

Mutual Fund Fees Around the World

Ajay Khorana

Citigroup Global Markets Inc. and Georgia Institute of Technology

Henri Servaes

London Business School, CEPR and ECGI

Peter Tufano

Harvard Business School and NBER

Using a new database, we study fees charged by 46,580 mutual fund classes offered for sale in 18 countries, which account for about 86% of the world fund industry in 2002. We examine management fees, total expense ratios, and total shareholder costs (including load charges). Fees vary substantially across funds and from country to country. To explain these differences, we consider fund, sponsor, and national characteristics. Fees differ by investment objectives: larger funds and fund complexes charge lower fees; fees are higher for funds distributed in more countries and funds domiciled in certain offshore locations (especially when selling into countries levying higher taxes). Substantial cross-country differences persist even after controlling for these variables. These remaining differences can be explained by a variety of factors, the most robust of which is that fund fees are lower in countries with stronger investor protection. (*JEL* G2, L11)

For investors, mutual fund fees are the price paid for investment management, distribution, and other services; for financial service firms, they generate revenue. Fees are important for both groups. Higher fees depress investment performance (Carhart, 1997) while increasing fund companies' profitability.

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There is increasing public attention paid to fund fees in the United States, Canada, and elsewhere. In the United States, recent legal settlements have been accompanied by fee reductions, and a spate of lawsuits allege that fund managers and fund trustees breached fiduciary duties by approving fees to retail investors that are excessive.¹ However, to assess whether any country's fees are too high, it is useful to put its fees into a global perspective. We provide this global perspective by studying the mutual fund fees charged to investors in 18 countries in 2002. Our sample consists of 46,580 mutual fund classes with assets in excess of \$10 trillion, covering about 86% of the \$11.3 trillion in funds sold worldwide in 2002 (Investment Company Institute, 2006).

While the mutual fund structure is comparable from country to country, their fees vary around the globe. For example, in 2002, the asset-weighted average expense ratio for equity funds worldwide was 1.29%, ranging from 1.05% in Belgium and 1.11% in the United States to 1.92% in Italy and 2.56% in Canada, and fee variation at the fund level is even more pronounced. We systematically relate these fee differences to fund, sponsor (fund complex), and national characteristics. We find that fees differ by objective type (e.g., equities versus money market), by clientele type (e.g., institutional versus retail) and with various measures of fund and sponsor scale. Yet even after controlling for these factors, there are differences across countries, which we relate to varying regulation, supply, and demand. Some countries have stronger legal systems and regulations that more explicitly protect investor rights. Some countries house larger industries. Some countries have wealthier and more educated populations. Some countries, like the United States or Canada, effectively close their borders to funds domiciled in other countries. In contrast, European nations have open borders, enabling foreign fund promoters to more easily offer funds in many countries. Many of these imported funds are located in international fund centers, such as Luxembourg and Dublin or various island domiciles, such as the Cayman Islands. We relate fees to these characteristics.

Our work on mutual fund fees builds on a relatively small literature on the expenses charged for fund management, especially outside of the United States.² Extant studies tend to focus on one or a few countries. Baumol et al. (1980) document economies of scale in the US mutual fund industry, and Dermine and Röller (1992) study economies of scale for French funds. Ruckman (2003) compares fees in the United States and Canada and finds that Canadian funds are considerably more expensive. Otten and Bams (2002) find a negative influence of fees on European mutual fund performance in five countries (i.e., France, Italy, Germany, Netherlands, and the UK). Franks, Schaefer,

¹ Freeman and Brown (2001) argue that fund management companies pass few of the savings accruing from economies of scale to their clients. For news coverage of fee reductions and litigation over fees, see Murphy (2005), Caffrey (2004).

² A few practitioner articles contain descriptive statistics on fund expenses in various countries. See, for example, Moulton and Moisson (2001) for statistics on fund fees across a number of European countries, and Lipper (2005) for a comparison of mutual fund expenses in the United States, the UK, and other European countries.

and Staunton (1998) compare the direct regulatory costs for the investment management industry across three countries. They find that the costs in the UK are twice as high as in the United States and four times as high as in France. While informative, these studies do not allow for a detailed cross-sectional national analysis of fees.

In contrast, our research methodology is designed to uncover these cross-sectional differences. By studying 46,580 mutual fund share classes sold in 18 countries, we can explain a substantial amount of the variation in fund fees around the globe with a few simple factors. Not surprisingly, fund fees vary across investment objectives. Larger funds and fund complexes charge lower fees, as do index funds, funds of funds, and certain funds selling cross-nationally. Funds that sell to institutions and larger accounts have lower fees. Fees are higher for funds distributed in more countries, funds domiciled in off-shore locations, and funds sold by fund management companies whose ultimate parent is domiciled abroad. Substantial cross-country differences persist after controlling for these variables. The remaining differences are associated with a variety of factors, the most robust of which is that stronger investor protection is associated with lower mutual fund fees, and this effect is stronger for fund-specific rules than for general measures of judicial quality. For example, rules that govern conflicts of interest between investors and investment managers are associated with lower management fees. Certain fees are also lower when funds are domiciled in countries with an older fund industry. Moreover, management fees are lower in wealthier countries with more educated populations, where there is either little concentration in the banking industry or where banks are prohibited from entering the securities business.

The remainder of this paper is divided into five sections. In Section 1, we provide an overview of the global fund industry, describe our data, and provide descriptive statistics. In Sections 2 and 3, we discuss various hypotheses for why fees might differ from country to country. This analysis is broken into two parts. First, we report multivariate analyses of fees as a function of various fund and sponsor level characteristics, producing country fixed effects. Second, we analyze these national fixed effects as a function of various characteristics. For robustness, in Section 4 we report the results of alternative analyses, including one where we analyze fund, sponsor, and national characteristics in one stage. We conclude in Section 5, summarizing the implications of our research.

1. Data and Description of Fees Around the World

Khorana, Servaes, and Tufano (2005) provide background on the mutual fund industry worldwide. Briefly, mutual funds [open-end pooled investment vehicles, that invest in transferable securities, and that are bought and redeemed at the fund's Net Asset Value (NAV)] are available throughout the globe. US open-end funds and European Undertakings for Collective Investments in Transferable Securities (UCITS) are the two major forms of these contracts.

We will use the term “mutual fund” to describe these products. Our sample excludes other investment products including hedge funds, closed-end funds or trusts, and exchange traded funds.³ Many funds have different fund classes, with different management fees, expense ratios, or loads. In the United States, classes differ based on the mix of upfront, on-going, and back-end distribution charges. Our unit of observation is therefore a fund class.

Our study requires us to identify the nationality of a fund class. A fund’s *domicile* represents the country in which the fund is legally organized. In a closed fund economy, such as the United States or Canada, the only funds registered for sale are those that are domiciled in the country. However, in Europe, it is quite common for a fund to be domiciled in one country, but offered for sale in other countries as well. In the extreme, many funds are domiciled in offshore fund markets, but then offered for sale in six or seven countries. For example, the GAM Star Fund-USD Bond Fund is domiciled in Dublin, but registered for sale in Austria, France, Germany, the Netherlands, Sweden, and Switzerland. In total, we cover funds domiciled in 18 countries (including Luxembourg), plus Dublin⁴ and nine island offshore locations, and which are offered for sale in 18 countries. Any fund has a single country of domicile, but may have multiple *countries of sale (or registration)*.

Our global fund data come from multiple sources. For funds from Australia, Canada, Japan, and the United States, we collect data from Morningstar. For funds elsewhere, we obtain data from Morningstar, as well as Lipper Fitzrovia. Lipper Fitzrovia is a leading purveyor of European Total Expense Ratio (TER) data. We prefer to use these global data vendors rather than collect data separately for each country in order to leverage their consistency in reporting data and defining fees across countries. Indeed, Lipper Fitzrovia markets this consistency as a major advantage to using their information. Because much of these data are not available for more than 1 or 2 years, our focus is on the cross-sectional differences in fund fees charged during 2002 or as close to the end of 2002 as possible.

Lipper Fitzrovia gathers data from the funds’ annual reports on management fees and expense ratios for funds domiciled in Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, the UK, as well as the offshore market.⁵ The offshore market consists of funds domiciled in Luxembourg and Dublin, both of which are hubs for fund distribution across Europe (see Khorana, Servaes, and Tufano, 2005), as well as a variety of other “island offshore” locations, such as Bermuda, the Cayman Islands, Guernsey, the Isle of Man, and Jersey. For each fund, Lipper

³ For example, we exclude segregated or seg-funds in Canada, which are funds sold with an added benefit that protects the holder against certain levels of decline in the value of the fund, and come with a death benefit guarantee and estate planning benefits.

⁴ While we have information on funds domiciled in Dublin, these funds are not registered for sale in Ireland. Neither of the European databases includes fee information on funds that are sold in Ireland.

⁵ Lipper Fitzrovia has limited coverage for funds domiciled in Denmark, Finland, the Netherlands, and Norway.

Fitzrovia also gathers data on the countries where the fund is registered for sale. This allows us to create a separate observation for each fund-country pair. Unfortunately, Lipper Fitzrovia does not gather data on the initial entry charges (front-end load) and exit charges (back-end loads) paid by the investors because such charges are not listed in the fund's annual report. They often do not accrue to the fund management company because they are paid to third-party distributors of the fund.

