



# The scale factor: Impact of size on EU fund cost structures

Webinar

Lorenzo Danieli, Natacha Mosson, Spyridon Tsiolis, Thomas Zandanel

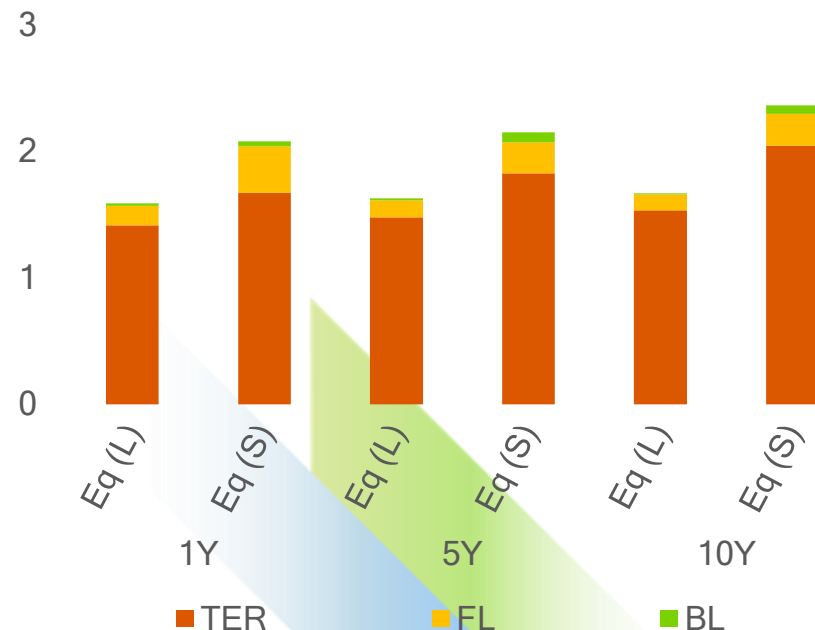
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# Motivation

- The costs of the EU largest funds are lower than the costs of the EU smallest funds
- Beyond fund size, economies of scale seem also relevant at the level of the family of the funds (Chen et al. 2004)
- In 2022, US mutual funds were on average more than 8x larger than EU funds
- The aim of the study is to analyse the correlation between size and costs with a comparison of EU and US fund markets

Costs by largest and smallest equity funds



Note: EU27 Equity UCITS total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) loads, by size and asset class, %. L=largest-25% and S=smallest-25%.  
Sources: Refinitiv Lipper, ESMA.

- 3 sets of information used:

Morningstar Direct
Sample of equity, bond and mixed funds with information on funds' characteristics

Refinitiv Lipper
Fund's manager

Refinitiv Eikon
Ultimate parent of the fund's manager and ultimate parents' characteristics

- Final sample of

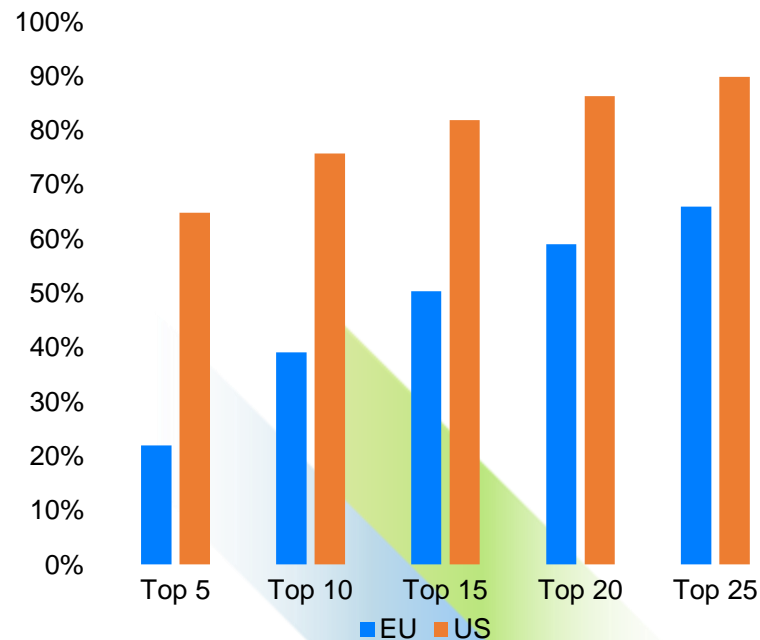
- 46,802 EU share classes
- 17,280 US share classes

