of investing in mutual funds. In Table 2 we have seen that the use of front and deferred loads greatly varies across countries. We noticed, for example, that UK funds, with respect to the Italian ones, charge more often front loads and that the average charged load is higher.<sup>4</sup> The higher distribution costs could offset the expense ratio effect and in the end investing in mutual funds domiciled in Italy could still be a good deal.

In order to address this concern, we repeat all our analysis on a synthetic measure of “Total Investment Cost” (TIC) that will consider together the expense ratio and the loads. Following Khorana et al. (2009), we calculate this measure as:

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<sup>4</sup> The authors acknowledge that the load figure reported in the database is the highest possible fee and the percentage actually paid by the investors varies greatly with the amount invested (front loads) and the holding period of the mutual fund shares (deferred loads). Albeit this uncertainty will certainly weaken every conclusion that one may draw on load, there is no *a priori* reason to assume that a specific country bias may be introduced in our database.

$$TIC = TER + \frac{1}{5} Front + \frac{1}{5} \frac{Deferred}{(1 + r_f)^5}$$

where: *TER* is the fund total expense ratio;

*Front* is the front load charged by the fund;

*Deferred* is the deferred load charged by the fund;

$r_f$  is the risk-free rate of return.

Panel B of Table 3 reports the results of the univariate analysis of the total investment cost at the country/asset class level. We can see that now all three continental countries charge lower costs than UK for bond and hybrid funds, whereas Italy still charges more for equity funds, albeit the difference is greatly reduced.

**[Insert Table 3 about here]**

The calculation of a total investment cost measure that combines expense ratio and one-off sales fee is bound to involve some assumptions. Our measure has been structured following the prevailing literature, but we have to acknowledge that two factors are particularly critical: first of all, commercial databases report the maximum load but investment companies can decide to waive part of the sales charge. Specifically, front loads can be partially waived when the investment reaches a certain size and deferred loads can be waived when the fund has been held for a certain time. Different contributions in literature acknowledge this practice, but none provides specific frequencies or amounts waived,<sup>5</sup> so, following the previous literature, we consider the maximum

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<sup>5</sup> Gil-Bazo and Ruiz-Verdú (2009) say that “Funds often waive at least a fraction of the loads. Therefore, the loads typically reported in databases, such as the one we use in this paper, can often overestimate effective loads”. On the Italian mutual fund market, Drago et al. (2010) report that: “...almost half of the funds with a deferred load offer partial or full load waivers depending on the length of the stay in the fund. Most of the funds charging a front load offer either partial or full load waivers should the size of the subscription exceed a stated amount”.

load in our analysis, knowing that this represent the worst-case scenario for the investor. In this paper we measure country effects for both the total investment cost and the expense ratio. This last cost measure can be seen as an extreme case of total investment cost where all the loads are waived completely. The fact that we are able to document the existence of country effect, both when loads are completely waived or not waived at all, suggests that our results are not affected by these pricing policies.

A second problem is the choice of the specific investment horizon considered in the calculation of the TIC. Khorana et al. (2009) consider 5 years without any supporting empirical evidence. This number is somewhat consistent with the evidence of Barber et al. (2000), who report median values of annual sales turnover for mutual funds shares (on a sample of US households) of 16%, but is not fully coherent with the evidence in Sirri and Tufano (1998), who report an average holding period of equity funds in their data of 7 years. This same longer investment horizon is also used, more recently, by Khorana and Servaes (2012), who also do not report any supporting evidence. Focusing on our European countries, we have found evidence of a shorter investment horizon (around three years) both for Italy (see Rota, Giuliano, and Komarov, 2010; Rota and Giuliano, 2012) and for Germany (see Jank and Wedow, 2010). To assess the robustness of our results to the choice of the specific investment period, we replicate portions of our analysis considering alternative measures of total investment cost with investment horizon of 3 and 7 years.

### *Multivariate analysis*

The intrinsic weakness of this univariate analysis is that it does not take into account the differences of the four national mutual fund industries highlighted in Table 2, such as the average fund size, age, etc. In order to address this issue, we estimate a cross-sectional regression model where the dependent variable is the total expense ratio or the total investment cost and the independent variables are three country dummy variables for France, Germany, and Italy, with the

UK as the null case. In different versions of this model we sequentially add control variables in order to eliminate all the known structural factors that may affect the pricing of the mutual fund management services:

- In Model 1 we only control for fund strategy fixed effects, using the 137 Lipper Global Categories.<sup>6</sup>
- In Model 2 we also consider scale and experience economies, controlling for (the natural logarithm of) fund size (*SIZE*), investment company size (*ICSIZE*), and fund age (*AGE*).
- In Model 3 we add a series of dummy variables to capture the effects of different fund specificities. Namely, we consider index funds (*Index*), funds of funds (*FoF*), guaranteed funds (*Guaranteed*), funds that are sold also in multiple countries (*Sold Abroad*), and funds that are managed by an advisor external to the investment company (*Ext Adv*). In order to control for possible clientele effects, we also include a dummy variable for load funds (*Load*). Finally, in order to control for funds catering to institutional investors, we control for the (natural logarithm of) minimum investment in the fund (*Min Inv*).<sup>7</sup>
- In Model 4 we want to control for the mutual fund past performance in order to check if funds that provided a particularly good result in the past are able to capitalize this increased reputation by charging higher fee. Since our sample is made of very heterogeneous funds, we consider a very generic performance measure, such as the three year Sharpe ratio (*Sharpe*), measured on fund returns from 2003 to 2005.<sup>8</sup> In order to acknowledge the fact that funds that different asset classes can produce different remuneration for the risk, we normalize each fund ratio within the group of funds that invest in the same asset class, by subtracting the mean ratio and dividing by the standard deviation of the ratios.

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<sup>6</sup> Coefficients for these fixed effects are not reported in the paper but are available from the authors upon request.

