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# European Fund Expenses Are Decreasing in Percentage But investors pay more in nominal values.

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## Morningstar

August 2016

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## Executive Summary

Our study of European investment funds finds that the asset-weighted ongoing charge for the full European fund universe is 1.00% in 2016, down from 1.09% in our 2013 study named "Expenses in Nordic Investment Funds in a European Context." The decline is, among other factors, a result of the increasing penetration of clean share classes (without commission fee) but also investors' general increased preference for less expensive funds.

Across the three broad asset classes, equity, fixed-income and allocation, the asset-weighted ongoing charge for Europe also decreased overall, compared with the findings in the 2013 study.

Albeit the overall ongoing charge across the European national borders decreased in percentage, investors pay more in nominal values now than in 2013. We estimate that the annual payment by investors in European investment funds exceeds EUR 61 billion in ongoing charges, up from EUR 53 billion in 2013. The reason is that the increase in managed assets more than offsets the drop in ongoing charges.

Across all European countries, the overall deduction in the price tag for a commission-free equity class is 46 basis points. This can be interpreted as the ongoing expense paid by investors for receiving financial advice. Depending on what investors using clean classes actually end up paying directly to their financial advisors for advice, it might--from a pure cost view--be more or less beneficial to choose a clean class. Generally speaking, if they pay less than 46 basis points, they should choose a clean equity class and otherwise choose a class that includes a distribution fee. The latter assumes that investors actually receive investment advice for their paid distribution fee. If they do not, they are better off with a distribution-free class.

Among the countries in the study, Sweden, Germany, the Netherlands, and Switzerland all exhibit the highest degree of economies of scale to the benefit of investors. In general, these countries are attractive from a cost point of view, but they become even more attractive relative to the other countries in the study as investors prefer larger funds and fund companies from these countries and the investors realize economies of scale. For three countries, we found no economies of scale for the investors.

Our time-series analysis reveals that expensive funds have a clear tendency to stay expensive--and vice versa for their cheaper counterparts. This suggests that past ongoing charge levels are a strong predictor of future levels. All things equal, funds that are attractive today because of a low cost level will continue to be attractive in the future.

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### Key Take-Aways

- ▶ The asset-weighted ongoing charge for the full European fund universe is 1.00% in 2016, down from 1.09% in our 2013 study. The decline is, among other factors, a result of the increasing penetration of clean share classes (without commission fee) but also a result of investors' general increased preference for less expensive funds.
- ▶ However, albeit the overall ongoing charge across the European national borders decreased in percentage, investors pay more in nominal values now than in 2013. Based on analyzed assets under management, the annual payment of investors in European funds exceeds EUR 61 billion in ongoing charges, up from EUR 53 billion in 2013. The reason is that the increase in managed assets more than offsets the drop in ongoing charges.
- ▶ With an asset-weighted ongoing charge of just 0.62% across the fund universes, investors in Ireland and Switzerland pay well below the European average of 1.00%. This appears to be a combination of relatively large allocations to passive vehicles and institutional classes but also--especially for Ireland--a relatively high allocation to money market funds. Investors in Norway, the Netherlands, and Sweden also pay competitive expenses at the low end--well below the European average.
- ▶ Southern European countries such as Italy, Spain, and France, but also investors in Belgium-domiciled funds, in average pay higher fees relative to most other domiciles.
- ▶ Not all fund investors across the national borders experienced declining fund expenses compared with 2013. Investors in four countries, Denmark, Germany, Italy and Spain, pay higher asset-weighted fund expenses on average than they did in 2013.
- ▶ Overall, 10.3% of the assets (in equity funds) included in our analysis are invested in passive funds, up from 8.0% in 2013. Despite increased investor focus, the proportion is still low and covers variation across countries. Not only do the proportions of market share vary across the countries but so also do the expenses paid by investors in passive equity funds. The overall asset-weighted ongoing charge paid by passive equity fund investors across Europe is 0.31%, compared with 1.38% for active funds. In general, we find that increased penetration of passive funds is inversely related to the asset-weighted ongoing charge for such funds.
- ▶ Across all European countries, the overall deduction in the price tag for a commission-free equity class is 46 basis points. This can be interpreted as the ongoing expense paid by investors for receiving access to financial advice. Depending on what investors using clean classes actually are paying directly to their financial advisors for advice, it might--from a pure cost view--be more or less beneficial to choose a clean class. Generally speaking, if they pay less than 46 basis points, they should choose a clean class and otherwise choose a class that includes a distribution fee. The latter assumes that investors actually receive investment advice for their paid distribution fee. If they do not, they are better off with a distribution-free class.
- ▶ Among the countries in the study, Sweden, Germany, the Netherlands, and Switzerland all exhibit the highest degree of economies of scale to the benefit of investors. In general, these countries are attractive from a cost point of view but become even more attractive as investors prefer larger funds and fund companies from these countries and the funds become even cheaper as a result of economies of scale passed on to investors.
- ▶ For Belgium, Denmark, and Portugal, we found no economies of scale for the investors. For Denmark--as the only country in the study--we even found a positive relationship with one of the parameter estimates. This means that the ongoing charge goes up with increasing AUM for fund companies in Denmark. As such, Danish fund investors are better off choosing fund companies with fewer assets.

- ▶ We also find that expensive funds have a clear tendency to stay expensive--and vice versa for their cheaper counterparts. This suggests that past ongoing charge levels are a strong predictor of future levels. All things equal, funds that are attractive today because of a low cost level will continue to be attractive in the future.

### **About the Analysis**

With the introduction of the Key Invest Information Document, or KIID, in July 2011, a new cost figure for Europe-domiciled funds came into play. This new figure was named ongoing charge and is a required key figure in all KIIDs.

In October 2013, Morningstar published the first and--as far as we are aware of--most comprehensive study done on the ongoing charge: "Nordic Mutual Fund Expenses in a European Perspective." More than 23,100 unique funds and 51,500 share classes from 21 countries were included in the analysis, and the total market cap covered exceeded EUR 4,900 billion.

This study follows up on the October 2013 study. We compare our new findings to the findings from the 2013 study, and we slightly revise our regression model to keep scope with the more recent trends in the market such as the introduction of clean classes. In this study, we also run a time-series regression including obsolete funds. The total number of included share classes exceeds 54,000 currently alive classes (market cap EUR 6,100 billion). For the time series including dead funds, the number of share classes exceeds 90,000. Our focus is where funds are domiciled and not where they are sold.

### **Definition of Ongoing Charge**

Ongoing charges are payments deducted from the assets of a UCITS fund where such deductions are required or permitted by national law and regulation, the fund rules or instrument of incorporation of the UCITS fund, or its prospectus, including all types of cost borne by the UCITS fund, whether they represent expenses necessarily incurred in its operation, or the remuneration of any party connected with it or providing services to it. These costs may be expressed or calculated in a variety of ways (for example, a flat fee, a proportion of assets, a charge per transaction, and so on).

Ongoing charge includes:

- ▶ (a) All payments to the following persons, including any person to whom they might have delegated any function:
  - ▶ The management company of the UCITS fund
  - ▶ Directors of the UCITS fund if an investment company
  - ▶ The depositary
  - ▶ The custodian(s)
  - ▶ Any investment advisor
  
- ▶ (b) All payments to any person providing outsourced services to any of the above, including:
  - ▶ Providers of valuation and fund accounting services
  - ▶ Shareholder service providers, such as the transfer agent and broker/dealers who are record owners of the UCITS fund's shares and provide sub-accounting services to the beneficial owners of those shares
  
- ▶ (c) Registration fees, regulatory fees, and similar charges
- ▶ (d) Audit fees
- ▶ (e) Payments to legal and professional advisors
- ▶ (f) Any costs of distribution

- ▶ (g) Transaction-based payments made to any of the persons listed in (a) or (b).
- ▶ (h) Subscription and/or redemption fees that are payable by the UCITS fund in relation to the acquisition or disposal of units in an underlying collective investment undertaking, or CIU.

Ongoing charge excludes:

- ▶ (a) Entry/exit charges or commissions or any other amount paid directly by the investor or deducted from a payment received from or due to the investor
- ▶ (b) A performance-related fee payable to the management company or any investment advisor
- ▶ (c) Interest on borrowing
- ▶ (d) Payments to third parties to meet costs necessarily incurred in connection with the acquisition or disposal of any asset for the UCITS fund's portfolio, whether those costs are explicit (for example, brokerage charges, taxes, and linked charges) or implicit (for example, costs of dealing in fixed-interest securities, market-impact costs)
- ▶ (e) Payments incurred for the holding of financial derivative instruments (for example, margin calls)
- ▶ (f) The value of goods or services received by the management company or any connected person in exchange for placing of trading orders (soft commissions or any similar arrangement)

The above definition is according to "CESR's guidelines on the methodology for calculation of the ongoing charges figure in the Key Investor Information Document."

The most significant difference between total expense ratio and ongoing charge is that the performance fee is included in the total expense ratio but not in the ongoing charge. Therefore, the ongoing charge may understate actual fees for funds with a performance fee. In our multiple regressions later in the analysis, we use performance fee as an explanatory variable to examine whether funds with a performance fee actually have a lower fixed fee base than funds without this fee. Based on our experience, we know that total expense ratio does not always include all layers of expenses--especially in fund-of-funds structures, we have found that the total expense ratio may understate investors' real expenses. With the ongoing charge, all layers of expenses should be included.

Another difference between total expense ratio and ongoing charge is that the latter can be an estimated value. This allows us to include funds in our analysis that have not yet existed for one full accounting statement year.

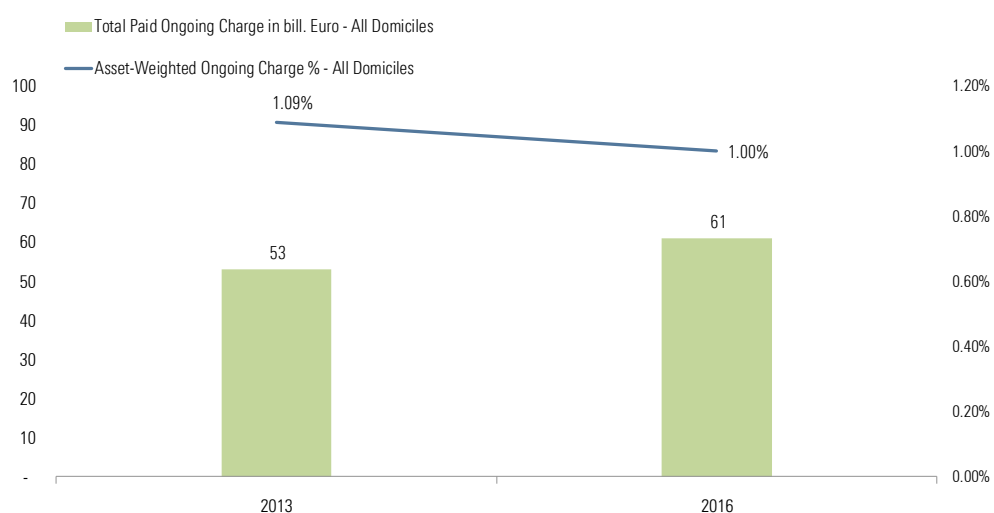
### Asset-Weighted Ongoing Charge Decreased in Percentage but Increased in Nominal Value

The first part of the analysis provides a comparison based on broad asset classes of expenses across national borders in Europe. The comparison is more general in perspective and does not take into account the variations in the fund market in individual European countries. This will be covered in the second part of the analysis.

The asset-weighted ongoing charge across all funds is currently 1.00%, down from 1.09% in our 2013 study. Albeit the overall ongoing charge across the European national borders decreased in percentage, investors pay more in nominal values now than in 2013. Based on analyzed assets under management, investors in European funds pay EUR 61 billion in annual ongoing charges, up from EUR 53 billion in 2013. The reason is that the increase in managed assets more than offsets the drop in ongoing charges.

In nominal values, most expenses are paid by funds domiciled in Luxembourg, the largest fund hub in Europe with more than one third of all assets, with an annual payment of more than EUR 24 billion (second column in Exhibit 2), equal to 40% of all paid expenses for European funds. The UK comes in second with annual expenses exceeding EUR 8 billion, France third with EUR 6.5 billion, followed by investors in Ireland-domiciled funds with annual expenses of EUR 4.8 billion.

#### Exhibit 1 European Fund Expenses Are Decreasing in Percentage but Increasing in Nominal Values



Source: Morningstar Direct. Data as of 01/05/2016. Exhibit 1 illustrates estimated asset-weighted ongoing charge in 2013 and 2016 in percentage (line & 2nd axis) and billion Euro (bar & 1st axis) as an annual payment.

The decline in asset-weighted ongoing charges in percentage across all funds is, among other factors, a result of the increasing penetration of clean share classes – in particular in the Netherlands and United Kingdom, where commissions have been banned. However, the overall decline cannot only be attributed to the introduction of clean classes. Investors in other countries with no or only limited use of clean classes also pay less now compared with the 2013 study. Examples are Sweden and Norway, with asset-weighted ongoing charges of 0.86% and 0.65%, respectively, down from 1.03% and 0.72% in our previous study.

In the 2013 study, Norwegian investors were the low-cost leaders and paid the lowest costs in Europe with an asset-weighted ongoing charge of 0.72%. Albeit Norwegian investors also pay less today, they

are surpassed by investors in funds domiciled in Ireland and Switzerland, which now have lower expenses. With an asset-weighted ongoing charge of just 0.62% across the fund universes, investors in the two countries pay well below the European average of 1.00%. This appears to be a combination of a relatively large allocation to passive vehicles and institutional classes and--especially for Ireland--a relatively high allocation to money market funds.

## Exhibit 2 Overall Asset-Weighted Ongoing Charge Decreased Compared With Our 2013 Study

Country/Year	Asset-Weighted Average Net Expense Ratio													
	AUM bill. EUR	Overall mill. EUR	Overall %			Equity %		Fixed Income %		Allocation %		Money Market %		Alternatives%
			2016	2013	2016	2013	2016	2013	2016	2013	2016	2013	2016	2016
Austria	73	818	1.12	1.12	1.95	1.92	0.68	0.68	1.69	1.57	0.20	0.21		
Belgium	75	1,101	1.53	1.47	1.40	1.40	0.99	1.01	1.73	1.60	0.59	0.37		
Denmark	105	1,197	1.09	1.14	1.47	1.47	0.84	0.81	1.03	1.10			1.88	
Finland	79	852	1.10	1.08	1.60	1.49	0.62	0.62	1.25	1.39	0.32	0.14	1.39	
France	775	6,460	0.86	0.83	1.62	1.61	0.64	0.57	1.74	1.64	0.17	0.10	1.37	
Germany	321	3,999	1.18	1.25	1.49	1.48	0.75	0.75	1.59	1.55	0.51	0.25	1.07	
Ireland	777	4,851	0.78	0.62	1.14	1.01	0.87	0.73	1.71	1.93	0.27	0.13	1.12	
Italy	157	2,234	1.33	1.42	2.11	2.11	0.99	1.02	1.62	1.56	0.44	0.46	1.23	
Liechtenstein	19	216		1.14		1.59		0.58		1.81		0.28	1.46	
Luxembourg	2,147	24,230	1.22	1.13	1.58	1.43	1.00	0.81	1.64	1.59	0.26	0.22	1.38	
Netherlands	50	375	1.18	0.75	1.29	0.71	0.84	0.57	1.27	1.00			2.23	
Norway	95	616	0.72	0.65	1.11	0.98	0.28	0.26	1.20	1.09	0.21	0.20		
Portugal	11	110		1.00		2.04		0.70		1.52		0.38	1.85	
Smaller Countries	3	50	0.85	1.53	1.73	2.07	0.85	1.10	1.20	1.91			0.92	
Spain	232	2,803	1.04	1.21	1.87	1.80	0.81	0.78	1.14	1.37	0.56	0.48	1.38	
Sweden	292	2,520	1.03	0.86	1.09	0.94	0.52	0.41	1.14	0.98	0.37	0.14	1.10	
Switzerland	136	845	0.79	0.62	1.29	0.65	0.56	0.28	1.47	1.23	0.17	0.13	0.83	
United Kingdom	798	8,186	1.22	1.03	1.26	1.05	0.86	0.74	1.49	1.23	0.23	0.17	0.78	
All Domiciles	6,145	61,464	1.09	1.00	1.43	1.27	0.89	0.74	1.56	1.47	0.23	0.15	1.25	

Source: Morningstar. Data as of 01/05/2016.

In addition to the two cost leaders, Switzerland and Ireland, investors in Norway, Netherlands, France, and Sweden also pay competitive expenses at the low end--well below the European average of 1.00%. The commission ban in both the UK and the Netherlands increased the penetration of clean classes in the two countries and brings overall lower asset-weighted ongoing charges as investors are targeting cheaper classes. The paid expenses in the Netherlands dropped 43 basis points to 0.75%, down from 1.18%. In the UK, the drop equaled 19 basis points, down to 1.03% from 1.22%.

