The Active Versus Passive Management Debate
In Defense of Active Management

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Joint work with Essam N'zoulou and Marielle de Jong for the active share section

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[1] The views and opinions expressed in this presentation are those of the authors and are not meant to represent the opinions or official positions of Amundi Asset Management or any other institutions. I would like to thank Alexandre Drabowicz, Charles-Albert Lehalle, Bruno Taillardat, and the Scientific Council and Board of the AMF for their helpful comments and valuable input.

Foreword

This presentation is not about the performance difference between active management and passive management[a]. This presentation does not promote active or passive management. This presentation does not take the viewpoint of investors or asset managers.

This presentation takes the viewpoint of policy and regulation. This presentation is about the added-value of active management when we consider the efficiency of financial markets[b]. This presentation is about the stability of financial markets. The main question is: What is the minimum proportion of active management in order to ensure that financial markets will continue to work properly? Another important question is: What is the future of alpha and does this alpha will tend to be zero?

[a] I think that this debate had been definitively closed.

[b] that is the capital allocation between corporate firms or investment projects.

Foreword

"So people say, 'I'm not going to try to beat the market. The market is all-knowing.' But how in the world can the market be all-knowing, if nobody is trying – well, not as many people – are trying to beat it?"

Robert Shiller, CNBC, November 14^{th}, 2017

Key messages

- The boundaries of active management have considerably evolved during the past years $\Rightarrow$ its scope has been dramatically reduced!
- The debate "active vs passive management" is now a debate between active management and systematic (or rule-based) management
- Like the SB, there is now a shadow asset management
- Systematic investment management could pose a systemic risk for the financial system
- Active share is an interesting benchmarking measure, but it does not solve the issues of performance and closet indexing
- Financial markets need active management in order to exist $\Rightarrow$ What is the minimum acceptable part of active management?
- The debate of the performance (and benchmarking) of active management is a spurious issue and an endogenous puzzle

From CAPM to factor investing

How to define risk factors?

Risk factors are common factors that explain the cross-section variance of expected returns

- 1964: Market or MKT (or BETA) factor
- 1972: Low beta or BAB factor
- 1981: Size or SMB factor
- 1985: Value or HML factor
- 1991: Low volatility or VOL factor
- 1993: Momentum or WML factor
- 2000: Quality or QMJ factor

Alpha or beta?

At the security level, there is a lot of idiosyncratic risk or alpha[2]:

	Common Risk	Idiosyncratic Risk
GOOGLE	47%	53%
NETFLIX	24%	76%
MASTERCARD	50%	50%
NOKIA	32%	68%
TOTAL	89%	11%
AIRBUS	56%	44%

Carhart's model with 4 factors, 2010-2014
Source: Roncalli (2017)

[2] The linear regression is:

$$R_i = \alpha_i + \sum_{j=1}^{n_{\mathcal{F}}} \beta_i^j \mathcal{F}_j + \varepsilon_i$$

In our case, we measure the alpha as $1 - \Re_i^2$ where:

$$\Re_i^2 = 1 - \frac{\sigma^2(\varepsilon_i)}{\sigma^2(R_i)}$$

The concept of alpha

- Jensen (1968) – **How to measure the performance of ~~active~~ fund managers?**

$$R_t^F = \alpha + \beta R_t^{MKT} + \varepsilon_t$$

Fund	Return	Rank	Beta	Alpha	Rank
A	12%	Best	1.0	-2%	Worst
B	11%	Worst	0.5	4%	Best

Market return = 14%

$$\Rightarrow \bar{\alpha} = -\text{fees}$$

- It is the beginning of passive management:
  - John McQuown (Wells Fargo Bank, 1971)
  - Rex Sinquefield (American National Bank, 1973)

Active management and performance persistence

- Hendricks *et al.* (1993) – **Hot Hands in Mutual Funds**

$$\operatorname{cov}\left(\alpha_t^{\text{Jensen}}, \alpha_{t-1}^{\text{Jensen}}\right) > 0$$

where:

$$\alpha_t^{\text{Jensen}} = R_t^F - \beta^{\mathrm{MKT}} R_t^{MKT}$$

$\Rightarrow$ The persistence of the performance of active management is due to the **persistence of the alpha**

Risk factors and active management

- Grinblatt *et al.* (1995) – **Momentum investors versus Value investors**

  "*77% of mutual funds are momentum investors*"

- Carhart (1997):

$$\left\{ \begin{array}{l} \operatorname{cov}\left(\alpha_t^{\text{Jensen}}, \alpha_{t-1}^{\text{Jensen}}\right) > 0 \\ \operatorname{cov}\left(\alpha_t^{\text{Carhart}}, \alpha_{t-1}^{\text{Carhart}}\right) = 0 \end{array} \right.$$

  where:

$$\alpha_t^{\text{Carhart}} = R_t^F - \beta^{\text{MKT}} R_t^{\text{MKT}} - \beta^{\text{SMB}} R_t^{\text{SMB}} - \beta^{\text{HML}} R_t^{\text{HML}} - \beta^{\text{WML}} R_t^{\text{WML}}$$

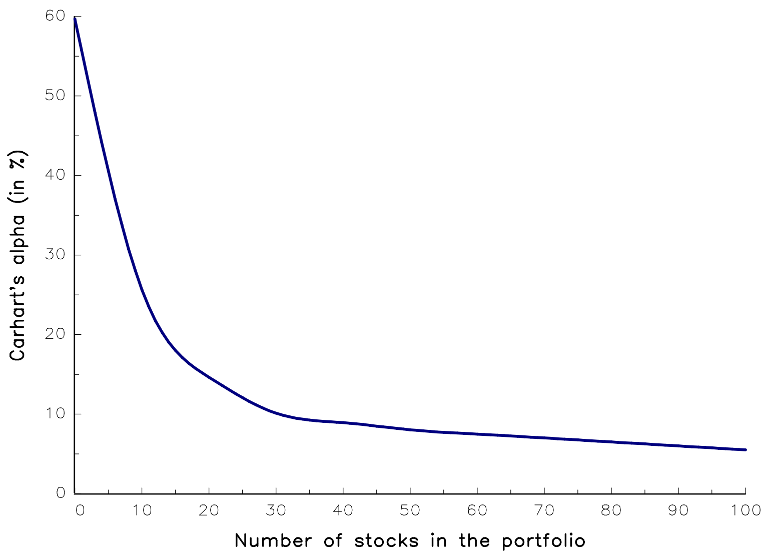
$\Rightarrow$ The (short-term) persistence of the performance of active management is due to the (short-term) **persistence of the performance of risk factors**

Diversification and alpha

David Swensen's rule for effective stock picking

Concentrated portfolio ⇒ No more than 20 bets?