<sup>7</sup> Our database does not distinguish between retail and institutional funds. Gil-Bazo and Ruiz-Verdú (2009) address a similar issue with a name-based identification. Their approach cannot be applied in our context: only 78 funds have the word “Institutional” or “Inst” in the name.

<sup>8</sup> In this model the number of observation drops to around four thousand, because we only consider funds that were operating since the beginning of 2003.

Table 4 reports the results for the four models on total expense ratios (Panel A) and total investment cost (Panel B). Looking at the country variable coefficients, we see that, once we control for mutual fund specificities, both Italy and France exhibit significant coefficients in term of TER, while all three continental markets show significant country effects on the total investment cost.

**[Insert Table 4 about here]**

Looking at the control variables, we see that our results almost always confirm the previous literature, showing positive economies of scale (negative coefficients on *SIZE* and *ICSIZE*) and positive clientele effects (positive coefficient on *Load*). The only difference is related to the *AGE* coefficient that is positive, showing negative learning economies. Given the purely cross-sectional nature of our experiment, we cannot really distinguish between an entrenchment effect, where well established funds can charge higher fee without losing the acquired clientele, and a cohort effect, where all funds created in a certain period charge higher fees.<sup>9</sup> The matter is further complicated by a positive correlation between the age and the size of mutual funds in our sample.

When we control for past performance we do not see any significant change in the estimated country effects and the coefficient for the performance variable is negative, confirming the idea, common in the previous literature, that higher expense ratios do not remunerate higher value generated for the investors (at least in terms of risk/return profile of the investment).

Using the UK as the neutral case in our regression allows us to test the significance of the difference in investment cost between this country and the continental European markets. In Table 5 we test the significance of the difference between all the couples of country coefficients (estimated with models a.3 and b.3 in Table 4). All the models are run using the UK as the neutral case. The

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<sup>9</sup> Drago et al. (2010) show that the fee structure depends on investors' perception of market risk and expected returns at the time of the fund's creation.



reported effects are the difference between the coefficient for the column country minus the coefficient for the row country (or minus zero in case of comparison vs. UK). The *F*-tests show us that all the differences, except for one, are significant for both TER (Panel A) and TIC (Panel B).

All the country effects have the same sign as in Khorana et al. (2009), with Italy being by far the most expensive of the four markets, followed by the UK. Also the size of the country effects is comparable: for example, we document 56 bps of difference for Italian funds (with respect to the France), whereas the authors report 44 bps (using a cross-section of data from 2002).

**[Insert Table 5 about here]**

County effects are generally stronger for TIC than for the TER. To test whether size and directionality of bilateral country effects for the total investment cost measure are affected by our assumption on the average holding period (5 years), we repeat this analysis considering a holding period of 3 year (Panel C) and 7 years (Panel D). All the bilateral country effects maintain the same size and significance, with the exception of the difference between Italy and the UK that is no longer significant when we consider the shorter holding period.<sup>10</sup>

## **5. COUNTRY EFFECTS AND THE COST OF DISTRIBUTION**

In their effort to justify the country effects, Khorana et al. (2009) come across some expected explanations, such as the quality of the judicial system (as a proxy of a general environment of investor protection) and the development stage of the asset management industry, and some less obvious ones, such as the concentration level of the banking system.

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<sup>10</sup> In an unreported analysis we estimate bilateral country effects using models a.4 and b.4 (of Table 4). Results are virtually indistinguishable.

As we have seen in the introduction, in many countries banks play a major role in the distribution of mutual funds. The evidence that the concentration in the banking industry is a factor in explaining the average level of fund fees leads us to a possible interpretation of the country effects as being the result of a differential distribution cost.

Alas, distribution cost for European funds cannot be observed in commercially available databases. Mutual funds are required to report the total expense ratio, but the percentage of the expense ratio that is paid back as remuneration to the distribution channel (retrocession or rebate) is usually not disclosed. In this paper we devise two experiments to indirectly test whether distribution costs could possibly be responsible for a significant part of the country effects.

#### *Load vs no-load funds*

The first experiment is based on the idea that for load funds the investment company charges a one-time fee, explicitly designed to remunerate the sales effort. Here we argue that, if country effects are at least partially due to different distribution costs, the size of these effects should be affected by the presence of an explicit remuneration for the distribution service. Running our cross-sectional regression over subsamples of load and no-load funds, as well as on the whole sample introducing interaction terms between the country and the load dummy variables would allow us to measure the effect of explicit sales fees on country effects.

A potential concern is that that load and no-load funds can differ along unobserved dimensions. If these factors also affect the expense ratios, our results could be indeed biased. Particularly troublesome is a possible different prevalence of retail (vs institutional) products among load and no-load funds. We address this issue in two different ways.

First of all, we include the (natural log of) minimum investment as an additional explanatory variable in our models. This variable should capture, at least partially, heterogeneity in fund fees due to different investment clienteles.

As a second robustness check, we run the previous analysis both on the whole sample and on the subsample of funds with minimum investment below the sample median (500 Euro). This subsample is more likely made of retail funds. Robustness of the results in this subsample would strengthen our hypothesis.

Results in Panel A of Table 6 clearly show that country effects of the three continental European markets versus the UK are different for load and no-load funds. Using the estimated coefficients, we can build all the bilateral country effects for load and no-load funds and we can test the hypothesis of equality of load and no-load country effects for each pair of countries. We compute these tests separately for models (1) and (2) in Panel B<sup>11</sup>, and for model (3) in Panel C.

The results largely confirm our hypothesis: 10 out of 12 estimations suggest that bilateral country effects significantly differ between load and no-load fund shares after controlling for other relevant characteristics. The fact that the presence of an explicit remuneration for the sales effort affects the difference between fund costs in two countries is a strong indicator that variation in pricing between different national markets is affected by the cost of the distribution channel. It is also worth noting that in the majority of cases the magnitude of the bilateral country effect is smaller when the sales effort is explicitly priced (load funds).

