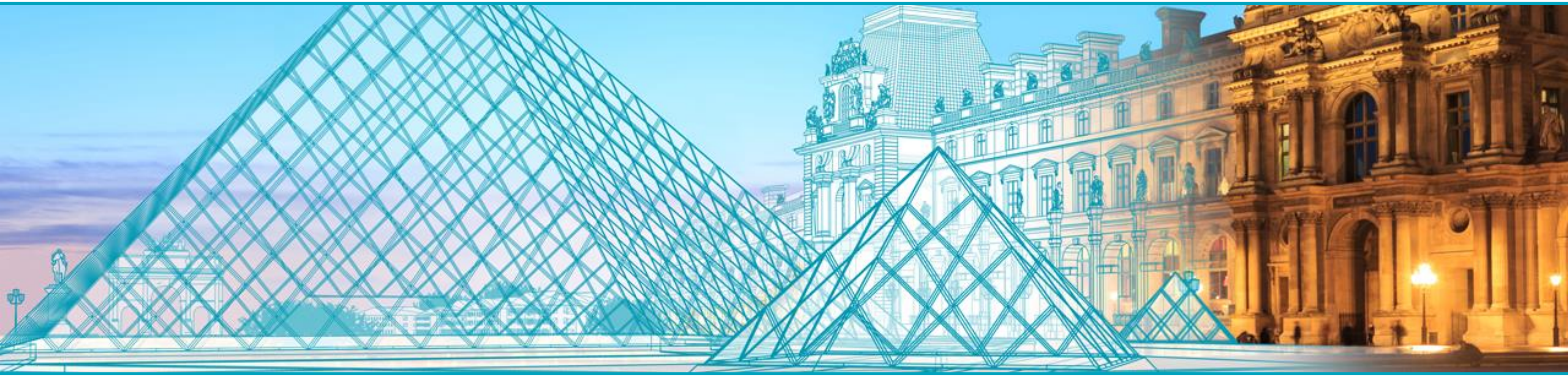


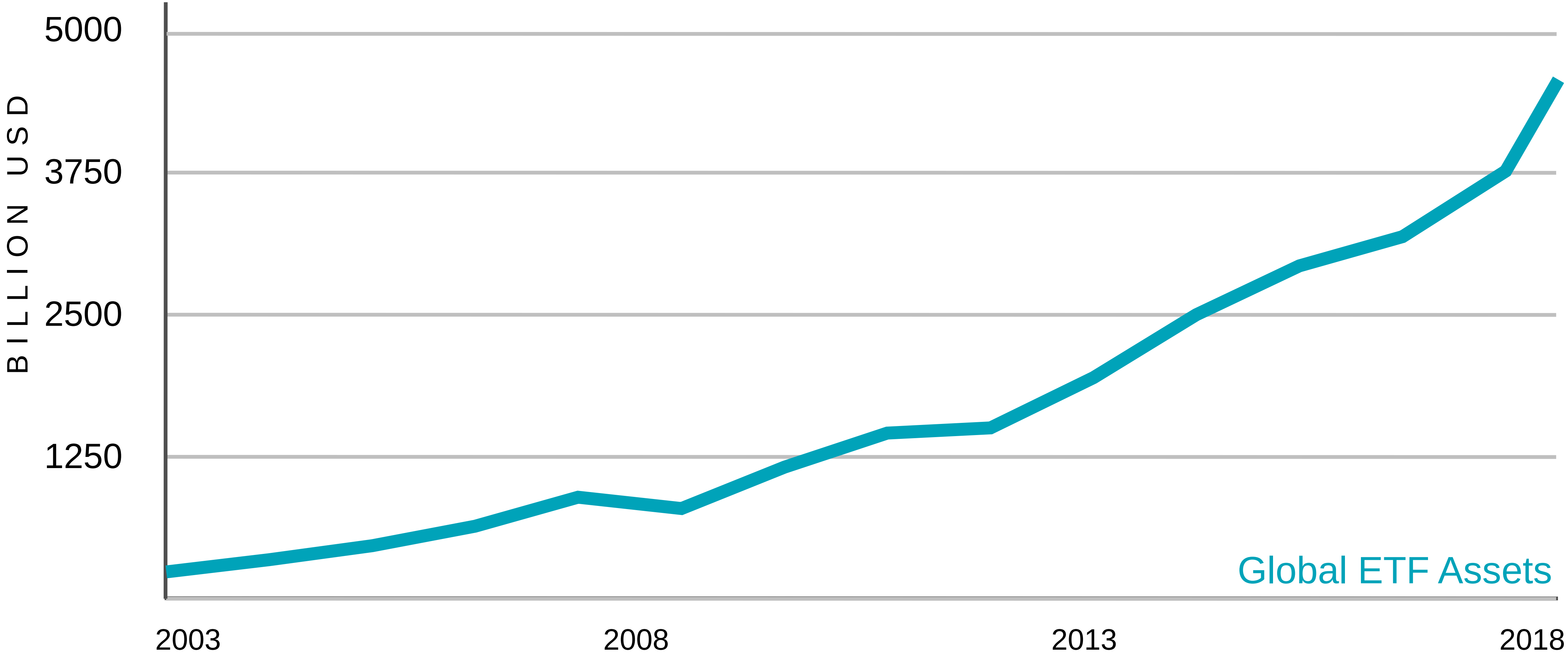
How to beat passive with factors?

Wilma de Groot, PhD, CFA - Head Core Quant Equities

Robeco Quant Explore
Paris, 31 May 2018

Passive Investing

Global ETF Assets



source: *ETFGI, 10 Year ETF/ETP (2018)*

Passive Investing

How it works

MSCI World

APPLE
MICROSOFT
AMAZON
FACEBOOK
JPMORGAN CHASE & CO
JOHNSON & JOHNSON
ALPHABET
BANK OF AMERICA
EXXON MOBIL
...

ROBECO

Passive Investing

How it works

MSCI World	Index tracker
APPLE	APPLE
MICROSOFT	MICROSOFT
AMAZON	AMAZON
FACEBOOK	FACEBOOK
JPMORGAN CHASE & CO	JPMORGAN CHASE & CO
JOHNSON & JOHNSON	JOHNSON & JOHNSON
ALPHABET	ALPHABET
BANK OF AMERICA	BANK OF AMERICA
EXXON MOBIL	EXXON MOBIL
...	...

Passive Investing

Advantages

Broad market exposure

Diversified portfolio

Predictable characteristics

Indextracker

APPLE
MICROSOFT
AMAZON
FACEBOOK
JPMORGAN CHASE & CO
JOHNSON & JOHNSON
ALPHABET
BANK OF AMERICA
EXXON MOBIL
...