The Lipper Fitzrovia data are supplemented by the Morningstar Research Plus database. This database contains management fees and sales loads (but not annual expense ratios), along with other data for over 57,000 funds domiciled and sold in Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, and the UK, as well as funds domiciled offshore. This expanded roster of countries allows us to broaden our study of management fees beyond the Lipper Fitzrovia data. When the two data vendors report different fees, which occurs in less than 1% of the observations, we use the Lipper Fitzrovia data. Where there is overlap between the countries covered by Lipper Fitzrovia and Morningstar, we use the Morningstar load information to augment the Lipper Fitzrovia data to calculate a measure of total costs borne by shareholders, including amortized loads.

The final database we employ is from Financial Research Corporation (FRC), which tracks US money market funds. These funds are not available in Morningstar's US database. Money market funds are included, however, in the Morningstar databases for all the other countries. FRC assembles data from a variety of other data vendors, supplementing it with proprietary information.

After combining these four databases, we have 77,449 fund-class/country pairs. While each fund class sold in a particular country is our unit of observation, it is also important to add up the assets of each fund class to obtain the size of the entire fund since scale and fees may be related at either the class or the fund level. For the United States, we have data available on which classes belong to which funds, but that is not the case for other countries. In those cases, we match fund classes by studying the names of the funds and the names of the individual fund managers. When we are not certain, we go to the website of the fund provider to ascertain whether certain groups of funds represent different fund classes.

We group the funds into fund complexes to assess potential sponsor-level economies of scale that could affect costs and indirectly influence fees. While our database provides the name of the fund management group, some complexes sell funds under different names across the world. Fortunately, Lipper Fitzrovia identifies pan-European complexes, and we augment this information in other countries by conducting web-based searches for each fund complex to identify unique complex names. We are unable to do this for Japanese funds and simply use the fund management group name available in the database for aggregating assets at the complex level. Thus, our measures of sponsor-level economics likely underestimate the amount of fund assets managed; they

also exclude all nonfund assets (e.g., pension accounts, hedge funds) under management.

We assign the funds to investment objectives. Investment objectives are reported in the databases, but not always consistently across countries. We therefore develop our own classification scheme. We first divide funds into 10 broad categories: Alternative Investments, Balanced, Bonds and Cash, Bonds, Convertible Bonds, Equities, Mortgage-Backed Securities, Money Market, Real Estate, and Other/Not classified. Equities form the largest category with 42,066 country/fund-class observations, followed by Bonds with 17,243 observations, and Balanced with 9,699. Each broad category is then further divided along two dimensions: region of investment and a more detailed investment objective. The region could be country specific (e.g., Danish Equities) or regional (e.g., Eurozone Bonds) or global. The more detailed objective focuses on the types of securities held (e.g., small cap stocks or high-yield bonds). Using the narrowest objective classification, we have 122 different investment objectives in the sample. Unfortunately, for Japanese funds, we can only identify equity funds as Morningstar does not contain objective information for other funds. In addition, we identify three particular investing styles that overlay these objectives: index funds, funds of funds, and guaranteed funds.

Finally, for each fund, we collect information on the minimum initial investment required, along with the age of the fund. A fund's minimum investment in each share class provides information about the likely clientele for the fund, with larger minimums aimed at large retail or institutional customers. A fund's age may be a determinant of costs (and fees) to the extent that a fund enjoys experience effects (and passes them along in fees charged).

Table 1 characterizes the nationalities of our sample of 77,449 fund-class/country observations (represented by 46,580 unique fund classes). The bolded on-diagonal elements in Table 1, which account for 54% of the fund classes in our sample, are domestic funds, registered for sale in the country in which the fund is domiciled. While this is the norm for the United States and a few other countries, 46% of the world's funds are domiciled in one country and sold in another. The off-diagonal elements in Table 1 reflect these cross-country fund sales. Funds domiciled in offshore jurisdictions (Dublin, Luxembourg, and island offshore locations) and sold elsewhere account for almost all (42%) of this activity. Cross-border offerings from onshore domiciles account for just 4% of our observations.

Our paper examines funds fees measured in three ways.⁶ *Management fees* represent the charges levied each year by funds for management services. These always include investment management services, but may also include payments for administration and distribution. In Australia and Canada, management fees also include Goods and Services Taxes (GST). A more expansive

⁶ There may be other implicit fees in the form of higher transaction costs incurred by investment managers or underperformance, but these would be captured in a fund's gross return and not in any traditional measure of fees or costs.

Table 1
Number of fund classes in sample by country of domicile and country of sale

Domicile	Country of sale																	United States	Total	
	Australia	Austria	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Japan	Luxembourg	Netherlands	Norway	Spain	Sweden	Switzerland	U.K.			
Australia	2,970	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,970
Austria	0	234	0	0	0	0	8	177	26	0	1	0	0	0	0	2	0	0	0	448
Belgium	0	0	763	0	0	0	81	12	56	0	137	137	0	0	0	9	0	0	0	1,195
Canada	0	0	0	3,674	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,674
Denmark	0	0	0	0	11	0	0	12	0	0	0	0	0	0	0	0	0	0	0	23
Dublin	0	316	174	0	7	48	448	797	484	0	127	234	122	438	153	315	368	0	0	4,031
Finland	0	0	0	0	0	111	0	0	0	0	0	0	6	0	55	0	14	0	0	186
France	0	1	21	0	0	0	1,856	49	15	0	0	16	0	20	0	14	1	0	0	1,993
Germany	0	182	38	0	0	0	23	1,102	7	0	73	11	0	9	2	139	37	0	0	1,623
Island offshore	0	25	1	0	0	5	0	118	8	0	0	7	8	0	45	179	93	0	0	489
Italy	0	0	0	0	0	0	0	0	1,239	0	0	0	0	0	0	0	0	0	0	1,239
Japan	0	0	0	0	0	0	0	0	0	1,923	0	0	0	0	0	0	0	0	0	1,923
Luxembourg	0	1,804	2,551	0	43	768	3,006	4,312	3,690	0	5,014	2,143	991	3,699	1,353	2,619	1,265	0	0	33,258
Netherlands	0	0	8	0	0	0	6	7	0	0	2	302	0	0	0	5	0	0	0	330
Norway	0	0	0	0	3	8	0	0	0	0	0	0	334	0	35	0	3	0	0	383
Spain	0	0	0	0	0	0	0	0	0	0	0	0	0	2,387	0	0	0	0	0	2,387
Sweden	0	0	0	0	0	31	0	0	0	0	0	0	86	0	481	0	1	0	0	599
Switzerland	0	34	0	0	0	0	1	199	8	0	31	0	0	2	0	366	2	0	0	643
United Kingdom	0	96	42	0	19	0	96	169	101	0	2	41	33	37	61	36	2,440	0	0	3,173
United States	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,882	0	16,882
Total	2,970	2,692	3,598	3,674	83	971	5,525	6,954	5,634	1,923	5,387	2,891	1,580	6,592	2,185	3,684	4,224	16,882	0	77,449

This table reports a cross-tabulation of the number of mutual fund classes domiciled in a particular country and the number of fund classes available for sale to prospective investors in a country. Observations are included if data on management fees and assets are available. The number of funds registered for sale in the countries in which they are domiciled (i.e., the on-diagonal elements) are in boldface type. Island offshore refers to funds that are domiciled in locations, such as Bermuda, the Cayman Islands, Guernsey, the Isle of Man, and Jersey. All data are year-end 2002 or as close to year-end 2002 as possible.

and more commonly reported definition of fees is a fund's *expense ratio* (in the United States) or *total expense ratio* or *TER* (in Europe). This category of fees is broader than just management fees and includes all annual expenses levied by a fund on its investors, covering investment management, administration, servicing, transfer agency, audit, legal, etc.⁷ However, TERs exclude certain distribution fees, such as front-end or back-end loads, as well as annual fees charged by distributors that are separate from the fund charges (e.g., fees for participation in a wrap program). Our measure of *total shareholder costs* (TSCs) includes the expense ratio plus annualized loads. Because loads are paid when entering or exiting the fund, it is necessary to divide these loads over the investor's holding period. We assume a 5-year holding period in our analysis.⁸ This also allows us to compute the appropriate back-end load, if any, given a 5-year holding period. We define total shareholder cost (TSC) as

$$\text{TSC} = \text{TER} + (\text{initial load})/5 + (\text{back-end load at 5 years})/5. \quad (1)$$

We have fewer observations on the TSC because data on loads are only available from Morningstar. Our 5-year holding period estimate is admittedly *ad hoc*, as we do not have data on actual holding periods. Our information does not include any nonload charges levied by the distribution channel. In addition, investors may not pay stated load charges because distributors may offer rebates or reduced loads for large investments (break points).

Table 2 reports the value-weighted average levels of these three types of fees by country for all funds, as well as for bond and equity funds.⁹ The table shows fees by domicile and fees by country of sale. When we report fees by domicile, each fund class, even if sold in multiple countries, counts as one observation. However, when we present fees by country of sale, data on a fund class are included for each country in which it is offered for sale.

Fees vary extensively from country to country. For example, on a value-weighted basis, using any of the three fee measures, funds domiciled and sold in Canada cost considerably more than those elsewhere, such as the United States. Mean management fees for equity funds are 62 basis points in the United States versus 196 basis points in Canada; TERs are 111 and 256 basis

⁷ Lipper Fitzrovia uses the following definition of TERs: "The Lipper Fitzrovia Total Expense Ratio (TER) represents the drag on fund performance caused by all annual operating costs (including administration/share registration, trustee/custody, audit and legal fees), not just the basic annual management charge." Morningstar uses this comparable definition: "The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges."