With available information on funds' characteristics and parents' characteristics

# US AM market more concentrated than the EU one

- Market is concentrated, especially in the US
  - The top-5 largest parents hold 65% of the share classes' AuM in the US (compared to 22% in the EU)
  - The top-25 largest parents hold 90% of the share classes' AuM in the US (compared to 66% in the EU)

Market share of the ultimate parents

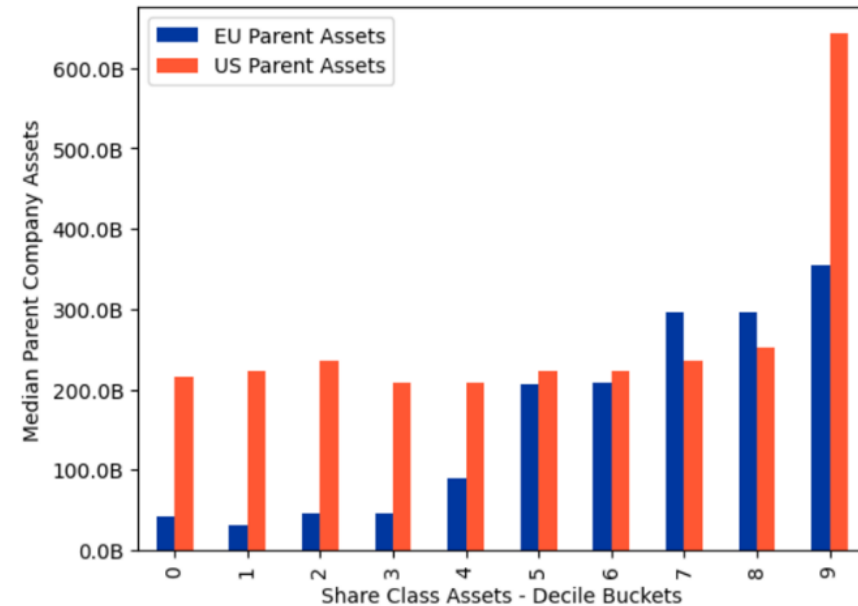


Note: Market share held by the top-5 to top-25 (largest) ultimate parents of EU and US funds (in terms of share classes' AuM).  
Sources: Morningstar Direct, Refinitiv Lipper, Refinitiv Eikon, ESMA.

# Limited correlation between the share class size and the parent size

- The largest share classes seem to be held by the largest parents (especially in the EU)
- But the largest parents hold a variety of share classes (not only the largest ones)

Median size of the parent, by size of the share class



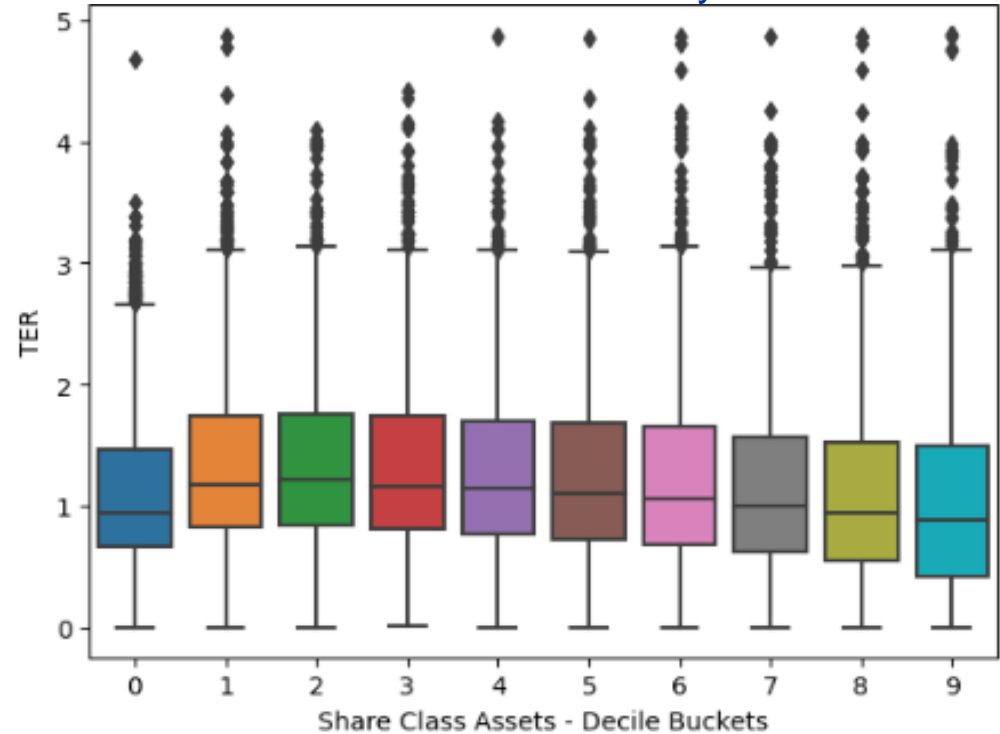
Note: Median of parents' company size (EUR bn) by deciles of share class size (based on share class assets).