When we focus our attention on a more homogenous subsample of retail funds (proxied by a low minimum investment level) in Table 7, we observe similar results, with significantly different bilateral country effects between load and no-load funds in 9 cases out of 12.

Although not all bilateral comparisons are in line with the hypothesis that country effects should differ between load and no-load funds, overall, the results provide support for this hypothesis.

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<sup>11</sup> Since in models (1) and (2) we estimate separate equations for load and no-load funds, in performing tests for cross-correlation coefficient equality we use a seemingly unrelated estimation in order to allow for cross-equation error correlation.

These results are also coherent with some of the institutional analysis introduced in Section 3: the fact that no-load funds charge significantly higher expense ratios in Italy and Germany than in the UK is consistent with our idea that in countries where the asset management industry is dominated by banks that operate both production and distribution, the expense ratio remunerates both services, while in countries where distribution is dominated by independent financial advisors distribution services are remunerated via specific agreements between investor and advisor. Where the fee structure of the fund contains a specific remuneration for the distribution channel (load funds) these differences disappear because, under both institutional arrangements, distribution costs are not included in the expense ratio.

A possible concern with our results is that they could be affected by a different prevalence, between our four countries, of institutional funds among no-load investment vehicles. We acknowledge the fact that, due to the lack of a clear indicator variable for institutional funds in our database, we cannot completely rule out this alternative explanation, but at the same time our robustness checks suggest that our interpretation has some merit: we observe similar results for the subsample of funds with lower initial investment (Table 7), a subsample likely populated by retail funds. This control is far from definitive, but provides at least some support to our interpretation.

**[Insert Table 6 and Table 7 about here]**

### *Retrocessions*

So far we have shown that, whenever an explicit remuneration for the sales channel is charged, the differences among the expense ratios of the different countries become much less pronounced, and in some cases they disappear altogether. This is a first, albeit admittedly tentative, corroboration of our hypothesis.

For a second, and less indirect, experiment we rely on survey data on the retrocessions paid by investment companies in different countries. Cerulli Associates (2005) surveys more than 50 business units of cross-borders fund providers active in France, Germany, Italy, Spain, and the United Kingdom. A cross-border fund provider is defined as an entity selling fund into more than one European country without the benefit of a parent bank's organization or distribution networks. In order to reach retail investors these providers have to rely on local distribution channels, such as banks or networks of financial planners. Part of the survey focused on the type and level of distributors' remuneration: the respondents were asked to provide an indication of the value of the retrocessions paid to the distribution channels as a percentage of the total management fee. The reader should note that, even if in continental Europe the majority of the funds are managed by institutions who own a proprietary distribution channels (such as local banking groups), the results of the survey are still useful as they give a measure of the cost of an external distribution channel. For fund management companies who own a distribution channel this cost can either become a positional rent or be passed to the investor via a lower expense ratio. The positive correlation between expense ratios and the concentration of the national banking sector documented by Khorana et al. (2009) seems to support the former hypothesis.

Table 8 reports the results of the survey and shows a remarkable level of variation across different countries with Italy as the most expensive: a US-based fund manager would have to pay 110 basis points to an Italian distributor in order to gain access to Italian retail investors, compared to the 73 basis points he would have to pay to a UK institutions (or the 48 basis points that would be required by a French distributor).<sup>12</sup> In order to assess the representativeness of this sample, we confront the breakdown of the sample, in terms of type of investors (retail vs institutional) and in terms of distribution channels, with data on the four national markets from the European Fund and Asset Management Association (EFAMA, various issues), from Davis and Steil (2001), and from a recent PricewaterhouseCooper survey (PricewaterhouseCooper, 2012). We observe a very close match, both in terms of relative weight of retail vs institutional investors and in terms of distribution channels, for Italy and France. For the UK the Cerulli report does not report the breakdown for investor type but the channel composition is quite representative of the industry. The only concern is about Germany, where the Cerulli sample has an over-representation of retail funds and funds distributed through independent financial advisors. As in our analysis we measure all the bilateral country effects, the reader should exert some caution in the interpretation of the results involving the German market as they could be biased by the fact that data on the percentage of the management fee paid to the distribution channel is estimated on a non-representative sample.<sup>13</sup>

**[Insert**

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<sup>12</sup> Interestingly, a report of the Commission des Opérations de Bourse (the French stock market regulator) provides exactly the same figure (48%) as the average rebate percentage for the French mutual funds (see Commission des Opérations de Bourse, 2002).

<sup>13</sup> Estimation of country effects on a subsample of funds limited to the three countries for which the Cerulli sample is fully representative shows that the German data does not affect the estimation of the bilateral country effects for the other markets.

**Table 8 about here]**

Using these survey data, we can estimate the retrocession paid by each fund applying the appropriate country/asset class coefficient to the fund management fee, we can subtract these value from the expense ratio and get to an estimate of the “net expense ratio”, defined as the portion of the expense ratio retained by the investment company after paying the distribution channel. We can now measure country effect on the two logical components of the Total Investment Cost: Distribution Costs (defined as loads plus retrocessions) and the Net Expense Ratio as previously defined. Table 9 reports the results of our main regression for the TIC, its two sub-component and, for sake of completeness, a measure of net management fee defined as the value of the management fee minus the retrocession.<sup>14</sup> We can see that distribution costs account for more than 50% of the TIC country effects. In Table 10 we report all the bilateral country effects and we see that this statement is true in all cases except the France vs Germany country effect, where distribution costs “only” account for 28.5% of the total effect.<sup>15</sup>

While we still can observe country effect in the “production side” of the asset management industry, hinting at differences in the competition levels in this industry, we can certainly affirm that differences in distribution costs play a key role in explaining the evidence of Khorana et al. (2009) of relevant country effects in mutual fund costs.