1. Is Passive Investing Truly Passive?

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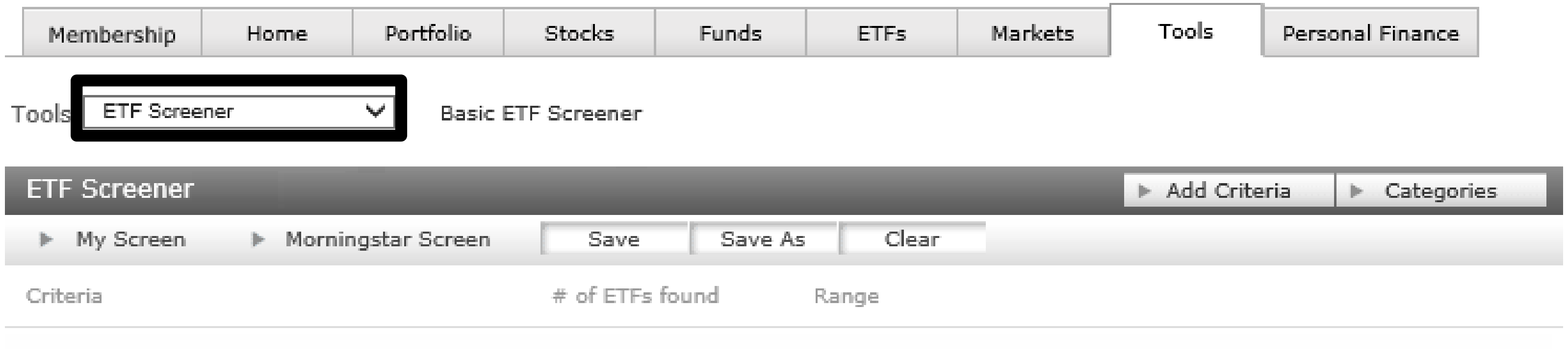
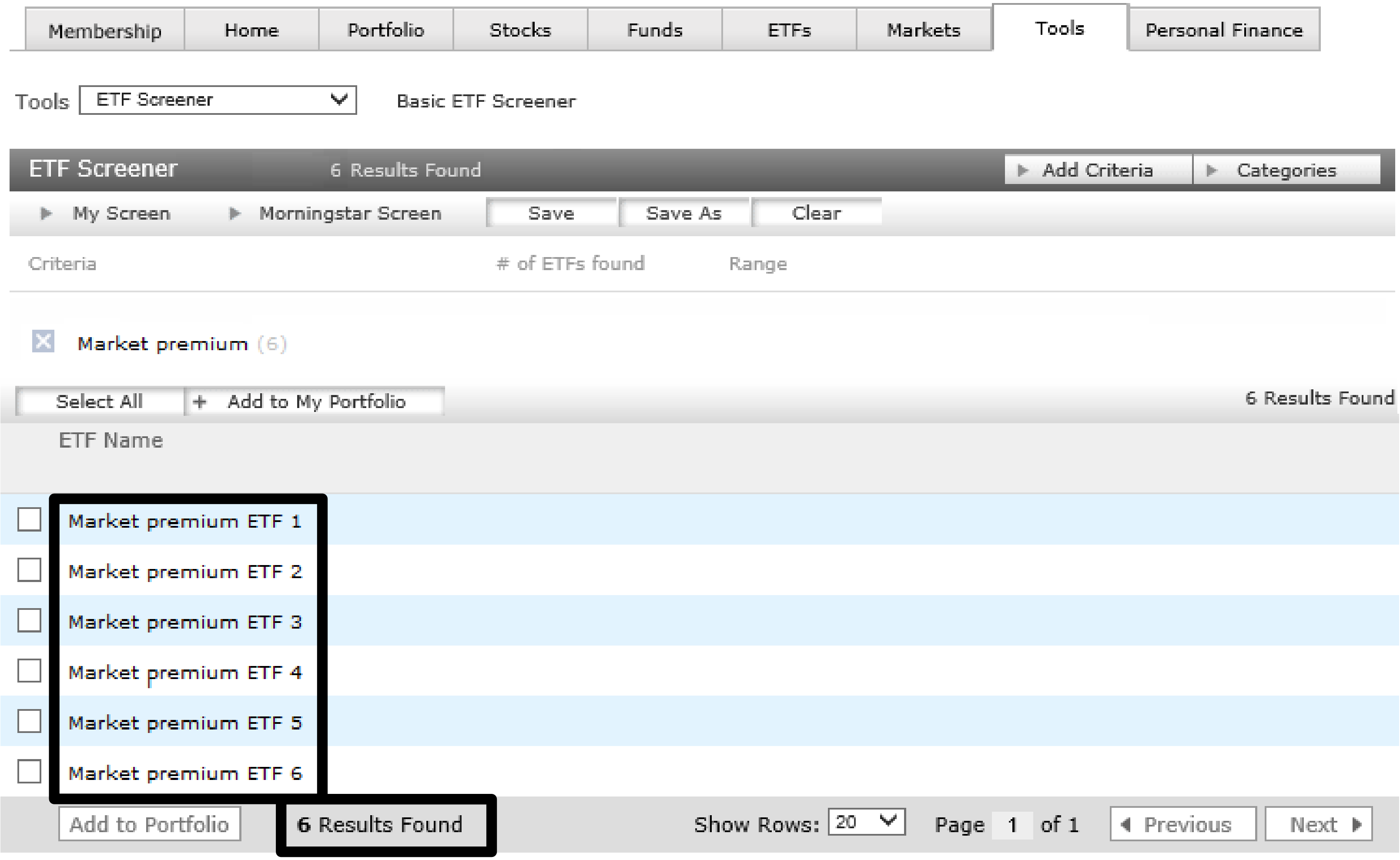


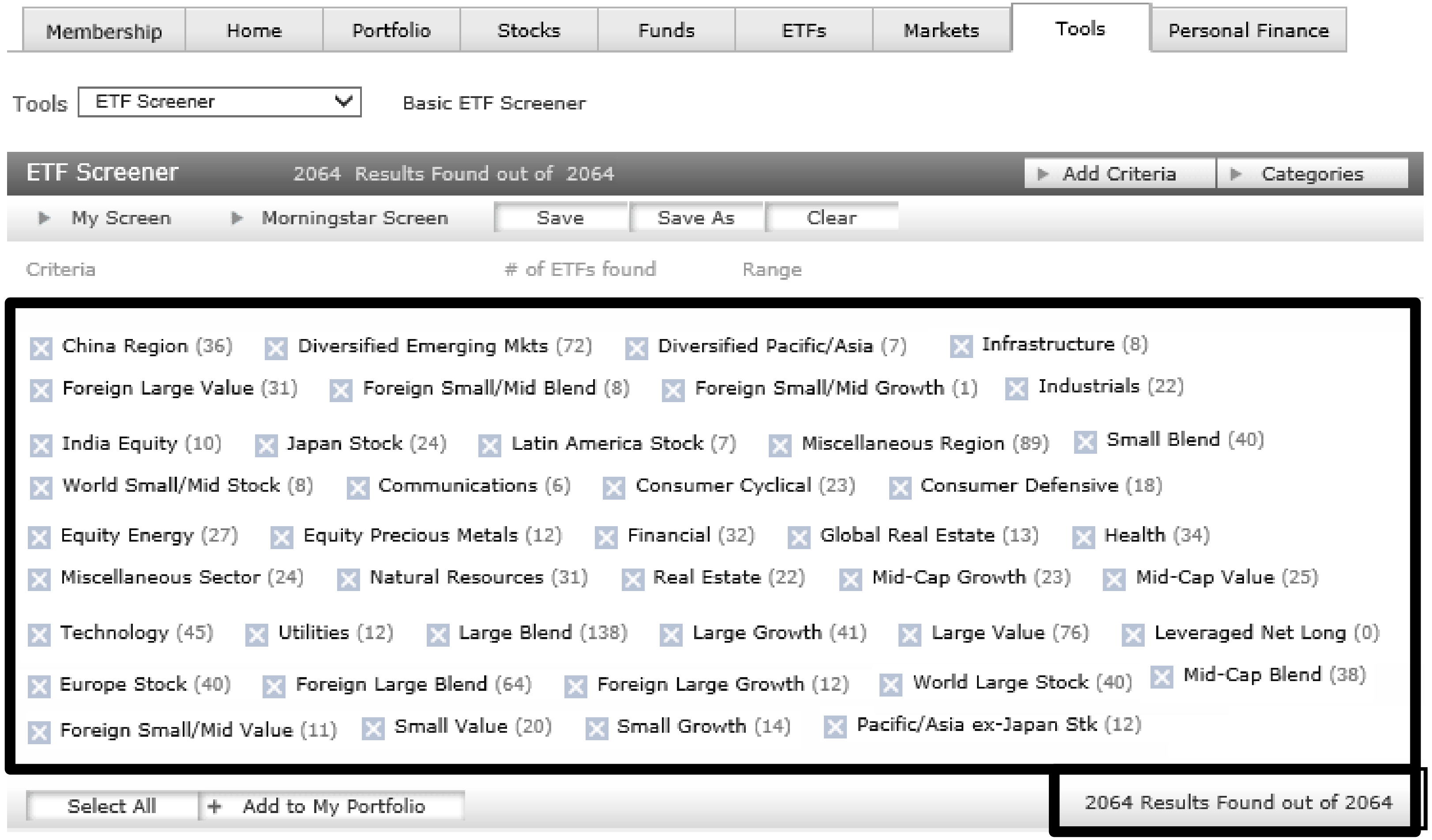
Source: Morningstar as of November 3, 2017 – Illustration has been modified for this presentation

1. Is Passive Investing Truly Passive?



Source: Morningstar as of November 3, 2017 – Illustration has been modified for this presentation

1. Passive Investing isn't Passive



Source: Morningstar as of November 3, 2017 – Illustration has been modified for this presentation

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2. There is Passive, Passive & Passive

Different ways to get exposure to indices:

Full replication:	Buying all the index names
Sampling:	Divide the index in cells that represent characteristics of that index and invest in stocks that mimic these cells
Optimization:	Buying the securities in an index that provide the most representative sample of the index based on correlations, exposure and risk

3. Active Choices For The Passive Investor

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Activities of a Global Equity index portfolio manager:

1. What to do with new cash inflows?
2. What to buy/sell?
3. When to buy/sell?
4. How to act in case of corporate actions?
5. When and how to rebalance?
6. How to deal with dividend taxation?
7. Engage in securities lending?
8. What kind of collateral for securities lending?
9. How to finance a redemption?