Source: Morningstar Direct, Refinitiv Eikon, ESMA.

# EU: Larger share classes charge lower costs

- The largest share classes seem to have the lowest (ongoing) costs
- The median cost for the smallest size decile, composed by the youngest share classes, is the lowest across size buckets
- New share classes may charge low fees to attract investors

EU: TER distribution by size



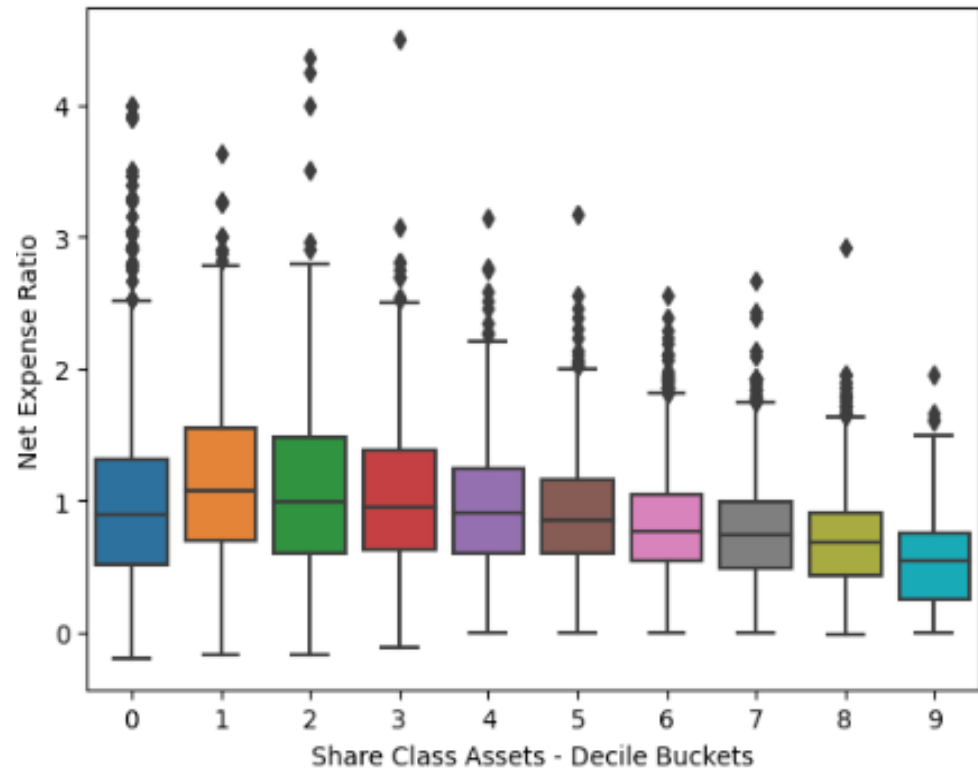
Note: Distribution of the ongoing costs by deciles of share class size (based on share class assets). The diamonds at the extremities of the box plots are the outliers of each distribution. The extreme horizontal bars represent the smallest and largest adjacent values, the bottom of the box represents the first quartile, the middle line the median and the top of the box represents the third quartile. The area ranging from the bottom of the box to the top of the box, represents the interquartile range (IQR). The size of the share class is the net assets of each share class.