**[Insert Table 9 about here]**

**[Insert Table 10 about here]**

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<sup>14</sup> In an unreported regression we also document the existence of country effects for the load component of distribution costs.

<sup>15</sup> As before, all the models are run using the UK as the neutral case. The reported effects are the difference between the coefficient for the column country minus the coefficient for the row country (or minus zero in case of comparison vs. UK).

As the decrease in the  $R^2$  of the models suggests, these results have to be taken with caution because we measure the retrocession paid by each fund using a country/asset class average estimate of the ratio between retrocession and management fee. Nonetheless, the fact that Italy, the country with the highest national effects is also the country that pays the highest retrocessions is a clear signal that part of the expense ratio (or total investment cost) gap is due to the cost of the distribution channel. This result is also consistent with the result of Khorana et al. (2009) regarding the positive correlation between the concentration in the banking sector and the average level of the expense ratios: in a less competitive system where few large banks dominate mutual fund distribution they can extract an higher portion of the value created in the mutual fund industry. Of course, for this to translate in an increase of the average expense ratio paid by investors it means that the banks more generally dominate the distribution of retail financial and saving products.

## 6. CONCLUSIONS

In this paper, using data on the mutual fund markets in four European countries in 2006, we confirm the existence of relevant country effects in the pricing of mutual fund management services both for expense ratio and for a synthetic total investment cost measure comprehensive of sales fees. We show that these gaps cannot be explained only looking at differences among the national asset management industries in terms of size, age, asset composition and a number of other observable factors that are likely to impact on the “production costs” of the managed portfolios.

We provide evidence that these effects are heavily influenced by the cost of the distribution channels embedded in the expense ratio. In fact, we show that, once we consider the mutual funds for which explicit sales channel remuneration is charged (load funds), the country effects are different and tend to be smaller. We further support this hypothesis using survey data on retrocessions paid by investment companies in different European countries: we estimate the



country effects on a measure of expense ratio net of the estimated retrocession and see that they are again greatly reduced.

Albeit we cannot link these effects to specific institutional factors, we argue that the differences between the asset management industries of the four countries can explain some of our results. Specifically, the fact that in some countries the industry is dominated by actors (usually large banks) that provide both production and distribution, while in other distribution is dominated by independent financial advisors, leads to a situation where expense ratios are different because they remunerate different sets of activities.

We think that a main conclusion can be drawn from these results: the bundling into the expense ratio of management and distribution costs decrease the transparency in the system, making it very hard to understand to which extent higher costs for similar services are generated by expensive production or expensive distribution of fund management services. We argue that the inclusion in fund prospectuses and reports of an explicit compensation for the distribution channel, either one-time (loads) or periodical (like the 12-b1 fee in the US experience), would be beneficial to the system: first of all, this would be pre-requisite for the creation of multiple share classes targeted to different distribution channels, and, secondly, it will also provide an incentive to create low-cost sales channels for mutual fund shares: if the client cannot evaluate the cost of the distribution service, he or she will also be unable to judge if this cost is coherent with the quality of the service provided and if there may be any convenience in moving to a cheaper channel. We think that the presence of multiple channels segmented along the cost/service intensity dimension would increase the participation of households in the mutual fund industry. Our conclusions strongly support recent views expressed by the International Organization of Securities Commissions (see IOSCO, 2011), which has explicitly advocated for greater transparency in mutual funds charges and commissions, enabling retail investors to better compare the costs of investing, thus generating a potential for downward pressure on prices, possibly encouraging investors to save.

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## APPENDIX

In this appendix we document a number of differences between the four national mutual fund industries using data from EFAMA, the European Fund and Asset Management Association and Lipper FMI. Using data from EFAMA's Annual Reports, 2006-2013 (*Asset Management in Europe: Facts and Figures*), and Lipper FMI data digest, 2007 and 2010, we look at the structure of the industries in terms of number of asset managers, concentration and type of investors (Panel A) and in terms of legal origin of asset managers and relevance of the different distribution channels (Panel B).

**Table A1**  
**Main Characteristics of the National Mutual Fund Industries**

The table reports the summary characteristics of the mutual fund industries in France, Germany, Italy, and UK. Panel A looks at the industry size (in terms of number of asset management companies), the concentration (measured as the market share of the top 5 asset managers), and the share of mutual fund's assets held by retail investors. Panel B looks at the share of asset management companies belonging to banking and insurance groups and the relevance of the various distribution channels.

**Panel A**

	Number of asset management firms	Market share of the top 5 asset management firms (%)	AUM retail investors' market share (%)
<b>France</b>	599	50	34%
<b>Germany</b>	293	90	42%
<b>Italy</b>	283	69**	65%
<b>UK</b>	191*	35	23%
<i>Source</i>	<i>EFAMA</i>	<i>EFAMA</i>	<i>EFAMA</i>

\* Refers to the members of the trade association

\*\* Refers to managers of discretionary mandates only

**Panel B**

	Classification of the asset management firms by parent group categories (%)			Market share by distribution channel (%)					
	Banking	Insurance	Other/Independent	Banks	IFA/TFA	Insurance firms	Direct	Platform-based	Other
<b>France</b>	23	7	70	32.2	8.3	13.5	0.5	0.3	45.2
<b>Germany</b>	58	12	30	57.9	7.4	16.4	0.2	0.5	17.6
<b>Italy</b>	34	15	51	67.3	6.0	13.5	0.2	0.3	12.7
<b>UK</b>	18	15	67	8.3	55.6	12.4	0.5	1.5	21.7
<i>Source</i>	<i>EFAMA</i>			<i>Lipper FMI</i>					

**Table 1**  
**Sample Composition in terms of Number of Funds**

The table reports, for the four countries in our sample, the total number of funds analyzed, the assets under management (in bn of euros), and the breakdown for asset class based on fund sizes.