Apart from investors in Ireland-domiciled allocation funds, all of the cost leaders--Switzerland, Ireland, Norway, the Netherlands, France, and Sweden--saw a decrease in the asset-weighted ongoing charges within the major asset classes: equity, fixed-income, allocation, and money market funds. The main reason for France being attractive on the asset-weighted ongoing charge is the investors' preference for and use of money market funds. Forty percent of assets in France-domiciled funds are allocated to this asset class, which is the highest allocation across the nations and well above the European average of 15%. As we will see later in our study, French funds are, overall, relatively expensive compared with other European countries. The asset-class level in the table above also gives an indication in this direction.

Apart from the group of countries under “Smaller Countries,<sup>1</sup>” investors in Belgium and Italy pay the most, with asset-weighted ongoing charges of 1.47% and 1.42%, respectively. Investors in these two countries also faced the highest asset-weighted ongoing charge in the 2013 study, but for Italian investors the costs increased further, up from 1.33% in 2013, whereas Belgian investors followed the overall decreasing trend across Europe, down from 1.53% in 2013. The latter is primarily due to lower asset-weighted ongoing charges within the asset class for allocation funds.

Investors in Italian domiciled funds paid more or less the same range of asset-weighted ongoing charges within the broad asset classes as in 2013. However, investor preferences changed from cheaper fixed-income funds to more-expensive allocation funds, increasing the overall asset-weighted ongoing charge.

Not all fund investors across the national borders experienced declining fund expenses compared with 2013. Investors in four countries, including Denmark, Germany, Italy, and Spain, pay higher fund expenses on average than they did in 2013. The largest increase in asset-weighted ongoing charge was faced by investors in Spain-domiciled funds as costs rose 17 basis points to 1.21%. In the remaining three countries, the increases were 9 basis points to 1.42% in Italy, 7 basis points to 1.25% for investors in Germany-domiciled funds, and, finally, paid expenses rose 5 basis points to 1.14% for Denmark-domiciled funds.

For Spain, ongoing charges increased primarily because of a change in investors' preferred asset mix compared with the 2013 study. Market shares in guaranteed and fixed-income decreased as investors shifted away from these funds and instead favored allocation funds. Market share for the latter increased to 47%, up from 24% in 2013. Interestingly, the asset-weighted ongoing charges within this asset class in Spain also increased along with managed assets 23 basis point to 1.37%, up from 1.14% in 2013.

In Germany, the increased asset-weighted ongoing charge is largely a result of investors' shift away from cheaper property funds to more-expensive equity and allocation funds. For Denmark, investors' increased preference for allocation and equity funds (at the expense of fixed-income funds), combined with increased asset-weighted ongoing charges within the allocation funds' asset class, drove the overall ongoing charge up.

In Luxembourg, the asset-weighted ongoing charge is 1.13%, down from 1.22% in the 2013 study but still above the European average.

Isolated to equity funds, the asset-weighted ongoing charge for Europe is 1.27%, down from 1.43% in 2013. All countries except for Denmark (a marginal increase) contributed to this decline in ongoing charge in Europe.

Switzerland-domiciled equity funds are the low-cost leader at 0.65%, but investors in Dutch funds are also in the low end in equity share classes with an asset-weighted ongoing charge of 0.75%--a 43-basis-points drop from 2013. Sweden comes in third with an asset-weighted ongoing charge 0.94%. Investors in equity funds from Netherlands and the UK saw the largest drop in asset-weighted ongoing charges

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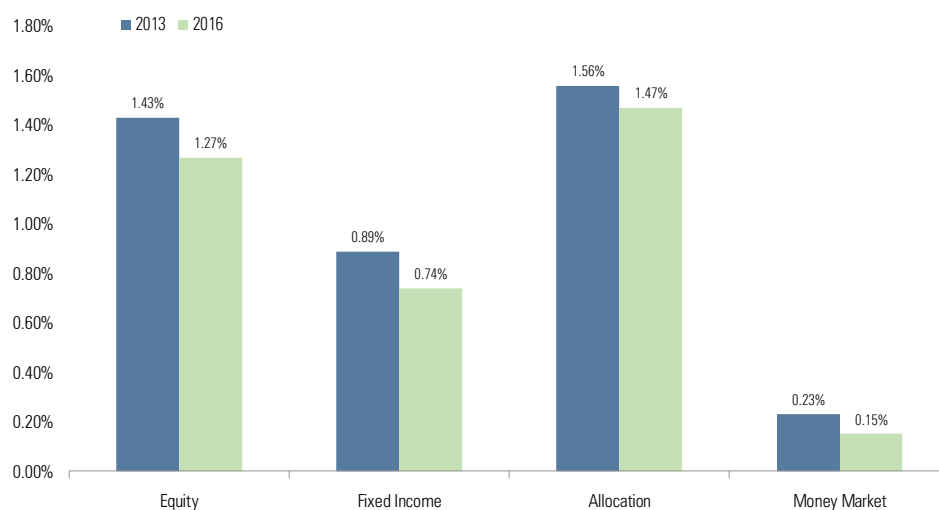
<sup>1</sup>) The countries in this category consist of Estonia, Guernsey, Iceland, Jersey, Latvia, Lithuania, Malta, and Slovenia. Compared with the 2013 study, we now include Liechtenstein and Portugal as single countries in this study.



with a 58- and 21-basis-points drop, respectively, compared with 2013. Investors in Swiss funds realized an even larger decrease, but the 2016 figures are not totally comparable with 2013, as ongoing charges were not mandatory in Switzerland at that time. Hence, only a limited number for funds were included in the previous study.

The asset-weighted ongoing charge is 2.11% in equity funds from Italy, the highest in all of Europe.

#### Exhibit 1A European Fund Expenses Are Decreasing in Percentage Across Major Asset Classes



Source: Morningstar Direct. Data as of 01/05/2016. Exhibit 1A illustrates estimated asset-weighted ongoing charge in 2013 and 2016 in percentage across the major asset classes, equity, fixed-income, allocation, and money market funds.

On the fixed-income side, the asset-weighted ongoing charge across all countries is 0.74%. This equals a 15-basis-points decrease from our 2013 study. Most countries contributed to the decline, but investors in Italy-, Belgium-, and Germany-domiciled funds overall realized minor increases in paid expenses. Again, the Netherlands and the UK led the way--this time together with Luxembourg and Ireland--with the largest decreases.

However, Norwegians still pay the lowest amount when investing in fixed-income share classes. The asset-weighted ongoing charge is as low as 0.26%, and only Switzerland's is close to Norway's with an asset-weighted ongoing charge of 0.28%. Third-lowest on the fixed-income side is Sweden's with 0.41%.

Among the three largest (asset-based) broad categories--equity, fixed-income, and allocation funds--investors in the latter, allocation funds, realized the smallest decrease in the asset-weighted ongoing charge compared with the 2013 study. Investors in such funds pay on average 1.47%, down from 1.56% in 2013. Allocation funds as a group are becoming increasingly popular among investors, and the group's total market share in our study increased to 18%, up from 14% in 2013.

Sweden and the Netherlands are the cost leaders within allocation funds, with 0.98% and 1.00%, respectively. Investors in Irish allocation funds pay the most, but French and Belgian allocation funds charges are also among the highest in Europe, with an asset-weighted ongoing charge of 1.64% and

1.60%, respectively. Allocation funds account for two thirds of the Belgian fund market, a market share no other European country can match.

Investors within allocation funds experienced increased asset-weighted ongoing charges in four countries: Denmark, Finland, Ireland, and Spain. Most noticeable is Spain, which was cheapest within this class in our 2013 study, while in this updated study, expenses increased most—even though close to half of the Spanish fund market is allocated to this asset class.

### Increasing Demand for Passive Funds Across Europe, but Costs Vary

Passive funds (index-trackers) have become increasingly popular among investors and are gaining importance in the portfolio-construction process. This is not surprising given their ability to help investors implement broad portfolios at low fees and the difficulty many active managers have in beating their benchmarks after costs.

Index-trackers have grown their market share in recent years, especially in the US but also in Europe—a growth that especially has been driven by exchange-traded funds. The latter is not part of this analysis, and the estimated allocation and penetration of index funds in this analysis should be considered relative to the European fund market in the traditional sense.

As in the US, the penetration of index-trackers in Europe is (still) concentrated to equity funds, which sit on 75% of all assets in passive investment funds across Europe. The table below shows the passive equity funds' market share of the total equity fund market across the European fund markets.

#### Exhibit 3 Increased Demand for Passive Funds Across Europe, but Penetration and Expenses Vary

Country/Year	Global Broad Asset Class: Equity				
	Passive Mkt Shr (%)		Asset-Weighted Average Net Expense Ratio (%)		
	2013	2016	Active 2016	Passive 2016	Passive-Active Net OGC Spread (bps)
Austria	0.9%	1.4%	1.93%	1.26%	-0.67%
Belgium	15.1%	16.2%	1.53%	0.71%	-0.82%
Denmark	4.9%	6.5%	1.54%	0.59%	-0.94%
Finland	6.0%	9.2%	1.58%	0.64%	-0.94%
France	9.2%	3.2%	1.64%	0.57%	-1.08%
Germany	0.3%	0.2%	1.48%	0.68%	-0.80%
Ireland	24.5%	26.7%	1.31%	0.20%	-1.11%
Italy	0.0%	0.0%	2.11%		
Liechtenstein		0.0%	1.59%	1.29%	-0.30%
Luxembourg	2.4%	4.6%	1.48%	0.47%	-1.02%
Netherlands	1.0%	25.8%	0.85%	0.30%	-0.55%
Norway	18.7%	26.5%	1.28%	0.17%	-1.11%
Portugal		0.0%	2.04%		
Smaller Countries	0.0%	0.2%	2.07%	1.87%	-0.20%
Spain	8.8%	9.1%	1.89%	0.96%	-0.93%
Sweden	9.0%	13.0%	1.02%	0.37%	-0.65%
Switzerland	21.0%	50.0%	1.19%	0.12%	-1.07%
United Kingdom	10.5%	11.2%	1.14%	0.30%	-0.85%
All Domiciles	8.0%	10.3%	1.38%	0.31%	-1.07%

Source: Morningstar. Data as of 01/05/2016.

Overall, 10.3% of the assets (in equity funds) included in our analysis are invested in passive funds, up from 8.0% in 2013. Despite increased investor focus, the proportion is still low and covers variation across countries. Switzerland by far tops the penetration of index funds in Europe with an allocation of 50%. Switzerland's quite significant deployment of passive funds is mainly due to its pension system, which promotes the use of low-cost index funds.

Ireland, Norway, and the Netherlands follow Switzerland in the European context of countries with the most extensive use of passive products in locally domiciled fund ranges--but they by far lag Switzerland. The three countries have an allocation to locally domiciled passives of around 25% to 27%. Belgium, Sweden, and the UK come in next with passives in the range of 11%-16%, while such funds (again, not including ETFs) are not a significant factor in Austria, Germany, and Italy. Noticeable is the increased penetration of the use of passive equity funds in the Netherlands. It jumped from a market share of just 1% in 2013, supposedly as an outcome of the commission ban. The market share has increased to 26%.

It should be emphasized that this is not necessarily a statement regarding the popularity of passives in various markets. The analysis focuses only on the domicile of the funds and not where they are sold. The large Luxembourg and Ireland fund universes are sold across Europe and could change the figures were it possible to determine the source of asset flows. The exclusion of ETFs also means that a large source of passive investment is not accounted for, and, even if it were, the source of funds by market would not be possible to obtain.

Not only does the proportion of market share vary across the countries, but expenses paid by investors in passive equity funds also vary. The overall asset-weighted ongoing charge paid by passive equity fund investors across Europe is 0.31%, compared with 1.38% for active funds.

Switzerland-domiciled passive equity funds are the low-cost leader at just 0.12%, but Norwegian and Irish investors are also in the low end, with asset-weighted ongoing charges of 0.12% and 0.20%, respectively. In the UK and the Netherlands, passive equity investors pay 0.30% in asset-weighted ongoing charges, which is more or less in line with the overall expenses of 0.31% for Europe.

The above table also shows that increased penetration of passive funds--in general--is inversely related to the asset-weighted ongoing charges for such funds.

Market share of passive equity funds in Denmark, Finland, and France are in the 3% to 9% range, while the asset-weighted ongoing charges are in the 0.57% to 0.64% range. The paid charges are about twice the overall charge for passive equity fund investors across Europe. Exceptions are Belgium and Spain, in which the market share of passive equity funds are 16% and 9%, respectively. However, the asset-weighted ongoing charges for such funds are on the high end in Europe, with 0.71% and 0.96%, respectively.

### Empirical Analysis of Determinant Variables for Ongoing Charges

As in our 2013 study, we examine the relationship between the ongoing charge and the characteristics for each share class. For our regression, we identified a number of different variables that we believe are explanatory for the ongoing charge.

For this regression, the data set consists of 54,333 share classes from a total of 25 European countries. In this data set, we also pooled a group of countries with small market size under the label "Smaller Countries." The countries in this category consist of Estonia, Guernsey, Iceland, Jersey, Latvia, Lithuania, Malta, and Slovenia. Compared with the 2013 study, we now include Liechtenstein and Portugal as single countries in this study.

The data set for each of the share classes includes the following data points:

- ▶ The most recent percentage ongoing charge reported in the KIID of the fund up to May 2016.
- ▶ The three-year standard deviation of returns. If the fund has not existed for three years, we have chosen the three-year standard deviation of the relevant Morningstar Category as a proxy for the risk of the fund. The standard deviation is calculated in the risk currency of the fund's Morningstar Category.
- ▶ The total net assets of the share classes in EUR.
- ▶ Total assets under management in EUR of the company under which the fund is branded. Assets are defined as the sum of total net assets of all share classes of the company included in this analysis.
- ▶ The percentage performance fee, if the funds have such.
- ▶ The minimum investment level of the share classes in EUR.
- ▶ Indicators if the fund is an UCITS fund, subadvised, master fund, clean class, fund of funds, index fund, and/or institutional fund.
- ▶ Domicile and Global Broad Category Group of the fund.

It is given that share classes without an ongoing charge have been excluded because this is the dependent variable in our regression. We have likewise excluded classes if not all of the above data points were available. Finally, we have chosen not to include share classes with a total net asset value below EUR 500,000.

These criteria ensure that we only analyze share classes that are active and supposedly contain real market participants. In the data set, only month-end data is used for total net assets and AUM to ensure high data quality and consistency in the observations.

### Methodology

To set up the regression, we start out by defining the variables that should be included. We assume a relationship between the dependent variable, the ongoing charge, and the explanatory variables, which are defined in the following way:

- ▶ *Risk*. The annualized three-year standard deviation of returns, expressed as a percentage in the risk currency of the Morningstar Category.
- ▶ *UCITS*. A dummy variable that takes the value 1 if it is a UCITS share class and 0 otherwise.
- ▶ *Subadvised*. A dummy variable that takes the value 1 if it is a subadvised share class and 0 otherwise.
- ▶ *Master fund*. A dummy variable that takes the value 1 if it is a master fund share class and 0 otherwise.

- ▶ *Institutional*. A dummy variable that takes the value 1 if it is an institutional share class and 0 otherwise.
- ▶ *Index*. A dummy variable that takes the value 1 if it is an index fund and 0 otherwise.
- ▶ *Fund of funds*. A dummy variable that takes the value 1 if the fund is a fund of funds and 0 otherwise.
- ▶ *Performance fee*. The percentage performance fee, if the share class has such; otherwise, the data point is set to zero.
- ▶ *Equity*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Equity and 0 otherwise.
- ▶ *Fixed Income*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Fixed Income and 0 otherwise.
- ▶ *Allocation*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Allocation and 0 otherwise.
- ▶ *Money market*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Money Market and 0 otherwise.
- ▶ *Alternative*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Alternative and 0 otherwise.
- ▶ *Commodity*. A dummy variable that takes the value 1 if the fund is in the Global Broad Category Group of Commodity and 0 otherwise.
- ▶ *CleanEquity*. A dummy variable that takes the value 1 if the fund is a clean equity share class and 0 otherwise.
- ▶ *CleanFixed Income*. A dummy variable that takes the value 1 if the fund is a clean fixed-income share class and 0 otherwise.
- ▶ *CleanOther*. A dummy variable that takes the value 1 if the fund is a clean share class that is not an equity or fixed income fund, and 0 otherwise.
- ▶ *SizeTNA*. A variable that measures potential economies of scale of the total net assets of the share class.
- ▶ *SizeAUM*. A variable that measures potential economies of scale of total AUM of the company under which the fund is branded. Assets are defined as the sum of total net assets of all share classes of the company included in this analysis.
- ▶ *MinInvestment*. The minimum investment level of the share class in EUR.

A dummy variable is assigned to each of the main Global Broad Category Groups; equity, allocation, fixed income, money market, alternative, and commodity. Additionally, minor category groups are represented in the data set: convertibles, miscellaneous, and property. As these categories have no dummy assigned, the base group consists of these minor categories and is used for comparisons to the main categories.