Figure: Carhart's alpha decreases with the number of holding assets

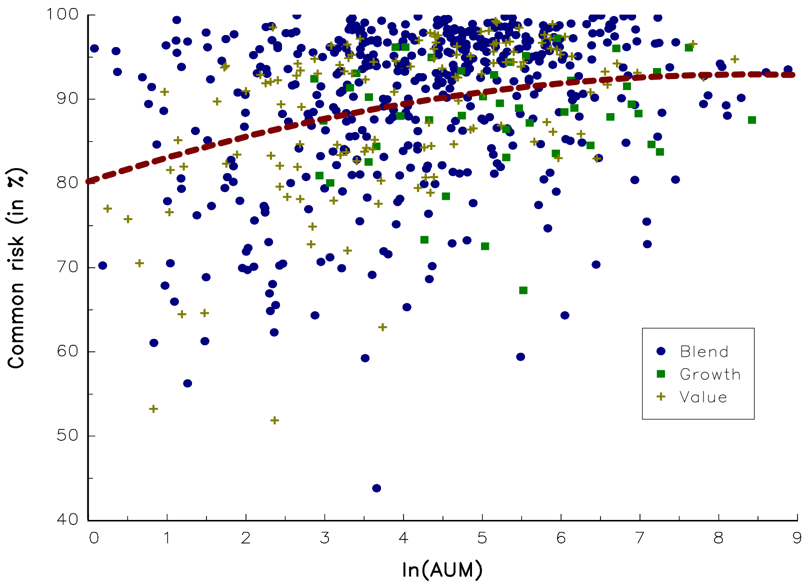


US equity markets, 2000-2014
Source: Roncalli (2017)

"*If you can identify six wonderful businesses, that is all the diversification you need. And you will make a lot of money. And I can guarantee that going into the seventh one instead of putting more money into your first one is going to be terrible mistake. Very few people have gotten rich on their seventh best idea.*" (Warren Buffett, University of Florida, 1998).

Diversification and alpha

Figure: What proportion of return variance is explained by the 4-factor model?



Morningstar database, 880 mutual funds, European equities
Carhart's model with 4 factors, 2010-2014
Source: Roncalli (2017)

How many bets are there in large portfolios of institutional investors?

1986 Less than 10% of institutional portfolio return is explained by security picking and market timing (Brinson *et al.*, 1986)

2009 Professors' Report on the Norwegian GPFG: Risk factors represent 99.1% of the fund return variation (Ang *et al.*, 2009)

Risk factors versus alpha

What lessons can we draw from this?

Idiosyncratic risks and specific bets disappear in (large) diversified portfolios. Performance of institutional investors is then exposed to (common) risk factors.

Alpha is not scalable, but risk factors are scalable

$\Rightarrow$ Risk factors are the only bets that are compatible with diversification

Alpha

- Concentration
- (Discretionary) active management

$\neq$

Beta(s)

- Diversification
- ~~Passive~~ Rule-based (active) management

Factor investing in bonds

Conventional bond model (or the 'equivalent' CAPM)

The total return $R_i(t)$ of Bond i at time t is equal to:

$$R_i(t) = a(t) - \mathrm{MD}_i(t)\, R^I(t) - \mathrm{DTS}_i(t)\, R^S(t) + \mathrm{LTP}_i(t)\, R^L(t) + u_i(t)$$

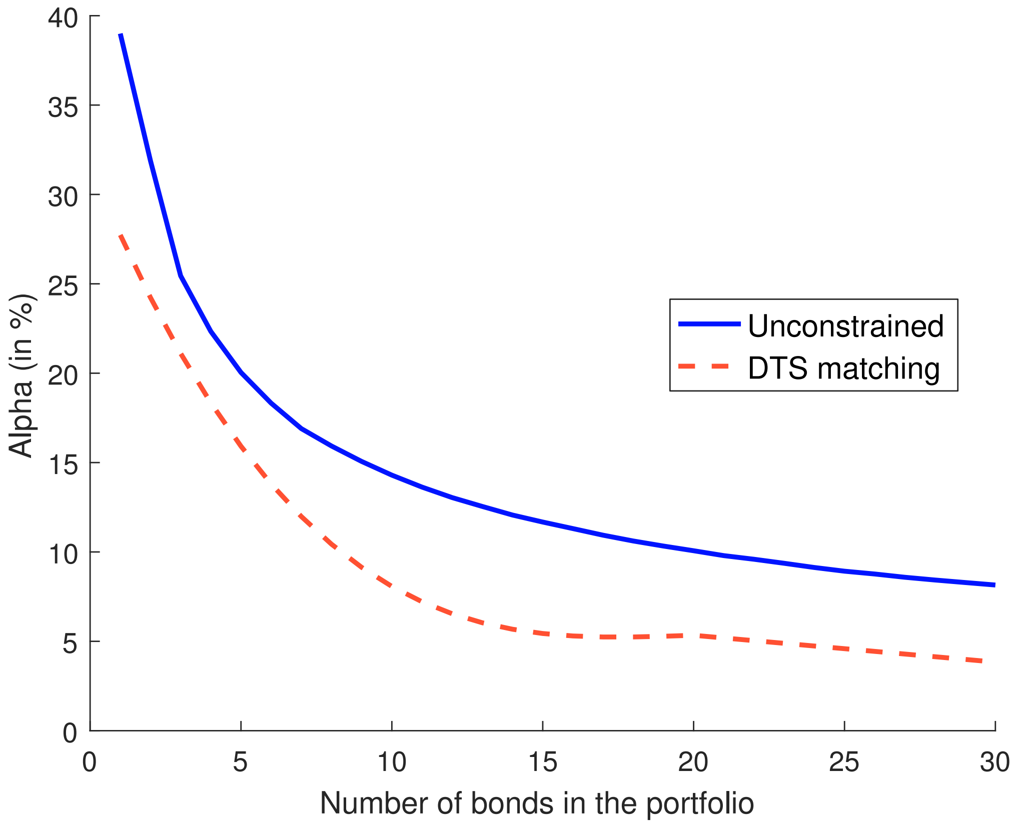
where:

- $a(t)$ is the constant/carry/zero intercept
- $\mathrm{MD}_i(t)$ is the modified duration
- $\mathrm{DTS}_i(t)$ is the duration-times-spread
- $\mathrm{LTP}_i(t)$ is the liquidity-time-price
- $u_i(t)$ is the residual

$\Rightarrow$ $R^I(t)$, $R^S(t)$ and $R^L(t)$ are the return components due to interest rate movements, credit spread variation and liquidity dynamics.

Factor investing in bonds

Figure: ~~Carhart's~~ Conventional alpha decreases with the number of holding assets



EURO IG corporate bonds, 2000-2017
Source: Amundi Research (2018)

- There is less traditional alpha in the bond market than in the stock market
- What does this result become when introducing alternative risk factors?
- Factor investing in fixed income = new topic in asset management

The concept of alternative risk premia

- In the multi-asset case, we can show that the common risk factors are:
  - Traditional risk premia (e.g. equity and bond risk premia)
  - Alternative risk premia (e.g. carry and momentum risk premia)
- Alternative risk premia explains a significant part of hedge fund returns:
  - L/S equity strategies
  - CTA strategies
  - Relative value strategies
- Hedge Fund AUM decrease[3] (convergence between traditional AM and Alternative management)
- Alpha strategy (satellite portfolio) $\Rightarrow$ strategic asset allocation (SAA or core portfolio)

[3] When considering alpha strategies — the growth of HF industry AUM is due to the shift of HFs to traditional asset management (smart beta, risk parity, factor investing, alternative beta, etc.)