⁸ In most instances, a fund class may levy front- or back-end loads, or may give the investor the option of which load to pay. We check for these fund details and calculate the appropriate charge assuming a 5-year holding period.

⁹ There are substantial differences between value-weighted and equally-weighted fees. We report value-weighted fees because we feel they are a better representation of the fees paid by investors. However, our findings are robust to the use of equally weighted fees.

Table 2
Descriptive statistics on fee variables

Country	Country of domicile									Country of sale								
	Bonds			Equity			Full sample			Bonds			Equity			Full sample		
	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC
Australia	0.61	0.63	0.75	1.09	1.17	1.41	1.05	1.17	1.41	0.61	0.63	0.75	1.09	1.17	1.41	1.05	1.17	1.41
Austria	0.48	0.55	1.08	1.34	1.47	2.26	0.69	0.76	1.33	0.74	0.93	1.55	1.28	1.52	2.37	0.98	1.17	1.98
Belgium	0.41	0.59	1.14	0.81	1.05	1.76	0.67	0.88	1.48	0.67	0.88	1.60	1.11	1.42	2.27	0.84	1.10	1.86
Canada	1.44	1.79	1.84	1.96	2.56	3.00	1.70	2.20	2.41	1.44	1.79	1.84	1.96	2.56	3.00	1.70	2.20	2.41
Denmark	0.69	0.86	1.39	0.46	1.15	1.85	0.57	1.00	1.62	0.72	0.90	1.91	1.27	1.61	2.62	1.21	1.54	2.55
Dublin	0.82	1.08	1.89	1.20	1.52	2.40	0.78	0.99	2.24	–	–	–	–	–	–	–	–	–
Finland	0.55	0.55	0.85	1.57	1.57	1.91	1.07	0.99	1.23	0.89	1.05	1.76	1.45	1.80	2.77	1.23	1.50	2.37
France	0.66	0.85	1.18	1.04	1.22	1.88	0.64	0.77	1.13	0.72	0.96	1.57	1.18	1.49	2.31	0.80	1.02	1.64
Germany	0.70	0.79	1.26	1.05	1.17	1.97	0.76	1.05	1.73	0.72	0.91	1.48	1.20	1.47	2.29	0.83	1.09	1.79
Island offshore	0.61	0.65	1.10	1.38	1.61	2.59	1.00	1.16	1.90	–	–	–	–	–	–	–	–	–
Italy	0.96	1.08	1.34	1.77	1.92	2.44	1.09	1.23	1.52	0.87	1.06	1.56	1.50	1.79	2.58	1.05	1.27	1.84
Japan	–	–	–	1.53	–	–	1.28	–	–	–	–	–	1.53	–	–	1.28	–	–
Luxembourg	0.74	1.00	1.70	1.29	1.70	2.63	0.93	1.22	1.92	0.74	0.98	1.62	1.25	1.61	2.43	0.89	1.16	1.80
Netherlands	0.61	–	–	0.82	0.64	0.82	0.77	0.64	0.82	0.72	1.01	1.73	1.21	1.61	2.46	0.93	1.29	2.04
Norway	0.42	0.59	0.68	1.52	1.97	2.43	1.15	1.89	2.36	0.86	1.04	1.77	1.40	1.74	2.67	1.20	1.47	2.30
Spain	0.94	1.08	1.25	1.42	1.58	2.70	1.13	1.29	1.69	0.83	1.07	1.58	1.36	1.70	2.70	1.00	1.29	2.03
Sweden	0.60	0.59	0.63	1.32	1.37	1.51	1.15	1.19	1.30	0.82	1.07	1.67	1.38	1.68	2.47	1.17	1.43	2.11
Switzerland	0.84	0.89	1.36	1.38	1.47	2.03	1.05	1.39	1.89	0.77	0.97	1.61	1.28	1.54	2.40	0.93	1.19	1.84

Table 2
(Continued)

Country	Country of domicile									Country of sale								
	Bonds			Equity			Full sample			Bonds			Equity			Full sample		
	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC	MGT	TER	TSC
United Kingdom	0.79	0.88	1.66	1.07	1.18	2.28	1.02	1.13	2.18	0.84	1.02	1.73	1.19	1.42	2.48	1.08	1.29	2.21
United States	0.42	0.78	1.05	0.62	1.11	1.53	0.43	0.81	1.04	0.42	0.78	1.05	0.62	1.11	1.53	0.43	0.81	1.04
Mean	0.62	0.91	1.21	0.90	1.29	1.80	0.63	0.95	1.25	0.68	0.95	1.39	1.06	1.43	2.09	0.74	1.05	1.49

This table provides descriptive statistics on the various fee variables, expressed as a percentage. Management fees (MGT) represent the charges levied each year by funds for management services. Expenses (referred to as TERs or total expense ratios) include all annual expenses levied by a fund on its investors, covering investment management, administration, servicing, transfer agency, audit, legal, etc. TERs exclude certain classes of distribution fees, such as front-end or back-end loads, as well as fees charged by distributors that are separate from the fund charges (e.g., fees for participation in a wrap program). The measure of total shareholder costs (TSCs) includes the expense ratio plus an annuitized form of loads. Assuming a 5-year holding period, we define TSC as follows: $TSC = TER + (\text{initial load})/5 + (\text{appropriate back-end load at 5 years})/5$. Descriptive statistics are provided by country of domicile and country of sale. When we report fees by domicile, each fund class counts as one observation. When we present fees by country of sale, data on a fund class are included for each country in which it is offered for sale. We have fewer datapoints for TERs and TSCs than for MGT. As a result, it is possible that average TERs or TSCs are smaller than average MGT as they are computed for different samples. Island offshore refers to funds that are domiciled in locations, such as Bermuda, the Cayman Islands, Guernsey, the Isle of Man, and Jersey. The fees reported include Goods and Services Taxes (GST), if charged. All figures are computed on a value-weighted basis using fund-class size as the weight.

points, respectively. Generally, the most expensive countries have fees three to four times higher than the least expensive countries.

In Europe, where there are significant cross-border sales of funds, the univariate results by country of domicile and by country of sale suggest that fees are generally higher for funds offered for sale in a particular country than for funds domiciled in the same country. For example, value-weighted mean TERs for equity funds domiciled in Germany are 117 basis points versus 147 basis points for funds offered for sale in Germany. We will explore this finding in more detail later.

The raw national comparisons reported in Table 2 do not control for fund size, complex size, or type of clientele and therefore should not be overemphasized. Our approach attempts to first tease out the national fee differences after controlling for obvious fund and complex characteristics, and to subsequently explain the remaining national differences.

2. Phase 1: Explaining Fund-level and Sponsor-level Fee Differences

Our analysis proceeds in two stages. In the first stage, we estimate the following cross-sectional regression using fund-class data¹⁰:

$$\begin{aligned}
 Fee_{i,j,k} = f(\text{Investment objective dummies, Index fund dummy,} \\
 \text{Fund of funds dummy, Guaranteed fund dummy, Fund size, Family size,} \\
 \text{Minimum investment, Age, Foreign dummy, Number of countries fund} \\
 \text{is sold, Assets in objective, Offshore-Tax rate interaction,} \\
 \text{Country-of-sale dummies, Country-of-domicile dummies}). \quad (2)
 \end{aligned}$$

We conduct three sets of analyses, one for each of the three fee levels. The unit of observation is a fund class i domiciled in country j and offered for sale in country k . We use fees as defined in the section above, but our analyses are mindful of two institutional factors. First, in those countries where fund fees explicitly include Goods and Services Taxes, we exclude these from the quoted fee since they are a direct tax on investors by the government and not the reflection of forces of supply and demand. Second, in 2002, Spanish law limited investment management compensation levels to 1% for money market funds and 2.25% for other funds. This constraint is binding for 330 of 2,387 Spanish funds. Our results are robust to the exclusion of these observations.

To capture differences in fees across various fund types, we include dummies for each narrow objective defined in the sample (122 objectives). We expect costs and fees to be higher for some types of investment objectives than others. For instance, we expect fees to be highest for equities, followed by balanced,

¹⁰ We acknowledge that there are a number of factors that may affect fee levels, but for which we cannot reliably collect data across our entire sample. These include the method of distribution used by the fund, the mix of distribution methods in the country (e.g., bank dominated, through brokers, direct), the level of marketing efforts, and the cost of inputs (specifically investment management professionals).

bond and money market funds, respectively (see, for example, Tufano and Sevick, 1997). We control for three additional types of investment attributes: index funds, funds of funds, and guaranteed funds. We expect lower fees for index funds and funds of funds. Index funds require less active management and can normally be produced at lower costs. Funds of funds already have to pay the fees of the funds in which they invest; we therefore expect them to charge a lower fee. Guaranteed funds generally protect the value of the initial investment in a fund, often mimicking the performance of an underlying index. They do so by combining fixed income securities with equities or derivatives. Such strategies may be easier to implement than traditional active management strategies, and hence less expensive, when compared to funds in their respective investment objectives. Index funds, funds of funds, and guaranteed funds can be found in 70, 52, and 47 of the 122 investment objectives in our sample. When we do not have data on fund type (index fund, fund of funds, guaranteed fund), we set the respective fund type dummy equal to zero.