Source: Morningstar Direct, Refinitiv Eikon, ESMA.

## US: larger share classes charge lower costs

- Similarly to EU, the largest share classes in the US seem to have the lowest costs
- As the size of the share classes increases, US share classes seem to have larger decrease in their costs
- US share classes' costs tend to be less dispersed compared to EU ones

US: TER distribution by size



Note: Distribution of the Net expense ratio by deciles of share class size (based on share class assets). The diamonds at the extremities of the box plots are the outliers of each distribution. The extreme horizontal bars represent the smallest and largest adjacent values, the bottom of the box represents the first quartile, the middle line the median and the top of the box represents the third quartile. The area ranging from the bottom of the box to the top of the box, represents the interquartile range (IQR). The size of the share class is the net assets of each share class.

Source: Morningstar Direct, Refinitiv Eikon, ESMA.

# Linear regression analysis

Equation to be estimated:

*Ongoing costs*<sub>*i*</sub>

$$= \alpha + \beta_1 \ln(\text{share class net assets}_i) + \beta_2 \ln(\text{parent assets}_k) + \beta X_i + \beta X_j + \varepsilon_i$$

OLS estimation with robust standard errors

where subscript *i* indicates share class level variables, *j* fund-level variables and *k* parent company level variables

# Negative correlation between size and ongoing costs

- Larger share classes are associated with lower ongoing costs
- Share classes managed by larger parents are also associated with lower ongoing costs
- The relationship between share class size and costs is stronger in the US
- Additional drivers of costs include: the asset class, the age, the type of management and type of investors

## Regressions' results for ongoing costs

	Ongoing costs (1)	Net expense ratio (2)
	EU funds	US funds
Net assets (ln)	-0.0156***	-0.0622***
Parent assets (ln)	-0.0236***	-0.0240***
Controls	Yes	Yes
N	46,918	9,940
R2	0.357	0.455

Note: Table 1 reports coefficients from the main OLS regression with robust standard errors for a sample of EU (1) and US funds (2). The number of observations used in the regressions differs from the number of observations in the reduced samples (for both EU and US), due to the different variables used in the regression and the filtering process.

Stars indicate statistical significance level using the p-value (p), namely\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Morningstar Direct, Refinitiv Eikon, ESMA.

# Larger parents associated with lower exit costs

- Parent domicile:
  - EU share classes with US parents are less costly than EU share classes with EU parents
- Entry and exit costs:
  - Larger share classes are associated with lower entry costs and higher exit costs
  - Share classes managed by larger parents tend to charge less exit costs

# Quantile regression analysis

- The goal is to examine the relationship between cost and share class / parent size across different points of the conditional distribution of costs
- Revealing if there are potential heterogeneous relationships at different cost levels
- We estimate the following specification at the 10th, 25th, 50th, 75th, and 90th percentiles of costs:

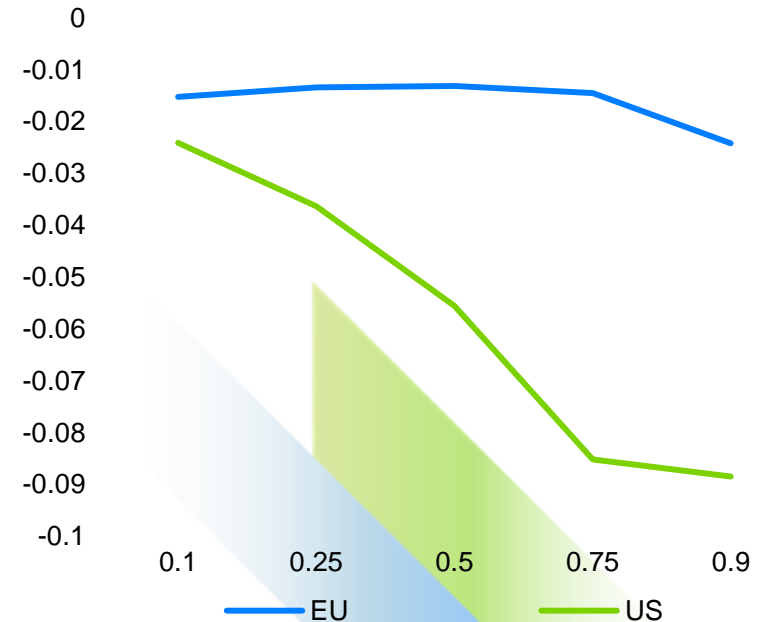
$$Q\tau(y/X) = \beta_0(\tau) + \beta_1(\tau)x_1 + \beta_2(\tau)X + \varepsilon(\tau)$$