The nature of risk factors

- Discretionary active management $\Rightarrow$ specific/idiosyncratic risks & rule-based management $\Rightarrow$ factor investing and systematic risks?
- Are common risk factors exogenous or endogenous?
    - Do risk factors exist without active management?

      Risk factors first, active management second

      or

      Active management first, risk factors second

    - Quality vs Low beta, Momentum vs Size
- Factor investing needs active investing
- Imagine a world without active managers, stock pickers, hedge funds, etc.

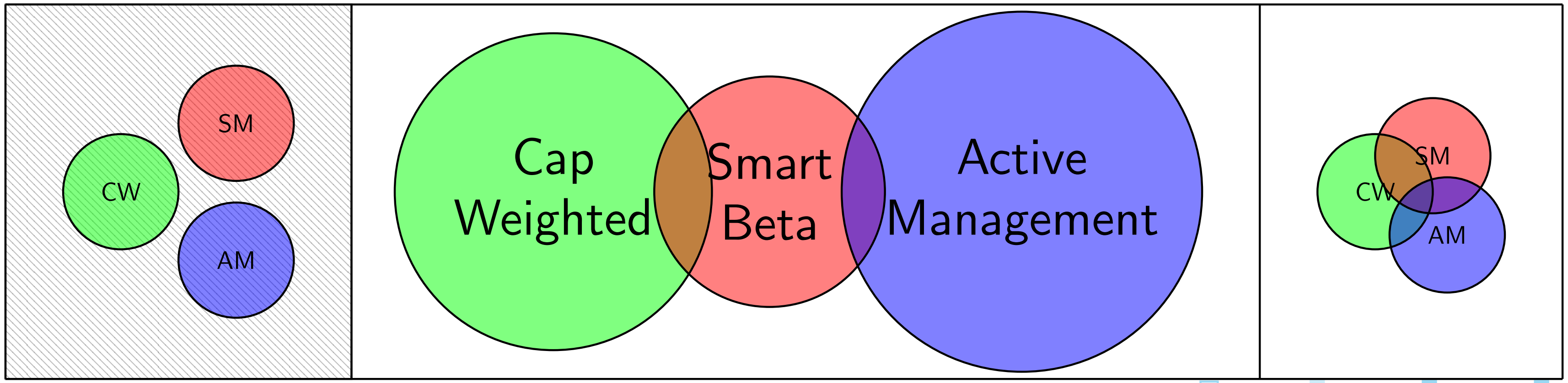
$\Rightarrow$ **Should active management be reduced to alpha management?**

Key takeways

Summary I

- A part of active investing is now packaged as factor investing
- Factor investing = systematic management that captures the common risk factors ($\neq$ passive management)
- Active investing and factor investing are generally opposed. In practice, they aren't!

Figure: The landscape of asset management



Defining systematic management

1980-2008

- Option hedging
- Portfolio insurance (CPPI, OBPI)
- Index funds
- Quant funds (L/S, statistical arbitrage, etc.)

2009-2018

- Indexation (CW, ETF, AW, etc.)
- Equity factor investing
- Trend-following strategies
- Risk parity portfolios
- Volatility/overlay management (vol control, vol target, vol cap, etc.)
- Volatility investing (short volatility, etc.)
- (Bank) proprietary (strategy) indices
- Robo-advisory

What is the issue?

They may use similar portfolio construction and rule-based mechanisms, and same data, rebalancing frequencies and assets.

The shadow asset management industry

Banks embrace 'the age of asset management'
(Financial Times, November 30, 2015)

How FinTech is shaping asset and wealth management
(PWC, 2016)

- Investment banking vs asset management
  - Investment bankers sell financial products and asset managers buy them to manage for their clients (`www.investopedia.com`)
  - Sell-side / buy-side, own-account / third-party, etc.
- According to FSB (2015), asset management is part of the shadow banking industry
- There is also a shadow asset management industry: investment banks, index sponsors, fintech, robo-advisors, etc.

$\Rightarrow$ A significant part of shadow asset management is driven by rule-based and systematic strategies

The risk of systematic management

Asset picking (Securities)	$\Rightarrow$	Portfolio allocation (Asset Classes, group of securities)

- Few quantitative models
- Crowding/spillover effects
- High-frequency strategies (intra-day, daily) vs low-frequency strategies (monthly, quarterly, semi-annually)
- Backward-looking ($\neq$ forward-looking)

$\Rightarrow$ **Is systematic asset management a source of systemic risk?**

Illustration of systemic risk

Financial crises are not necessarily systemic crises

The dot-com crisis (2000-2003)

If we consider the S&P 500 index, we obtain:

- 55% of stocks post a negative performance

$$\approx 75\% \text{ of MC}$$

- 45% of stocks post a positive performance

$$\text{Maximum drawdown} = 49\ \%$$

Small caps stocks $\nearrow$
Value stocks $\nearrow$

The GFC crisis (2008)

If we consider the S&P 500 index, we obtain:

- 95% of stocks post a negative performance

$$\approx 97\% \text{ of MC}$$

- 5% of stocks post a positive performance

$$\text{Maximum drawdown} = 56\ \%$$

Small caps stocks $\searrow$
Value stocks $\searrow$

Illustration of systemic risk

The specific status of the stock market

The interconnectedness nature of illiquid assets and liquid assets: the example of the Global Financial Crisis

- Subprime crisis $\Leftrightarrow$ banks (credit risk)
- Banks $\Leftrightarrow$ asset management, e.g. hedge funds (funding & leverage risk)
- Asset management $\Leftrightarrow$ equity market (liquidity risk)
- Equity market $\Leftrightarrow$ banks (asset-price & collateral risk)

The equity market is the ultimate liquidity provider:
GFC $\gg$ internet bubble

Remark

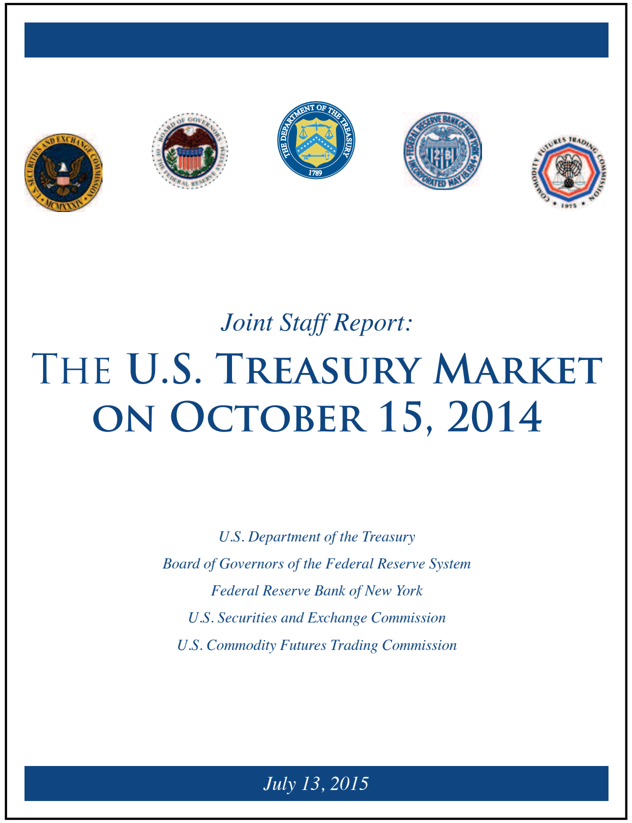
1/3 of losses in the stock market might be explained by the liquidity supply

Stocks $\neq$ bonds (safe asset, low perceived risk)

Examples of network risk

In most models, the origin of a systemic risk is a stress, but...