We include two measures of scale. *Fund size* is the log of total assets of the fund (in \$ millions). *Family size* is the log of total net assets of the complex offering the fund (in \$ millions). We expect fees to be lower for larger funds and complexes, reflecting economies of scale and/or stronger demand for lower cost funds. We employ a log specification for the two scale measures because we expect their marginal effects to decline, consistent with the previous literature analyzing fees (e.g., Baumol et al., 1980). In addition, we include *Age*, measured as the log of the number of years since the founding of the fund (in any country in which it has been sold), to capture potential experience effects.

Minimum investment is the log of the minimum initial investment (in dollars) required by the fund. We use this variable to capture the difference between retail offerings, which have low or no minimum initial requirements, and offerings for high net worth individuals or institutions, where minimum initial investment requirements are high.

We consider a variety of measures of fund nationality. *Foreign dummy* is set equal to one if the fund is being sold outside of its domicile country and is not an offshore fund. This allows us to investigate whether cross-national fund sales have systematically different fees. Fee differences for offshore funds (Dublin, Luxembourg, and island offshore) are examined separately.

Number of countries fund is sold is the number of countries in which the fund is registered for sale, and captures whether having a broader national footprint is associated with higher or lower fees.

Assets in objective is the log of the total assets of all funds offered for sale in the country in the investment category in which the fund operates. Larger markets may be more competitive and may put more pressure on fees (or may be more costly in which to compete and have higher fees).¹¹

¹¹ This is the only non-fund-specific size variable included in the first stage estimation, because it is not constant for all funds in a specific country and therefore cannot be included in models of country effects. Our results are robust to the exclusion of this variable.

If investors employ offshore funds to avoid or optimize taxation, these funds may be able to charge higher fees. To investigate this conjecture, we gather data from KPMG (2002) and FEFSI-EFAMA (European Fund and Asset Management Association) (2002) on capital gains taxes and dividend taxes payable on fund income. We take the average of the two (*tax rate*) and interact it with a dummy set equal to one if the fund is domiciled in an offshore location.

In most specifications, we include dummies for each domicile and each country of sale, with the United States being the base case. These dummies capture the nationalities of the funds. If fund markets were globally integrated, these terms would be collectively insignificantly different from zero.

Table 3 reports our multivariate analysis of the three sets of fees: management fees (panel A), TERs (panel B), and TSCs (panel C). For each fee measure, we report results of six different models. To test robustness, we re-estimate our models using the smaller set of broad objective category dummies (10 dummies versus 122 dummies), as well as for equities alone. These results produce the same or stronger results than the ones reported in the paper, and are available from the authors. All models are estimated using weighted least squares, where the size of the fund class is employed as the weight.¹² In all models, we cluster standard errors at the fund level because the main explanatory variables are fund characteristics.

These models have substantial explanatory power: even the most parsimonious specification [model (i)], which only contains fund objective, country-of-domicile, and country-of-sale dummies, explains 66% of the variance in management fees, 56% of the variation in TERs, and 64% of the variation in TSCs. Fund type and nationality explain a large fraction of the differences in fees. The reported *F*-tests show that the national fixed effect terms are significantly different from zero and not all equal to each other.

In model (ii) we control for complex size and the size of the fund. Fees of all three types are lower for larger funds, and complexes, consistent with economies of scale or investor preferences for lower fee products.¹³

The economic significance of the scale variables depends on the type of fees being studied. For example, based on model (ii) in panel A, a fund with log size in the 25th percentile (corresponding to \$13.0 million) has management fees 8 basis points higher than a fund in the 75th percentile (\$203.5 million); a fund complex with assets in the 25th percentile (\$4.8 billion) has management fees 4 basis points higher than a complex with assets in the 75th percentile (\$108.1 billion). Based on model (ii) in panel B, funds in the 25th percentile of the size distribution have expenses 19 basis points more than funds in the 75th percentile. The same comparison for complex size yields a difference of 3

¹² Virtually all of our findings continue to hold if the models are estimated using an OLS instead of a WLS estimation approach (see also Section 4 for a discussion of alternative estimation approaches).

¹³ In unreported models we include the size of the fund class as a control variable instead of the size of the fund; the negative relation between size and fees persists.

Table 3
Explaining mutual fund fees across countries

	Model (i)		Model (ii)		Model (iii)		Model (iv)		Model (v)		Model (vi)	
	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value
Panel A: Management fee (MGT)												
Log family size			-0.012	0.00	-0.014	0.00	-0.016	0.00	0.019	0.00	0.017	0.00
Log fund size			-0.030	0.00	-0.026	0.00	-0.030	0.00	-0.018	0.04	-0.015	0.07
Log min investment					-0.012	0.00						
Log fund age					-0.001	0.84						
No. of countries fund is sold							0.013	0.10	0.005	0.77	0.012	0.39
Log assets in objective							0.017	0.00	0.009	0.01	0.010	0.00
Index fund dummy							0.005	0.79	-0.017	0.19	-0.003	0.69
Fund of funds dummy					-0.364	0.00	-0.385	0.03	-0.573	0.00	-0.567	0.00
Guaranteed fund dummy					-0.323	0.00	-0.301	0.00	-0.329	0.00	-0.315	0.00
Foreign dummy					-0.207	0.00	-0.134	0.03	-0.171	0.00	-0.190	0.00
Island offshore dummy							-0.025	0.13	-0.153	0.00	-0.050	0.00
Dublin dummy									0.026	0.73		
Luxembourg dummy									-0.038	0.37		
Offshore *Tax rate									-0.050	0.03		
Country-of-sale effects	Y		Y		Y		Y		Y		N	
Domicile effects	Y		Y		Y		Y		N		Y	
Objective effects	Y		Y		Y		Y		Y		Y	
F-tests												
Domicile dummies are zero	0.00		0.00		0.00		0.00		-		0.00	
Domicile dummies are equal	0.00		0.00		0.00		0.00		-		0.00	
Country dummies are zero	0.00		0.00		0.00		0.00		0.00		-	
Country dummies are equal	0.00		0.00		0.00		0.00		0.00		-	
<i>N</i>	77449		77449		61194		63908		38459		38455	
Adjusted <i>R</i> -squared	0.66		0.67		0.68		0.73		0.58		0.62	

Panel B: Expense ratio (TER)

Log family size	-0.010	0.03	-0.010	0.01	-0.014	0.00	0.020	0.01	0.015	0.00
Log fund size	-0.069	0.00	-0.057	0.00	-0.058	0.00	-0.054	0.00	-0.046	0.00
Log min investment			-0.016	0.00						
Log fund age			-0.064	0.00	-0.043	0.00	0.001	0.98	0.030	0.05
No. of countries fund is sold					0.017	0.00	0.008	0.01	0.009	0.00
Log assets in objective					0.039	0.05	-0.007	0.65	0.005	0.52
Index fund dummy			-0.685	0.00	-0.699	0.00	-0.638	0.00	-0.622	0.00
Fund of funds dummy			-0.376	0.00	-0.362	0.00	-0.355	0.00	-0.338	0.00
Guaranteed fund dummy			-0.457	0.44	-0.330	0.00	-0.324	0.00	-0.352	0.00
Foreign dummy					-0.028	0.07	-0.226	0.00	-0.044	0.00
Island offshore dummy							0.021	0.83		
Dublin dummy							0.115	0.03		
Luxembourg dummy							0.094	0.00		
Offshore Tax rate									0.117	0.00
Country-of-sale effects	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Domicile effects	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Objective effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
F-tests										
Domicile dummies are zero	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00	0.00
Dom. Dummies are equal	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00	0.00
Country dummies are zero	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Country dummies are equal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
N	70462	70462	55007	55007	57007	57007	35630	35630	35626	35626
Adjusted R-squared	0.56	0.59	0.61	0.61	0.65	0.65	0.64	0.64	0.67	0.67

Panel C: Total shareholder cost (TSC)

Log family size	-0.025	0.00	-0.013	0.06	-0.020	0.00	0.018	0.17	0.000	0.97
Log fund size	-0.055	0.00	-0.067	0.00	-0.067	0.00	-0.086	0.00	-0.068	0.00
Log min investment			-0.028	0.00						
Log fund age			0.040	0.01	0.059	0.03	0.020	0.60	0.064	0.00
No. of countries fund is sold					0.025	0.00	0.018	0.00	0.022	0.00
Log assets in objective					0.101	0.00	0.028	0.25	-0.005	0.62
Index fund dummy			-0.861	0.00	-0.888	0.00	-0.772	0.00	-0.738	0.00
Fund of funds dummy			-0.473	0.00	-0.449	0.00	-0.457	0.00	-0.452	0.00
Guaranteed fund dummy			-0.148	0.06	0.061	0.52	-0.128	0.08	-0.199	0.00
Foreign dummy					-0.035	0.07	-0.206	0.00	-0.029	0.11
Island off shore dummy							0.210	0.32		

Table 3
(Continued)