For the minimum investment, we use the logarithm of the product to avoid extremely large numbers. For both size variables, we also take the logarithm of the product.

### **Our Approach to Economies of Scale**

The approach we have taken toward economies of scale is that both the size of the share class and the size of the fund company might influence the potential for economies of scale. For this purpose, we use these two variables to measure the possible effects from both share class size and company size. Economies of scale are achieved when cost per unit of output decreases as the scale is increased. In this way, the fixed cost is spread over a larger amount of output, which makes the production price per unit a decreasing function of scale.

From the share-class size point of view, economies of scale may arise when the share class grows and assets increase. Hence, if we assume that the costs of administrating and managing the share class are close to fixed, this means that inflows will only slightly increase the costs of running the share class.

With this type of structure, we should easily observe economies of scale because the fixed cost constitutes a large part of the total cost. Therefore, when the share class has an inflow, the units of production will increase. On the other hand, as administration costs do not increase significantly, the cost per unit of production--in this case the ongoing charge--will decrease and economies of scale have been achieved in the fund company. Consequently, if economies of scale are passed through to the end investor, we would expect that larger share classes, which have experienced a large amount of inflows over time, should be priced at a lower ongoing charge. If not, the primary beneficiaries of larger inflows will be related partners to the share class and fund company for providing their services.

From the fund-company point of view, we believe that a large fund company with more funds and assets under management will be capable of introducing new funds or share classes or managing large inflows more efficiently than smaller companies. The fixed cost of the fund company will therefore be spread among more units of production. Thus, the fund company will realize economies of scale. Given that these scale effects are passed through to the investors--which will be the case in highly competitive markets or in markets where the company represents the best interests of the investor--the price per unit, here the ongoing charge, will obviously decrease.

In our regression, the two size variables, LN(SizeTNA) and LN(SizeAUM), are constructed to capture the potential economies of scale that a given share class might exhibit. One is related to the total net asset value of the share class and one to the AUM of the fund company under which the share class is branded. In this way, we will be able to capture "economies of scale" effects from both the actual size of the share class and the size of the fund company.

By taking this approach with a focus on the size of the share class instead of fund size (sum of all share class total net assets), we will as such not be able to identify economies of scale on fund size level. We have chosen to focus on share class TNA because ongoing charges vary on the share-class level and not only the fund level.

### Estimation and Regression Results

We set up a multiple regression using the variables defined previously. As the relationship between the dependent variable and the explanatory variables is assumed to be linear, the model becomes the following.

$$\begin{aligned}
 OGC_i = & \beta_1 + \beta_2 Risk_i + \beta_3 UCITS_i + \beta_4 Subadvised_i + \beta_5 Master\ fund_i + \beta_6 Institutional_i + \beta_7 Index_i \\
 & + \beta_8 FundOfFunds_i + \beta_9 Performance\ fee_i + \beta_{10} Equity_i + \beta_{11} Fixed\ Income_i \\
 & + \beta_{12} Allocation_i + \beta_{13} Money\ market_i + \beta_{14} Alternative_i + \beta_{15} Commodity_i \\
 & + \beta_{16} CleanEquity_i + \beta_{17} CleanFixedIncome_i + \beta_{18} CleanOther_i + \beta_{19} LN(SizeTNA)_i \\
 & + \beta_{20} LN(SizeAUM)_i + \beta_{21} MinInvestment_i
 \end{aligned}$$

By running the regression for each country – as well as for Europe – the following estimation results are obtained.

In the table below, the beta values of each explanatory variable are presented. It applies to most estimates that they are significant on a 1% level (normal font in the table) while few estimates are on a 5% level and 10% level. If the estimate is insignificant, the value is left out and no beta value is reported in the table. This is mainly done because we excluded the most insignificant variable and then estimated the model again. We continued this procedure until all parameter estimates were significant on a 10% level.

#### Exhibit 4 Estimation Results -Beta Values

Country	No. of Obs.	Intercept	Allocation	SizeAUM	SizeTNA	Equity	Fixed Income	Fund of funds	Institutional	Money Market	Index Fund	Performance fee	Risk	Alternatives	Sub-advised	UCITS	Clean Class Other	Clean Class Equity	CleanClasss Fixed Income	Min. investment	Commodity	Master-fund
Austria	1,826	2.9549	0.2832	-0.0473	-0.0483	0.3417	-0.3093	0.4356	-0.2107	-0.7779	-0.2897	0.0101	0.0397	<i>0.2724</i>							-0.0298	<i>-0.2024</i>
Belgium	692	1.1518	0.3125			0.2717	-0.2488	0.3125	-0.6464	-0.7208	-0.7575	0.0236	0.0212			<i>0.0738</i>		-0.4479		-0.0124		-0.7184
Denmark	645	0.6204		<i>0.0136</i>			-0.2705		-0.5308	-1.0031	-0.9069	0.0453						-0.3361				
Finland	799	2.1434		-0.0218	<i>-0.0163</i>	-0.2847	-0.5931		<i>-0.1622</i>	-0.8924	-0.9850	-0.0098	0.0629			-0.1993				-0.0213	<i>-0.4022</i>	
France	5,693	3.9851	0.4658	-0.1084	-0.0269	0.4057	-0.1330	0.3924	-0.1913	-0.4055	-0.7399	0.0092	0.0425	0.2448							-0.0417	-0.1111
Germany	1,740	3.6057	0.4519	-0.0479	-0.0686	0.3057		0.5291	<i>-0.1120</i>	-0.4154	-0.5145	0.0138	0.0264		0.2914	-0.1858				-0.0552		
Ireland	5,367	2.3025	0.1347		-0.0566		-0.1775	0.7398	-0.1278	-0.6844	-0.7405	0.0077	0.0230	<i>0.0832</i>			-0.2115	-0.3941	-0.2607	-0.0413	-0.4035	-0.0805
Italy	747	2.2479	0.7103	-0.0487		0.5987	0.3435	0.6142	-0.5059				0.0654	0.4233				-0.3869		-0.0343		
Liechtenstein	439	9.3723	0.5695	-0.2565	-0.1682	0.3786		0.6559	<i>-0.4465</i>			0.0222	0.0264			0.0000						
Luxembourg	23,483	3.1729	0.2859	-0.0476	-0.0388	0.2393	-0.0969	0.4773	-0.5760	-0.5938	-0.6370	0.0122	0.0247	0.2360	0.1040	0.1122	-0.2645	-0.4150	-0.1340	-0.0322		
Netherlands	258	4.5768	-0.5894	-0.1055		-1.4905	-1.7936			<i>-0.8579</i>	-0.6595	0.0224	0.0403				-1.3131	-0.4313				
Norway	382	2.0710	-0.1871	-0.0294			-0.6488			-0.7153	-1.0247	<i>-0.0089</i>	0.0202					<i>-0.4339</i>				-0.0428
Portugal	171	1.2284					-0.5512			-0.9631			0.0423	<i>-0.5450</i>		<i>-0.2027</i>						<i>0.0475</i>
Smaller Countries	119	3.2216			-0.0708	0.2741	-0.5654	<i>-0.2261</i>		-1.1529	<i>-0.6414</i>	-0.0245	<i>0.0112</i>				1.5468	0.7833		-0.0533		-1.1207
Spain	4,642	2.3597	<i>-0.0498</i>	-0.0206	-0.0489	0.5347	-0.3464	0.5836	-0.4669	-0.6488	-0.3435	-0.0105				0.2581				<i>-0.0051</i>	1.0968	
Sweden	586	3.8317	-0.2983	-0.0970	<i>-0.0241</i>	<i>-0.2479</i>	-0.6337	0.4199		-0.8344	-0.9707	-0.0189	0.0419			<i>0.1013</i>				-0.0348		
Switzerland	1,024	2.7430	0.1840	-0.0521	<i>-0.0217</i>		-0.2716	0.2853	-0.2490	-0.5702	-0.6048	0.0183	0.0170					<i>-0.3877</i>		-0.0218	<i>-0.1189</i>	0.6720
United Kingdom	5,720	3.4482	-0.1681	-0.0536	-0.0185	-0.1883	-0.5178	0.2424	-0.1279	-0.8629	-0.7758		0.0130	-0.1849	0.1083	-0.0658	-0.3465	-0.3198	-0.1235	-0.0378		
Europe	54,333	2.5744	0.1215	-0.0356	-0.0454	0.2290	-0.1631	0.5244	-0.4042	-0.6177	-0.7322	0.0138	0.0258	0.1717	0.1307	0.3089	-0.2194	-0.4617	-0.0690	-0.0209		

Source: Morningstar. Data as of 01/05/2016. Estimation results for our regression. Normal font: 1% significance, Italic font: 5% significance and italic with underline: 10% significance. We excluded the most insignificant variable and then estimated the model again. We continued this procedure until all parameter estimates were significant on a 10% level.

As described earlier, the minor Global Broad Category Groups--convertibles, miscellaneous, and property--constitute the basis of comparison for the dummy variables equity, fixed income, commodities, allocation, alternatives, and money market.

In the next part of the analysis, we will use the beta values to estimate ongoing charges for specific fund profiles across the European countries. However, we will at this point briefly comment on the estimation results.

The two size variables are constructed to capture the potential economies of scale. When we take a closer look at the parameter estimates from the table above, we find significant economies of scale in most countries in our analysis as well as for overall Europe. It is only for Belgium and Portugal that we don't find any significant economies of scale. For Denmark, we observe a significant positive relationship between ongoing charge and the size of the fund company measured as managed assets under management. This means that expenses go up --contrary to all other European countries--with increasing AUM of the companies under which the funds are branded.

As in our 2013 study, we still observe that for the majority of the countries with a significant performance fee estimate, share classes with performance fees have a higher ongoing charge compared with funds without performance fees, if all other variables are kept constant. This is not intuitive, as one might expect that share classes with performance fees actually should start out with a lower "fixed" fee

base. Only in four countries (Finland, Norway, Sweden, and Spain) do investors get a reduction in ongoing charges for share classes with performance fees.

For the majority of the countries with a significant performance fee estimate, the performance fee structure seems asymmetrical to the benefit of the fund company. The companies are able to charge extra in good years but face no downside risk given the above-average base fees.

For risk, we see a clear positive relationship with ongoing charges across all countries except for Spain, for which we don't find any significant relationship.

The general tendency for choosing a fixed-income, institutional, money market, or index share class is that the ongoing charge will decrease regardless of the country. From the results, we furthermore see that choosing a fund of funds, all else equal, will increase the ongoing charge because all parameter estimates are positive.

In most countries, we find a clear negative relationship for the minimum investment level with ongoing charge. Only in Denmark, Liechtenstein, and the Netherlands, do we not find any significant relationship.

#### **A Comment to the Regression Result for the Clean Classes Variables**

The Financial Services Authority in the UK, which regulates the UK financial industry, created the Retail Distribution Review, or RDR, which is a set of rules and regulations that was put in place on Dec. 31, 2012, that fundamentally changed the way the financial-advice industry operates within the UK. The rules were put in place to ensure more transparency and fairness in the investment industry.

Part of the new rules dealt with the fact that financial advisors make money through commissions. The new RDR rules stipulated that advisors were no longer able to receive commissions from fund companies for selling new funds to clients in 2013. Taking commissions out of the equation has the potential to be a game-changer for the industry as a whole. As of 2013, all independent and restricted advisors must ensure that they have an upfront, transparent agreement with each of their clients about fees before giving financial advice. The new rules requiring an upfront agreement on client fees instead of commissions make advisors' charges more transparent for investors and ensure that investors receive unbiased investment advice.

The Netherlands followed the FSA in UK and introduced a commission ban in the Dutch market. As a result of these new rules, the numbers of so-called "clean" share classes without distribution fees have increased significantly.

In our 2013 study, we did not include clean classes in our regression model because of their early stage at the time the report was written, but we did test how these clean classes affected our regression results for the UK market. We found that for a clean share class, the estimated ongoing charge was 1.13% for an actively managed retail-oriented equity fund, compared with 1.49% for a similar fund from the UK with a distribution fee. In other words, the rebate equaled 36 basis points for a distribution-free class.



As the penetration of clean classes has increased since 2013--especially in the UK and the Netherlands--and also to some extent in Luxembourg and Ireland--we included clean classes as an explanatory variable in this study. We find a clear negative significant relationship for the clean classes with ongoing charge. This is not surprising, as one might expect such classes to be less expensive compared with share classes that pay distribution fees. In most countries, we find no significant relationship with ongoing charges as these classes are mostly related to the two countries and the European fund hubs, Luxembourg and Ireland.

Across all European countries, the overall deduction in the price tag for a commission-free equity class is 46 basis points. This can be interpreted as the ongoing expense paid by investors for receiving financial advice. Depending on what investors using clean classes actually are paying for advice directly to their financial advisors, it might--from a pure cost view--be more and less beneficial to choose a clean class. Generally speaking, if they pay less than 46 basis points, they should choose a clean class and otherwise choose a class that includes a distribution fee. The latter assumes that investors actually receive investment advice for the paid distribution fee.

In the Netherlands, the reduction is 43 basis points for a clean equity class, compared with 32 basis points in the UK.

### **Estimating Ongoing Charge**

Based on our regression results, we estimate ongoing charges for different fund profiles. As we did in our 2013 study, we create these particular fund profiles in order to represent and compare expenses based on how typical European investors invest and diversify across asset classes.

For instance, our first fund profile gives an estimate of the ongoing charge for a retail-oriented actively managed equity fund with a three-year standard deviation (risk) of 12.8. This can be seen as a proxy for the expense of a global large-cap fund.

The table below highlights the characteristics and results for three of our 10 fund profiles. The three highlighted funds are an actively managed retail-oriented 1) equity fund, 2) bond fund, and 3) allocation fund with medium risk. The latter is in a fund-of-funds structure. The characteristics and results for all 10 fund profiles are in the appendix.

In addition to the estimated ongoing charge, we rank the ongoing charge across the countries within each of the fund profiles. We also illustrate the estimated ongoing expenses based on percentile 20, 50, and 80 for size of the share class and fund company as well as the estimated ongoing charge for a similar fund profile from our 2013 study. By illustrating the estimated ongoing charge on different percentiles for the size of the share class and fund company, we can measure the economies of scale passed on to the benefit of investors--or lack of benefits.

### **Fund Profile 1**

For our first fund profile, the typical ongoing charge across Europe is 1.78% for median size total net asset and AUM. Because of economies of scale passed on to the investors, ongoing charges drop from 1.92% for percentile 20 to 1.63% for percentile 80. This equals a price reduction of 15% moving from percentile 20 to 80.

Switzerland is the most efficient country, with an ongoing charge at 1.25% (median size), followed by Germany with 1.29%. The Nordic countries, Norway and Sweden, come in third and fourth as being most attractive with ongoing charges at 1.30% and 1.44%, respectively, on this fund profile. The price tag in the Netherlands and the UK is 1.58% and 1.51%, respectively. However, the vast majority of equity funds in the Netherlands are now clean classes. Taking this into account, the ongoing charge drops to 1.15%, making the Netherlands the cost leader on this fund profile.

**Exhibit 5** Switzerland, the Netherlands, and the UK Are Cost Leaders on Retail-Oriented Actively Managed Equity Fund

Scenario	Fund Profile 1								
	Global Equity, UCITS, Risk 12.8, Min.investment 12,500 EUR								
	OGC %		OGC %		OGC %		Ec.Scale	OGC %	
Country	2016	Rank	2016	Rank	2016	Rank	2016	2013	Rank
Austria	1.80	11	1.69	11	1.59	11	-12%	1.92	13
Belgium	1.65	6	1.65	10	1.65	13	0%	1.81	10
Denmark	1.44	4	1.47	5	1.51	9	4%	1.57	6
Finland	1.65	5	1.55	7	1.47	8	-11%	1.72	9
France	2.24	18	2.04	19	1.73	15	-23%	1.84	12
Germany	1.43	3	1.29	2	1.06	1	-26%	1.57	6
Ireland	1.74	9	1.63	9	1.53	10	-12%	1.53	4
Italy	2.02	15	1.93	15	1.79	16	-11%	2.01	14
Liechtenstein	2.69	19	1.96	16	1.43	7	-47%		
Luxembourg	2.09	17	1.90	13	1.73	14	-17%	1.83	11
Netherlands	1.79	10	1.58	8	1.30	5	-27%	1.33	1
Norway	1.38	1	1.30	3	1.20	3	-13%	1.54	5
Portugal	2.02	14	2.02	18	2.02	19	0%		
Smaller Countries	2.08	16	1.98	17	1.91	18	-8%		
Spain	1.99	13	1.92	14	1.80	17	-10%	2.06	15
Sweden	1.67	7	1.44	4	1.20	4	-28%	1.45	3
Switzerland	1.42	2	1.25	1	1.07	2	-24%		
United Kingdom	1.68	8	1.51	6	1.35	6	-19%	1.38	2
Europe	1.92	12	1.78	12	1.63	12	-15%	1.71	8
Fund Share Class &									
Fund Company Size	Smaller		Median		Larger			Median	

Source: Morningstar. Data as of 01/05/2016. Estimates of ongoing charges for a retail-oriented actively managed equity fund and the rank of the ongoing charges. The scenario illustrates the construction criteria for the fund profile. For the criteria called Fund Share Class and Fund Company Size percentiles 20, 50, and 80 for the specific country are chosen to illustrate the impact of economies of scale passed on the investors. The last column 'Economies of Scale 2016' is the percentage decrease in ongoing charge moving from percentile 20 to 80. We also show the estimated ongoing charge for similar fund profile from our 2013 study and the country-rank. For Switzerland, estimated ongoing charges for non-UCITS funds are shown.