- August 24, 2015: US ETF Flash Crash
- October 15, 2014: US Treasury Flash Rally
  "*While no single cause is apparent in the data, the analysis thus far does point to a number of findings which, in aggregate, help explain the conditions that likely contributed to the volatility.*"
- May 6, 2010: US Stock Market Flash Crash
- August 7-10, 2007: The "Quant Quake" (Andrew Lo)



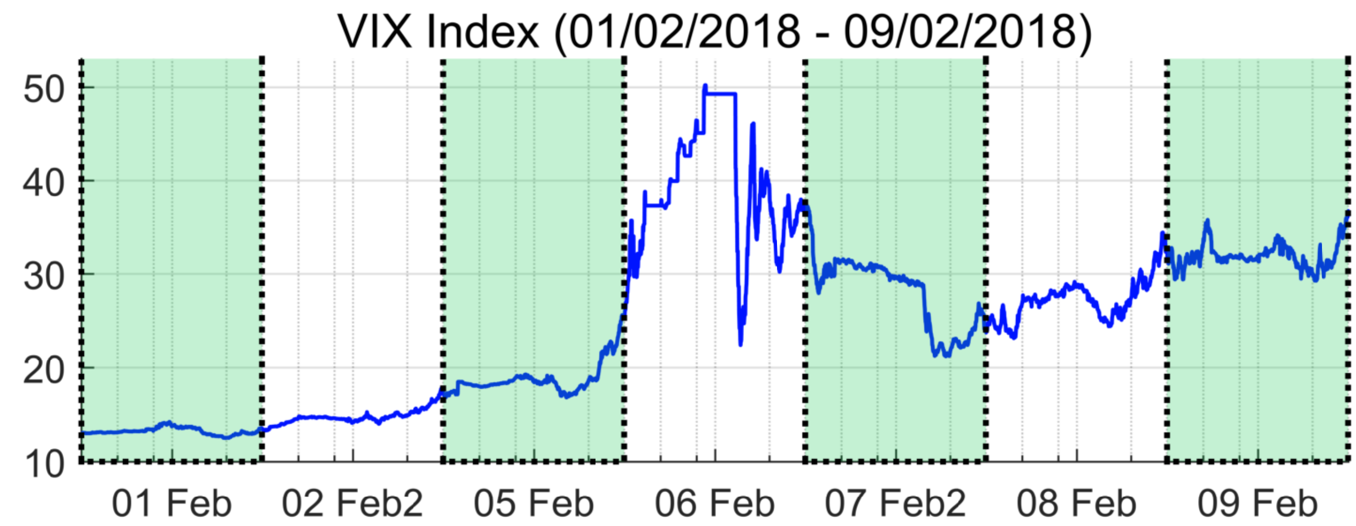
Joint Staff Report:

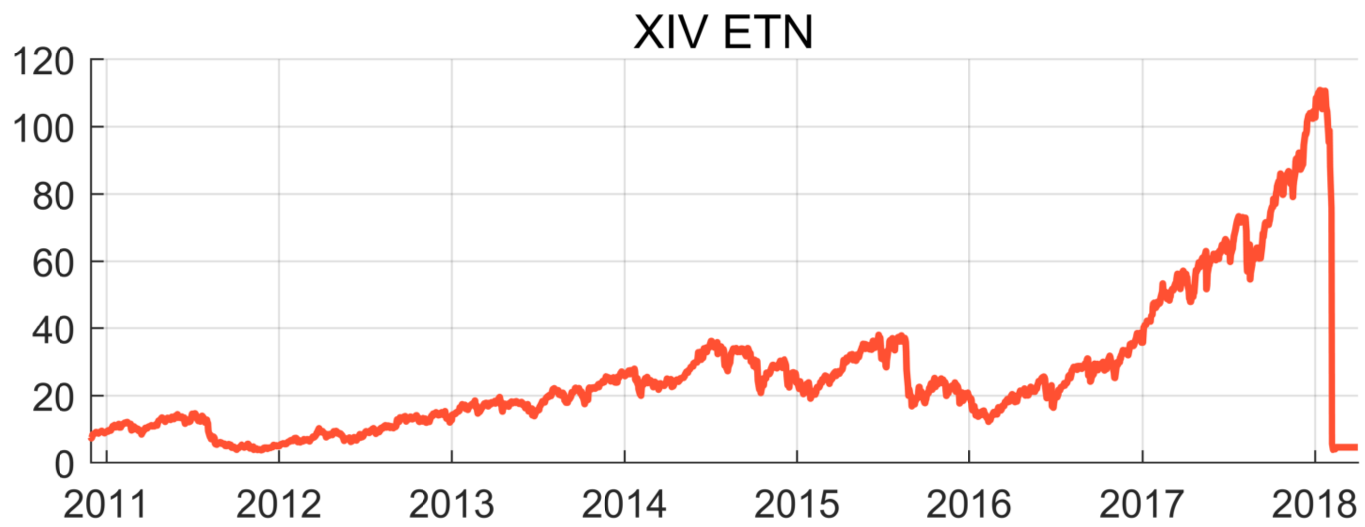
THE U.S. TREASURY MARKET ON OCTOBER 15, 2014

U.S. Department of the Treasury
Board of Governors of the Federal Reserve System
Federal Reserve Bank of New York
U.S. Securities and Exchange Commission
U.S. Commodity Futures Trading Commission

July 13, 2015

What happened to the VIX in February 6, 2018?





The crowding question*

- Not an easy question: how to measure crowding effects?
- Crowding of strategies, portfolios or trades?
  - Cross-correlation within a given strategy ($\Rightarrow$ implementation issue)
  - Cross-correlation between strategies ($\Rightarrow$ dependency issue)
  - Temporal correlation between trades ($\Rightarrow$ time-horizon issue)
- Crowding of trades is more problematic than crowding of positions
- Potential temporary synchronization of trades?
- We can think for instance that risk control is more an issue than factor investing for two reasons:
  - time-horizon implementation (daily versus quarterly)
  - the impact of active management

(*) This slide resumes the elements of discussion presented by Charles-Albert Lehalle during the seminar at the AMF.

How many active managers do we need?

Bhattacharya and Galpin (2011)[4]:

- If everyone is a passive investor, 100% of trading volume is explained by market capitalization
- The aggregate ratio trading volume/market capitalization is a measure of stock picking

$\Rightarrow$ They estimated that stock picking in the US accounted for 80% of trading volume in the 1960's, and for just 24% in 2000-2004

$\Rightarrow$ They also think that the stock market remains efficient if stock picking represents more than 10% of the trading volume

How to measure active management?