- Where:
  - $\tau$  represents the quantile of interest
  - $y$  is cost
  - $x_1$  is parent size or share class size
  - $X$  is a vector of control variables

# Quantile regressions: share class analysis

- Larger share classes are confirmed to be less expensive than smaller share classes
- Coefficients on share class size are consistently and significantly negative across quantiles
- The stronger negative correlation between size and cost for US share classes is confirmed

Quantile regressions – EU-US share class size coefficients

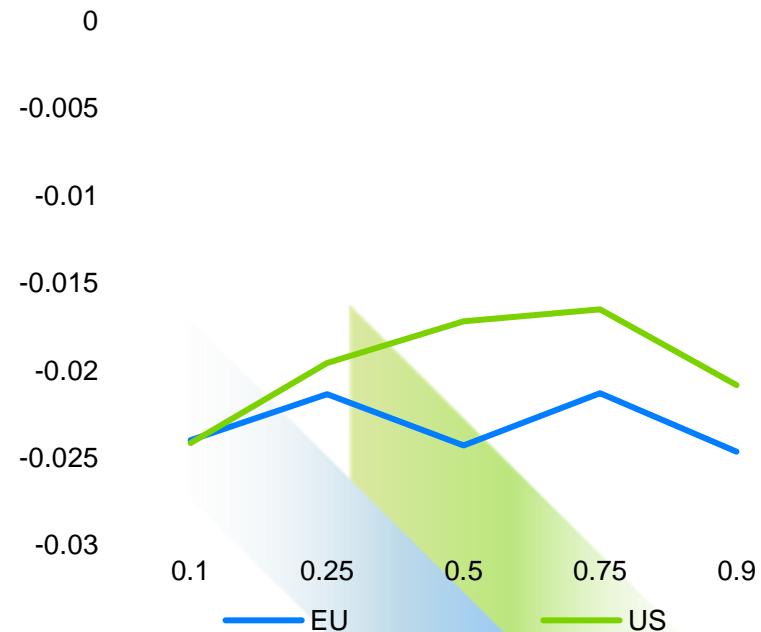


Note: Coefficients' estimates associated to the fund's size. Quantile regressions for EU and US investment funds.  
Sources: Morningstar Direct, Refinitiv Lipper, Refinitiv Eikon, ESMA.

# Quantile regressions: parent size analysis

- Share classes with larger parents are confirmed to be less expensive than share classes with smaller parents
- Coefficients on parent size are consistently and significantly negative across quantiles
- Parent company size seems to have the same effect for both EU and US funds

Quantile regressions – EU-US parent size coefficients



Note: Coefficients' estimates associated to the parent's size. Quantile regressions for EU and US investment funds.  
Sources: Morningstar Direct, Refinitiv Lipper, Refinitiv Eikon, ESMA.

# Conclusions

## Main results

- Larger share classes are characterised by lower costs than smaller share classes. The decrease in costs is stronger for larger US share classes
- Share classes held by larger parent companies have lower costs
- These results seem robust and are confirmed by the econometric analysis

## Size advantages can lead to cost efficiencies

- Greater consolidation at EU level could lead to cost benefits to EU investors
- Ensure that cost benefits are passed to retail investors
- Investor awareness of fund costs is key for making optimal investment decisions



# Discussion

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## Discussion

**Could future research with multi-annual data show how the relation between fund size and costs interacts over time?**

**How does the fund size and costs relation apply to funds that follow the exact same benchmark or index?**

- Comparison of Euro Stoxx 50 and MSCI World ETFs available in the EU and US.