	Model (i)		Model (ii)		Model (iii)		Model (iv)		Model (v)		Model (vi)	
	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value	coeff.	<i>p</i> -value
Dublin dummy									0.262	0.00		
Luxembourg dummy									0.316	0.00		
Offshore *Tax rate											0.225	0.00
Country-of-sale effects	Y		Y		Y		Y		Y		N	
Domicile effects	Y		Y		Y		Y		N		Y	
Objective effects	Y		Y		Y		Y		Y		Y	
F-tests												
Domicile dummies are zero	0.00		0.00		0.00		0.00		–		0.00	
Domicile dummies are equal	0.00		0.00		0.00		0.00		–		0.00	
Country dummies are zero	0.00		0.00		0.00		0.00		0.00		–	
Country dummies are equal	0.00		0.00		0.00		0.00		0.00		–	
<i>N</i>	55635		55635		53744		55635		35484		35480	
Adjusted <i>R</i> -squared	0.64		0.65		0.61		0.68		0.67		0.71	

This table reports clustered weighted least squares regressions using three sets of dependent variables: (1) management fees (MGT)—panel A; (2) expense ratios (TER)—panel B; and (3) expense ratios plus annuitized front- and/or back-end loads assuming a 5-year holding period (TSC)—panel C, measured at the end of 2002. Standard errors are clustered at the fund level. The size of each fund-class is employed as the weight. For Australia and Canada, fees have been adjusted to remove Goods and Services Taxes (GST). Family size is measured as log of total net assets (in \$ millions) of the family/fund complex offering the fund. Fund size is the log of the aggregated dollar value of assets across all share classes of a fund (in \$ millions). Minimum investment is the log of the minimum initial investment required (in \$) to initiate a position in the fund. Fund age is the life of the fund measured as the logarithm of the number of years the fund has been in existence (in any country in which it has been sold). Number of countries a fund is sold is the number of countries in which a fund share class is sold. Assets in objective is the log of the total dollar value of assets in a given investment objective in the country where the fund is being sold. The index fund dummy, fund of funds dummy, and guaranteed fund dummy are set equal to one if the fund is an index fund, fund of funds, or a guaranteed fund, respectively, and zero otherwise. Foreign dummy is set equal to one if the fund is being sold outside of its domicile country and is not an offshore fund. Dublin dummy (Luxembourg dummy) is set equal to one if the fund is domiciled in Dublin (Luxembourg) and zero otherwise. The Luxembourg dummy is also set equal to zero for Luxembourg funds offered for sale in Luxembourg. Island offshore dummy is set equal to one if the fund is domiciled in an offshore location other than Dublin or Luxembourg and zero otherwise. Offshore is a dummy variable set equal to one if the fund is domicile in Luxembourg, Dublin, or another offshore location. Tax rate is computed as the average of the dividend and capital gains tax rate payable in each country of sale on mutual fund income. The models include 122 objective dummies and, when specified, dummies for each domicile and each country of sale, with the United States being the base case. We conduct separate *F*-tests to ascertain whether the domicile and country-of-sale dummies are equal to zero or equal to each other.

basis points. Across all panels, the economic impact of fund size is larger than that of family size.

In model (iii), we study the effect of the minimum initial investment, the age of the fund, and the type of fund. Fees are lower for funds demanding a higher minimum initial investment, consistent with the notion that fees (and unobservable costs) are driven by average account size. The relationship between fund age and fees is not stable and depends on the type of fee and the specification employed. Index funds are consistently cheaper for all types of funds, charging management fees that are 36 basis points below those of actively managed funds. The difference becomes even larger for TERs (69 basis points) and TSCs (86 basis points). As we suspected, funds of funds are between 30 and 50 basis points cheaper than other funds, but of course, the underlying fund fees are embedded in the gross return. In addition, in most specifications (8 of 12), guaranteed funds are significantly cheaper than other funds.

In model (iv), we examine various aspects of national competition.¹⁴ We include a dummy for onshore foreign funds (as we have already included separate domicile dummies for offshore locations). The relatively less common onshore foreign funds charge fees 2.5–3.5 basis points below domestic funds. However, this benefit disappears for funds as they are registered in more countries. For each country in which a fund is registered, fees rise by 1.7–2.5 basis points, suggesting that the benefits of buying a foreign fund disappear when a fund is registered in more than a few countries. The lower fees for imported funds could either reflect lower costs due to access to larger markets, or a business strategy by which funds seeking to sell in multiple countries do so by reducing their fees.

We also include the sum of all assets in the fund's broad objective in its country of sale. Larger markets may support greater competition and thus put pressure on fees. We do not find this to be the case—in contrast, there is a positive relationship between this measure and both TERs and TSCs.

In models (v) and (vi), we investigate fee differences between offshore and onshore funds. Model (v) drops the domicile fixed effects, but includes fixed effects for onshore foreign funds, island offshore funds, and Dublin-based and Luxembourg-based funds. This specification is estimated only for countries where these funds are offered for sale. The coefficients on the offshore dummies represent the incremental fees associated with funds from these domiciles, relative to domestic funds.

Onshore foreign funds remain less expensive than domestic funds. In addition, management fees from Luxembourg-domiciled funds are also lower. However, the TERs and TSCs for funds from the two main offshore centers of Dublin and Luxembourg are considerably higher than for domestic funds, with TERs about 10 basis points higher and TSCs about 26–32 basis points higher.

¹⁴ We drop the minimum initial investment from this specification because these data are missing for a large number of observations, including all Australian funds. However, our results are robust to the inclusion of this variable.

The differences in findings between management fees and other expenses may reflect the economies of scale that exist in management activities, but that do not exist in the costs of gaining access to customers and distribution channels from abroad.

Model (vi) adds the interaction term between the average investor fund tax rates in the country-of-sale and an offshore dummy. Thus, we drop the country-of-sale dummies in this model, but we do include the domicile dummies. If offshore locations effectively charge shareholders for the privilege of tax minimization, whether legal or otherwise, then we might see higher fees for these funds especially when sold in highly taxed countries. We find that this is the case for all sets of fees, but the magnitude is most pronounced for TSCs.

We find that domicile and country-of-sale effects are highly significant in all models in which they are included. The additional explanatory power of the other variables is less than 9% [comparing models (i) and (iv)].¹⁵ Substantial cross-country differences are therefore left unexplained.

Table 4 contains a matrix of these cross-country differences for management fees, based on the regression in model (iv) of panel A of Table 3. (The other matrices for TERs and TSCs are available from the authors.) The national effects documented in Table 4 consist of three parts: domicile, country-of-sale, and foreign effects. These effects are all measured relative to the United States, which is the base case. Therefore, to determine the effect of each domicile/country-of-sale pair on fees, we add the three pieces to the regression intercept. That is

$$\begin{aligned} \text{Country Effect}_{j,k} = & \text{Intercept} + \text{Domicile Coefficient}_j \\ & + \text{Country-of-Sale Coefficient}_k + \text{Foreign Coefficient} \end{aligned} \quad (3)$$

For example, the combined fixed effect for the United States is simply the intercept. However, for French-domiciled funds sold in Belgium, it is the sum of the intercept, the France domicile coefficient, the Belgium country-of-sale coefficient and the foreign coefficient. Note that we need to add the coefficient on the foreign dummy because we want to incorporate the effect of cross-border sales. We list the country effects for each pair of countries with at least one observation in Table 1. This yields 119 domicile/country-of-sale observations.

The results of Table 4 suggest that, even after controlling for various fund and sponsor characteristics, there are substantial differences in fees. Danish-domiciled funds offered for sales in Denmark have the lowest management fee

¹⁵ It is possible that the country-of-sale and domicile dummies are correlated with other explanatory variables, or that much of the cross-sectional variation in fees is captured by the objective dummies. As a result, the argument that the other independent variables add little to the explanatory power of model (i) is perhaps not entirely fair. We therefore re-estimate model (iv) without country-of-sale, domicile, and objective dummies. The adjusted *r*-squared is 41% for the management fee regression, 31% for the TER regression, and 36% for the TSC regression. When we add the country and domicile dummies (but not the objective dummies) to this regression, the adjusted *r*-squared increases to 53% for the management fee model, 39% for the TER model, and 41% for the TSC model. This suggests that the additional explanatory power of the country and domicile effects is material.

Table 4
Cross-country levels of management fees after controlling for fund and fund family characteristics