[4] Bhattacharya, U., and Galpin, N. (2011), The Global Rise of the Value-weighted Portfolio, *Journal of Financial and Quantitative Analysis*, 46(3), pp. 737-756. Bhattacharya, U., and Galpin, N. (2005), Is Stock Picking Declining Around the World?, `http://www.haas.berkeley.edu/groups/finance/StockPicking.pdf`.

Key takeaways

Summary II

- The frontier between asset management, hedge funds and investment banking is now much more blurred
- The risk of the rise of systematic management

"*How the Next Quant Fund Crisis Will Unfold*"
(Bloomberg, August 17, 2017)

- ~~Quant funds~~ $\Rightarrow$ systematic management
- Relationship between systemic risk and network risk: the example of money market funds in 2007 (too ~~big~~ small to fail)
- Volatility market = a potential source of systemic risk

Traditional approaches to measure active management

- Tracking-error volatility
- Beta
- Correlation
- Alpha (or tracking difference)
- Information ratio

Introducing the active share

Definition

Let $b = (b_1, \ldots, b_n)$ be the weights of the benchmark. Let $x = (x_1, \ldots, x_n)$ be the weights of the portfolio. The active share[a] is defined as one half the sum of absolute deviations between the portfolio weights and the benchmark weights:

$$\mathrm{AS}(x \mid b) = \frac{1}{2} \sum_{i=1}^{n} |x_i - b_i|$$

It also corresponds to the one-way turnover assuming that the active portfolio at the previous period is the benchmark index.

[a] Cremers, M., and Petajisto, A. (2009), How Active is Your Fund Manager? A New Measure that Predicts Performance, *Review of Financial Studies*, 22(9), pp. 3329-3365.

⇒ For long-only portfolios, we have:

$$0 \leq \mathrm{AS}(x \mid b) \leq 1$$

Introducing the active share

Table: An example with a universe of 6 assets

Asset	Benchmark	Portfolio				
		#1	#2	#3	#4	#5
#1	40%	40%	25%	30%	10%	0%
#2	30%	30%	25%	20%	20%	0%
#3	20%	20%	25%	10%	30%	0%
#4	10%	10%	25%	0%	40%	0%
#5	0%	0%	0%	20%	0%	50%
#6	0%	0%	0%	20%	0%	50%
AS		0%	20%	40%	40%	100%

$\Rightarrow$ The active share is equal to zero when the portfolio is exactly equal to the benchmark

$\Rightarrow$ The active share is equal to 100% when the portfolio is invested outside the benchmark

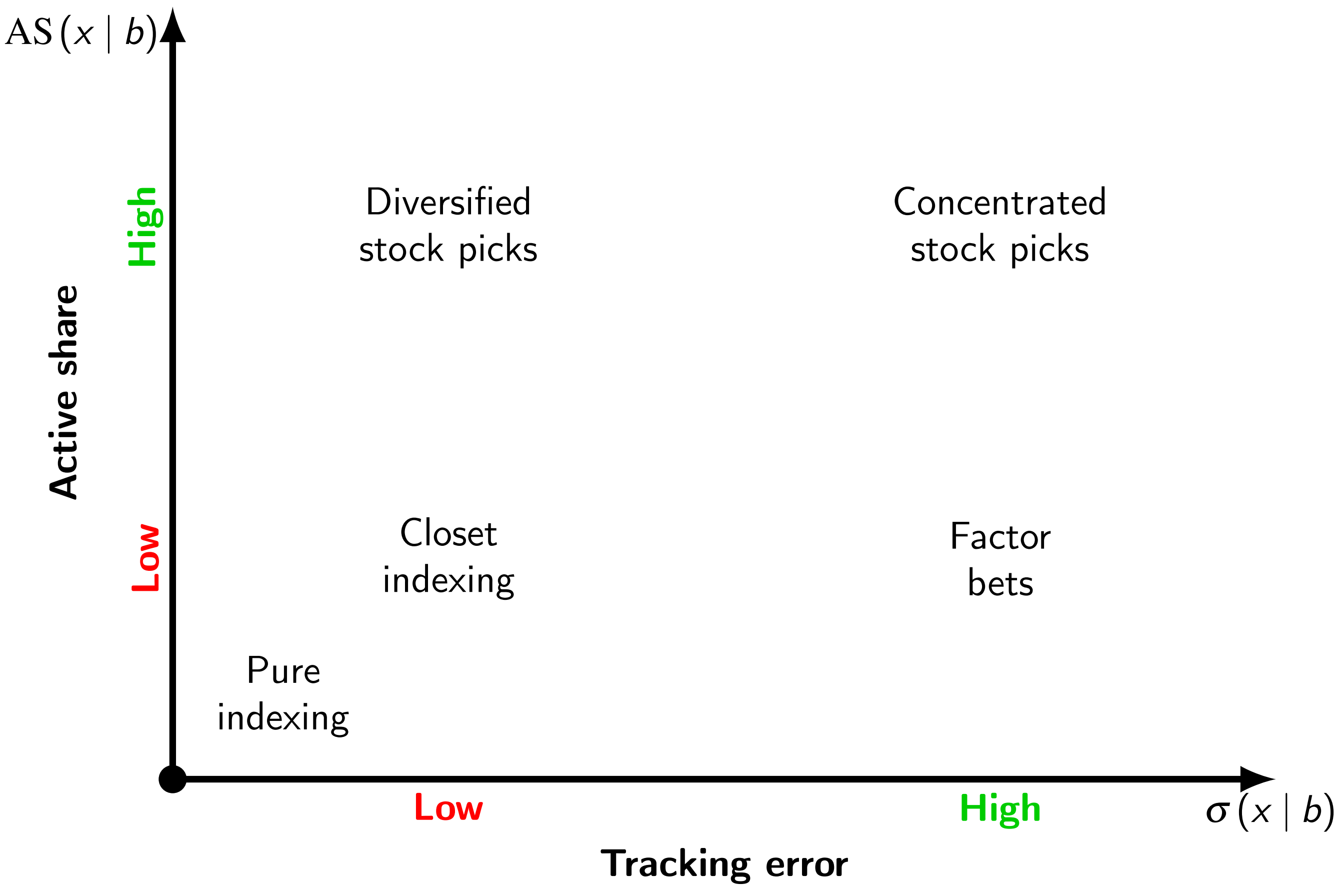
How to use active share?

"We argue that Active Share is useful for two main reasons. First, it provides information about a fund's potential for beating its benchmark index – after all, an active manager can only add value relative to the index by deviating from it. Some positive level of Active Share is therefore a necessary (albeit not sufficient) condition for outperforming the benchmark.

Second, while Active Share is a convenient stand-alone measure of active management, it can also be used together with tracking error for a more comprehensive picture of active management, allowing us to distinguish between stock selection and factor timing [...] we can choose tracking error as a reasonable proxy for factor bets and Active Share for stock selection". (Cremers and Petajisto (2009), pages 3330-3331).