Country	Number of Funds	Asset Under Management	Asset Class Breakdown				
			Bond	Equity	Hybrid	Money Market	Other
<b>IT</b>	580	250.92	27.1%	35.4%	30.8%	5.5%	1.2%
<b>FR</b>	1,887	419.23	15.5%	38.3%	19.9%	15.9%	10.4%
<b>DE</b>	1,015	323.77	20.1%	43.4%	25.3%	4.2%	6.9%
<b>UK</b>	1,668	470.03	14.5%	64.0%	17.5%	1.4%	2.5%
<b>Total</b>	<b>5,150</b>	<b>1,463.95</b>	<b>17.4%</b>	<b>47.3%</b>	<b>21.4%</b>	<b>7.7%</b>	<b>6.1%</b>

**Table 2**  
**Descriptive Statistics**

The table reports, for the four countries in our sample, the mean fund size and age, the mean Investment Company size (in terms of assets under management), the proportion of the funds that charge front or deferred loads, and the average value of the load (for the subsample of funds with the corresponding load). For the three continental countries all the mean value, are tested against UK. The *t*-statistics for the tests are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

Country	Size	Age	IC Size	Front Loads		Deferred Loads	
				% of Funds	Mean	% of Funds	Mean
<b>IT</b>	431.1*** (3.300)	9.6*** (-7.422)	13,207.9*** (5.078)	66.0%	2.5*** (-33.490)	17.4%	3.1 (0.698)
<b>FR</b>	222.2*** (-2.773)	9.9*** (-7.419)	14,980.5*** (10.868)	84.4%	2.9*** (-40.135)	19.2%	1.9*** (-4.190)
<b>DE</b>	319 (1.200)	11.2** (-2.313)	16,168.5*** (11.553)	92.1%	4.2*** (-15.366)	7.6%	2.3** (-2.308)
<b>UK</b>	281.8	12.0	8,816.8	87.4%	5.1	3.7%	2.9
<b>Total</b>	<b>284.2</b>	<b>10.8</b>	<b>13,018.8</b>	<b>84.8%</b>	<b>3.91</b>	<b>11.7%</b>	<b>2.27</b>

**Table 3**  
**Univariate Analysis of Total Expense Ratios**

The table reports the mean expense ratios (Panel A) and the mean Total Investment Cost (Panel B) of funds with different investment objective for the four countries in our sample. Total Investment Cost is calculated as the sum of the expense ratios, one fifth of front-end loads and the present value of one fifth of deferred loads. For the three continental countries the mean values are tested against UK. The *t*-statistics for the tests are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

<b>Panel A: Total Expense Ratios</b>					
<b>Country</b>	<b>Bond</b>	<b>Equity</b>	<b>Hybrid</b>	<b>Money Market</b>	<b>Other</b>
<b>IT</b>	1.126*** (5.195)	2.000*** (15.603)	1.464*** (6.113)	0.618 (-0.159)	1.224 (-1.239)
<b>FR</b>	0.756*** (-5.362)	1.408 (-1.035)	1.124 (-0.562)	0.459*** (-3.018)	1.057** (-2.494)
<b>DE</b>	0.812*** (-3.730)	1.406 (-1.007)	1.241** (2.099)	0.576 (-0.858)	1.221 (-1.328)
<b>UK</b>	0.939	1.435	1.147	0.629	1.429
<b>Total</b>	<b>0.883</b>	<b>1.470</b>	<b>1.212</b>	<b>0.495</b>	<b>1.146</b>

<b>Panel B: Total Investment Cost</b>					
<b>Country</b>	<b>Bond</b>	<b>Equity</b>	<b>Hybrid</b>	<b>Money Market</b>	<b>Other</b>
<b>IT</b>	1.447*** (-3.695)	2.498*** (3.213)	1.92*** (-3.476)	0.695 (-0.904)	1.541* (-2.192)
<b>FR</b>	1.149*** (-9.512)	2.015*** (-9.975)	1.685*** (-8.398)	0.649 (-1.475)	2.061 (-0.026)
<b>DE</b>	1.419*** (-4.572)	2.269* (-1.910)	2.078 (-1.160)	0.685 (-1.064)	2.134 (0.369)
<b>UK</b>	1.677	2.342	2.145	0.798	2.065
<b>Total</b>	<b>1.404</b>	<b>2.246</b>	<b>1.937</b>	<b>0.665</b>	<b>2.066</b>

**Table 4**  
**Multivariate Analysis**

The table reports the results of a multivariate analysis of expense ratios (Panel A) and Total Investment Costs (Panel B). Total Investment Costs are calculated as the sum of the expense ratios, one fifth of front-end loads and the present value of one fifth of deferred loads. As control variables we use the (natural logarithm of) fund size (*SIZE*) and age (*AGE*), and investment company size (*ICSIZE*), as well as a series of dummy variables for index funds (*Index*), funds of funds (*FoF*), guaranteed funds (*Guaranteed*), load funds (*Load*), funds sold in multiple countries (*Sold Abroad*), funds managed by advisors external to the investment company (*Ext Adv*), and the (natural log of) minimum investment in the fund (*Min Inv*). In models a.4 and b.4 we also control, for the subsample of funds active since January 2003, also for the Sharpe ratio of the fund (*Sharpe*) from 2003 to 2005 (normalized within the group of funds active in the same asset class of securities). All models also include fund strategy fixed effects. The *t*-statistics for the estimated coefficients are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