For the UK, approximately one third of all equity share classes are clean classes, and for these the estimated ongoing charge drops to 1.19%, down from 1.51%, making the UK the second-cheapest country.

On the other hand, France is most expensive, with an ongoing charge of 2.04%, followed by Portugal with 2.02%. Expensive countries also include Italy, Spain, and the European fund hub, Luxembourg, where investors pay 1.90% or more for similar funds matching this first fund profile.

The range between the most attractive country (Switzerland) and least attractive (France) is no less than 79 basis points. In other words, a comparable fund in France is 63% more expensive than the bill investors pay in Switzerland.

Compared with our 2013 study, the overall ongoing charge for this fund profile across Europe increased. The estimated ongoing charge was 1.71% in 2013, equal to 7 basis points less than our most recent estimate. On the country level, the ongoing charge decreased in nine countries and increased in five, compared with 2013. On rankings, German funds jumped from being sixth cheapest in 2013 to second-most attractive in this study, but Norway and Finland--among others--also improved their relative ranking. The UK and Netherlands went from being the two most attractive countries in our 2013 study to sixth and eighth in our updated study. However, the estimated ongoing charge in 2013 was partially a mix of clean and non-clean classes--especially for the UK--and for the Netherlands the vast majority of equity share classes are now clean classes. As such, the estimated figures for these two countries are not totally comparable, and, as described above, if taking into account commission-free classes, they remain the cost leaders in Europe.

We also estimate potential economies of scale and find that at least one of our two size variables are significant and with negative parameter estimates in 16 out of the 19 countries (including Europe) in our analysis. For three countries, we found there are no economies of scale for the investors. We assume there are, in fact, economies of scale within the share class and fund companies, but instead of being passed forward to the investors, related partners receive these benefits. The countries are Belgium, Denmark, and Portugal. For Denmark, we even found a positive relationship with one of the parameter estimates. This means that ongoing charges go up with increasing AUM for fund companies in Denmark. As such, Danish fund investors are better off choosing fund companies with fewer assets.

Among countries in the study, Sweden, Germany, the Netherlands, and Switzerland all exhibit the highest degree of economies of scale to the benefit of investors. In general, these countries are attractive from a cost point of view for this fund profile relative to the other countries, but become even more attractive as investors prefer larger funds and fund companies from these countries and the funds become even cheaper as a result of economies of scale passed on to investors.

Despite some countries achieving larger benefits from economies of scale, this does not per definition mean that these countries become most attractive. An example of this is France. For this fund profile, France-domiciled funds have one of the largest economies of scale in the study (ongoing charge is down 23% by moving from percentile 20 to 80). However, the absolute level of ongoing charges for French funds is not very attractive. France starts out (20th percentile) as the second-most expensive country in our analysis for this fund profile, but, despite the savings, the French funds end on rank 15 (80th percentile), illustrating that 11 countries, including Europe as a group, are still cheaper.

It is of no surprise that the three countries without economies of scale lose strength as investors in the other countries benefit from lower ongoing charges. Belgium starts out on rank 6 (20th percentile) but ends on rank 13 (80th percentile), Danish funds move from rank 4 to 9, and Portuguese funds start out on rank 14 but end as most expensive across all countries. In general, these three countries are characterized by relatively smaller markets with a high concentration of a few dominant players in each market. Based on AUM, top 10 branding names cover 98%, 96%, and 87% for Portugal, Belgium, and

Denmark, respectively. Some countries with economies of scale are also concentrated markets dominated by a few large fund companies, but in general we see industry concentration lower for countries with significant economies of scale.

### Fund Profile 6

The next fund profile (Profile 6 in the appendix) is fixed-income-related and can be seen as a proxy for a global bond fund (currency exposure hedged back to euro).

For this profile, the typical ongoing charge across Europe is 1.15% for median size total net assets and AUM. Because of economies of scale passed on to the investors, the ongoing charges drop from 1.29% (20th percentile) to 1.00% (80th percentile). Compared with our 2013 study, the price for this profile for Europe is up from 1.04%.

### Exhibit 6 Norway, Finland, and Sweden Are Cost Leaders on Retail-Oriented Actively Managed Fixed-Income Funds

Scenario	Fund Profile 6								
	Global Bond, UCITS, Risk 3.5, Min.investment 12,500 EUR						Ec.Scale	OGC %	
	OGC %	Rank	OGC %	Rank	OGC %	Rank		2016	2013
Country	2016	Rank	2016	Rank	2016	Rank	2016	2013	Rank
Austria	0.78	4	0.67	4	0.57	4	-28%	0.68	2
Belgium	0.93	7	0.93	9	0.93	14	0%	0.94	10
Denmark	0.75	2	0.78	6	0.81	10	8%	0.85	8
Finland	0.75	3	0.66	2	0.58	5	-23%	0.68	2
France	1.31	16	1.11	15	0.80	8	-39%	0.76	6
Germany	0.88	5	0.74	5	0.50	3	-42%	0.81	7
Ireland	1.35	17	1.24	17	1.14	18	-15%	1.15	14
Italy	1.15	13	1.06	13	0.92	13	-20%	0.95	11
Liechtenstein	2.07	19	1.34	18	0.80	9	-61%		
Luxembourg	1.53	18	1.34	19	1.16	19	-24%	1.17	15
Netherlands	1.11	10	0.90	8	0.62	6	-44%	0.74	4
Norway	0.54	1	0.46	1	0.37	1	-33%	0.38	1
Portugal	1.07	9	1.07	14	1.07	17	0%		
Smaller Countries	1.13	12	1.04	10	0.97	15	-15%		
Spain	1.11	11	1.04	11	0.92	12	-18%	1.00	12
Sweden	0.90	6	0.67	3	0.43	2	-52%	0.75	5
Switzerland	0.99	8	0.82	7	0.65	7	-35%		
United Kingdom	1.23	14	1.06	12	0.90	11	-26%	0.93	9
Europe	1.29	15	1.15	16	1.00	16	-23%	1.04	13
Fund Share Class & Fund Company Size	Smaller		Median		Larger			Median	

Source: Morningstar. Data as of 01/05/2016. Estimates of ongoing charges for a retail-oriented actively managed fixed income fund and the rank of the ongoing charges. The scenario illustrates the construction criteria for the fund profile. For the criteria called Fund Share Class and Fund Company Size percentiles 20, 50 and 80 for the specific country are chosen to illustrate the impact of economies of scale passed on the investors. The last column 'Economies of scale 2016' is the percentage decrease in ongoing charge moving from percentile 20 to 80. We also show the estimated ongoing charge for similar fund profile from our 2013 study and the country-rank. For Switzerland estimated ongoing charges for non-UCITS funds are shown.

Norwegian funds are the cost leader in Europe for this profile and considerable cheaper than the European norm. Norway starts out (20th percentile) as the cheapest country in our analysis for this fund profile (0.54%) and also ends on the first rank (80th percentile) with an ongoing charge of just 0.37%.

The latter equals a 33% price reduction as economies of scale are passed on to the investors. Among the other countries, investors for this profile in Finland, Sweden, and Austria also pay attractive expenses and well below the European average. In Finland, one explanation might be that the majority of assets within fixed-income funds are held by institutions. Luxembourg, Ireland, Liechtenstein, and France are the most expensive. This is very much in line with our findings from 2013. France, which in general has been relatively expensive on the equity side, seems more attractive in terms of ongoing charges on the fixed-income side, especially as investors choose larger funds or fund companies. For smaller funds or fund companies, French funds still remain in the expensive end.

The ongoing charge is 0.90% in the Netherlands for median size total net assets and AUM. This equals rank 8, illustrating that seven countries are cheaper. We did not find a significant relationship with the ongoing charge for clean-class fixed-income funds in the Netherlands. This means that the ongoing charge is unaffected for this profile whether the share class includes a distribution fee or not. However, as economies of scale are passed on to the investors in Dutch fixed-income funds, these funds end on rank 6 (80th percentile) with an ongoing charge of 0.60%. The ongoing charges of German fixed-income funds also become more attractive as economies of scale are passed on to the investors.

In the UK the ongoing charge is 1.06% for median size total net assets and AUM. Contrary to the Netherlands, we find a significant negative relationship with the ongoing charge for clean-class fixed-income funds in the UK. The reduction equals 0.12 percentage points, and a clean class for this profile ends up with an ongoing charge of 0.94% and thus is slightly more attractive relative to the other European countries.

### **Fund Profile 9**

The last fund profile we mention here illustrates the estimated ongoing charge across the European nations for an allocation fund with moderate risk. As for the two former profiles, we estimate the ongoing charge for a retail-oriented actively managed fund but this time in a fund-of-funds structure.

The Nordic countries generally are among the most cost-attractive domiciles across the European countries. Norway comes in as the cheapest country, with an ongoing charge of 1.00% for such an allocation fund, while Denmark, Finland, and Sweden are the second-, third-, and fourth cheapest in Europe (with ongoing charges 1.22%, 1.47%, and 1.57%, respectively). The group "Smaller Countries" has an estimated ongoing charge of 1.41% and is as a group also relatively attractive.

Ireland, Italy, and France are among the most expensive countries for this fund profile. However, Liechtenstein charges most, with an ongoing charge of 2.66%, followed by Ireland and Luxembourg with 2.38% and 2.29%. The European estimate is 2.05% or more than double relative to Norway-domiciled funds as the cheapest choice in Europe.

Allocation funds have gained market share over the recent years. Especially in countries like Spain, Belgium, and Germany, allocation funds now sit on a larger market share compared with our 2013 study.

However, our estimates for ongoing charges for allocation funds in Spain and Belgium are up, compared with our study from 2013. This means that as assets grow, fund companies used the increasing investor

appeal to charge more in expenses within the asset class. In Italy, the ongoing charge increased despite the fact that close to half of the fund market in AUM is in allocation funds.

Two thirds of analyzed assets in Belgium are allocation funds, but our price estimate for a Belgium-domiciled allocation fund with moderate risk is 1.88%, up from 1.74% in our 2013 study. Belgium is among the three countries in our study for which we cannot find economies of scale that are actually passed on to the investors.

#### Exhibit 7 Norway, Denmark, and Finland Are Cost Leaders on Retail-Oriented Actively Managed Allocation Funds

Fund Profile 9									
Scenario	Moderate Allocation, UCITS, Fund-of-Funds, Risk 7.1, Min.investment 12,500 EUR								
	OGC %		OGC %		OGC %		Ec.Scale	OGC %	
Country	2016	Rank	2016	Rank	2016	Rank	2016	2013	Rank
Austria	1.95	11	1.84	10	1.74	9	-11%	1.95	12
Belgium	1.88	9	1.88	11	1.88	12	0%	1.74	7
Denmark	1.19	2	1.22	2	1.25	2	5%	1.27	3
Finland	1.57	4	1.47	4	1.40	5	-11%	1.49	4
France	2.45	15	2.25	15	1.94	14	-21%	1.89	10
Germany	1.95	10	1.82	9	1.58	8	-19%	2.24	14
Ireland	2.48	18	2.38	18	2.28	19	-8%	2.43	15
Italy	2.37	14	2.28	16	2.14	18	-10%	1.93	11
Liechtenstein	3.39	19	2.66	19	2.12	17	-37%		
Luxembourg	2.48	17	2.29	17	2.11	16	-15%	2.08	13
Netherlands	2.46	16	2.25	14	1.97	15	-20%	1.16	1
Norway	1.08	1	1.00	1	0.90	1	-17%	1.25	2
Portugal	1.77	5	1.77	8	1.77	10	0%		
Smaller Countries	1.51	3	1.41	3	1.35	4	-11%		
Spain	1.99	12	1.92	12	1.80	11	-10%	1.64	6
Sweden	1.80	7	1.57	5	1.33	3	-26%	1.60	5
Switzerland	1.79	6	1.63	6	1.45	6	-19%		
United Kingdom	1.87	8	1.70	7	1.54	7	-17%	1.76	8
Europe	2.19	13	2.05	13	1.90	13	-14%	1.86	9
Fund Share Class & Fund Company Size	Smaller		Median		Larger			Median	

Source: Morningstar. Data as of 01/05/2016. Estimates of ongoing charges for a retail-oriented actively managed allocation fund and the rank of the ongoing charges. The scenario illustrates the construction criteria for the fund profile. For the criteria called Fund Share Class and Fund Company Size percentiles 20, 50 and 80 for the specific country are chosen to illustrate the impact of economies of scale passed on the investors. The last column 'Economies of scale 2016' is the percentage decrease in ongoing charge moving from percentile 20 to 80. We also show the estimated ongoing charge for similar fund profile from our 2013 study and the country-rank. For Switzerland estimated ongoing charges for non-UCITS funds are shown.

The Nordic countries remain cost attractive for this fund profile as investors chose larger fund share classes or fund companies. This also holds for Denmark, the only country in our study with increasing expenses as assets increase.

### A Longitudinal Study of Ongoing Charges of European Funds

In this section, we plot the trend in levels of ongoing charges across time. We divide funds into the three main broad asset classes: equities, fixed income and allocation funds, as well as the two European fund hubs for cross-border sale--Luxembourg and Ireland. We describe the change over time and attempt to explain to how big a degree this variation can be explained by past values of ongoing charges.

We examine the ongoing charge across time for the universe of European funds in order to determine whether there is a statistically significant pattern between the ongoing charge figure in one year and the year that preceded it. The model used is the following:

$$\text{Ongoing Charge}_t = \beta_1 + \beta_2 * \text{Ongoing Charge}_{t-1}$$

We do this to determine how variable the expense level within a given fund in a given subset of the European fund market is across time. In addition to analyzing the cost level of the European fund market as a group, we isolated the two European fund hubs for cross-border sale, Luxembourg and Ireland, as well as a residual group (all other countries) for easy comparison.

Timewise, our sample takes into account the time period from 2011 until the end of 2015. This is due to the fact that the ongoing charge values used in our analysis have been gathered directly from the funds' own KIID, which has been a compulsory element of financial regulation issued by the European Securities and Markets Authority in 2011. To ensure that our analysis involves no survivorship bias, our sample, containing over 90,000 funds from across Europe, includes funds both active at the time of writing this article and funds that have been liquidated or merged away at some point during the sample period.

We have chosen to structure our analysis in a very simple way. It consists of running a series of regressions where each year's ongoing charge value is regressed on the previous year's and then evaluating whether the result is statistically significant enough to say whether or not the past is a predictor for future cost levels. This is done across all funds and then aggregated across all time periods.

The results obtained from the multidimensional regression analysis based on Morningstar data can be viewed in the following table:

**Exhibit 8** Clear Statistical Pattern that Ongoing Charge Can be Explained by Last Year's Expense Level

	Constant	Ongoing charge (t-1)	R <sup>2</sup>
Luxembourg	0.080	0.948	0.88
Ireland	<u>0.037</u>	0.970	0.94
Residual group	0.081	0.938	0.86
Europe	0.077	0.945	0.88

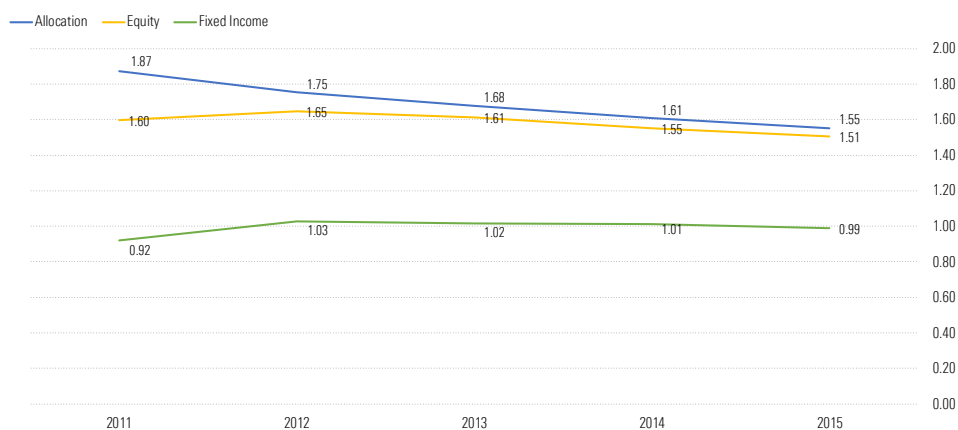
Source: Morningstar. Data as of 01/05/2016. Normal font: 1% significance level, Italic and underline: 10% significance level

For all groups, there is a clear statistical pattern that last year's ongoing charge is a highly significant explanatory variable, with between 86% and 94% of the variation in ongoing charge levels being

explainable by the last year’s expense level. This can be interpreted to show that there is a clear tendency for the expensive funds to tend to stay expensive and vice versa for their low-cost counterparts. These results suggest that past ongoing charge levels are a strong predictor of future levels. This means that, all things equal, funds that are attractive today because of a low-cost level will continue to be attractive in the future.