Passive investing = Active decisions

4. Isn't Passive Investing Free Riding?

5. Passive Vehicles Underperform

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Tools ETF Screener Basic ETF Screener

ETF Screener 2064 Results Found out of 2064 ▶ Add Criteria ▶ Categories

▶ My Screen ▶ Morningstar Screen Save Save As Clear

Criteria # of ETFs found Range How are the funds distributed?

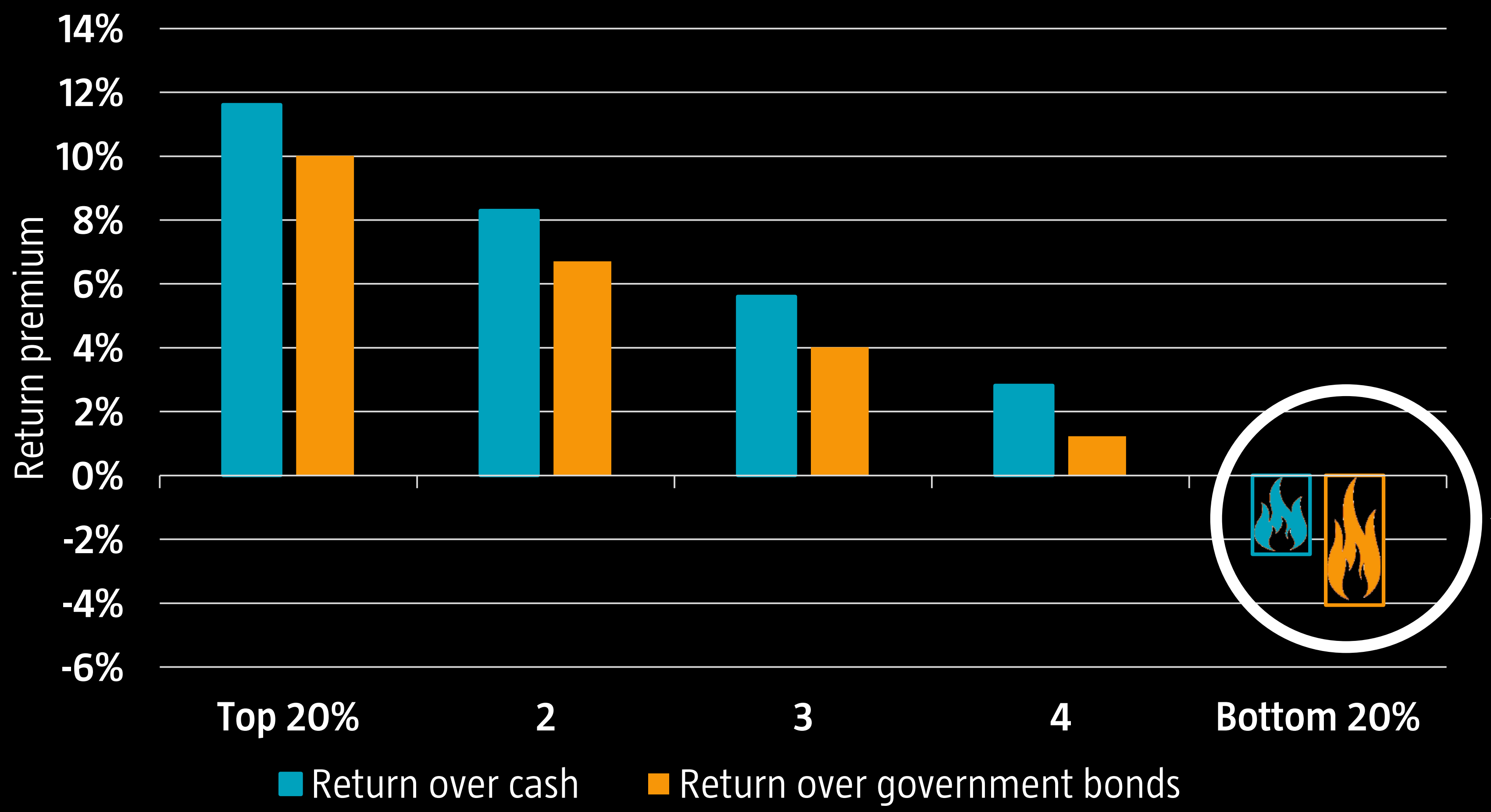
Technology (45) Utilities (12) Large Blend (138) Large Growth (41) Large Value (76) Leveraged Net Long (0) Mid-Cap Blend (38)

Select All + Add to My Portfolio 2064 Results Found out of 2064

ETF Name	Symbol	Category	Expense Ratio (%)	Market Return YTD	Market Return 1-Year
AdvisorShares Dorsey Wright ADR ETF	AADR	Foreign Large Growth	1.25	43.02	41.58
iShares MSCI All Country Asia ex Jpn ETF	AAXJ	Pacific/Asia ex-Japan Stk	0.70	39.20	32.73
SPDR® MSCI ACWI IMI ETF	ACIM	World Large Stock	0.25	18.80	25.09
iShares Edge MSCI Multifactor Global ETF	ACWF	World Large Stock	0.36	25.51	28.62
iShares MSCI ACWI ETF	ACWI	World Large Stock	0.32	20.52	25.85
iShares Edge MSCI Min Vol Global ETF	ACWV	World Large Stock	0.20	15.00	15.50
iShares MSCI ACWI ex US ETF	ACWX	Foreign Large Blend	0.32	24.84	26.15
BLDRS Asia 50 ADR ETF	ADRA	Diversified Pacific/Asia	0.30	27.35	24.76
BLDRS Developed Markets 100 ADR ETF	ADRD	Foreign Large Value	0.30	18.53	24.00
BLDRS Emerging Markets 50 ADR ETF	ADRE	Diversified Emerging Mkts	0.30	35.20	28.03
BLDRS Europe Select ADR ETF	ADRU	Europe Stock	0.30	20.38	25.54
DB Agriculture Short ETN	ADZ	Trading--Inverse Commodities	0.75	8.19	8.19
VanEck Vectors Africa ETF	AFK	Miscellaneous Region	0.78	20.57	20.05