	Panel A: Expense Ratios				Panel B: Total Investment Cost			
	a.1	a.2	a.3	a.4	b.1	b.2	b.3	b.4
Constant	1.201*** (59.275)	2.773*** (25.330)	2.902*** (25.765)	2.665*** (23.420)	2.106*** (79.018)	3.954*** (28.849)	3.291*** (24.843)	3.038*** (22.292)
IT	0.333*** (10.514)	0.373*** (12.316)	0.393*** (13.420)	0.409*** (12.679)	-0.108** (-2.531)	-0.062 (-1.510)	0.112*** (3.146)	0.136*** (3.396)
FR	-0.074** (-2.450)	-0.063** (-2.273)	-0.173*** (-5.835)	-0.132*** (-4.039)	-0.416*** (-10.755)	-0.397*** (-11.026)	-0.447*** (-12.763)	-0.411*** (-10.571)
DE	-0.005 (-0.144)	0.051* (1.757)	-0.061** (-2.136)	-0.034 (-1.153)	-0.110*** (-2.698)	-0.039 (-1.064)	-0.147*** (-4.426)	-0.115*** (-3.270)
SIZE		-0.035*** (-7.337)	-0.034*** (-7.254)	-0.025*** (-4.944)		-0.040*** (-6.289)	-0.037*** (-6.658)	-0.027*** (-4.493)
ICSIZE		-0.046*** (-10.101)	-0.049*** (-11.034)	-0.048*** (-9.948)		-0.052*** (-8.590)	-0.054*** (-9.702)	-0.052*** (-8.737)
AGE		0.043*** (4.201)	0.024** (2.524)	0.036*** (2.722)		0.022 (1.597)	0.015 (1.302)	0.016 (1.013)
Index		-0.633*** (-20.407)	-0.631*** (-19.568)	-0.613*** (-17.655)		-0.904*** (-20.402)	-0.753*** (-19.886)	-0.733*** (-17.653)
FoF			-0.211*** (-9.819)	-0.202*** (-7.857)			-0.253*** (-9.610)	-0.240*** (-7.905)
Guarantee			0.085 (1.242)	0.023 (0.242)			0.333*** (2.935)	0.424** (2.231)
Sold Abroad			0.059*** (2.738)	0.061*** (2.647)			0.089*** (3.186)	0.098*** (3.418)
Load			0.154*** (7.904)	0.136*** (6.356)			0.879*** (35.991)	0.849*** (31.618)
Ext Adv			0.133*** (7.157)	0.086*** (4.380)			0.189*** (8.589)	0.134*** (5.580)
Min Inv			-0.023*** (-11.446)	-0.017*** (-7.370)			-0.016*** (-6.083)	-0.009*** (-3.228)
Sharpe Index				-0.029*** (-3.541)				-0.033*** (-2.707)
Strat. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	5,150	5,150	5,150	4,014	5,150	5,150	5,150	4,014
Adj. R <sup>2</sup>	0.353	0.434	0.477	0.497	0.394	0.461	0.590	0.609

**Table 5**  
**Bilateral Country Effects**

The table reports the F-test for the significance of the bilateral country effects, measured as difference between the relevant country fixed effects from model(s) 3 in Table 4. Models are run using the UK as the neutral case. The reported effects are the difference between the coefficient for the column country minus the coefficient for the row country (or minus zero in case of comparison vs. UK). Panel A looks at differences between Total Expense Ratios. The remaining three panels look at differences between total investment costs calculated with different holding periods (5, 3, and 7 years). The F-statistics for the equality tests are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

<b>Panel A: Expense Ratio</b>				<b>Panel B: Total Investment Cost (H.P. 5 Y)</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>		<b>Italy</b>	<b>France</b>	<b>Germany</b>
<b>France</b>	0.566*** (455.211)			<b>France</b>	0.559*** (286.860)		
<b>Germany</b>	0.454*** (342.496)	-0.112*** (28.614)		<b>Germany</b>	0.258*** (68.782)	-0.301*** (141.456)	
<b>UK</b>	0.393*** (180.099)	-0.173*** (34.042)	-0.061** (4.560)	<b>UK</b>	0.112*** (9.897)	-0.447*** (162.883)	-0.147*** (19.589)
<b>Panel C: Total Investment Cost (H.P. 3 Y)</b>				<b>Panel D: Total Investment Cost (H.P. 7 Y)</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>		<b>Italy</b>	<b>France</b>	<b>Germany</b>
<b>France</b>	0.559*** (177.957)			<b>France</b>	0.559*** (345.567)		
<b>Germany</b>	0.136*** (11.494)	-0.424*** (180.813)		<b>Germany</b>	0.311*** (121.718)	-0.248*** (113.294)	
<b>UK</b>	-0.100 (2.249)	-0.626*** (212.668)	-0.202*** (25.301)	<b>UK</b>	0.188*** (33.360)	-0.371*** (129.636)	-0.123*** (15.735)



**Table 6**  
**Country Effects and the Use of Loads**

The table reports the results (and t-statistics in parentheses) of a multivariate analysis of expense ratios for the whole sample of funds (Panel A). We consider separately the subsamples of load [model (1)] and no-load [model (2)] funds, while model (3) considers the whole sample including an interaction term between country and load dummy variables. In Panel B and Panel C we use these estimations to calculate all the bilateral country effects for load and no-load funds and we test the null hypothesis that county effects are the same for load funds compared with no-load funds. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