When plotting the European averages across time for the equity, fixed-income, and allocation funds, the following pattern emerges:

**Exhibit 9** The Time Series Shows Declining Trend for Ongoing Charge



Source: Morningstar. Data as of 01/05/2016. Ongoing Charge on 1st axis, 2nd axis time. The graph is based on more than 76,000 European investment funds, hereof 17,406 allocation funds, 35,264 equity funds and 23,551 fixed income funds. The sample is based on both currently active funds and obsoleted funds that have been liquidated or merged away.

The results point in the direction that ongoing charges for European allocation and pure equity funds have been on the decline from 2012 onwards, while fixed-income funds experienced a small increase from 2011 to 2012 before entering into a gentle decline in the following years.

In conclusion, while the historical level of the ongoing charge is a strong predictor for future levels, the variation not explained by the model adds up to a general tendency that ongoing charge levels are decreasing.



### **Our Approach**

The part of this analysis that covers asset-weighted ongoing charges and our regression for the fund profiles includes a total of 54,300 share classes from 25 different countries in the analysis. Smaller markets are pooled and named “Smaller Countries” in the report (includes Estonia, Guernsey, Iceland, Jersey, Latvia, Lithuania, Malta, and Slovenia). The total market cap covered in this part is EUR 6,100 billion. Our focus is where funds are domiciled and not where they are sold.

We also run a time-series regression including obsolete funds. The total number of share classes included in this time series exceeds 90,000.

Ongoing charge is mandatory in all KIID documents, so we used the ongoing charge as the preferred fee figure in this analysis.

We have chosen not to include all share classes with a total net assets value below EUR 500,000. This criterion ensures that we only analyze funds that are active and supposedly contains real market participants. In this data set, only month-end data is used for total net assets and AUM to ensure high data quality and consistency in the observations. Funds with total net assets on the fund level and not the share class level are excluded.

In the regression analysis, we used the three-year standard deviation of the fund as a risk measure (in the Morningstar Category base currency). If this is not available, the Morningstar Category standard deviation was used as a proxy.

Data Analyst Mark Thode, Morningstar Denmark, contributed to the preparation of this analysis.

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## Appendix 1

### Overview of Analyzed Markets--Asset-Weighted

#### Characteristics of the European Market, Overall and for Each Country

The figures are asset-weighted and based on analyzed assets included in this study. The last column is the market cap in billion EUR of funds included.

Country	Equity	Fixed Income	Allocation	Alternative	Money Market	Index	Institutional	Fund-of-Funds	Clean Share Class	Performance Fee	AUM in bill. EUR
Austria	20%	54%	20%	1%	1%	0%	7%	19%	1%	3%	73
Belgium	20%	10%	66%	0%	2%	3%	7%	15%	0%	4%	75
Denmark	42%	47%	9%	2%	0%	3%	6%	1%	0%	6%	105
Finland	32%	38%	22%	1%	5%	3%	8%	25%	0%	5%	79
France	23%	13%	17%	2%	41%	1%	10%	9%	10%	43%	775
Germany	38%	15%	26%	1%	1%	0%	5%	8%	2%	22%	321
Ireland	30%	23%	3%	3%	40%	11%	46%	3%	56%	10%	777
Italy	15%	35%	46%	3%	1%	0%	4%	15%	0%	55%	157
Liechtenstein	24%	26%	27%	1%	16%	0%	10%	4%	1%	22%	19
Luxembourg	35%	31%	16%	5%	10%	2%	35%	5%	24%	15%	2,147
Netherlands	57%	24%	18%	2%	0%	15%	18%	12%	82%	5%	50
Norway	49%	37%	5%	0%	9%	13%	9%	18%	1%	11%	95
Portugal	10%	27%	32%	0%	29%	0%	0%	11%	0%	4%	11
Smaller Countries	36%	30%	15%	17%	1%	0%	0%	5%	8%	16%	3
Spain	12%	24%	47%	3%	5%	1%	2%	20%	0%	8%	232
Sweden	56%	14%	21%	7%	3%	8%	0%	13%	0%	7%	292
Switzerland	30%	27%	25%	0%	15%	32%	32%	9%	3%	4%	136
United Kingdom	59%	14%	20%	3%	1%	7%	17%	9%	55%	2%	798
Europe	36%	24%	18%	4%	15%	5%	23%	8%	25%	16%	6,145

## Appendix 2

### Estimated Ongoing Charge % Based on 10 Fund Profiles

#### Beta Values Are Used to Estimate Ongoing Charges Across Europe for Different Fund Profiles

Fund Profile Country	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5		Profile 6		Profile 7		Profile 8		Profile 9		Profile 10					
	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank	OGC %	Rank				
Austria	1.80	11	1.69	11	1.59	11	1.84	11	1.35	13	1.40	15	1.79	10	0.67	4	0.76	3	1.75	9	1.84	10	1.52	8
Belgium	1.65	6	1.65	10	1.65	13	1.73	9	0.95	4	0.89	9	1.89	13	0.93	9	0.98	8	1.83	11	1.88	11	1.63	10
Denmark	1.44	4	1.47	5	1.51	9	1.64	6	0.94	3	0.57	4	1.47	6	0.78	6	0.88	7	1.10	2	1.22	2	1.35	4
Finland	1.65	5	1.55	7	1.47	8	1.78	10	1.29	11	0.56	3	1.45	5	0.66	2	0.79	4	1.32	3	1.47	4	1.66	11
France	2.24	18	2.04	19	1.73	15	2.20	19	1.66	17	1.30	13	2.13	18	1.11	15	1.20	14	2.14	15	2.25	15	1.98	17
Germany	1.43	3	1.29	2	1.06	1	1.39	3	0.93	2	0.78	7	1.43	3	0.74	5	0.80	5	1.75	10	1.82	9	1.36	5
Ireland	1.74	9	1.63	9	1.53	10	1.72	7	1.31	12	0.89	8	1.71	8	1.24	17	1.29	17	2.32	18	2.38	18	1.70	13
Italy	2.02	15	1.93	15	1.79	16	2.17	17	1.26	8	1.93	17	1.93	15	1.06	13	1.20	15	2.12	14	2.28	16	1.86	14
Liechtenstein	2.69	19	1.96	16	1.43	7	2.06	16	1.51	15	1.96	18	2.18	19	1.34	18	1.39	19	2.59	19	2.66	19	2.08	18
Luxembourg	2.09	17	1.90	13	1.73	14	1.99	14	1.18	6	1.26	12	2.02	17	1.34	19	1.39	18	2.22	17	2.29	17	1.88	15
Netherlands	1.79	10	1.58	8	1.30	5	1.73	8	1.58	16	0.92	10	1.80	11	0.90	8	0.98	9	2.15	16	2.25	14	2.37	19
Norway	1.38	1	1.30	3	1.20	3	1.37	2	1.10	5	0.27	1	1.21	1	0.46	1	0.51	1	0.95	1	1.00	1	1.06	1
Portugal	2.02	14	2.02	18	2.02	19	2.17	18	2.24	19	2.02	19	2.02	16	1.07	14	1.16	13	1.67	8	1.77	8	1.90	16
Smaller Countries	2.08	16	1.98	17	1.91	18	2.02	15	1.73	18	1.34	14	1.73	9	1.04	10	1.06	11	1.39	4	1.41	3	1.67	12
Spain	1.99	13	1.92	14	1.80	17	1.92	13	1.43	14	1.58	16	1.81	12	1.04	11	1.04	10	1.92	12	1.92	12	1.33	3
Sweden	1.67	7	1.44	4	1.20	4	1.60	5	1.28	9	0.47	2	1.25	2	0.67	3	0.75	2	1.47	5	1.57	5	1.27	2
Switzerland	1.42	2	1.25	1	1.07	2	1.32	1	0.90	1	0.65	5	1.44	4	0.82	7	0.86	6	1.58	6	1.63	6	1.39	6
United Kingdom	1.68	8	1.51	6	1.35	6	1.56	4	1.21	7	0.73	6	1.51	7	1.06	12	1.09	12	1.66	7	1.70	7	1.49	7
Europe	1.92	12	1.78	12	1.63	12	1.88	12	1.28	10	1.05	11	1.92	14	1.15	16	1.20	16	1.99	13	2.05	13	1.60	9
Scenario	Global				GEM				Global Inst.		Global Index		Global Pf.fee		Global Bond		High Yield		Cautious		Moderate		Aggressive	
Allocation																			x		x		x	
Fixed Income															x		x							
Equity	x				x				x		x		x											
Index											x													
Fund of Funds																			x		x			
Institutional									x															
UCITS	x				x				x		x		x		x		x		x		x		x	
Performance fee %											10													
Risk	12.8				16.5				12.8		12.8		12.8		3.5		5.6		4.6		7.1		10	
Min. Investment EUR	12,500				12,500				1,250,000		12,500		12,500		12,500		12,500		12,500		12,500		12,500	
Size TNA, percentile	20		50		80		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)	
Size AUM, percentile	20		50		80		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)		Median (dom)	

Estimates of ongoing charges for 10 different fund profiles and the rank of the ongoing charges within each of the 10 funds. The lower part of the table illustrates the construction of each fund profile. For median sizeAUM and sizeTNA the medians for each domicile are chosen. For fund profile 3 & 4, no funds in the Netherlands exist as all are clean classes. Thus the estimated ongoing charges are 1.13% and 0.49%, respectively, for these profiles the Netherlands taking into account a clean class structure. For Italy no funds similar to fund profile 4 exist, For Portugal no funds similar to fund profile 3 & 4 exist. The same holds for the latter for the group "Smaller Countries." For Switzerland estimated ongoing charges for non-UCITS funds are shown.

## Appendix 3

### Details for the 10 Fund Profiles

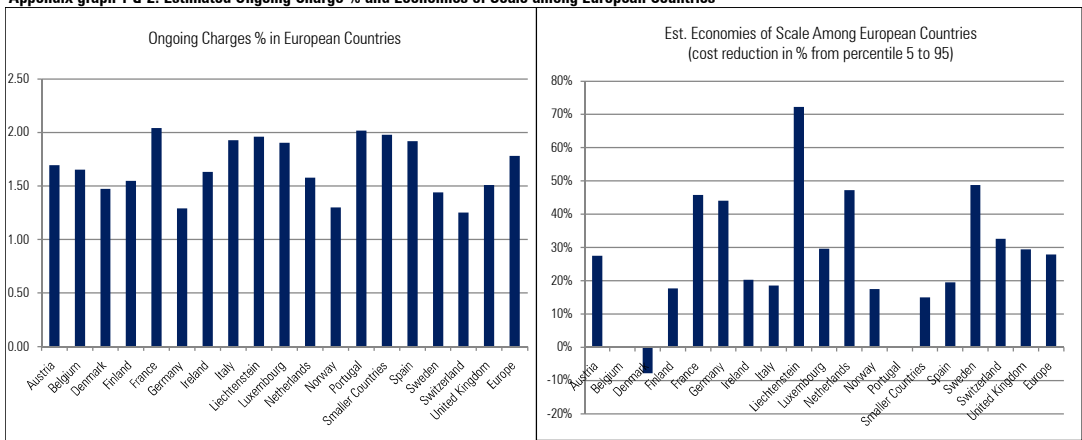
**Fund Profile 1**

Equity fund      Actively managed      3 yrs. standard deviation: 12.8 (Global Equity Fund)  
 Retail-oriented      No performance fee      Min. Investment 12,500 EUR      UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,693	1.69	7%	11%	14%	18%	27%	20%	12%	3%	13%	17%	
Belgium	1,652	1.65	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	1,474	1.47	-1%	-3%	-4%	-6%	-8%	-5%	-4%	-1%	-3%	-4%	
Finland	1,549	1.55	2%	7%	10%	13%	18%	16%	11%	3%	8%	10%	
France	2,040	2.04	9%	15%	21%	30%	46%	37%	23%	6%	18%	34%	
Germany	1,292	1.29	15%	21%	26%	37%	44%	35%	26%	6%	23%	27%	
Ireland	1,632	1.63	4%	8%	12%	15%	20%	17%	12%	4%	10%	12%	
Italy	1,927	1.93	5%	9%	12%	16%	18%	16%	11%	4%	9%	10%	
Liechtenstein	1,960	1.96	10%	24%	39%	52%	72%	58%	47%	20%	34%	58%	
Luxembourg	1,902	1.90	6%	12%	18%	23%	30%	25%	17%	6%	15%	17%	
Netherlands	1,577	1.58	7%	16%	21%	32%	47%	39%	27%	6%	18%	36%	
Norway	1,300	1.30	3%	6%	12%	16%	17%	15%	13%	5%	9%	9%	
Portugal	2,016	2.02	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,979	1.98	3%	7%	9%	11%	15%	12%	8%	2%	8%	8%	
Spain	1,919	1.92	3%	6%	9%	13%	19%	16%	10%	3%	7%	13%	
Sweden	1,441	1.44	11%	19%	27%	36%	49%	44%	28%	10%	23%	33%	
Switzerland	1,253	1.25	5%	12%	20%	28%	33%	29%	24%	9%	16%	20%	
United Kingdom	1,509	1.51	7%	13%	19%	25%	29%	25%	19%	6%	16%	16%	
Europe	1,781	1.78	6%	11%	16%	21%	28%	22%	15%	5%	13%	17%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	1,938	1,888	1,802	1,764	1,720	1,693	1,670	1,638	1,585	1,507	1,405	1,280
Belgium	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652	1,652
Denmark	1,424	1,438	1,445	1,462	1,468	1,474	1,479	1,493	1,506	1,514	1,535	1,548
Finland	1,688	1,672	1,647	1,616	1,575	1,549	1,521	1,508	1,472	1,411	1,390	1,347
France	2,476	2,359	2,244	2,170	2,094	2,040	1,962	1,899	1,730	1,496	1,344	1,033
Germany	1,677	1,522	1,426	1,379	1,327	1,292	1,243	1,161	1,055	990	938	703
Ireland	1,809	1,784	1,739	1,702	1,668	1,632	1,599	1,567	1,534	1,480	1,442	1,219
Italy	2,120	2,072	2,017	1,978	1,940	1,927	1,860	1,820	1,787	1,741	1,728	1,689
Liechtenstein	2,985	2,826	2,690	2,555	2,283	1,960	1,822	1,712	1,427	1,178	830	248
Luxembourg	2,239	2,166	2,094	2,031	1,965	1,902	1,843	1,789	1,729	1,632	1,577	1,330
Netherlands	1,924	1,892	1,790	1,681	1,613	1,577	1,513	1,432	1,302	1,152	1,016	881
Norway	1,427	1,402	1,380	1,370	1,335	1,300	1,263	1,228	1,202	1,193	1,178	1,168
Portugal	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016
Smaller Countries	2,147	2,126	2,076	2,049	2,002	1,979	1,956	1,939	1,910	1,871	1,825	1,736
Spain	2,064	2,033	1,994	1,964	1,941	1,919	1,885	1,845	1,797	1,710	1,662	1,468
Sweden	1,883	1,824	1,674	1,591	1,528	1,441	1,375	1,256	1,202	1,017	964	810
Switzerland	1,491	1,461	1,415	1,348	1,305	1,253	1,189	1,158	1,075	1,035	1,004	933
United Kingdom	1,801	1,747	1,679	1,609	1,567	1,509	1,466	1,416	1,355	1,302	1,272	1,170
Europe	2,053	1,992	1,924	1,873	1,827	1,781	1,735	1,682	1,627	1,550	1,481	1,192

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	11	10	11	11	11	11	11	10	11	11	10	11
Belgium	4	5	6	8	9	10	10	11	13	15	15	16
Denmark	1	2	4	4	4	5	6	7	9	12	13	15
Finland	6	6	5	7	7	7	8	8	8	8	9	13
France	18	18	18	18	18	19	18	17	15	10	8	6
Germany	5	4	3	3	2	2	2	2	1	1	2	2
Ireland	8	8	9	10	10	9	9	9	10	9	11	10
Italy	15	15	15	14	13	15	15	15	16	17	17	17
Liechtenstein	19	19	19	19	19	16	13	13	7	5	1	1
Luxembourg	17	17	17	16	15	13	14	14	14	14	14	12
Netherlands	10	11	10	9	8	8	7	6	5	4	5	4
Norway	2	1	1	2	3	3	3	3	3	6	6	7
Portugal	12	13	14	15	17	18	19	19	19	19	19	19
Smaller Countries	16	16	16	17	16	17	17	18	18	18	18	18
Spain	14	14	13	13	14	14	16	16	17	16	16	14
Sweden	9	9	7	5	5	4	4	4	4	2	3	3
Switzerland	3	3	2	1	1	1	1	1	2	3	4	5
United Kingdom	7	7	8	6	6	6	5	5	6	7	7	8
Europe	13	12	12	12	12	12	12	12	12	13	12	9