How to use active share?

Figure: Styles of fund management



Source: Cremers and Petajisto (2009).

Active share and performance

Table: Performance of US equity mutual funds (1990-2003)

Statistic	$Q_5 - Q_1$
Excess return wrt to the benchmark	2.55%
Carhart alpha	2.98%

Source: Cremers and Petajisto (2009).

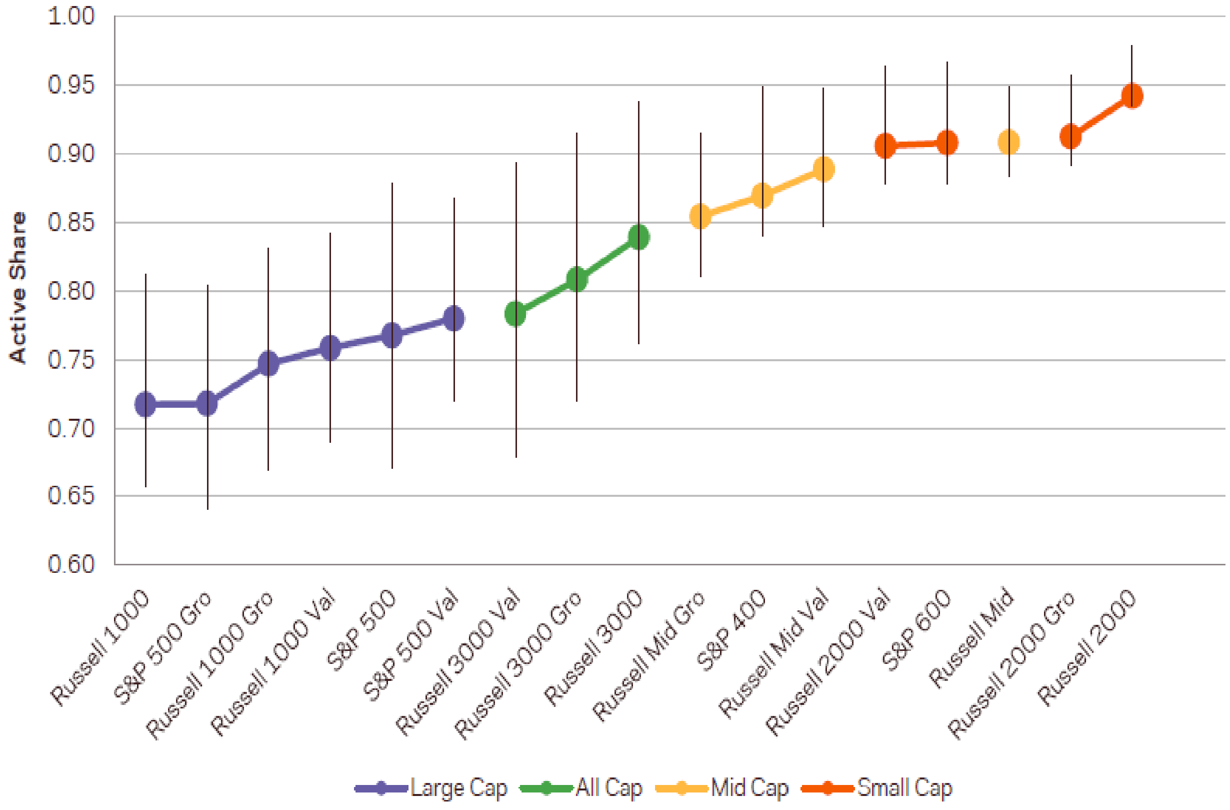
The fund picking rule of Cremers and Petajisto (2009):

- High active share
- Small fund size
- High past year return

$\Rightarrow$ It has been adopted by some institutional clients (e.g. in Asia)

Active share and performance

Figure: Active share statistics by benchmark

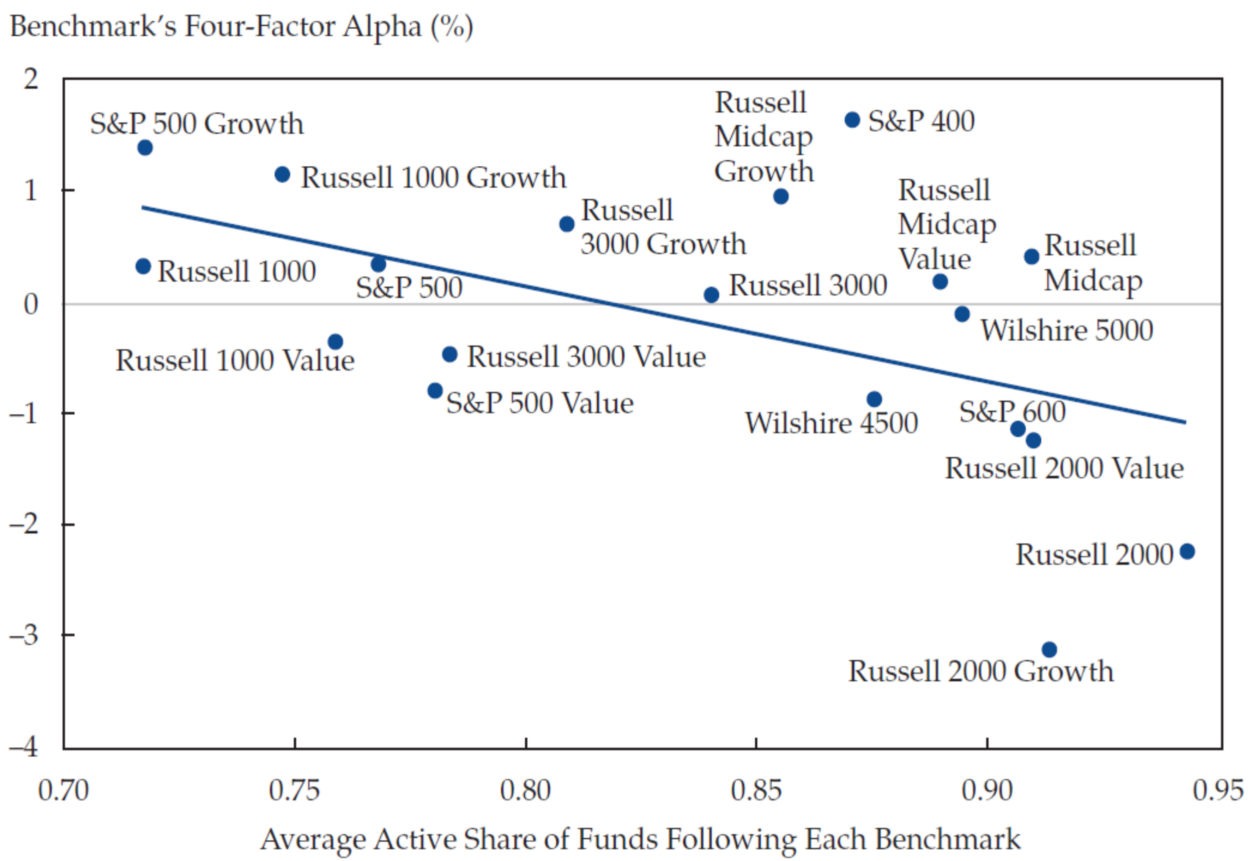


Source: Frazzini *et al.* (2016), Figure 1

- Active share figures highly depend on the benchmark!
- Dependency to the frequency distribution of market capitalization
- There is a positive relationship between the active share and the small cap characteristic of the benchmark