Panel A			
	(1) Load	(2) No-load	(3) Whole
Constant	3.207*** (26.002)	1.638*** (5.007)	2.721*** (22.667)
IT	0.353*** (10.808)	0.815*** (8.671)	0.616*** (12.650)
FR	-0.171*** (-5.467)	0.105 (0.913)	0.033 (0.595)
DE	-0.085*** (-2.800)	0.419*** (4.056)	0.321*** (5.343)
IT×Load			-0.259*** (-5.287)
FR×Load			-0.217*** (-4.449)
DE×Load			-0.414*** (-6.995)
SIZE	-0.031*** (-6.076)	-0.058*** (-5.589)	-0.032*** (-7.008)
ICSIZE	-0.055*** (-11.340)	-0.003 (-0.263)	-0.050*** (-11.167)
AGE	0.018* (1.748)	0.104*** (4.092)	0.025*** (2.654)
Index	-0.714*** (-18.298)	-0.146* (-1.848)	-0.593*** (-17.720)
FoF	-0.230*** (-10.004)	-0.091 (-1.421)	-0.211*** (-9.752)
Guarantee	0.110 (1.397)	-0.191*** (-3.489)	0.079 (1.150)
Sold Abroad	0.067*** (3.018)	0.016 (0.208)	0.048** (2.233)
Ext Adv	0.131*** (6.458)	0.159*** (3.003)	0.137*** (7.372)
Min Inv	-0.022*** (-9.319)	-0.025*** (-5.246)	-0.023*** (-11.255)
Load			0.338*** (8.855)
Strat. FE	Yes	Yes	Yes
No. of obs.	4,395	755	5,150
Adj. R <sup>2</sup>	0.444	0.592	0.483

(Panel B in next page)

(Table description in previous page)

<b>Panel B: Estimations from models (1) and (2) in Panel A</b>					
<b>Countries</b>	<b>Load</b>	<b>No Load</b>	<b>Difference</b>	<b>Chi-2</b>	<b>P-Val</b>
Italy vs UK	0.353	0.815	-0.462***	24.419	0.000
France vs UK	-0.171	0.105	-0.277**	6.091	0.014
Germany vs UK	-0.085	0.419	-0.503***	24.877	0.000
France vs Italy	-0.524	-0.710	0.185***	7.916	0.005
Germany vs Italy	-0.438	-0.396	-0.041	0.515	0.473
Germany vs France	0.087	0.313	-0.226***	16.826	0.000

  

<b>Panel C: Estimations from model (3) in Panel A</b>					
	<b>Load</b>	<b>No Load</b>	<b>Difference</b>	<b>T-stat</b>	<b>P-Val</b>
Italy vs UK	0.357	0.616	-0.259***	-5.287	0.000
France vs UK	-0.185	0.033	-0.217***	-4.449	0.000
Germany vs UK	-0.093	0.321	-0.414***	-6.995	0.000
France vs Italy	-0.542	-0.583	0.042	0.972	0.331
Germany vs Italy	-0.450	-0.295	-0.155***	-2.859	0.004
Germany vs France	0.092	0.288	-0.197***	-3.803	0.000

**Table 7****Country Effects and the Use of Loads for Funds with Low Minimum Investment**

The table reports the results of a multivariate analysis of expense ratios for the subsample of funds with minimum investment below 500 Euro (Panel A). We consider separately the subsamples of load [model (1)] and no-load [model (1)] funds, while model (3) considers the whole sample including an interaction term between country and load dummy variables. In Panel B and Panel C we use these estimations to calculate all the bilateral country effects for load and no-load funds and we test the null hypothesis that county effects are the same for load funds compared with no-load funds. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

<b>Panel A</b>			
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
	<b>Load</b>	<b>No-load</b>	<b>Whole</b>
Constant	3.023*** (17.729)	2.181*** (4.373)	2.874*** (17.005)
IT	0.339*** (6.720)	0.537*** (4.900)	0.457*** (6.509)
FR	0.056 (0.984)	-0.415** (-2.495)	0.011 (0.140)
DE	-0.028 (-0.550)	0.200 (1.427)	0.383*** (4.046)
IT×Load			-0.100 (-1.382)
FR×Load			-0.002 (-0.027)
DE×Load			-0.425*** (-4.445)
SIZE	-0.017** (-2.524)	-0.055*** (-4.423)	-0.021*** (-3.456)
ICSIZE	-0.064*** (-9.591)	-0.013 (-0.677)	-0.063*** (-10.097)
AGE	-0.032** (-2.141)	0.110*** (3.377)	-0.014 (-1.006)
Index	-0.678*** (-13.486)	-0.333*** (-2.747)	-0.614*** (-14.103)
FoF	-0.249*** (-7.472)	-0.138 (-1.544)	-0.229*** (-7.377)
Sold Abroad	0.008 (0.235)	-0.172* (-1.731)	-0.014 (-0.405)
Ext Adv	0.031 (0.984)	0.018 (0.234)	0.046 (1.595)
Min Inv	0.025*** (4.672)	-0.050*** (-3.702)	0.016*** (3.187)
Load			0.124** (1.984)
Strat. FE	Yes	Yes	Yes
No. of obs.	2292	441	2733
Adj. R <sup>2</sup>	0.493	0.606	0.515

*(Panel B in next page)*

(Table description in previous page)

<b>Panel B: Estimations from models (1) and (2) in Panel A</b>					
	<b>Load</b>	<b>No Load</b>	<b>Difference</b>	<b>Chi-2</b>	<b>P-Val</b>
Italy vs UK	0.339	0.537	-0.197*	3.200	0.074
France vs UK	0.056	-0.415	0.471***	8.673	0.003
Germany vs UK	-0.027	0.200	-0.227*	2.807	0.094
France vs Italy	-0.283	-0.952	0.669***	33.894	0.000
Germany vs Italy	-0.367	-0.337	-0.03	0.110	0.740
Germany vs France	-0.084	0.615	-0.699***	51.712	0.000

  

<b>Panel C: Estimations from model (3) in Panel A</b>					
	<b>Load</b>	<b>No Load</b>	<b>Difference</b>	<b>T-stat</b>	<b>P-Val</b>
Italy vs UK	0.357	0.457	-0.099	-1.380	0.168
France vs UK	0.010	0.011	-0.002	-0.024	0.981
Germany vs UK	-0.042	0.383	-0.425***	-4.441	0.000
France vs Italy	-0.348	-0.445	0.098*	1.944	0.052
Germany vs Italy	-0.399	-0.074	-0.325***	-4.023	0.000
Germany vs France	-0.051	0.372	-0.423***	-5.363	0.000

**Table 8****Average Retrocession by Country and Asset Class**

The table reports the results of a survey conducted by Cerulli Associates on the retrocessions paid by mutual fund providers to local distribution channels in the countries covered in this study. The cost is reported as a percentage of the management fee and in basis points (in parentheses).