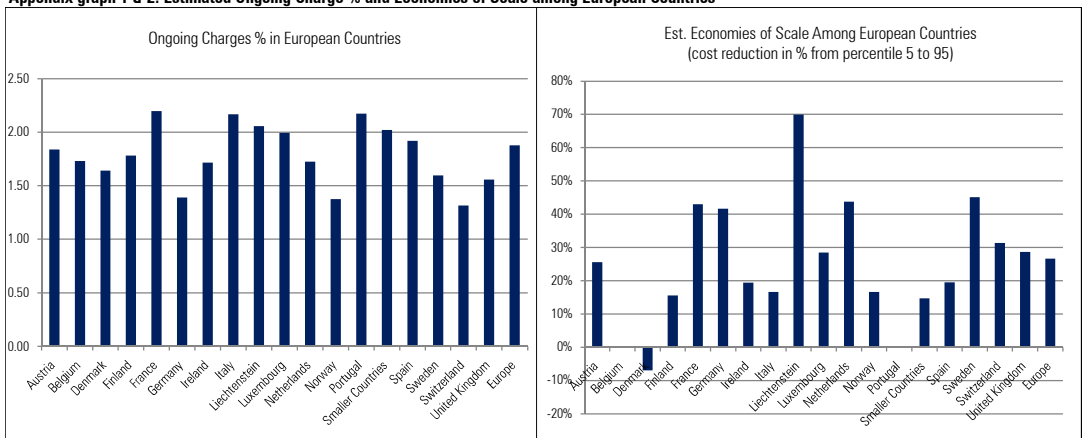
**Fund Profile 2**

Equity fund      Actively managed      3 yrs. standard deviation: 16.5 (Global Emerging Market Equity Fund)  
 Retail-oriented      No performance fee      Min. Investment 12,500 EUR      UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,840	1.84	7%	10%	13%	17%	26%	19%	11%	3%	12%	16%	
Belgium	1,730	1.73	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	1,641	1.64	-1%	-3%	-3%	-5%	-7%	-5%	-4%	-1%	-3%	-4%	
Finland	1,781	1.78	2%	6%	9%	11%	16%	14%	9%	3%	7%	9%	
France	2,197	2.20	9%	15%	20%	28%	43%	34%	21%	6%	17%	32%	
Germany	1,389	1.39	14%	20%	24%	35%	42%	33%	24%	6%	22%	25%	
Ireland	1,717	1.72	4%	7%	11%	15%	19%	16%	11%	4%	9%	11%	
Italy	2,168	2.17	4%	8%	11%	14%	17%	14%	10%	4%	8%	9%	
Liechtenstein	2,057	2.06	10%	23%	38%	51%	70%	56%	45%	19%	33%	55%	
Luxembourg	1,993	1.99	6%	12%	17%	22%	28%	24%	17%	6%	14%	16%	
Netherlands	1,726	1.73	6%	15%	20%	30%	44%	36%	25%	6%	17%	32%	
Norway	1,374	1.37	3%	6%	11%	15%	17%	14%	12%	5%	9%	9%	
Portugal	2,173	2.17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	2,020	2.02	3%	7%	9%	11%	15%	12%	8%	2%	8%	8%	
Spain	1,919	1.92	3%	6%	9%	13%	19%	16%	10%	3%	7%	13%	
Sweden	1,596	1.60	10%	17%	25%	33%	45%	41%	26%	9%	22%	30%	
Switzerland	1,316	1.32	5%	12%	19%	27%	31%	28%	23%	8%	15%	19%	
United Kingdom	1,557	1.56	7%	13%	18%	24%	29%	25%	19%	6%	16%	15%	
Europe	1,877	1.88	6%	11%	15%	20%	27%	21%	15%	5%	13%	16%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	2,085	2,035	1,949	1,911	1,867	1,840	1,817	1,785	1,732	1,654	1,552	1,427
Belgium	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730
Denmark	1,592	1,606	1,612	1,629	1,635	1,641	1,647	1,661	1,674	1,682	1,703	1,716
Finland	1,921	1,905	1,879	1,849	1,807	1,781	1,753	1,741	1,705	1,643	1,623	1,580
France	2,634	2,517	2,401	2,328	2,252	2,197	2,119	2,056	1,887	1,653	1,501	1,191
Germany	1,775	1,619	1,524	1,476	1,425	1,389	1,341	1,258	1,153	1,088	1,036	800
Ireland	1,894	1,869	1,824	1,787	1,753	1,717	1,684	1,652	1,619	1,565	1,527	1,304
Italy	2,362	2,314	2,259	2,220	2,182	2,168	2,102	2,062	2,029	1,982	1,970	1,930
Liechtenstein	3,083	2,924	2,788	2,652	2,381	2,057	1,920	1,810	1,525	1,275	927	346
Luxembourg	2,330	2,258	2,185	2,122	2,056	1,993	1,934	1,880	1,820	1,724	1,668	1,421
Netherlands	2,073	2,041	1,940	1,830	1,763	1,726	1,663	1,582	1,451	1,301	1,165	1,030
Norway	1,502	1,477	1,455	1,445	1,410	1,374	1,338	1,303	1,277	1,268	1,253	1,243
Portugal	2,173	2,173	2,173	2,173	2,173	2,173	2,173	2,173	2,173	2,173	2,173	2,173
Smaller Countries	2,189	2,167	2,118	2,090	2,043	2,020	1,998	1,980	1,952	1,912	1,866	1,778
Spain	2,064	2,033	1,994	1,964	1,941	1,919	1,885	1,845	1,797	1,710	1,662	1,468
Sweden	2,038	1,979	1,829	1,746	1,683	1,596	1,530	1,411	1,357	1,172	1,119	965
Switzerland	1,553	1,524	1,478	1,411	1,368	1,316	1,252	1,221	1,137	1,098	1,067	995
United Kingdom	1,850	1,795	1,728	1,657	1,616	1,557	1,514	1,465	1,403	1,351	1,320	1,218
Europe	2,149	2,087	2,019	1,968	1,923	1,877	1,830	1,777	1,722	1,645	1,576	1,287

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	12	11	11	11	11	11	11	12	13	12	10	12
Belgium	4	5	6	6	7	9	9	9	12	16	16	16
Denmark	3	3	4	4	5	6	6	8	9	13	15	15
Finland	8	8	9	10	10	10	10	10	10	9	12	14
France	18	18	18	18	18	19	18	17	16	11	8	6
Germany	5	4	3	3	3	3	3	2	2	1	2	2
Ireland	7	7	7	8	8	7	7	7	8	8	9	10
Italy	17	17	17	17	17	17	17	18	18	18	18	18
Liechtenstein	19	19	19	19	19	16	14	13	7	5	1	1
Luxembourg	16	16	16	15	15	14	15	15	15	15	14	11
Netherlands	11	12	10	9	9	8	7	6	6	6	5	5
Norway	1	1	1	2	2	2	2	3	3	4	6	8
Portugal	14	15	15	16	16	18	19	19	19	19	19	19
Smaller Countries	15	14	14	14	14	15	16	16	17	17	17	17
Spain	10	10	12	12	13	13	13	14	14	14	13	13
Sweden	9	9	8	7	6	5	5	4	4	3	4	3
Switzerland	2	2	2	1	1	1	1	1	1	2	3	4
United Kingdom	6	6	5	5	4	4	4	5	5	7	7	7
Europe	13	13	13	13	12	12	12	11	11	10	11	9

**Fund Profile 3**

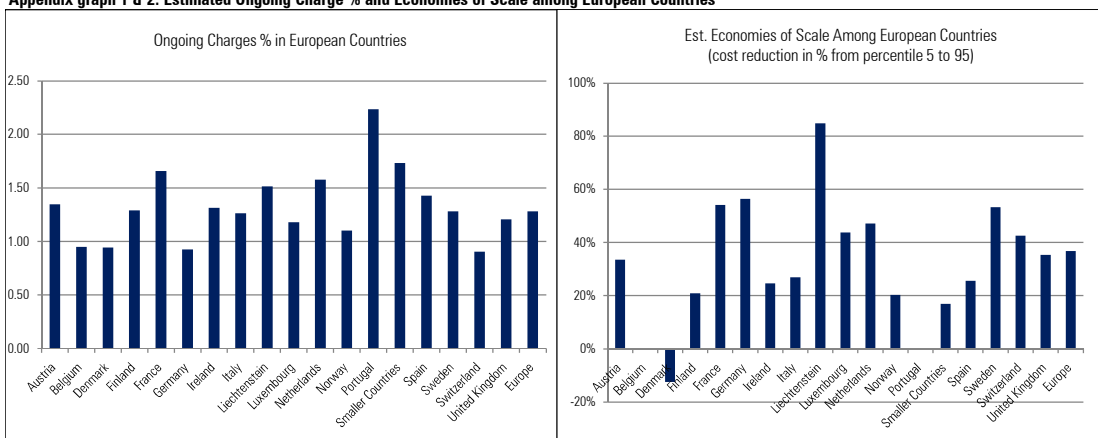
Equity fund  
Institutional

Actively managed 3 yrs. standard deviation: 12.8 (Global Equity Fund)  
No performance fee Min. Investment 1,25 mill EUR UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,345	1.35	9%	14%	17%	22%	34%	25%	15%	4%	15%	21%	
Belgium	949	0.95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	943	0.94	-2%	-5%	-6%	-9%	-12%	-8%	-7%	-1%	-6%	-7%	
Finland	1,289	1.29	3%	8%	12%	15%	21%	19%	13%	4%	10%	12%	
France	1,657	1.66	11%	18%	25%	36%	54%	44%	28%	8%	21%	42%	
Germany	925	0.93	19%	27%	33%	47%	56%	46%	35%	9%	29%	38%	
Ireland	1,314	1.31	5%	9%	14%	18%	25%	21%	14%	5%	12%	14%	
Italy	1,263	1.26	7%	12%	18%	23%	27%	24%	17%	6%	13%	16%	
Liechtenstein	1,513	1.51	12%	28%	46%	61%	85%	69%	56%	25%	40%	75%	
Luxembourg	1,178	1.18	10%	18%	26%	34%	44%	37%	27%	10%	22%	28%	
Netherlands	1,577	1.58	7%	16%	21%	32%	47%	39%	27%	6%	18%	36%	
Norway	1,102	1.10	4%	7%	13%	18%	20%	17%	15%	6%	10%	11%	
Portugal	2,235	2.24	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,733	1.73	4%	8%	10%	12%	17%	14%	9%	3%	9%	9%	
Spain	1,428	1.43	4%	8%	11%	17%	26%	21%	13%	4%	9%	18%	
Sweden	1,281	1.28	12%	21%	29%	39%	53%	49%	31%	11%	26%	37%	
Switzerland	904	0.90	7%	16%	26%	36%	43%	38%	32%	12%	21%	28%	
United Kingdom	1,207	1.21	8%	16%	22%	30%	35%	31%	24%	8%	20%	20%	
Europe	1,281	1.28	8%	15%	21%	27%	37%	30%	21%	7%	18%	23%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	1,590	1,540	1,454	1,416	1,372	1,345	1,322	1,290	1,237	1,159	1,057	932
Belgium	949	949	949	949	949	949	949	949	949	949	949	949
Denmark	893	907	914	931	937	943	949	963	975	983	1,005	1,017
Finland	1,428	1,412	1,387	1,356	1,315	1,289	1,261	1,248	1,212	1,151	1,130	1,087
France	2,093	1,976	1,861	1,787	1,711	1,657	1,579	1,516	1,346	1,113	960	650
Germany	1,311	1,156	1,060	1,012	961	925	877	795	689	624	572	336
Ireland	1,491	1,466	1,421	1,384	1,350	1,314	1,281	1,249	1,216	1,162	1,124	901
Italy	1,456	1,408	1,353	1,314	1,276	1,263	1,197	1,157	1,124	1,077	1,064	1,025
Liechtenstein	2,539	2,380	2,244	2,108	1,837	1,513	1,375	1,266	981	731	383	-198
Luxembourg	1,515	1,442	1,369	1,307	1,241	1,178	1,119	1,065	1,005	908	852	606
Netherlands	1,924	1,892	1,790	1,681	1,613	1,577	1,513	1,432	1,302	1,152	1,016	881
Norway	1,230	1,205	1,183	1,173	1,138	1,102	1,066	1,031	1,005	996	981	971
Portugal	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235
Smaller Countries	1,902	1,880	1,831	1,803	1,756	1,733	1,711	1,693	1,664	1,625	1,579	1,490
Spain	1,574	1,542	1,503	1,473	1,450	1,428	1,394	1,354	1,306	1,220	1,171	977
Sweden	1,723	1,663	1,514	1,431	1,367	1,281	1,215	1,095	1,042	857	804	650
Switzerland	1,141	1,112	1,066	999	956	904	840	809	725	685	655	583
United Kingdom	1,499	1,445	1,377	1,307	1,265	1,207	1,163	1,114	1,053	1,000	970	867
Europe	1,553	1,492	1,423	1,373	1,327	1,281	1,234	1,181	1,127	1,049	980	692

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	13	12	12	12	13	13	13	14	14	15	13	11
Belgium	2	2	2	2	2	4	4	3	3	6	6	12
Denmark	1	1	1	1	1	3	3	4	4	7	11	15
Finland	6	7	9	9	9	11	11	11	12	13	16	17
France	17	17	17	16	16	17	17	17	17	12	7	5
Germany	5	4	3	4	4	2	2	1	1	1	2	2
Ireland	8	10	10	11	11	12	12	12	13	16	15	10
Italy	7	6	6	8	8	8	8	9	10	11	14	16
Liechtenstein	19	19	19	18	18	15	14	13	5	3	1	1
Luxembourg	10	8	7	6	6	6	6	6	6	5	5	4
Netherlands	16	16	15	15	15	16	16	16	15	14	12	9
Norway	4	5	5	5	5	5	5	5	7	8	10	13
Portugal	18	18	18	19	19	19	19	19	19	19	19	19
Smaller Countries	15	15	16	17	17	18	18	18	18	18	18	18
Spain	12	13	13	14	14	14	15	15	16	17	17	14
Sweden	14	14	14	13	12	9	9	7	8	4	4	6
Switzerland	3	3	4	3	3	1	1	2	2	2	3	3
United Kingdom	9	9	8	7	7	7	7	8	9	9	8	8
Europe	11	11	11	10	10	10	10	10	11	10	9	7