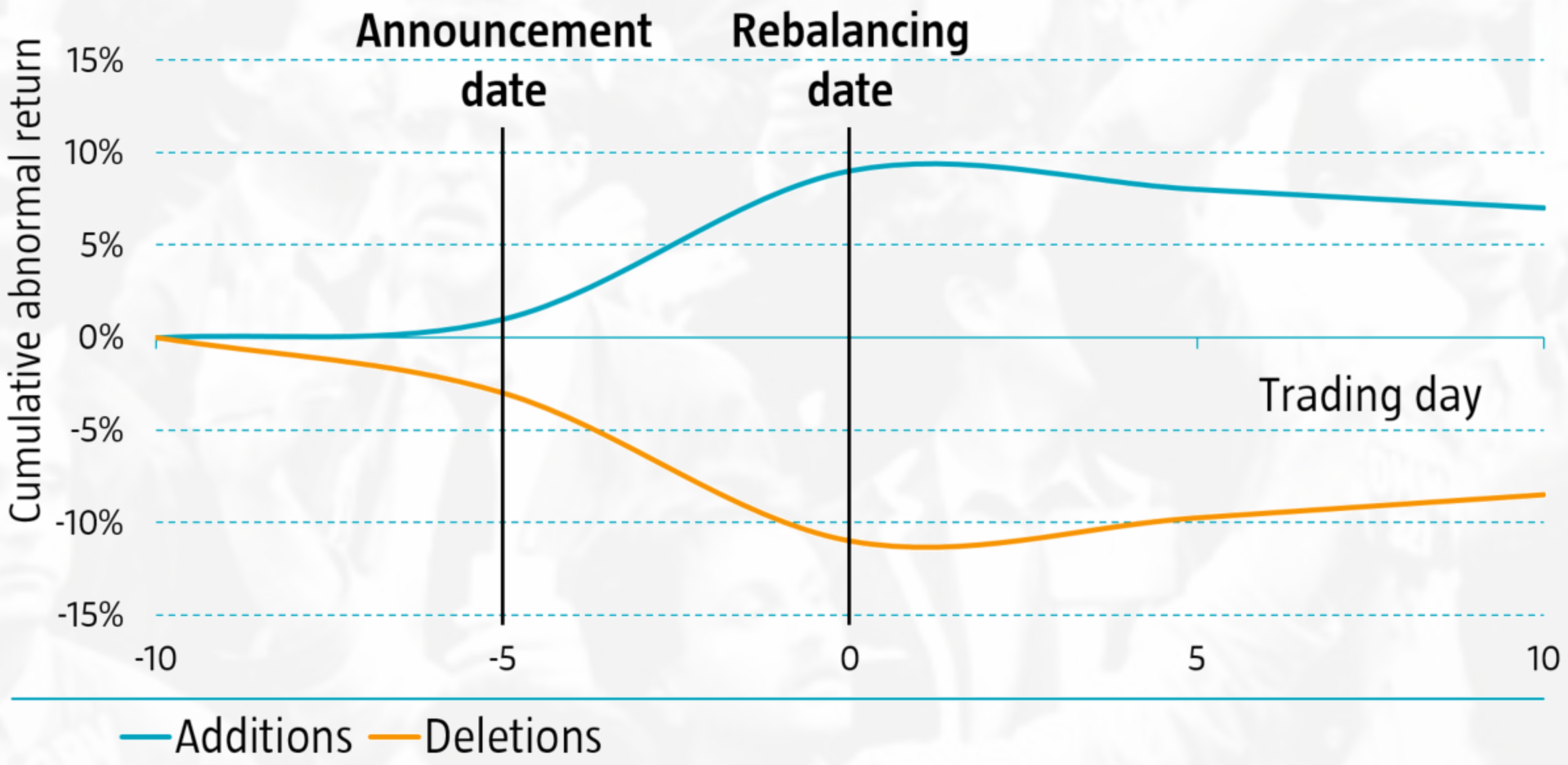
Source: Morningstar as of November 3, 2017 – Illustration has been modified for this presentation

6. Allocates To Stocks With A Negative Return



7.The Hidden Cost Of Index Arbitrage

Average return development with index changes



Source: Petajisto (2011), The Index Premium and Its Hidden Cost for Index Funds, Journal of Empirical Finance, 2011, 18(2):271-288

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8. No SRI Integration

9. Corporate Governance

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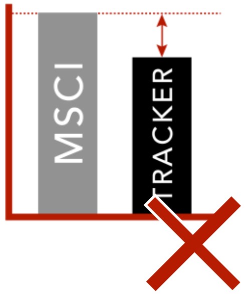
Passive Investing

Disadvantages

Index tracker

APPLE
MICROSOFT
AMAZON
EXXON MOBIL
JOHNSON & JOHNSON
JPMORGAN CHASE
FACEBOOK
WELLS FARGO
GENERAL ELECTRIC
...

Performance lags index after costs



No academic insights

Prone to index arbitrage

No sustainability

Corporate governance is at risk

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Enhanced Indexing

Features

Enhanced Indexing

Features

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Enhanced Indexing

Features

Enhanced Indexing

Features

Enhanced Indexing

Explained

MSCI World	Index tracker
APPLE	APPLE
MICROSOFT	MICROSOFT
AMAZON	AMAZON
FACEBOOK	FACEBOOK
JPMORGAN CHASE & CO	JPMORGAN CHASE & CO
JOHNSON & JOHNSON	JOHNSON & JOHNSON
ALPHABET	ALPHABET
BANK OF AMERICA	BANK OF AMERICA
EXXON MOBIL	EXXON MOBIL
...	...

Enhanced Indexing

Explained

MSCI World	Enhanced Indexing
APPLE	APPLE
MICROSOFT	MICROSOFT
AMAZON	AMAZON
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ALPHABET	ALPHABET
BANK OF AMERICA	BANK OF AMERICA
EXXON MOBIL	EXXON MOBIL
...	...

Enhanced Indexing

Research and Experience

SINCE

1977

Academic research

SINCE

1994

Robeco quant research

SINCE

2002

Robeco quant equity portfolios

Enhanced Indexing

Value Investing

Value characteristics

Value stocks
provide better returns

VALUATION
BOOK / PRICE

QUALITY
SHARE BUYBACKS

Enhanced Indexing

Momentum Investing

Value characteristics	Momentum characteristics
Value stocks provide better returns	Momentum stocks provide better returns
VALUATION BOOK / PRICE	MOMENTUM PRICE TRENDS
QUALITY SHARE BUYBACKS	ANALYSTS REVISIONS

Enhanced Indexing

Ranking the stocks

Scoring and Ranking

VALUATION	+	QUALITY	+	MOMENTUM	+	ANALYSTS
BOOK / PRICE		SHARE BUYBACKS		PRICE TRENDS		REVISIONS

HOW TO BUILD AN ENHANCED INDEX STRATEGY?

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1600

Stocks in MSCI World

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1600

MSCI World

VALUE
CHARACTERISTICS

MOMENTUM
CHARACTERISTICS

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1600 Stocks	VALUE CHARACTERISTICS			MOMENTUM CHARACTERISTICS		
	Book / Price	...	Share Buybacks	Price Trends	...	Analyst Revisions
Randstad NV	0.42	...	-1%	-18%	...	-17%
Loews Corp	1.31	...	10%	20%	...	-24%
Mitsubishi Corp	1.71	...	2%	4%	...	9%
Altice NV	0.15	...	-10%	-21%	...	-24%
NN Group NV	2.21	...	3%	9%	...	47%
Netflix Inc	0.05	...	-1%	-1%	...	-5%

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1600

Stocks

VALUE CHARACTERISTICS			MOMENTUM CHARACTERISTICS			RANK
Book / Price	...	Share Buybacks	Price Trends	...	Analyst Revisions	

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1600 Stocks	VALUE CHARACTERISTICS			MOMENTUM CHARACTERISTICS			RANK
	Book / Price	...	Share Buybacks	Price Trends	...	Analyst Revisions	
Highest rated stocks							
NN Group NV	2.21	...	3%	9%	...	47%	**1.0%**
Mitsubishi Corp	1.71	...	2%	4%	...	9%	**5.6%**
Loews Corp	1.31	...	10%	20%	...	-24%	**9.9%**
Lowest rated stocks							
Randstad NV	0.42	...	-1%	-18%	...	-17%	**87.8%**
Netflix Inc	0.05	...	-1%	-1%	...	-5%	**91.8%**
Altice NV	0.15	...	-10%	-21%	...	-24%	**97.0%**

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ENHANCED INDEXING

Overweight (Target 20 basis points)	NN Group NV
Overweight (Target 20 basis points)	Mitsubishi Corp
Neutral weight	Loews Corp
Neutral weight	Randstad NV
Underweight (Target 30 basis points)	Netflix Inc
Underweight (Target 30 basis points)	Altice NV

750

Stocks

Demo

RANKING A STOCK

Suggestions?