	<b>Average Retrocession Paid to Distributor as % of Management Fee (and in bps)</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>	<b>UK</b>
<b>International Equity</b>	58.2% (110)	48.0% (48)	47.0% (54)	51.5% (73)
<b>Domestic Equity</b>	60.8% (111)	47.5% (46)	45.2% (50)	53.1% (73)
<b>International Bond</b>	60.1% (69)	48.6% (28)	49.9% (36)	51.5% (53)
<b>Domestic Bond</b>	62.4% (69)	48.2% (27)	45.6% (32)	53.1% (53)
<b>Hybrid</b>	60.3% (92)	47.9% (55)	47.6% (44)	51.9% (68)
<b>Money Market</b>	52.8% (37)	35.6% (19)	38.3% (12)	39.4% (20)

**Table 9**  
**Country Effect on Different Cost Measures**

The table reports the results of a multivariate analysis of Total Investment Costs (1); Distribution Costs (2), measured as annual load charges plus retrocessions; Net Expense Ratio (3), measured as expense ratio minus retrocessions; and Net Management Fees (4), measured as management fees minus retrocessions. As control variables we use the (natural logarithm of) fund size (*SIZE*) and age (*AGE*), and investment company size (*ICSIZE*), as well as a series of dummy variables for index funds (*Index*), funds of funds (*FoF*), guaranteed funds (*Guaranteed*), load funds (*Load*), funds sold in multiple countries (*Sold Abroad*), and funds managed by advisors external to the investment company (*Ext Adv*). We also control for the minimum investment in the fund (*Min Inv*) as a proxy for different investors' clienteles (Institutional vs Retail). All models also include fund strategy fixed effects. The t-statistics for the estimated coefficients are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
	Total Investment Cost	Distribution Costs	Net Expense Ratio	Net Management Fee
Constant	3.291*** (24.843)	1.278*** (14.382)	2.013*** (23.411)	0.904*** (16.273)
IT	0.112*** (3.146)	0.064** (2.447)	0.048** (2.131)	0.106*** (8.441)
FR	-0.447*** (-12.763)	-0.286*** (-12.403)	-0.162*** (-6.801)	0.105*** (7.320)
DE	-0.147*** (-4.426)	-0.200*** (-9.614)	0.053** (2.312)	0.012 (1.009)
SIZE	-0.037*** (-6.658)	-0.008** (-2.004)	-0.029*** (-7.647)	-0.005** (-2.121)
ICSIZE	-0.054*** (-9.702)	-0.018*** (-4.625)	-0.036*** (-10.284)	-0.015*** (-6.493)
AGE	0.015 (1.302)	0.008 (0.978)	0.007 (0.949)	0.018*** (3.472)
Index	-0.753*** (-19.886)	-0.399*** (-14.171)	-0.354*** (-15.281)	-0.290*** (-13.086)
FoF	-0.253*** (-9.610)	-0.034* (-1.725)	-0.219*** (-12.053)	0.015 (1.460)
Guarantee	0.333*** (2.935)	0.358*** (3.476)	-0.025 (-0.464)	0.121** (2.189)
Sold Abroad	0.089*** (3.186)	0.030 (1.468)	0.060*** (3.969)	-0.000 (-0.028)
Load	0.879*** (35.991)	0.847*** (50.851)	0.032** (2.493)	0.107*** (9.968)
Ext Adv	0.189*** (8.589)	0.093*** (6.095)	0.096*** (6.098)	0.040*** (4.919)
Min Inv	-0.016*** (-6.083)	-0.002 (-1.027)	-0.014*** (-8.783)	-0.010*** (-9.276)
Strat. FE	Yes	Yes	Yes	Yes
No. of obs.	5,150	5,150	5,150	5,150
Adj. R <sup>2</sup>	0.590	0.598	0.330	0.372

**Table 10****Bilateral Country Effects on Distribution and Non-Distribution Costs**

The table reports the F-test for the significance of the bilateral country effects measured as difference between the relevant country fixed effects from models (2) (Panel A), (3) (Panel B) and (4) (Panel C) in Table 9. Models are run using the UK as the neutral case. The reported effects are the difference between the coefficient for the column country minus the coefficient for the row country (or minus zero in case of comparison vs. UK). In parenthesis we also report the ratio between each specific country effect and the same country effect measured on Total Investment Cost. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10%, respectively.

<b>Panel A: Distribution Costs</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>
<b>France</b>	0.349*** (62.5%)		
<b>Germany</b>	0.264*** (102.1%)	-0.086*** (28.5%)	
<b>UK</b>	0.064** (57.0%)	-0.286*** (63.9%)	-0.2*** (136.5%)
<b>Panel B: Net Expense Ratio</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>
<b>France</b>	0.210*** (37.5%)		
<b>Germany</b>	-0.005 (-2.1%)	-0.215*** (71.5%)	
<b>UK</b>	0.048** (43.0%)	-0.162*** (36.1%)	0.053** (-36.5%)
<b>Panel C: Net Management Fee</b>			
	<b>Italy</b>	<b>France</b>	<b>Germany</b>
<b>France</b>	0.001 (0.2%)		
<b>Germany</b>	0.094*** (36.4%)	0.093*** (-31.0%)	
<b>UK</b>	0.106*** (94.8%)	0.105*** (-23.5%)	0.012 (-8.2%)