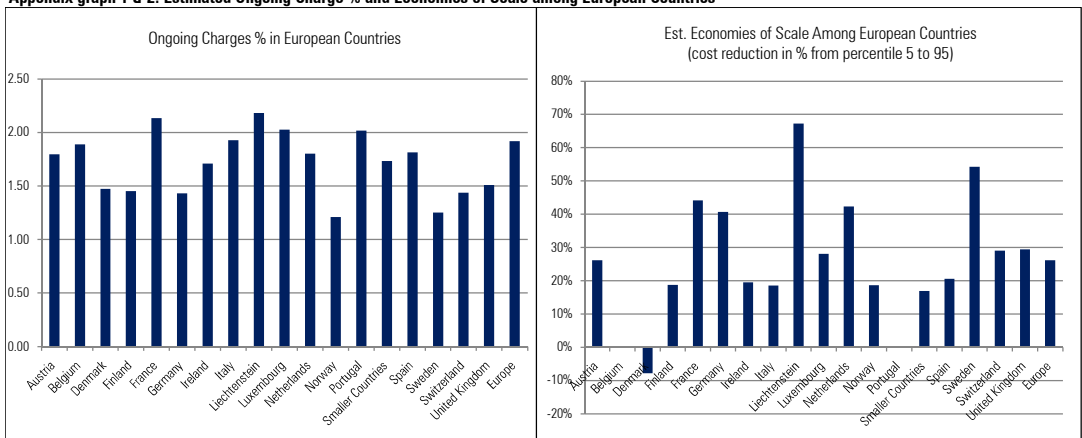
**Fund Profile 5**

Equity fund      Actively managed      3 yrs. standard deviation: 12.8 (Global Equity Fund)  
 Retail-oriented      10% Performance fee Min. Investment 12,500 EUR      UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,795	1.79	7%	11%	13%	17%	26%	19%	11%	3%	12%	16%	
Belgium	1,888	1.89	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	1,474	1.47	-1%	-3%	-4%	-6%	-8%	-5%	-4%	-1%	-3%	-4%	
Finland	1,451	1.45	3%	7%	11%	14%	19%	17%	11%	4%	9%	11%	
France	2,132	2.13	9%	15%	20%	29%	44%	35%	22%	6%	17%	33%	
Germany	1,430	1.43	14%	19%	24%	34%	41%	32%	24%	6%	21%	25%	
Ireland	1,709	1.71	4%	7%	11%	15%	19%	16%	11%	4%	9%	11%	
Italy	1,927	1.93	5%	9%	12%	16%	18%	16%	11%	4%	9%	10%	
Liechtenstein	2,181	2.18	9%	22%	36%	49%	67%	54%	43%	18%	32%	52%	
Luxembourg	2,024	2.02	6%	12%	17%	22%	28%	23%	16%	6%	14%	16%	
Netherlands	1,802	1.80	6%	14%	19%	29%	42%	35%	24%	5%	16%	31%	
Norway	1,210	1.21	4%	7%	12%	17%	19%	16%	14%	6%	10%	10%	
Portugal	2,016	2.02	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,733	1.73	4%	8%	10%	12%	17%	14%	9%	3%	9%	9%	
Spain	1,814	1.81	4%	6%	9%	14%	21%	17%	10%	3%	7%	14%	
Sweden	1,252	1.25	12%	21%	30%	40%	54%	49%	32%	11%	26%	38%	
Switzerland	1,436	1.44	5%	11%	18%	25%	29%	26%	21%	8%	14%	17%	
United Kingdom	1,509	1.51	7%	13%	19%	25%	29%	25%	19%	6%	16%	16%	
Europe	1,919	1.92	6%	10%	15%	19%	26%	21%	14%	5%	12%	16%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	2,040	1,989	1,903	1,865	1,822	1,795	1,771	1,739	1,687	1,608	1,507	1,381
Belgium	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888	1,888
Denmark	1,424	1,438	1,445	1,462	1,468	1,474	1,479	1,493	1,506	1,514	1,535	1,548
Finland	1,590	1,574	1,549	1,518	1,477	1,451	1,423	1,410	1,374	1,313	1,292	1,249
France	2,568	2,451	2,336	2,262	2,186	2,132	2,054	1,991	1,821	1,588	1,435	1,125
Germany	1,815	1,660	1,564	1,517	1,465	1,430	1,381	1,299	1,193	1,128	1,076	841
Ireland	1,885	1,860	1,815	1,778	1,744	1,709	1,676	1,644	1,611	1,556	1,519	1,295
Italy	2,120	2,072	2,017	1,978	1,940	1,927	1,860	1,820	1,787	1,741	1,728	1,689
Liechtenstein	3,207	3,048	2,912	2,776	2,505	2,181	2,044	1,934	1,649	1,400	1,051	470
Luxembourg	2,361	2,289	2,216	2,153	2,087	2,024	1,965	1,911	1,851	1,755	1,699	1,452
Netherlands	2,148	2,116	2,015	1,905	1,838	1,802	1,738	1,657	1,526	1,376	1,241	1,105
Norway	1,338	1,312	1,291	1,280	1,246	1,210	1,174	1,139	1,113	1,104	1,089	1,079
Portugal	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016	2,016
Smaller Countries	1,902	1,881	1,831	1,803	1,757	1,733	1,711	1,693	1,665	1,626	1,580	1,491
Spain	1,959	1,928	1,889	1,859	1,836	1,814	1,780	1,740	1,692	1,606	1,557	1,363
Sweden	1,694	1,635	1,485	1,402	1,339	1,252	1,186	1,067	1,013	828	775	621
Switzerland	1,673	1,644	1,598	1,531	1,488	1,436	1,372	1,341	1,257	1,218	1,187	1,115
United Kingdom	1,801	1,747	1,679	1,609	1,567	1,509	1,466	1,416	1,355	1,302	1,272	1,170
Europe	2,191	2,130	2,062	2,011	1,966	1,919	1,873	1,820	1,765	1,688	1,619	1,330

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	13	12	12	11	10	10	11	11	12	13	10	13
Belgium	9	10	10	12	13	13	15	15	18	18	18	18
Denmark	2	2	2	3	4	6	7	7	7	9	12	16
Finland	3	3	4	5	5	5	5	5	6	6	8	9
France	18	18	18	18	18	18	18	18	16	11	9	7
Germany	7	6	5	4	3	3	4	3	3	3	3	3
Ireland	8	8	8	8	8	8	8	8	9	10	11	10
Italy	14	14	15	14	14	15	13	14	15	16	17	17
Liechtenstein	19	19	19	19	19	19	18	17	10	8	2	1
Luxembourg	17	17	17	17	17	17	16	16	17	17	16	14
Netherlands	15	15	13	13	12	11	10	9	8	7	6	5
Norway	1	1	1	1	1	1	1	2	2	2	4	4
Portugal	12	13	14	16	16	16	17	19	19	19	19	19
Smaller Countries	10	9	9	9	9	9	9	10	11	14	14	15
Spain	11	11	11	10	11	12	12	12	13	12	13	12
Sweden	5	4	3	2	2	2	2	1	1	1	1	2
Switzerland	4	5	6	6	6	4	3	4	4	4	5	6
United Kingdom	6	7	7	7	7	7	6	6	5	5	7	8
Europe	16	16	16	15	15	14	14	13	14	15	15	11

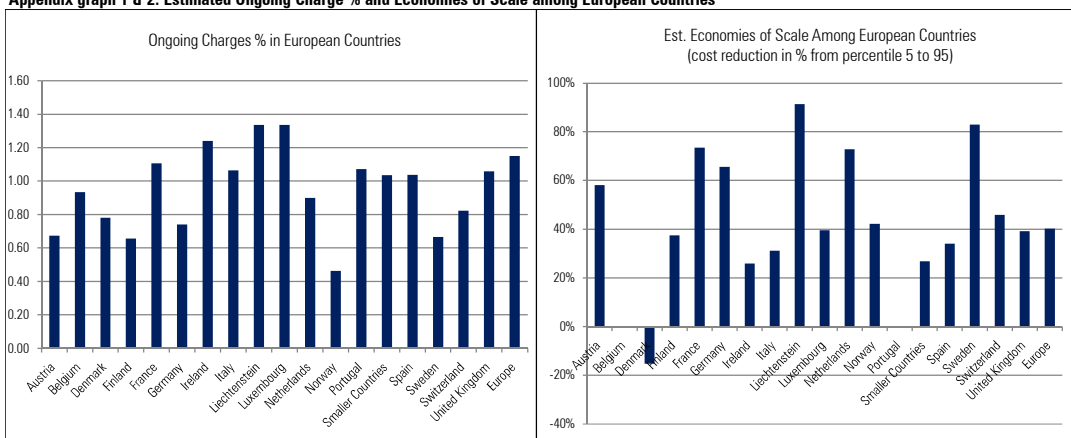
**Fund Profile 6**

Fixed Income fund    Actively managed    3 yrs. standard deviation: 3.5 (Global Bond EUR Hdg. Fund)  
 Retail-oriented    No Performance fee    Min. Investment 12,500 EUR    UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Est. Costs in EUR	Est. Ongoing Charge %	Estimated Economies of Scale Moving From Smaller to Larger Percentiles										
			5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	674	0.67	15%	24%	29%	38%	58%	44%	28%	7%	27%	43%	
Belgium	934	0.93	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	781	0.78	-3%	-6%	-8%	-11%	-15%	-10%	-8%	-2%	-7%	-8%	
Finland	655	0.66	5%	14%	21%	27%	37%	34%	23%	8%	18%	24%	
France	1,106	1.11	15%	25%	33%	48%	73%	61%	39%	11%	28%	63%	
Germany	741	0.74	22%	31%	39%	55%	66%	55%	42%	11%	34%	48%	
Ireland	1,241	1.24	5%	10%	15%	19%	26%	22%	15%	5%	12%	15%	
Italy	1,063	1.06	8%	14%	21%	26%	31%	27%	20%	7%	15%	19%	
Liechtenstein	1,335	1.34	12%	30%	49%	66%	91%	75%	61%	28%	43%	85%	
Luxembourg	1,336	1.34	9%	16%	24%	30%	40%	33%	24%	9%	20%	24%	
Netherlands	899	0.90	11%	25%	33%	50%	73%	61%	44%	11%	28%	62%	
Norway	463	0.46	8%	16%	28%	38%	42%	37%	33%	14%	22%	26%	
Portugal	1,071	1.07	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,035	1.04	6%	12%	16%	20%	27%	22%	15%	4%	14%	15%	
Spain	1,037	1.04	6%	10%	15%	23%	34%	28%	18%	5%	12%	25%	
Sweden	665	0.67	19%	32%	46%	61%	83%	77%	52%	20%	40%	72%	
Switzerland	824	0.82	7%	17%	28%	39%	46%	41%	35%	13%	22%	30%	
United Kingdom	1,058	1.06	9%	17%	25%	33%	39%	34%	26%	9%	22%	22%	
Europe	1,150	1.15	9%	16%	22%	30%	40%	33%	23%	8%	19%	26%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile					Median	Percentile							
	5	10	20	30	40		60	70	80	90	95	100		
Austria	918	868	782	744	701	674	650	618	565	487	385	260		
Belgium	934	934	934	934	934	934	934	934	934	934	934	934		
Denmark	732	746	752	769	775	781	787	801	814	822	843	856		
Finland	795	779	753	723	682	655	627	615	579	518	497	454		
France	1,542	1,425	1,310	1,236	1,160	1,106	1,028	965	796	562	410	99		
Germany	1,126	971	875	828	776	741	692	610	504	439	387	152		
Ireland	1,417	1,392	1,347	1,310	1,276	1,241	1,207	1,175	1,142	1,088	1,050	827		
Italy	1,257	1,209	1,154	1,115	1,077	1,063	997	957	924	877	865	825		
Liechtenstein	2,361	2,202	2,066	1,930	1,659	1,335	1,198	1,088	803	554	206	-376		
Luxembourg	1,673	1,601	1,528	1,465	1,399	1,336	1,277	1,223	1,163	1,067	1,011	765		
Netherlands	1,246	1,214	1,112	1,003	935	899	835	754	624	474	338	203		
Norway	590	565	543	533	498	463	426	391	365	356	341	331		
Portugal	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071		
Smaller Countries	1,204	1,182	1,133	1,105	1,058	1,035	1,013	995	967	928	881	793		
Spain	1,183	1,152	1,113	1,083	1,060	1,037	1,004	963	916	829	781	587		
Sweden	1,107	1,048	898	815	752	665	600	480	427	241	189	35		
Switzerland	1,061	1,032	986	919	876	824	760	729	645	606	575	503		
United Kingdom	1,351	1,296	1,229	1,159	1,117	1,058	1,015	966	904	852	821	719		
Europe	1,422	1,360	1,292	1,241	1,196	1,150	1,103	1,050	995	918	849	560		

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile					Median	Percentile							
	5	10	20	30	40		60	70	80	90	95	100		
Austria	4	4	4	3	3	4	4	5	4	5	5	6		
Belgium	5	5	7	8	8	9	9	14	16	16	16	18		
Denmark	2	2	2	4	5	6	7	8	10	10	12	17		
Finland	3	3	3	2	2	2	3	4	5	6	8	8		
France	17	17	16	15	15	15	14	12	8	8	7	3		
Germany	9	6	5	6	6	5	5	3	3	3	6	4		
Ireland	15	16	17	17	17	17	18	18	18	19	18	16		
Italy	13	12	13	13	13	13	10	10	13	13	14	15		
Liechtenstein	19	19	19	19	19	18	17	17	9	7	2	1		
Luxembourg	18	18	18	18	18	19	19	19	19	17	17	13		
Netherlands	12	13	10	9	9	8	8	7	6	4	3	5		
Norway	1	1	1	1	1	1	1	1	1	2	4	7		
Portugal	7	9	9	10	12	14	15	16	17	18	19	19		
Smaller Countries	11	11	12	12	10	10	12	14	15	15	15	14		
Spain	10	10	11	11	11	11	11	11	12	11	10	11		
Sweden	8	8	6	5	4	3	2	2	2	1	1	2		
Switzerland	6	7	8	7	7	7	6	6	7	9	9	9		
United Kingdom	14	14	14	14	14	12	13	13	11	12	11	12		
Europe	16	15	15	16	16	16	16	15	16	14	13	10		

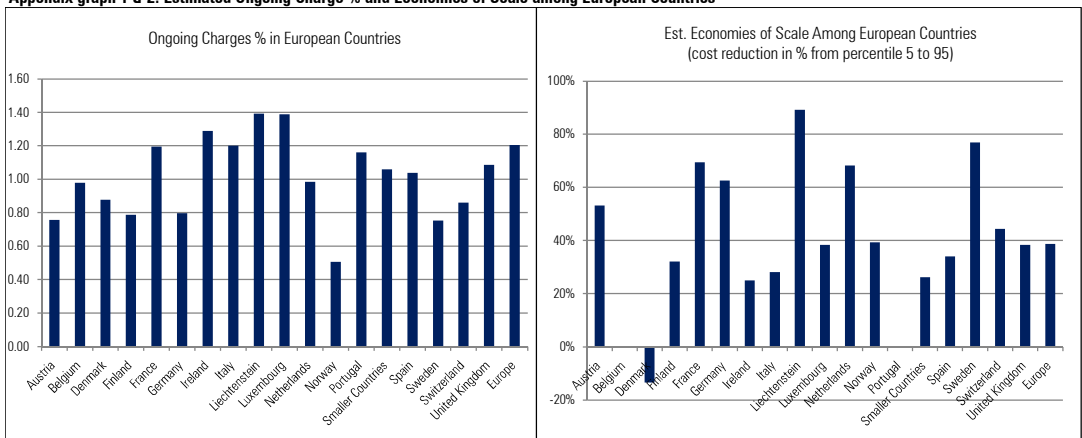
**Fund Profile 7**

Fixed Income fund    Actively managed    3 yrs. standard deviation: 5.6 (High Yield Bond Fund)  
 Retail-oriented        No Performance fee    Min. Investment 12,500 EUR    UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	757	0.76	14%	22%	27%	35%	53%	40%	25%	6%	24%	38%	
Belgium	979	0.98	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	877	0.88	-2%	-5%	-7%	-10%	-13%	-9%	-7%	-1%	-6%	-7%	
Finland	788	0.79	4%	12%	18%	23%	32%	29%	20%	7%	15%	20%	
France	1,195	1.20	14%	23%	32%	46%	69%	57%	37%	11%	27%	58%	
Germany	796	0.80	21%	30%	37%	53%	63%	52%	40%	10%	33%	44%	
Ireland	1,289	1.29	5%	10%	14%	19%	25%	21%	15%	5%	12%	15%	
Italy	1,201	1.20	7%	13%	19%	24%	28%	25%	18%	7%	14%	17%	
Liechtenstein	1,391	1.39	12%	29%	48%	64%	89%	73%	60%	27%	42%	81%	
Luxembourg	1,388	1.39	8%	16%	23%	30%	38%	32%	23%	8%	20%	23%	
Netherlands	984	0.98	10%	23%	31%	47%	68%	57%	41%	10%	26%	57%	
Norway	505	0.51	7%	15%	26%	36%	39%	34%	30%	13%	20%	24%	
Portugal	1,160	1.16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,059	1.06	6%	12%	16%	19%	26%	21%	14%	4%	14%	15%	
Spain	1,037	1.04	6%	10%	15%	23%	34%	28%	18%	5%	12%	25%	
Sweden	753	0.75	17%	30%	42%	57%	77%	71%	48%	18%	37%	63%	
Switzerland	859	0.86	7%	17%	27%	38%	44%	40%	33%	13%	22%	29%	
United Kingdom	1,086	1.09	9%	17%	24%	32%	38%	34%	26%	9%	21%	22%	
Europe	1,204	1.20	9%	15%	22%	29%	39%	31%	22%	7%	18%	25%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	1,002	951	865	827	784	757	733	701	649	570	469	343
Belgium	979	979	979	979	979	979	979	979	979	979	979	979
Denmark	827	841	848	865	871	877	882	896	909	917	938	951
Finland	927	911	885	855	814	788	760	747	711	650	629	586
France	1,631	1,514	1,399	1,325	1,249	1,195	1,117	1,054	885	651	499	189
Germany	1,182	1,026	931	883	831	796	747	665	560	494	443	207
Ireland	1,465	1,440	1,396	1,358	1,324	1,289	1,256	1,224	1,191	1,136	1,099	875
Italy	1,394	1,346	1,291	1,252	1,214	1,201	1,135	1,095	1,062	1,015	1,002	963
Liechtenstein	2,417	2,258	2,121	1,986	1,715	1,391	1,253	1,144	858	609	261	-320
Luxembourg	1,725	1,653	1,580	1,517	1,451	1,388	1,329	1,275	1,215	1,119	1,063	816
Netherlands	1,331	1,299	1,197	1,087	1,020	984	920	839	708	559	423	288
Norway	633	607	586	575	541	505	468	433	408	399	384	374
Portugal	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160
Smaller Countries	1,227	1,206	1,156	1,129	1,082	1,059	1,036	1,019	990	951	905	816
Spain	1,183	1,152	1,113	1,083	1,060	1,037	1,004	963	916	829	781	587
Sweden	1,195	1,136	986	903	840	753	688	568	515	329	277	123
Switzerland	1,097	1,068	1,022	954	911	859	795	765	681	641	611	539
United Kingdom	1,378	1,324	1,256	1,186	1,144	1,086	1,042	993	932	879	849	746
Europe	1,476	1,415	1,346	1,296	1,250	1,204	1,157	1,104	1,049	972	903	615