Index Deviations

Per Country

Per Sector

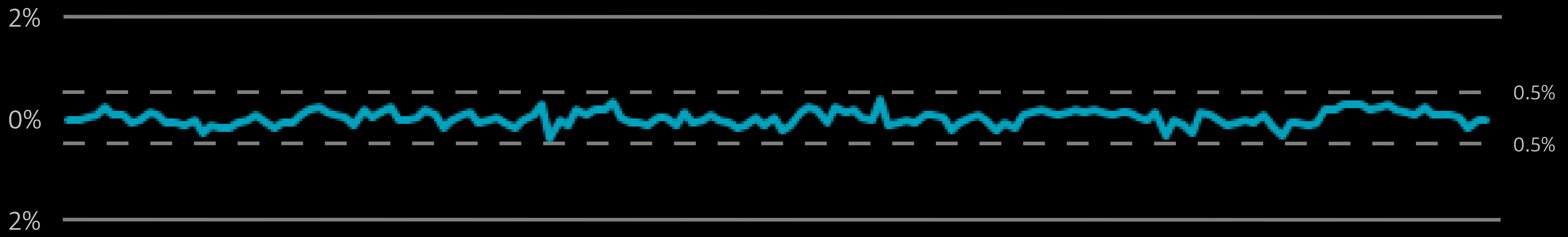
source: *Robeco*

Index Deviations

Per Country

Per Sector

Financials

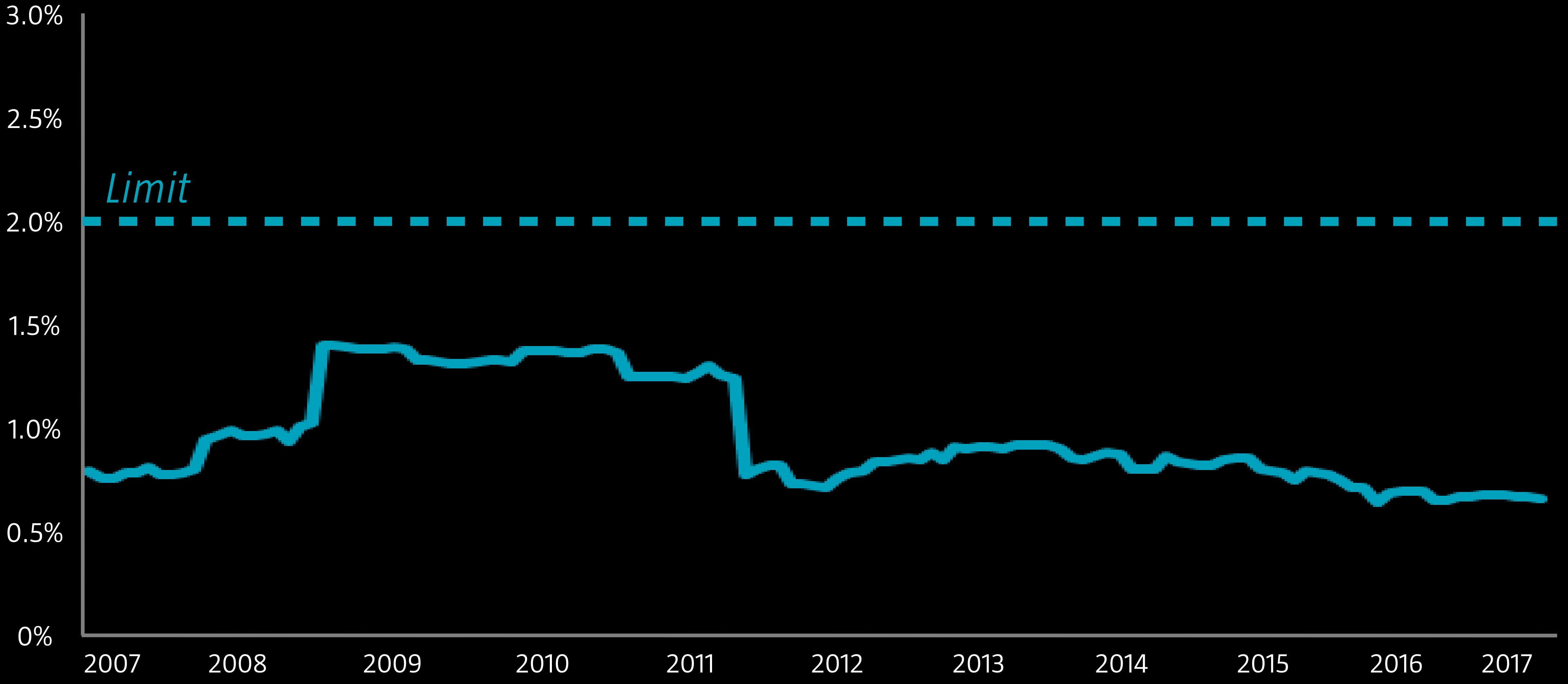


Information Technology

source: *Robeco*

Tracking Error

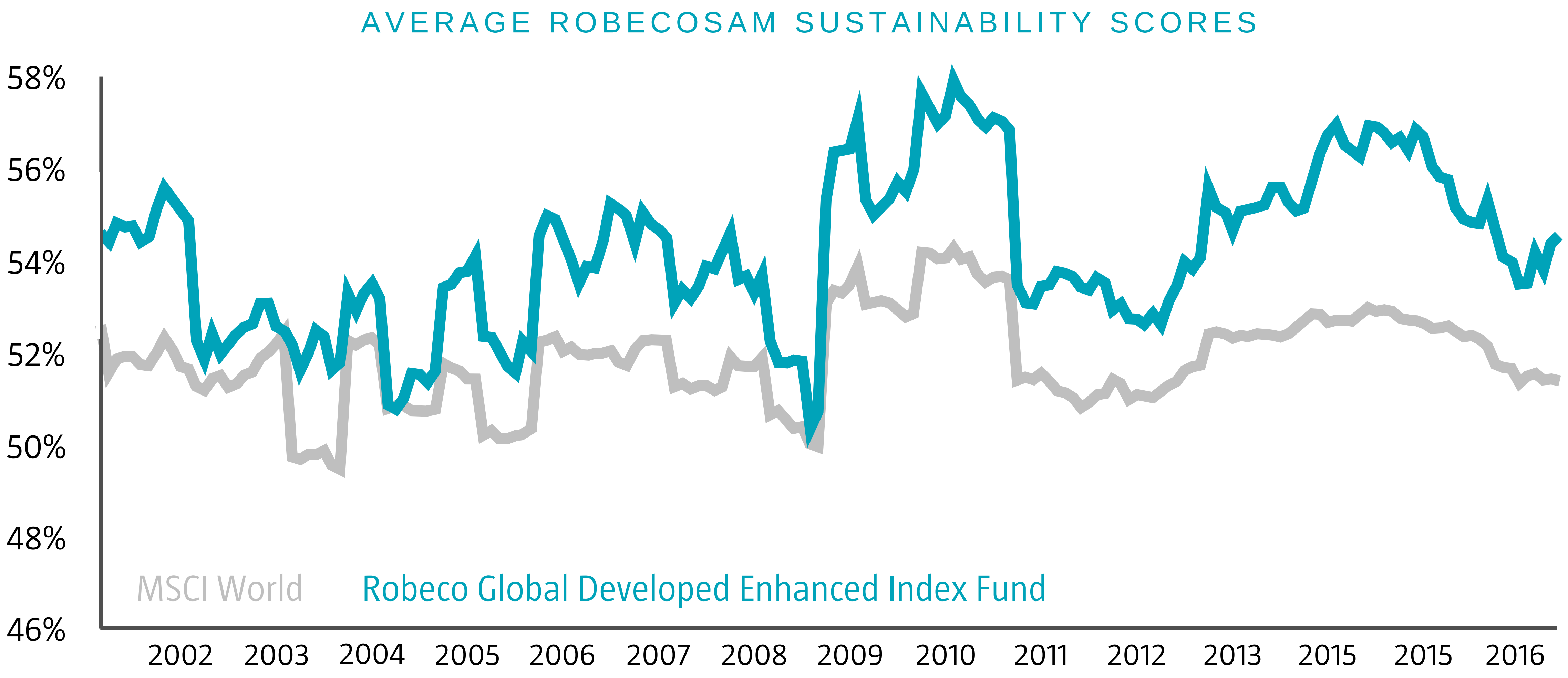
Development 2007 - 2017



source: *Robeco*

Sustainability

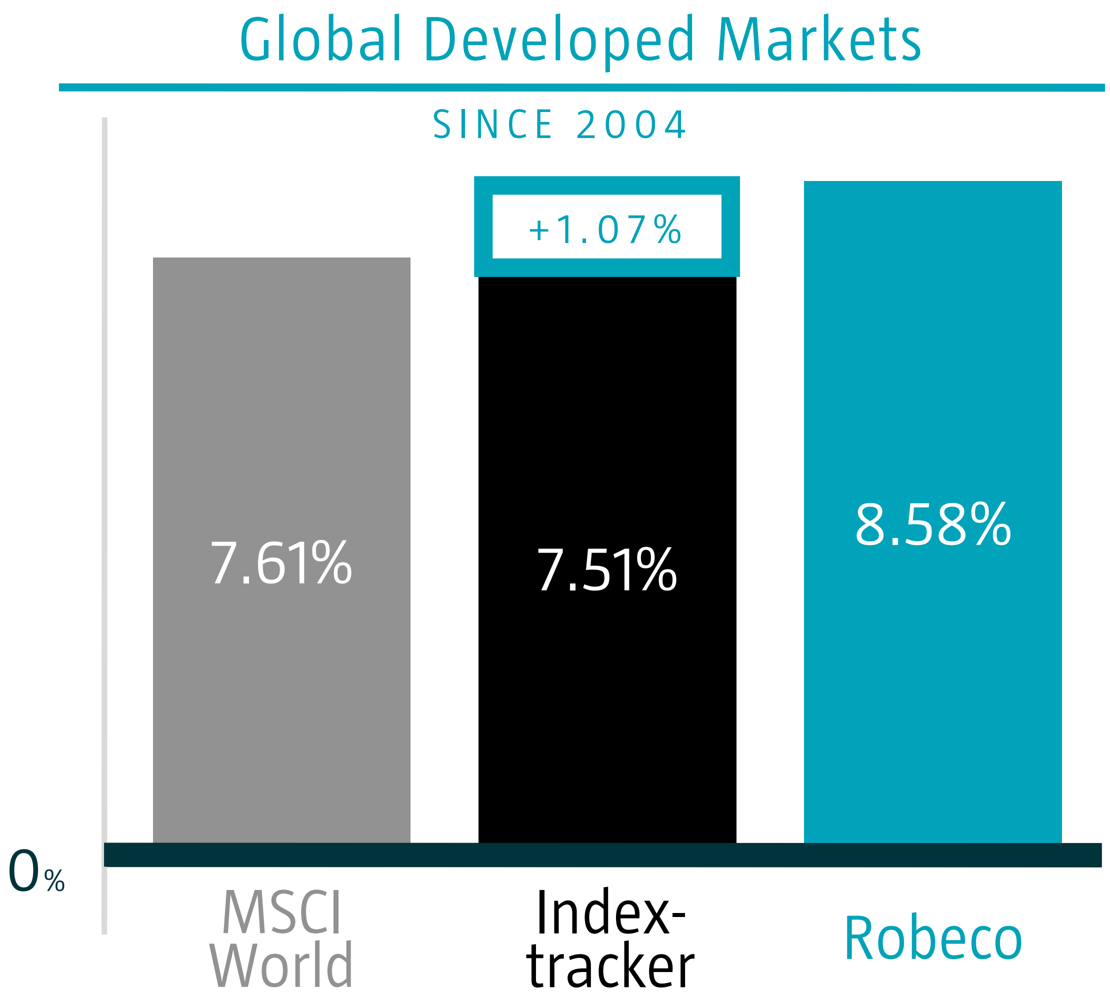