Domicile	Country of sale																		Average
	Australia	Austria	Belgium	Canada	Denmark	Finland	France	Germany	Italy	Japan	Luxembourg	Netherlands	Norway	Spain	Sweden	Switzerland	UK	United States	
Australia	0.89	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.89
Austria	–	0.99	–	–	–	–	0.91	0.91	0.99	–	0.92	–	–	–	–	0.96	–	–	0.95
Belgium	–	–	0.71	–	–	–	0.73	0.72	0.81	–	0.73	0.71	–	–	–	0.77	–	–	0.74
Canada	–	–	–	1.84	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.84
Denmark	–	–	–	–	0.53	–	–	0.55	–	–	–	–	–	–	–	–	–	–	0.54
Dublin	–	1.11	1.02	–	1.02	1.15	1.06	1.06	1.14	–	1.07	1.05	1.13	1.08	1.13	1.11	1.14	–	1.09
Finland	–	–	–	–	–	1.13	–	–	–	–	–	–	1.09	–	1.09	–	1.10	–	1.11
France	–	1.00	0.91	–	–	–	0.98	0.95	1.03	–	–	0.94	–	0.97	–	1.00	1.03	–	0.98
Germany	–	1.00	0.91	–	–	–	0.95	0.97	1.03	–	0.96	0.94	–	0.97	1.02	1.00	1.03	–	0.98
Island offshore	–	1.15	1.06	–	–	1.19	–	1.10	1.19	–	–	1.09	1.17	–	1.17	1.15	1.18	–	1.15
Italy	–	–	–	–	–	–	–	–	1.42	–	–	–	–	–	–	–	–	–	1.42
Japan	–	–	–	–	–	–	–	–	–	1.25	–	–	–	–	–	–	–	–	1.25
Luxembourg	–	1.10	1.01	–	1.01	1.13	1.05	1.05	1.13	–	1.05	1.03	1.12	1.07	1.12	1.09	1.13	–	1.08
Netherlands	–	–	0.64	–	–	–	0.69	0.68	–	–	0.69	0.69	–	–	–	0.73	–	–	0.69
Norway	–	–	–	–	1.09	1.22	–	–	–	–	–	–	1.22	–	1.20	–	1.21	–	1.19
Spain	–	–	–	–	–	–	–	–	–	–	–	–	–	1.46	–	–	–	–	1.46
Sweden	–	–	–	–	–	1.15	–	–	–	–	–	–	1.13	–	1.16	–	1.14	–	1.15
Switzerland	–	1.19	–	–	–	–	1.14	1.14	1.22	–	1.15	–	–	1.16	–	1.21	1.22	–	1.18
United Kingdom	–	1.15	1.06	–	1.06	–	1.10	1.10	1.18	–	1.11	1.09	1.17	1.12	1.17	1.15	1.20	–	1.13
United States	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.87	0.87
Average	0.89	1.09	0.91	1.84	0.94	1.16	0.96	0.93	1.12	1.25	0.96	0.94	1.15	1.12	1.13	1.01	1.14	0.87	

This table reports the matrix of cross-country levels of management fees after controlling for fund and fund family characteristics, and measures of competition. Each domicile/country-of-sale coefficient is computed by adding the domicile coefficient, the country-of-sale coefficient, and the foreign coefficient to the regression intercept (Equation (3)), based on the regression in model (iv) of Table 3, panel A. All coefficients are reported as a percentage. Island offshore refers to funds that are domiciled in locations, such as Bermuda, the Cayman Islands, Guernsey, the Isle of Man, and Jersey.

fixed effect at 53 basis points, while Canadian funds are the most expensive, with a fixed effect of 184 basis points.

3. Phase 2: Explaining National Differences in Fees

To explain these country-specific differences, we use a variety of fundamental country factors. These variables are defined in the Appendix, which also reports sample means and medians. Fundamentally, we estimate variants of the following multivariate regression model:

$$\text{Country Effect}_{j,k} = f(\text{Regulation measures, Competition measures, National economies of scale, Experience effects, Buyer characteristics}). \quad (4)$$

In the following subsections, we discuss the explanatory variables employed in this model.

3.1 Regulation

On the one hand, extensive regulation may increase the cost of doing business and the fees paid by investors. For example, in the United States, fund industry executives have objected to the costs of regulation that would require them to disclose their proxy votes or make other changes in operations.¹⁶ On the other hand, regulations, in particular investor protection provisions, may hold fees down (see, for example, Fink, 1998). Khorana, Servaes, and Tufano (2005) find that nations whose laws protect fund investors better have larger fund industries. We study the relationship between the extent of fund-specific regulation and the levels of fees and analyze the laws and regulations of the country where the fund is domiciled and where it is offered for sale.

In particular, we include a measure of the quality of the legal system, adapted from La Porta et al. (1998), who measure (1) efficiency of the judicial system, (2) rule of law, (3) corruption, (4) risk of expropriation, and (5) risk of contract repudiation. These variables are constructed such that higher values imply a higher quality legal system. Our *judicial* quality variable sums these five measures.

To measure fund-specific investor protection, using data from KPMG (2002), we create dummies if (1) regulatory approval is required to start a fund and (2) regulatory approval is required before issuing a mutual fund prospectus. We aggregate (1) and (2) into a single *approval* variable.

In addition, we determine the procedures that are in place to prevent conflicts of interest between the fund management company and fund investors. Recent studies have shown that countries differ markedly in the extent to which their

¹⁶ For example, see “Mutual Fund Regulation” Statement by Paul Schott Stevens, President, Investment Company Institute before the United States House of Representatives Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, May 10, 2005.

laws protect investors from conflicts of interest; we use fund-specific measures of how these conflicts are addressed.¹⁷ First, we create a dummy variable to capture whether custodians are required to be independent from the mutual fund family. Custodians are the parties that hold the securities of the fund, and their independence insures that the fund's assets are not expropriated. Second, we construct three dummy variables to capture mechanisms in place to deal with or avoid conflicts: (1) Are funds allowed to have a significant participation in companies in which they invest?¹⁸ (2) Is disclosure employed to deal with conflicts of interest? (3) Are there regulatory requirements or industry best practice standards regarding internal control? We combine these three into a single *conflicts of interest* measure, which ranges from zero to three.

3.2 Competition

Economists generally believe that competition leads to lower prices, but less profitable markets would attract fewer entrants. While competition is endogenous, various barriers to entry may be less so. To measure barriers to entry and competition, we measure (1) concentration in the banking sector, measured by the percentage of banking assets held by the top five banks; (2) concentration in the fund sector, measured by the percentage of industry assets accounted for by the top five fund complexes; (3) the time it takes to set up a fund; and (4) the cost to set up a fund. Concentration in the banking sector is likely to be irrelevant when banks are not allowed into the fund industry; we therefore interact bank concentration with a dummy set equal to one if banks are allowed to enter the securities business.

3.3 National economies of scale

While economies of scale are normally conceived to be internal to a firm, *external* economies may also exist. For example, having many securities firms in Manhattan can lead to lower costs for all rivals, who can share common services or hire workers without having to pay relocation expenses. European fund associations have argued that the smaller scale of fund markets in Europe can explain their higher fees (see, for example, Blondeau, de Vinck, and Mansfield, 2005). However, it could also reflect investor preferences for low fee funds.

3.4 Experience effects

Porter (1980), among others, documents experience effects, whereby cumulative experience leads to lower costs and lower fees. While we do not find consistent evidence of these effects at the fund level, they may manifest themselves at the country level. We capture these potential effects through

¹⁷ Djankov et al. (forthcoming) document a positive and statistically significant relation between various measures of stock market development, and measures of minority shareholder protection against self-dealing by controlling shareholders.

¹⁸ We obtain this information from a survey conducted by IOSCO (International Organization of Securities Commissions) for OECD countries. The term "significant participation" is not defined in the survey.

industry age, which is the number of years since funds were first offered in a country.

3.5 Buyer characteristics

We include three characteristics of the potential buyers in each country, measured at the end of 2001: (1) GDP per capita (in dollars); (2) education, measured by the average number of years of full- and part-time education; and (3) the average national savings rate. Wealth, education, and the savings rate may increase the demand for funds, and holding supply constant, may be associated with increased fees. In addition, these factors may also be associated with increased demand for more sophisticated products, for which fund complexes can charge higher fees. On the other hand, increased investor sophistication may depress fees for two reasons. First, more sophisticated investors may be more aware of fees and exert downward pressure on them. Second, more sophisticated investors may need less help in making investment choices. To the extent that part of the fees reflects compensation for providing advice, this should also lead to lower fees. If the second effect is at work, it should be most pronounced when we focus on TSCs because these costs include charges for distribution. If it is the first effect, all fees should be negatively related to investor sophistication.

3.6 Results

We report our key results in Table 5, with the three separate panels reporting on the national variables for management fees in panel A, TERs in panel B, and TSCs in panel C. In each instance, we explain the national fixed effects (from Equation (3)), as a function of a variety of national factors. The explanatory variables are not available for all countries in our sample, which reduces the degrees of freedom in the regression models.¹⁹ To address this issue, we set each explanatory variable equal to zero when it is missing. We then construct a separate indicator variable for each explanatory variable, which is set equal to one if the explanatory variable is missing, and zero otherwise. The coefficients on these dummies are not reported in the table.²⁰ We estimate models with standard errors clustered at the domicile level, due to the lack of independence of these observations.

In model (i), we study the impact of the quality of the legal system (*judicial*) in general, and investor protection in the fund industry (*approvals*) in particular, on fees. We measure these variables both in the country where the fund is domiciled and the country where the fund is offered for sale. Their effect is negative and statistically significant for all sets of fees, except for judicial

¹⁹ In addition, because we treat all island offshore locations as a single observation, we cannot include country data for funds domiciled in these locations.

²⁰ Our results are very similar when we re-estimate the models for those countries for which all the explanatory variables are available.