Active share and performance

Figure: Active share correlation with benchmark type and benchmark alpha

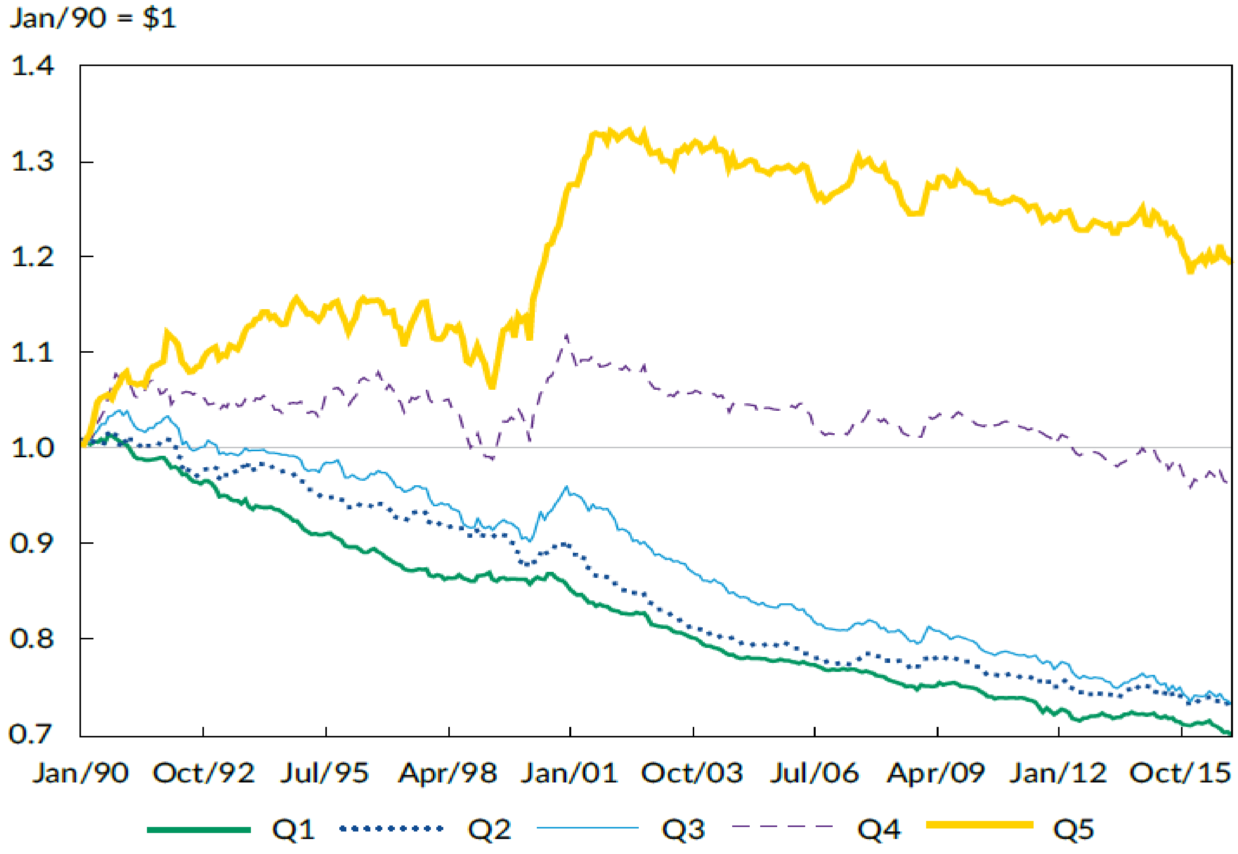


Source: Frazzini *et al.* (2016), Figure 2

- During the period 1990-2009, small-cap indices underperformed large cap indices
- Large cap indices had positive alpha
- Small cap indices had positive alpha
- The relationship active share/performance is index dependent

Active share and performance

Figure: Cumulative abnormal net returns of active share quintile portfolios, 1990-2015

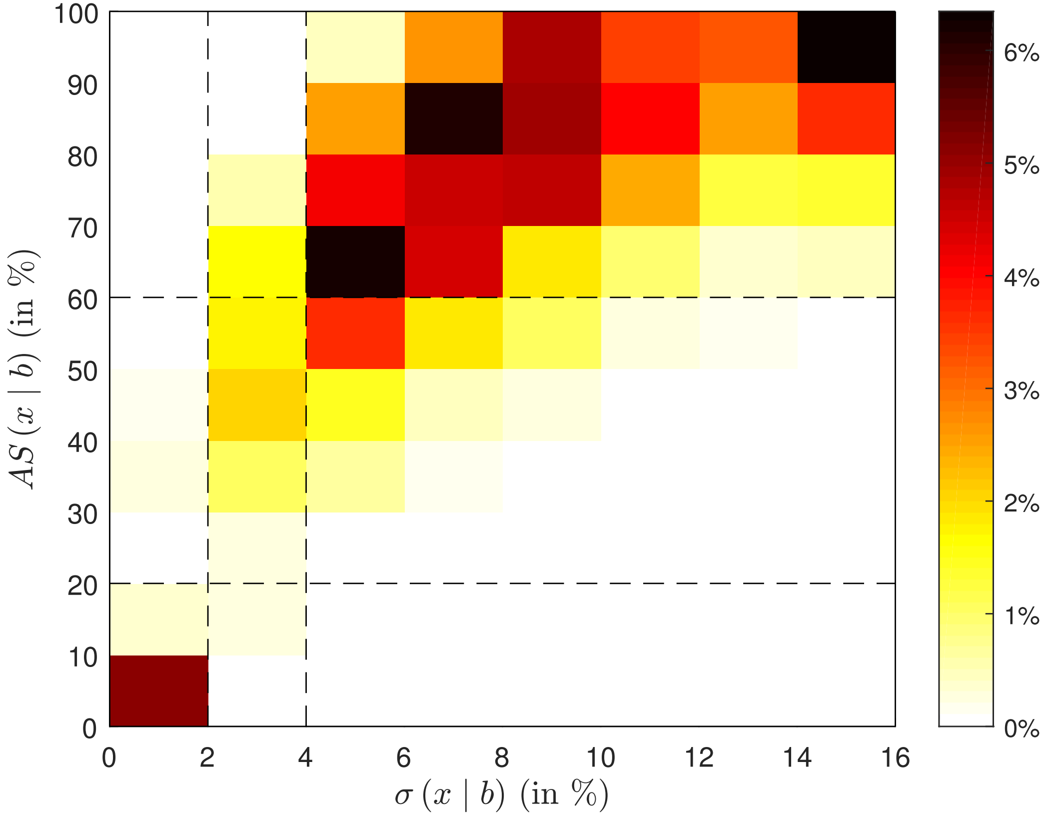


Source: Cremers (2017), Figure 2, page 69.