Better sustainability profile



source: *RobecoSAM and Robeco. Data shown are simulations*

Net Returns After Costs

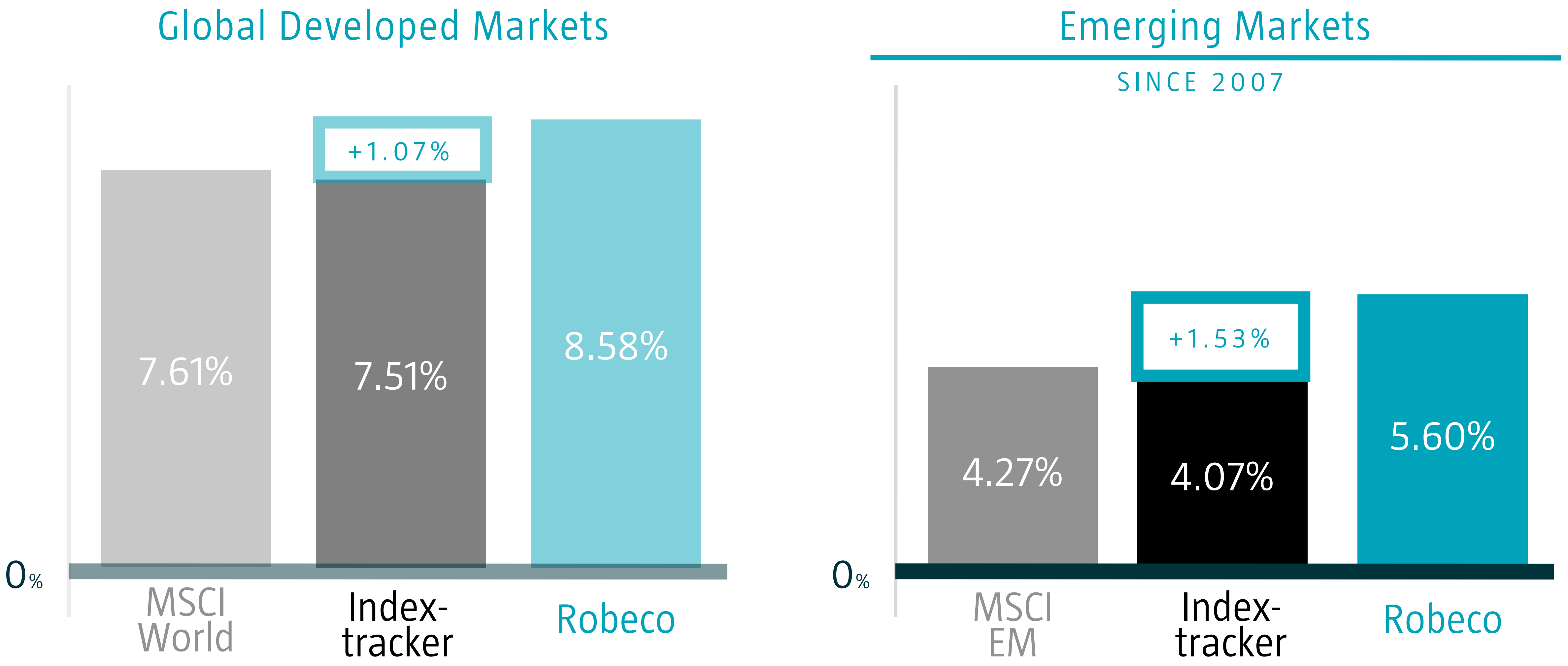
April 2018



Source: Robeco Performance Measurement
Quant Developed Markets Equities, Net of fees, based on Net Asset Value, All figures in EUR, Inception date: November 2004,
The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