Table 5
Explaining cross-country differences in fees

	Model (i)		Model (ii)		Model (iii)		Model (iv)	
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Panel A: Management fees (MGT)								
Approval country of domicile	-0.169	0.02	-0.284	0.00	-0.259	0.00	-0.249	0.00
Judicial country of domicile	-0.017	0.28	-0.031	0.09	-0.005	0.77	0.019	0.32
Custodian independent domicile			-0.156	0.02	-0.158	0.04	-0.047	0.53
Conflicts of interest domicile			-0.102	0.03				
Approval country of sale	-0.089	0.01	-0.116	0.00	-0.102	0.00	-0.213	0.00
Judicial country of sale	-0.011	0.01	-0.018	0.00	-0.015	0.01	0.052	0.00
Custodian independent country of sale			-0.073	0.01	-0.046	0.13	-0.106	0.00
Conflicts of interest country of sale			-0.028	0.04				
Log industry assets domicile					0.056	0.10	0.106	0.00
Log industry assets country of sale					0.009	0.76	-0.075	0.01
GDP per capita country of sale							-0.010	0.01
Education country of sale							-0.063	0.00
Industry age country of domicile							-0.129	0.02
Fund family concentration country of sale							-1.059	0.00
Bank concentration country of sale							0.123	0.00
Intercept	2.717	0.00	4.110	0.00	1.879	0.17	0.267	0.79
N		119		119		109		109
Adjusted R-squared		0.35		0.56		0.52		0.73
Panel B: Expense ratio (TER)								
Approval country of domicile	-0.279	0.00	-0.368	0.01	-0.373	0.00	-0.375	0.00
Judicial country of domicile	-0.041	0.04	-0.061	0.00	-0.036	0.10	-0.002	0.95
Custodian independent domicile			-0.163	0.19	-0.203	0.07	-0.056	0.56
Conflicts of interest domicile			-0.095	0.19				
Approval country of sale	-0.108	0.01	-0.131	0.01	-0.110	0.01	-0.175	0.02
Judicial country of sale	-0.011	0.02	-0.017	0.00	-0.015	0.02	0.025	0.13
Custodian independent country of sale			-0.063	0.08	-0.035	0.12	-0.060	0.14
Conflicts of interest country of sale			-0.022	0.15				
Log industry assets domicile					0.042	0.30	0.110	0.00
Log industry assets country of sale					0.008	0.70	-0.043	0.37
GDP per capita country of sale							-0.008	0.07
Education country of sale							-0.037	0.04
Industry age country of domicile							-0.186	0.01
Fund family concentration country of sale							-0.584	0.15
Bank concentration country of sale							0.078	0.23
Intercept	4.167	0.00	6.003	0.00	3.782	0.00	1.838	0.13
N		119		119		109		109
Adjusted R-squared		0.52		0.63		0.62		0.72

Table 5
(Continued)

	Model (i)		Model (ii)		Model (iii)		Model (iv)	
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Panel C: Total shareholder cost (TSC)								
Approval country of domicile	-0.608	0.00	-0.701	0.01	-0.720	0.01	-0.730	0.01
Judicial country of domicile	-0.094	0.01	-0.085	0.02	-0.082	0.01	-0.063	0.09
Custodian independent domicile			-0.247	0.33	-0.276	0.25	-0.197	0.42
Conflicts of interest domicile			0.087	0.55				
Approval country of sale	-0.097	0.02	-0.090	0.02	-0.079	0.01	-0.071	0.17
Judicial country of sale	-0.011	0.09	-0.019	0.01	-0.020	0.01	-0.007	0.69
Custodian independent country of sale			-0.066	0.03	-0.023	0.15	-0.024	0.43
Conflicts of interest country of sale			-0.018	0.43				
Log industry assets domicile					0.067	0.12	0.104	0.04
Log industry assets country of sale					-0.052	0.11	-0.050	0.40
GDP per capita country of sale							0.000	0.99
Education country of sale							-0.016	0.38
Industry age country of domicile							-0.108	0.18
Fund family concentration country-of-sale							-0.036	0.90
Bank concentration country of sale							0.023	0.74
Intercept	6.641	0.00	6.710	0.00	6.721	0.00	5.309	0.01
N		119		119		109		109
Adjusted R-squared		0.70		0.76		0.76		0.76

This table provides clustered OLS regressions of national fee effects. The national effects are computed by summing up the country-of-sale coefficient, the country-of-domicile coefficient, the intercept, and the foreign dummy from regression model (iv) in Table 3, for each country-of-sale/domicile pair. Standard errors are clustered at the domicile level. Three separate sets of analyses based on management fees (MGT), expense ratios (TER), and expense ratios plus loads (TSC) are reported in panels A, B, and C, respectively. A description of the explanatory variables along with their data sources is provided in the Appendix.

quality in the country of domicile in the management fee model. The effect of the country of domicile’s legal system is generally greater than that of the country of sale.

To further explore the link between fees and regulation, we include additional regulatory variables in model (ii). We find that management fees are lower when the countries of domicile and sale require custodians to be independent and have in place mechanisms to reduce conflicts of interest, but these effects are not generally significant for TERs and TSCs. Since these rules primarily address the investment management functions, perhaps their salutary benefit would be primarily observed for management fees.

While we observe an association between certain pro-investor rules and fees, we cannot identify the link between them. One possibility is that in countries with stronger pro-investor rules, fund sponsors face greater constraints (potential lawsuits, regulatory jawboning, administrative actions, or adverse media attention) and hence moderate fee levels. Elsewhere, where *caveat emptor*

rules, fees are freer to rise. Alternatively, clearer legal rules may permit fund companies to reduce certain costs, such as extensive advertising or direct sales that could signal quality.

In models (iii) and (iv), we add measures to capture the impact of scale at the national industry level, i.e., total assets in the country of domicile and the country of sale.²¹ We do this to investigate whether smaller national markets enjoy lower economies of scale and hence charge higher fees. There seems to be little support for this conjecture. If anything, for all three types of fees, larger nationally domiciled markets are associated with higher fees than are nations with smaller domiciled industries, while the effect of industry size in the country of sale is not stable. This result holds *despite* the fact that the United States is included in the sample and has the largest industry and nearly the lowest fees. One possibility is that there is more competition for critical resources, such as high quality fund managers, in larger markets, which leads to increased costs. Similarly, in larger markets, greater competition for investor attention may drive up distribution costs. A third possibility is that the products in larger markets are more specialized, and hence more expensive. We study this conjecture using two proxies for specialization: diversity and uniqueness. To measure diversity, we compute the standard deviation (across funds in a domicile) of several fund level characteristics: beta, market capitalization, price/earnings, price-to-book, and growth. To measure the uniqueness, we compute the fraction of industry assets categorized as Alternative Investments or as Unclassified. We include these proxies in our regression models (not reported in the table). They are never significantly different from zero, except for the fraction of funds categorized as Unclassified, which is positively related to management fees and TERs. However, the coefficient on the size of the domicile remains positive and significant in all specifications, suggesting that the positive relation between market size and fees is not caused by the complexity of the products that are offered.

In model (iv), we include characteristics of the investors in the country in which the fund is sold, the age of the industry in the country where the fund is domiciled, and concentration in the fund sector and the banking sector. The investor characteristics include per capita GDP and the level of education. For management fees and TERs, GDP and education are inversely related to fees. These results are consistent with the notion that better educated investors in wealthier countries are more aware of fees and thereby put pressure on fund management companies to keep fees at reasonable levels. These findings weaken when we study TSCs, which incorporate more expensive selling

²¹ We lose 10 observations in models that include industry size measures. This is because all offshore markets, except for Luxembourg and Dublin, are combined into one country observation in these models. However, it would be inappropriate to use this country definition to compute industry size.

services. This suggests that greater investor education and wealth may not reduce the need for, and expense of, selling activities.²²

With respect to experience effects, we find that all three fees are lower when the fund industry in the domicile country is older, but only significantly so for management fees and TERs. This is consistent with the view that cumulative experience leads to lower costs or greater investor sophistication, and therefore lower fees in a competitive environment. However, the different results for TSCs suggest that selling activities may not follow this pattern. In older industries, competition may require more, and more costly, distribution activities.

Regarding concentration in the banking sector and the fund industry, we find that management fees are higher when the banking sector is more concentrated, but this result loses statistical significance for TERs and TSCs. One possible explanation is that distribution costs are lower for banks, so that they can charge higher management fees without increasing TSCs to investors. In contrast, we find that concentration in the fund management industry is associated with lower management fees. This result may appear counterintuitive. Industry practitioners have suggested that this may be the case because fund concentration is often the result of industry consolidation, with attendant cost savings passed onto consumers.²³

In unreported models, we also include the cost and the amount of time it takes to set up a fund as measures of barriers to entry and the savings rate in the country of sale as an additional investor characteristic. These variables are not significant at conventional levels, with one exception: total expense ratios are positively related to setup costs in the country of domicile.

In sum, even after controlling for fund and family characteristics, residual country fee differentials exist and can be explained by a handful of country factors related to demand, supply and, in particular, regulation.

4. Additional Tests and Robustness

In this section, we report the results of a number of additional tests conducted to investigate the robustness of our estimation methods, the definition of fees, and the impact of foreign domicile on expenses.

4.1 Alternative two-stage estimation methods

In current first-stage model (Table 3), we separately estimate domicile and country-of-sale fixed effects. We then add these effects to obtain the country fixed effect (Equation (3)). An alternative is to estimate the first-stage models with fixed effects reflecting domicile and country-of-sale pairs. For example, rather than estimating a Belgian domicile fixed effect and a Swiss country-of-sale fixed effect, and adding the two together, one can estimate a single

²² There is a high correlation between measures of investor sophistication and judicial quality. As a result, judicial quality in the country of sale becomes insignificant or even significantly positive in some specifications.

²³ We are grateful to Ben Phillips of Putnam Lovell NBF for suggesting this interpretation.

Belgian domicile/Swiss country-of-sale fixed effect. We have conducted this analysis, and estimated 119 joint effects. We use these effects in our second-stage estimation. Because the results of this approach are similar to the ones reported in the paper, we do not include them in a separate table. These results are available from the authors upon request.