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile 5	Percentile 10	Percentile 20	Percentile 30	Percentile 40	Median	Percentile 60	Percentile 70	Percentile 80	Percentile 90	Percentile 95	Percentile 100
Austria	5	4	3	2	2	3	3	4	4	5	6	6
Belgium	4	5	6	8	8	8	9	10	13	15	15	18
Denmark	2	2	2	4	6	7	7	8	10	12	14	16
Finland	3	3	4	3	3	4	5	5	7	8	9	9
France	17	17	17	16	15	14	13	13	9	9	7	3
Germany	8	6	5	5	4	5	4	3	3	3	5	4
Ireland	15	16	16	17	17	17	18	18	18	18	18	15
Italy	14	14	14	14	14	15	14	14	16	16	16	17
Liechtenstein	19	19	19	19	19	19	17	16	8	6	1	1
Luxembourg	18	18	18	18	18	18	19	19	19	17	17	14
Netherlands	12	12	12	10	9	9	8	7	6	4	4	5
Norway	1	1	1	1	1	1	1	1	1	2	3	7
Portugal	7	10	11	12	13	13	16	17	17	19	19	19
Smaller Countries	11	11	10	11	11	11	11	12	14	13	13	13
Spain	9	9	9	9	10	10	10	9	11	10	10	10
Sweden	10	8	7	6	5	2	2	2	2	1	2	2
Switzerland	6	7	8	7	7	6	6	6	5	7	8	8
United Kingdom	13	13	13	13	12	12	12	11	12	11	11	12
Europe	16	15	15	15	16	16	15	15	15	14	12	11

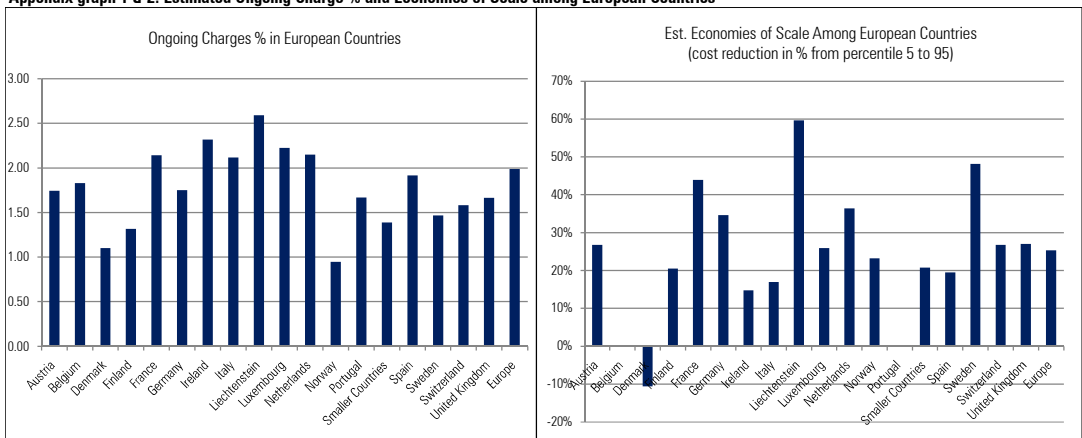
**Fund Profile 8**

Allocation fund      Actively managed      3 yrs. standard deviation: 4.6 (Cautious Allocation Fund)  
 Retail-oriented      No Performance fee      Min. Investment 12,500 EUR      UCITS      Fund of Funds

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,745	1.75	7%	11%	13%	18%	27%	20%	12%	3%	12%	17%	
Belgium	1,832	1.83	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	1,102	1.10	-2%	-4%	-5%	-8%	-11%	-7%	-6%	-1%	-5%	-6%	
Finland	1,318	1.32	3%	8%	11%	15%	20%	18%	12%	4%	10%	12%	
France	2,144	2.14	9%	15%	20%	29%	44%	35%	22%	6%	17%	32%	
Germany	1,751	1.75	12%	16%	20%	29%	35%	27%	20%	5%	18%	20%	
Ireland	2,318	2.32	3%	6%	8%	11%	15%	12%	8%	3%	7%	8%	
Italy	2,116	2.12	4%	8%	11%	14%	17%	15%	10%	4%	8%	9%	
Liechtenstein	2,590	2.59	8%	19%	32%	43%	60%	48%	38%	16%	28%	44%	
Luxembourg	2,224	2.22	6%	11%	15%	20%	26%	21%	15%	5%	13%	15%	
Netherlands	2,148	2.15	5%	12%	16%	25%	36%	30%	21%	5%	14%	26%	
Norway	947	0.95	4%	9%	15%	21%	23%	20%	17%	7%	12%	13%	
Portugal	1,669	1.67	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,387	1.39	5%	9%	12%	15%	21%	17%	11%	3%	11%	11%	
Spain	1,918	1.92	3%	6%	9%	13%	19%	16%	10%	3%	7%	13%	
Sweden	1,467	1.47	11%	19%	27%	36%	48%	44%	28%	10%	23%	32%	
Switzerland	1,583	1.58	4%	10%	17%	23%	27%	24%	20%	7%	13%	16%	
United Kingdom	1,665	1.66	6%	12%	17%	23%	27%	23%	18%	6%	15%	14%	
Europe	1,987	1.99	6%	10%	14%	19%	25%	20%	14%	5%	12%	15%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	1,990	1,940	1,854	1,816	1,772	1,745	1,722	1,690	1,637	1,559	1,457	1,332
Belgium	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832
Denmark	1,052	1,066	1,073	1,090	1,096	1,102	1,108	1,122	1,134	1,142	1,164	1,176
Finland	1,457	1,441	1,416	1,385	1,344	1,318	1,290	1,277	1,241	1,180	1,159	1,116
France	2,580	2,463	2,348	2,274	2,198	2,144	2,066	2,003	1,834	1,600	1,448	1,137
Germany	2,136	1,981	1,885	1,838	1,786	1,751	1,702	1,620	1,514	1,449	1,397	1,162
Ireland	2,494	2,469	2,425	2,387	2,353	2,318	2,285	2,253	2,220	2,165	2,128	1,904
Italy	2,310	2,262	2,207	2,168	2,130	2,116	2,050	2,010	1,977	1,930	1,918	1,878
Liechtenstein	3,616	3,457	3,321	3,185	2,914	2,590	2,452	2,343	2,057	1,808	1,460	879
Luxembourg	2,560	2,488	2,415	2,353	2,286	2,224	2,165	2,110	2,050	1,954	1,898	1,652
Netherlands	2,495	2,462	2,361	2,251	2,184	2,148	2,084	2,003	1,872	1,723	1,587	1,452
Norway	1,074	1,049	1,027	1,017	982	947	910	875	849	840	825	815
Portugal	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669
Smaller Countries	1,555	1,534	1,484	1,457	1,410	1,387	1,365	1,347	1,318	1,279	1,233	1,144
Spain	2,063	2,032	1,993	1,963	1,940	1,918	1,884	1,844	1,796	1,709	1,661	1,467
Sweden	1,909	1,850	1,700	1,617	1,554	1,467	1,401	1,281	1,228	1,043	990	836
Switzerland	1,821	1,792	1,745	1,678	1,635	1,583	1,519	1,489	1,405	1,365	1,335	1,263
United Kingdom	1,957	1,903	1,835	1,765	1,723	1,665	1,621	1,572	1,511	1,458	1,428	1,325
Europe	2,259	2,198	2,129	2,079	2,033	1,987	1,940	1,887	1,833	1,755	1,687	1,398

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	10	10	10	9	9	9	10	10	9	9	10	11
Belgium	7	7	8	10	11	11	11	11	12	16	16	17
Denmark	1	2	2	2	2	2	2	2	2	3	4	8
Finland	3	3	3	3	3	3	3	3	4	4	3	4
France	18	16	15	16	16	15	15	15	14	10	9	5
Germany	12	11	11	11	10	10	9	8	8	7	7	7
Ireland	15	17	18	18	18	18	18	18	19	19	19	19
Italy	14	14	14	14	14	14	14	16	16	17	18	18
Liechtenstein	19	19	19	19	19	19	19	19	18	15	11	3
Luxembourg	17	18	17	17	17	17	17	17	17	17	17	15
Netherlands	16	15	16	15	15	16	16	14	15	13	12	13
Norway	2	1	1	1	1	1	1	1	1	1	1	1
Portugal	5	5	5	6	7	8	8	9	10	11	14	16
Smaller Countries	4	4	4	4	4	4	4	4	5	5	5	6
Spain	11	12	12	12	12	12	12	12	11	12	13	14
Sweden	8	8	6	5	5	5	5	4	3	2	2	2
Switzerland	6	6	7	7	6	6	6	6	6	6	6	9
United Kingdom	9	9	9	8	8	7	7	7	7	8	8	10
Europe	13	13	13	13	13	13	13	13	13	14	15	12



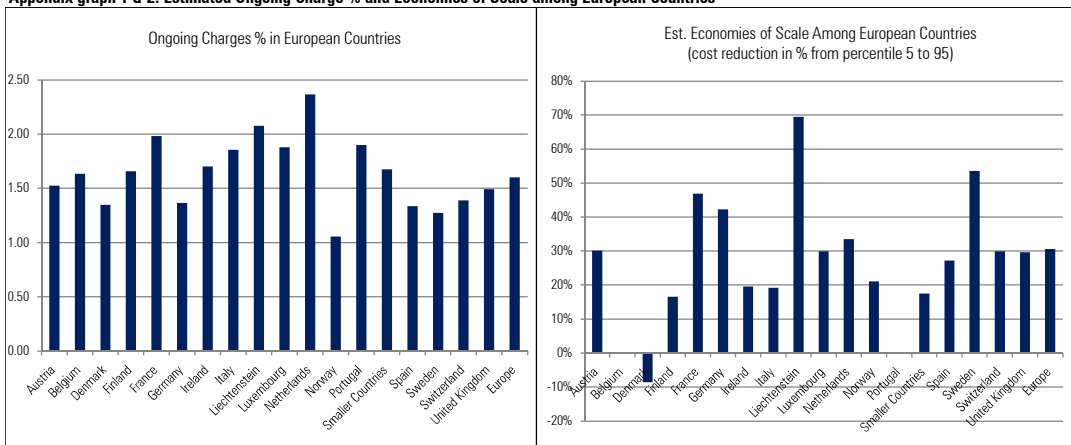
**Fund Profile 10**

Allocation fund      Actively managed      3 yrs. standard deviation: 10.0 (Aggressive Allocation Fund)  
 Retail-oriented      No Performance fee      Min. Investment 12,500 EUR      UCITS

**Appendix table 1: Estimated Ongoing Charges - Overview**

Country	Estimated Economies of Scale Moving From Smaller to Larger Percentiles												
	Est. Costs in EUR	Est. Ongoing Charge %	5 to 20 perct.	5 to 40 perct.	5 to 60 perct.	5 to 80 perct.	5 to 95 perct.	10 to 90 perct.	20 to 80 perct.	40 to 60 perct.	5 to 50 perct.	50 to 95 perct.	
Austria	1,524	1.52	8%	12%	15%	20%	30%	22%	13%	3%	14%	19%	
Belgium	1,634	1.63	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Denmark	1,347	1.35	-2%	-3%	-4%	-6%	-9%	-6%	-5%	-1%	-4%	-5%	
Finland	1,657	1.66	2%	6%	9%	12%	17%	15%	10%	3%	8%	10%	
France	1,981	1.98	10%	16%	21%	31%	47%	38%	24%	6%	18%	35%	
Germany	1,364	1.36	14%	20%	25%	36%	42%	33%	25%	6%	22%	26%	
Ireland	1,702	1.70	4%	8%	11%	15%	20%	16%	11%	4%	9%	11%	
Italy	1,855	1.86	5%	9%	13%	16%	19%	17%	12%	4%	9%	11%	
Liechtenstein	2,077	2.08	10%	23%	37%	50%	69%	56%	45%	19%	33%	54%	
Luxembourg	1,880	1.88	7%	12%	18%	23%	30%	25%	18%	6%	15%	17%	
Netherlands	2,365	2.37	5%	11%	15%	23%	33%	28%	19%	4%	13%	24%	
Norway	1,056	1.06	4%	8%	14%	19%	21%	18%	16%	7%	11%	11%	
Portugal	1,898	1.90	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Smaller Countries	1,673	1.67	4%	8%	10%	13%	17%	14%	9%	3%	9%	9%	
Spain	1,334	1.33	5%	8%	12%	18%	27%	22%	14%	4%	10%	19%	
Sweden	1,273	1.27	12%	21%	30%	40%	54%	49%	31%	11%	26%	37%	
Switzerland	1,389	1.39	5%	11%	19%	26%	30%	27%	22%	8%	15%	18%	
United Kingdom	1,493	1.49	7%	13%	19%	25%	30%	26%	20%	7%	16%	16%	
Europe	1,602	1.60	7%	12%	17%	23%	31%	24%	17%	6%	15%	19%	

**Appendix graph 1 & 2: Estimated Ongoing Charge % and Economies of Scale among European Countries**



**Appendix table 2: Estimated Annual Costs for a 100,000 Euro Investment - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	1,769	1,718	1,632	1,594	1,551	1,524	1,500	1,468	1,416	1,337	1,236	1,110
Belgium	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634
Denmark	1,297	1,311	1,318	1,335	1,341	1,347	1,352	1,366	1,379	1,387	1,408	1,421
Finland	1,797	1,781	1,755	1,725	1,683	1,657	1,629	1,617	1,581	1,519	1,499	1,456
France	2,417	2,300	2,185	2,111	2,035	1,981	1,903	1,840	1,671	1,437	1,285	974
Germany	1,750	1,594	1,498	1,451	1,399	1,364	1,315	1,233	1,128	1,062	1,011	775
Ireland	1,879	1,854	1,809	1,772	1,738	1,702	1,669	1,637	1,604	1,550	1,512	1,289
Italy	2,049	2,000	1,946	1,907	1,868	1,855	1,789	1,749	1,716	1,669	1,657	1,617
Liechtenstein	3,102	2,944	2,807	2,672	2,400	2,077	1,939	1,830	1,544	1,295	947	365
Luxembourg	2,216	2,144	2,071	2,009	1,942	1,880	1,821	1,766	1,706	1,610	1,554	1,308
Netherlands	2,712	2,680	2,579	2,469	2,402	2,365	2,302	2,221	2,090	1,940	1,804	1,669
Norway	1,184	1,158	1,137	1,126	1,091	1,056	1,019	984	958	950	935	924
Portugal	1,898	1,898	1,898	1,898	1,898	1,898	1,898	1,898	1,898	1,898	1,898	1,898
Smaller Countries	1,842	1,821	1,771	1,743	1,697	1,673	1,651	1,633	1,605	1,566	1,520	1,431
Spain	1,480	1,448	1,409	1,379	1,356	1,334	1,300	1,260	1,212	1,126	1,077	883
Sweden	1,715	1,656	1,506	1,423	1,360	1,273	1,207	1,088	1,035	849	796	643
Switzerland	1,627	1,598	1,552	1,485	1,442	1,389	1,326	1,295	1,211	1,171	1,141	1,069
United Kingdom	1,785	1,731	1,663	1,593	1,551	1,493	1,449	1,400	1,338	1,286	1,256	1,153
Europe	1,874	1,812	1,744	1,694	1,648	1,602	1,555	1,502	1,447	1,370	1,301	1,013

**Appendix table 3: Estimated Ongoing Charge Rank - Based on percentiles of size**

Country	Percentile											
	5	10	20	30	40	Median	60	70	80	90	95	100
Austria	8	8	7	8	7	8	8	8	8	8	7	9
Belgium	5	6	8	9	9	10	11	12	14	16	16	17
Denmark	2	2	2	2	2	4	6	6	7	10	11	13
Finland	10	10	11	11	11	11	10	10	11	12	12	15
France	17	17	17	17	17	17	17	17	15	11	9	6
Germany	7	4	4	5	5	5	4	3	3	3	4	3
Ireland	13	13	13	13	13	13	13	13	12	13	13	11
Italy	15	15	15	15	14	14	14	14	17	17	17	16
Liechtenstein	19	19	19	19	18	18	18	16	10	7	3	1
Luxembourg	16	16	16	16	16	15	15	15	16	15	15	12
Netherlands	18	18	18	18	19	19	19	19	19	19	18	18
Norway	1	1	1	1	1	1	1	1	1	2	2	5
Portugal	14	14	14	14	15	16	16	18	18	18	19	19
Smaller Countries	11	12	12	12	12	12	12	11	13	14	14	14
Spain	3	3	3	3	3	3	3	4	5	4	5	4
Sweden	6	7	5	4	4	2	2	2	2	1	1	2
Switzerland	4	5	6	6	6	6	5	5	4	5	6	8
United Kingdom	9	9	9	7	8	7	7	7	6	6	8	10
Europe	12	11	10	10	10	9	9	9	9	9	10	7