Net Returns After Costs

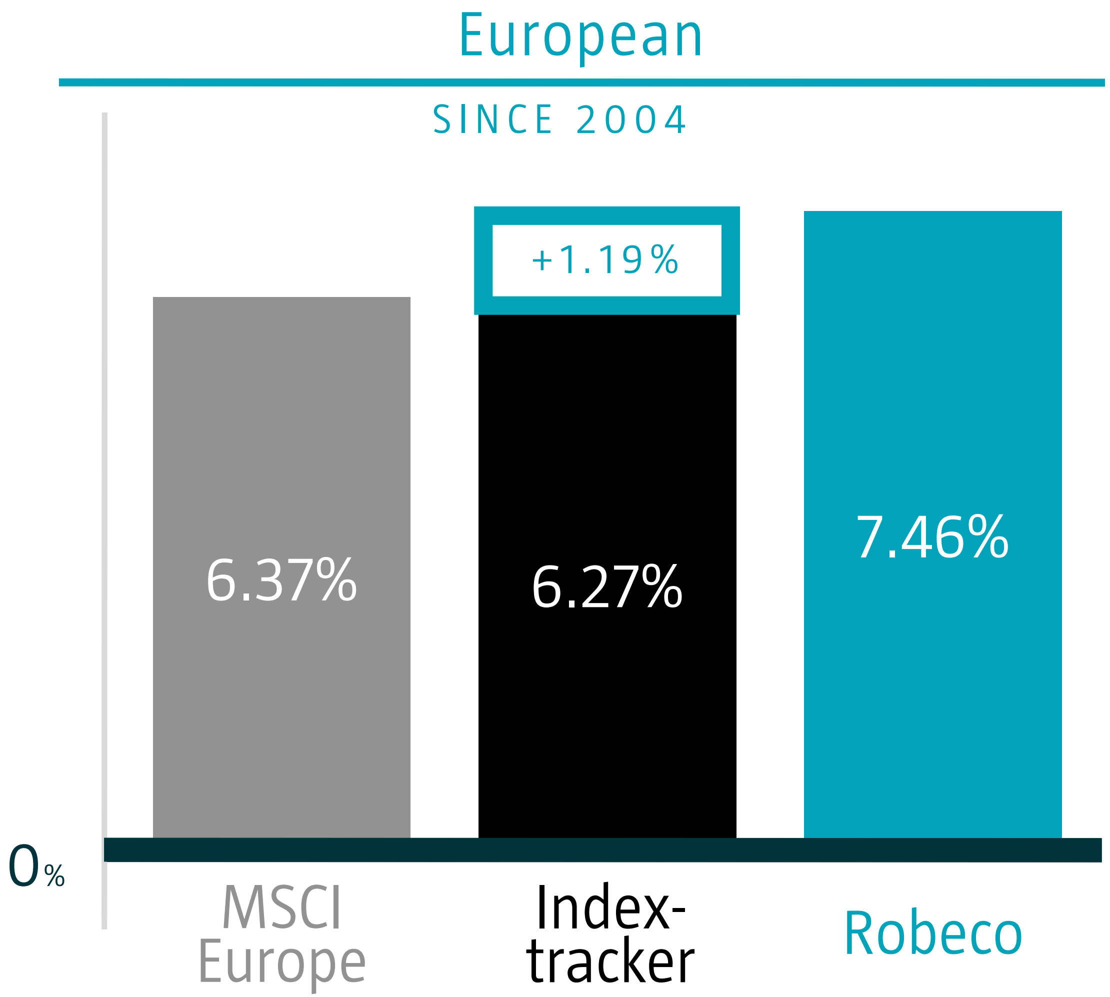
April 2018



Source: Robeco Performance Measurement. Quant Developed Markets Equities, Net of fees, based on Net Asset Value, All figures in EUR, Inception date: November 2004
Core Quant - Emerging Enhanced, Net of fees, based on Net Asset Value, all figures in EUR. Inception date: July 2007
The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

Net Returns After Costs

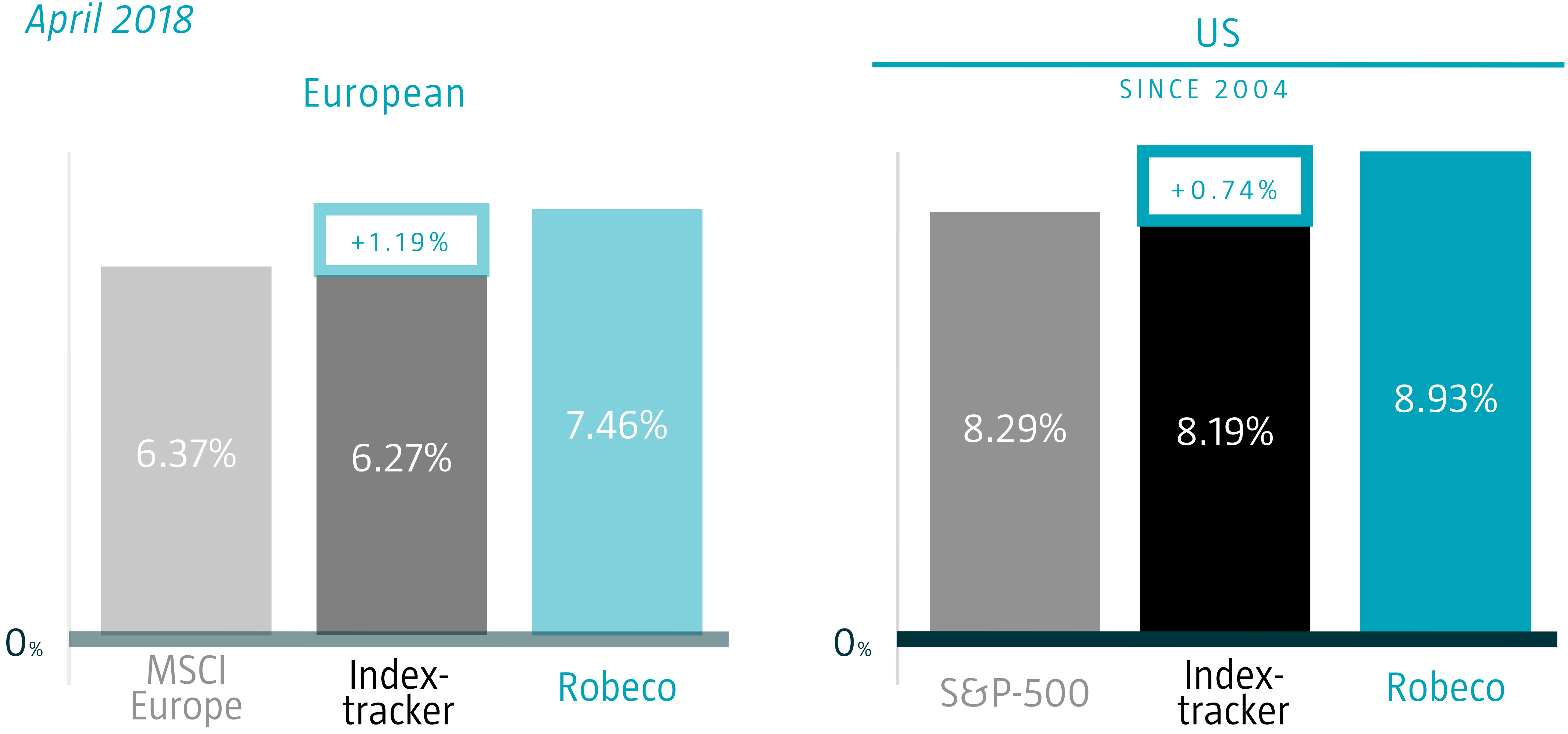
April 2018



Source: Robeco Performance Measurement. Figures before October 2017 are based on the Europe carve-out out of Robeco Quant Developed Markets Equities Fund. Figures after October 2017 are based on Robeco QI European Enhanced Index Equities (EUR) I-share.,
Net of fees, based on Net Asset Value, all figures in EUR. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

Net Returns After Costs

April 2018



Source: Robeco Performance Measurement; Figures before October 2017 are based on the Europe and the US carve-out out of Robeco Quant Developed Markets Equities Fund. Figures after October 2017 are based on Robeco QI European Enhanced Index Equities (EUR) I-share and Robeco QI US Enhanced Index Equities (USD) I-share. Net of fees, based on Net Asset Value, all figures in EUR. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