# Discussion

Fund name	Fund size (in m €)	TER p.a.	1Y in %
<a href="#">iShares EURO STOXX 50 UCITS ETF (DE)</a>	7,727	0.09%	10.88%
<a href="#">Xtrackers EURO STOXX 50 UCITS ETF 1D</a>	4,966	0.09%	10.90%
<a href="#">iShares Core EURO STOXX 50 UCITS ETF EUR (Acc)</a>	4,648	0.10%	10.85%
<a href="#">Xtrackers EURO STOXX 50 UCITS ETF 1C</a>	4,546	0.09%	10.96%
<a href="#">iShares Core EURO STOXX 50 UCITS ETF EUR (Dist)</a>	4,396	0.10%	10.93%
<a href="#">Amundi EURO STOXX 50 II UCITS ETF Acc</a>	3,156	0.24%	10.87%
<a href="#">Amundi EURO STOXX 50 UCITS ETF EUR (C)</a>	2,579	0.09%	10.91%
<a href="#">HSBC EURO STOXX 50 UCITS ETF EUR</a>	1,101	0.05%	11.19%
<a href="#">Invesco EURO STOXX 50 UCITS ETF</a>	1,058	0.05%	10.71%
<a href="#">Amundi EURO STOXX 50 UCITS ETF DR - EUR (D)</a>	780	0.09%	10.91%
<a href="#">UBS ETF (LU) EURO STOXX 50 UCITS ETF (EUR) A-dis</a>	549	0.09%	10.84%
<a href="#">HSBC EURO STOXX 50 UCITS ETF EUR (Acc)</a>	128	0.05%	10.94%
<a href="#">Invesco EURO STOXX 50 UCITS ETF Dist</a>	24	0.05%	10.79%
<a href="#">Amundi EURO STOXX 50 UCITS ETF DR USD (C)</a>	18	0.09%	11.75%

## ETFs Tracking The Euro STOXX 50 – ETF List

ETFs tracking the Euro STOXX 50 are presented in the following table.

Symbol	ETF Name	Asset Class	Total Assets*	YTD	ER
FEZ	SPDR EURO STOXX 50 ETF	Equity	\$4,350,400	15.7%	0.29%

# Discussion

Fund name	Fund size (in m €)	TER p.a.	1Y in %
iShares Core MSCI World UCITS ETF USD (Acc)	90,018	0.20%	9.03%
Xtrackers MSCI World UCITS ETF 1C	13,865	0.19%	8.95%
HSBC MSCI World UCITS ETF USD	10,509	0.15%	9.21%
SPDR MSCI World UCITS ETF	9,835	0.12%	9.18%
Amundi MSCI World UCITS ETF Acc	8,888	0.12%	8.99%
Amundi MSCI World II UCITS ETF Dist	7,354	0.30%	8.98%
iShares MSCI World UCITS ETF (Dist)	7,039	0.50%	8.65%
Invesco MSCI World UCITS ETF Acc	5,715	0.19%	8.97%
Amundi MSCI World III UCITS ETF Dist	4,918	0.20%	8.99%
Amundi MSCI World UCITS ETF EUR (C)	4,512	0.38%	8.67%

Xtrackers MSCI World Swap UCITS ETF 1C	4,488	0.45%	8.85%
Xtrackers MSCI World UCITS ETF 1D	3,737	0.12%	9.05%
Xtrackers MSCI World Swap UCITS ETF 1D	2,131	0.19%	9.24%
UBS ETF (IE) MSCI World UCITS ETF (USD) A-acc	1,755	0.10%	9.22%
UBS ETF (LU) MSCI World UCITS ETF (USD) A-dis	1,295	0.30%	8.69%
Amundi MSCI World UCITS ETF DR - USD (D)	820	0.12%	8.98%
HSBC MSCI World UCITS ETF USD (Acc)	777	0.15%	8.96%
UBS ETF (IE) MSCI World UCITS ETF (USD) A-dis	489	0.10%	9.18%
iShares Core MSCI World UCITS ETF USD (Dist)	478	0.20%	9.45%
Amundi MSCI World UCITS ETF - EUR (D)	314	0.38%	-
iShares MSCI World Swap UCITS ETF USD (Acc)	169	0.20%	-
Amundi MSCI World UCITS ETF USD (C)	85	0.38%	9.55%

## ETFs Tracking The MSCI World Index – ETF List

ETFs tracking the MSCI World Index are presented in the following table.

Symbol	ETF Name	Asset Class	Total Assets*	YTD	ER
URTH	iShares MSCI World ETF	Equity	\$4,362,280	-1.4%	0.24%



# The scale factor: Impact of size on EU fund cost structures

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