As a second robustness check of our two-stage estimation procedure, we re-estimate the models in Table 3 using ordinary least squares (OLS) instead of weighted least squares (WLS). This approach yields results consistent with the ones reported in Table 3, except that fund age is always negatively related to fees in all OLS models. Our second stage findings remain the same when we employ the country fixed effects from the OLS models (not reported in a table).

4.2 One-stage estimation

Our two-stage estimation approach enables us to explicitly report and then analyze fee differentials by country after controlling for fund and sponsor characteristics. An alternative is to analyze fund charges as a function of fund, sponsor, and national characteristics in one stage. Estimating all of the effects in one model also has a dramatic impact on the importance of each country in the regression. In Table 5, each domicile/country-of-sale pair accounts for one observation. Since US-domiciled funds are only sold in the United States, there is only one US-related observation in Table 5, which therefore accounts for less than 1% of all observations. On the other hand, when estimating the model in one stage and using WLS, US funds account for almost 45% of the value-weighted observations.

For the sake of brevity, we do not report these findings in a table; they are available from the authors upon request. In general, the economic importance of the results of this one-stage estimation approach is similar to that reported in Tables 3 and 5, but the statistical significance is stronger in many instances. For example, we find a significant negative relationship between all sets of fees and GDP and education in the country of sale, and a positive relationship between fees and bank concentration in the country of sale. All of these findings are only significant for management fees in Table 5. The similarity between the findings of both estimation approaches is reassuring.

4.3 Return-gap analysis

Investors not only pay explicit fees, like TERs, but also implicit fees in the form of commissions, market impact, and other security trading costs. These latter fees are not included in our analysis, but may also vary across countries. One way to proxy for total fees is to study index funds and compare the actual return of the index fund to the performance of the underlying index. This “return gap” analysis permits us to determine if our measure of fees is closely related to the full economic costs borne by fund investors.

We employ this approach for all the index funds in our sample for which the fund name contains the name of the index the fund is tracking.²⁴ Out of 1,166 index funds in the sample, 168 funds specify the actual index in their name, and for 151 of these funds, we can find annual return data on Datastream for the index for 2002. We remove six cases where the absolute value of the return gap is more than 5%. These are likely cases where the fund defines itself as an index fund, but follows an active strategy for at least part of its portfolio. We then compute the correlation between the expense ratio employed in our study and the return gap measure. The regular correlation coefficient is 0.58 (p -value = 0.00), and the rank correlation is 0.63 (p -value = 0.00).²⁵ The average expense ratio for these funds is 0.94% and the return gap is 0.90%. This significant correlation and similarity in magnitudes of the two figures indicates that the expense ratio we employ is a good measure of the total economic costs borne by investors.²⁶

4.4 Exporting funds versus setting up local operations

As reported in Table 3, funds domiciled in one country and offered for sale in another are 2–4 basis points cheaper than domestic funds. Rather than merely offering funds for sale in a different country, a foreign fund promoter can set up a local subsidiary in that country. Our existing tests would treat these funds as domestic funds because they would be subject to the laws and regulations of the country where the subsidiary is domiciled. However, setting up operations in foreign locations could be costly, and, therefore, lead to higher fees. We investigate this possibility.

We hand collect information on the ultimate origin of the fund management company to address this question. We construct a “foreign origin” dummy, set equal to one if the ultimate owner of the fund management company is located in a different country. We include this variable in the models of Table 3, but continue to include the regular foreign dummy in these specifications as well. The coefficient on the “foreign origin” dummy is positive and significant in all specifications (not reported in the tables). It ranges from 2 basis points for management fees to 6 basis points for TSCs. However, the coefficient on the “foreign fund” dummy, which represents the mere importing of funds, remains negative and significant in these specifications. It appears that setting up operations in a foreign country is more expensive than simply exporting funds into that country.

²⁴ An alternative approach would be to employ the benchmark reported in the Morningstar database as the underlying index. However, we often find that this benchmark does not correspond to the index being tracked by the fund. As a consequence, using only index funds whose name contains the index being tracked is more reliable.

²⁵ The correlation increases to 0.82 (p -value = 0.00) if we further restrict the definition of index funds to funds with a return gap above zero and below 2.5% ($n = 124$).

²⁶ We could directly use this return gap as a measure of direct and indirect shareholders costs in our analyses. Unfortunately, for many domicile/country-of-sale pairs, there are few or no index funds available to construct such a measure at the country level. As a result, the sample size declines by more than 70% to 32 pairs of countries, which is too small to draw meaningful conclusions.

5. Conclusion

This paper examines fund fees in developed countries. Several key findings emerge. First, while mutual funds are offered for sale in many countries, fees vary from fund to fund and from country to country. Second, some of these differences are related to fund and fund family characteristics. Fees are lower for larger funds and fund families, index funds, funds of funds, guaranteed funds, and funds that require a higher minimum investment. Third, cross-border fund sales are economically large and related to fees. All types of fees are lower for onshore funds sold across borders. However, when the fund management company is set up by a foreign company, fees are higher. In addition, the more countries in which a fund is registered for sale, the more expensive it is, and this effect begins to swamp the cross-border discount when funds are sold in more than three countries. The beneficial effect of cross-border sales on fees does not characterize the offshore market. Fees of all types for offshore funds are higher than for domestic funds, except management fees for Luxembourg-domiciled funds. This effect is particularly pronounced for offshore funds sold in high-tax countries.

In the second part of the study, we explain how country factors are related to fees, after controlling for fund and family level characteristics. Fees are lower in countries whose judicial systems are superior, where there are regulations requiring an independent custodian, and where there are rules requiring funds to obtain certain approvals. These results apply to the country where the fund is domiciled and where the fund is offered for sale. Management fees are lower in nations with higher per capita GDP, a more educated population, an older and smaller domiciled fund industry, and a less concentrated banking sector (or one where banks are not allowed to enter the securities business). The positive relationship between fees and the size of the domiciled industry and the negative relationship between fees and industry age also hold for expense ratios and total shareholder costs. Some of these findings fit well with normal intuition (e.g., older industries offer lower fees), but others are more challenging to explain (e.g., why countries with smaller domiciled industries charge lower fees).

There is a substantial interest in understanding the relationship between laws and economic development. While our evidence supports the idea that greater investor protection is related to lower fees, it is more difficult to trace out how this relationship works. For example, do the protections affect which firms choose to do business in a country? Do they change how firms actually set prices in those countries? Do they go hand in hand with actual or threatened legal actions against funds charging high fees? Do both investor protections and low fees jointly reflect social and business norms? While there is more work needed to untangle these issues, we first need to establish certain baseline facts, which is our goal for this work.

6. Appendix: Definitions and Sources of Potential Explanatory Variables

Determinant	Variable	Source
General investor protection	Efficiency of judicial system	La Porta et al. (1998)
	Rule of law Corruption Risk of expropriation Risk of contract repudiation (all these variables are scaled between 1 and 10, a higher number representing a better judicial system, less corruption, and lower risk of expropriation and repudiation) Summed up value of above variables (<i>judicial</i>) Mean = 47; median = 47	
Mutual fund investor protection	Does fund startup require regulatory approval? (= 1 if yes)	KPMG (2002); Thompson and Choi (2001); IOSCO (2002)
	Does the prospectus require regulatory approval? (= 1 if yes) Summed up value of above variables (<i>approval</i>) Mean = 1.6; median = 2.0	
Potential conflicts of interest between the fund and fund investors	Do custodians need to be independent? (= 1 if Yes) (<i>custodians independent</i>)	KPMG (2002), Thompson and Choi (2001)
	Mean = 0.37; median = 0 Are there regulatory requirements or industry best practice standards on internal control? (= 1 if yes) The fund cannot have a significant participation in the company in which it invests? (= 1 if yes) Can the fund use disclosure to deal with potential conflicts? (= 1 if yes) Summed up value of the above variables (<i>conflicts of interest</i>) Mean = 2.5; median = 3.0	
National economies of scale	The size of a country's mutual fund industry (<i>industry assets</i>) (in \$ billion)	Lipper Fitzrovia, Morningstar, Financial Research Corporation
Economic development	Mean = 532.1; median = 162.5 <i>GDP per capita</i> (in \$ 000)	World Bank (2003)
Education	Mean = 26.2; median = 23.6 Total years of education averaged for men and women (includes part-time education) (<i>education</i>)	World Bank (2003)
Savings rate	Mean = 14.4; median = 15.5 Household savings as a percent of disposable income (<i>savings rate</i>) Mean = 23.0; median = 22.2	EIU (2003)

Determinant	Variable	Source
Industry age	Age of the industry as of 2001 (in years) <i>(industry age)</i>	KPMG (2002), Ernst & Young, Cadogan, Lexis-Nexis, Factiva, Country fund industry websites
Fund family concentration	Mean = 40.3; median = 34.0 The percentage of industry assets accounted for by the top five fund complexes (<i>fund family concentration</i>) Mean = 0.46; median = 0.44	Morningstar, Lipper Fitzrovia, Financial Research Corporation
Concentration of banking sector	Percentage of total banking assets held by top five banks (<i>bank concentration</i>)	Cetorelli and Gambera (2001)
Ease of entry into the fund industry	Mean = 0.64; median = 0.69 <i>Cost of setting up a new fund</i> Mean = \$58,924; median = \$31,375 <i>Time required to set up a new fund</i> (in days) Mean = 112; median = 90	KPMG (2002)

Names of variables used in the regression models have been italicized.

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