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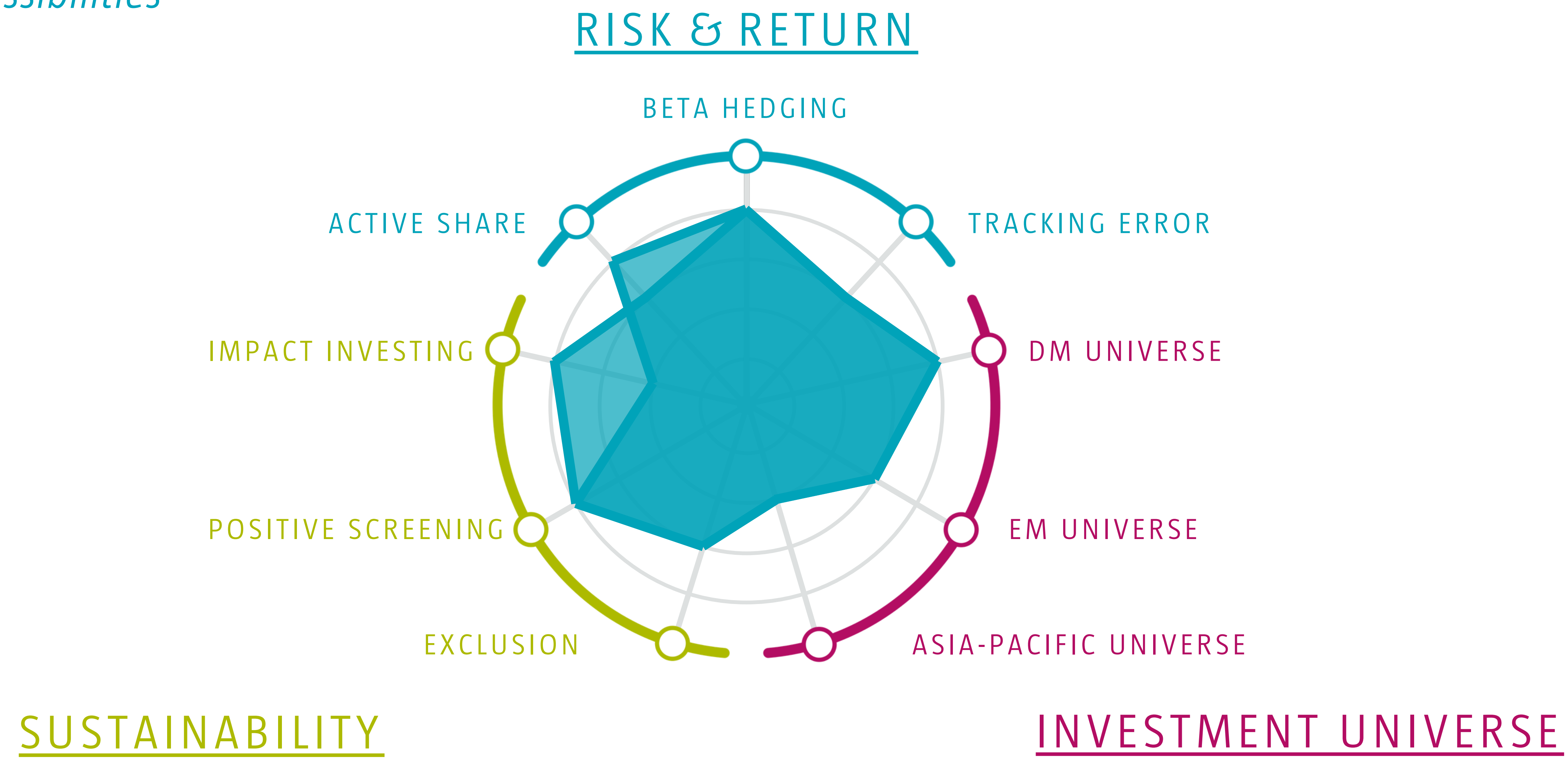
Enhanced Indexing

Overview

Tailor-made Solutions

Possibilities



Sustainable Enhanced Indexing

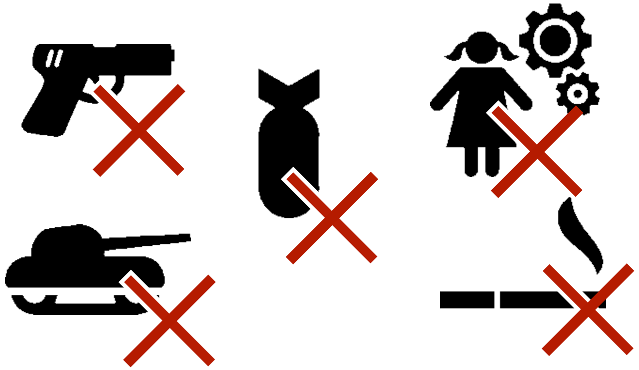
Overview

Sustainable Enhanced Indexing

Overview

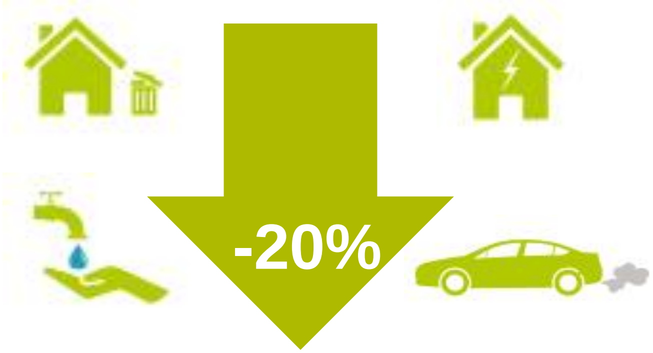
No investments in:

CONTROVERSIAL COMPANIES



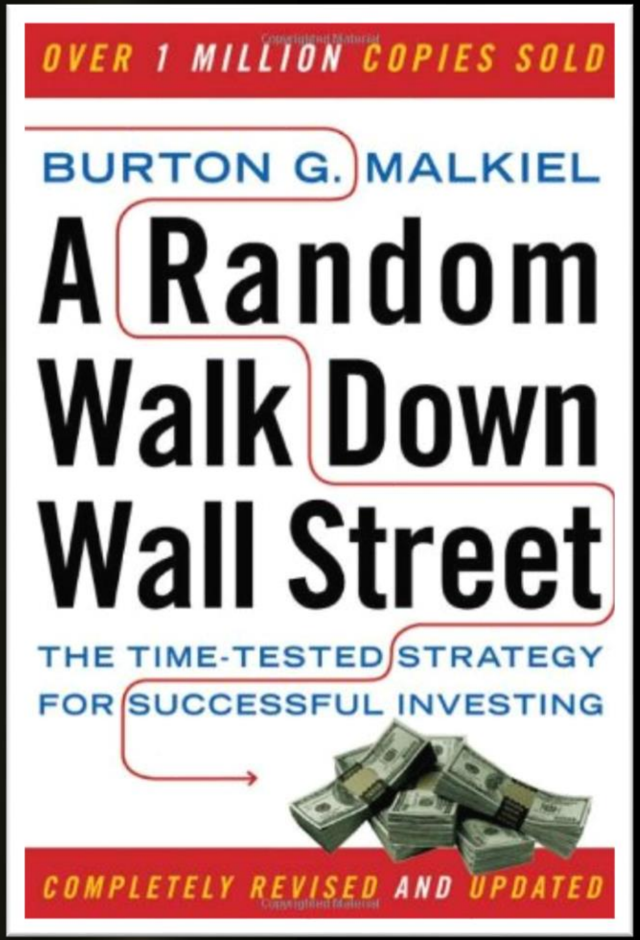
Impact investing:

20% LOWER FOOTPRINT



Portfolio ESG score

IMPROVEMENT:



Burton Malkiel (1973)

"Blindfolded monkeys do just as well as the experts"

Served on the board of passive manager **Vanguard** for 27 years

"An Index-Fund Evangelist Is Straying From His Gospel"

The New York Times – 22 June 2017

Now, at age 84, advocates an approach called "Advanced Indexing", a smart beta strategy that **"aims to exploit market inefficiencies and beat the passive approach"**

Burton Malkiel (1973)

"Blindfolded monkeys do just as well as the experts"

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Passive investing?

Overview

- ✘ 1. Passive investing is not passive
- ✘ 2. ESG integration
- ✘ 3. Governance issues
- ✘ 4. Return lagging the index
- ✘ 5. Hidden costs of index arbitrage
- ✘ 6. Allocates to stocks with a negative return
- ✘ 7. No contribution to price discovery (free riding)

ARTICLE
Destiné aux investisseurs professionnels
Février 2018

ROBECO
The Investment Engineers

Enhanced Indexing, une alternative à l'investissement passif

Wilma de Groot, PhD, CFA
Jan de Koning, CFA, CAIA

- Transparence et faiblesse des coûts expliquent la popularité de la gestion passive
- Mais il comporte aussi des inconvénients majeurs, souvent négligés par les investisseurs
- L'Enhanced Indexing (indexation optimisée) offre une exposition plus efficace au marché

La montée en puissance de l'investissement passif en actions fait partie des tendances phares de la décennie écoulée. Cette approche offre aux investisseurs une exposition transparente et peu coûteuse à la prime du marché. Les stratégies passives reproduisant généralement de grands indices pondérés par les capitalisations, la composition des portefeuilles qui en découlent est prévisible, ce qui contribue également à la popularité de cette approche. Mais si leurs avantages sont souvent bien connus des investisseurs, leurs inconvénients le sont moins. Dans le présent article, nous démontrerons que les stratégies d'Enhanced Indexing possèdent les mêmes points forts que l'investissement passif, en évitant ses principaux écueils.

« La gestion passive exige une gestion active du portefeuille »

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- correspondant à 1/3 des frais de gestion appliqués aux parts de type institutionnelles et qui ne donnent pas lieu à commission de distribution (que percevrait les « clients » distributeurs comme les banques privées par exemple).
- correspondant à 2/3 des frais de gestion appliqués aux parts tout investisseur et qui, sous réserve de l'existence d'une convention, peuvent donner lieu à reversement d'une commission de distribution.

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