- $Q_5 - Q_1$ is positive from 1990 to 2000
- $Q_5 - Q_1$ is flat since 2001
- US related result?
- The results of Cremers and Petajisto (2009) are mainly explained by the dot.com bubble

TE / AS arbitrage

Figure: Frequency distribution of US equity mutual funds in 2009

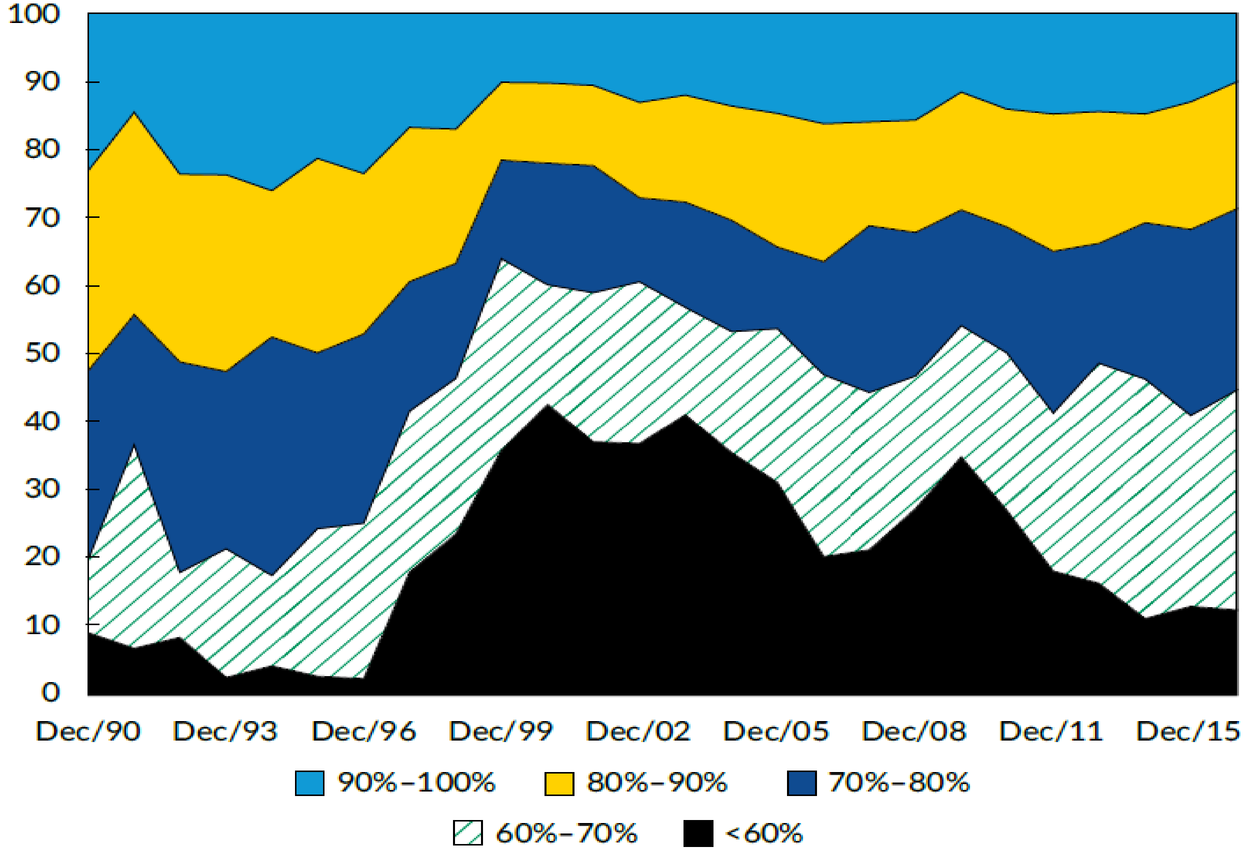


Source: Petajisto (2013), Table 1, page 76.

- Active share and tracking error are related
- The arbitrage AS/TE is constrained

TE / AS arbitrage

Figure: Percentage of US equity retail mutual fund assets by active share

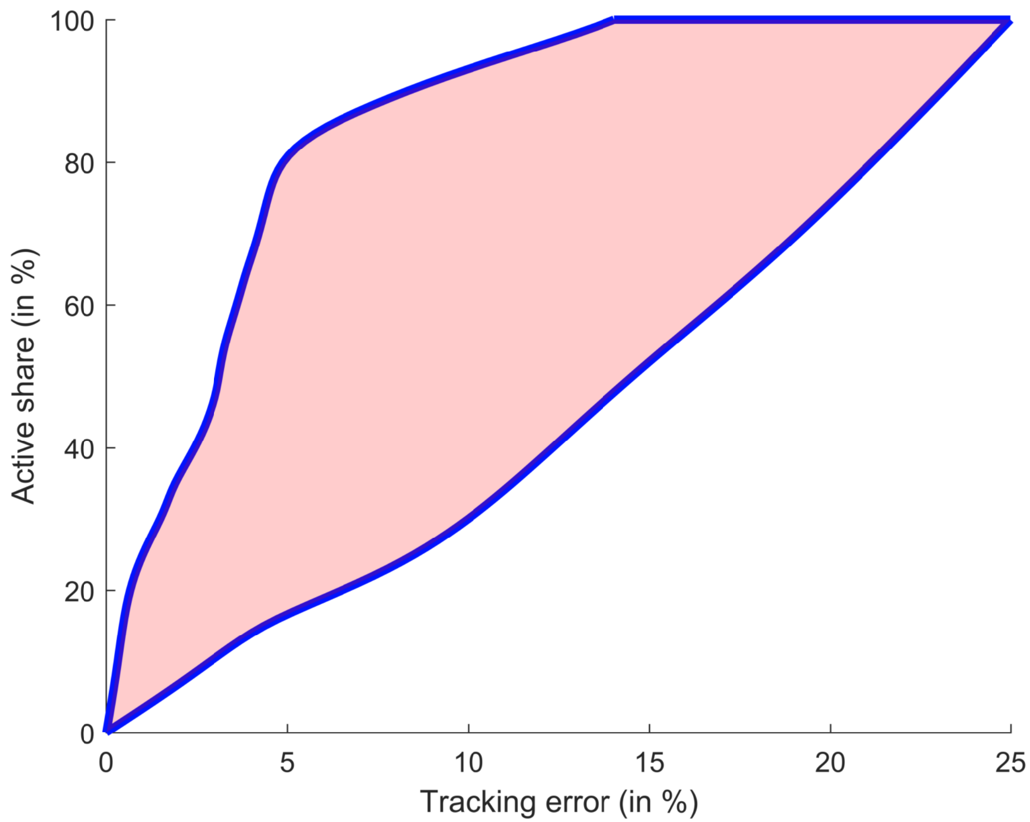


- Active share increases during crisis
- Active share (and tracking error) is time-dependent and regime-dependent
- Risk aversion $\Rightarrow$ Liquidity issues

Source: Cremers (2017), Figure 1, page 67.

TE / AS bounds

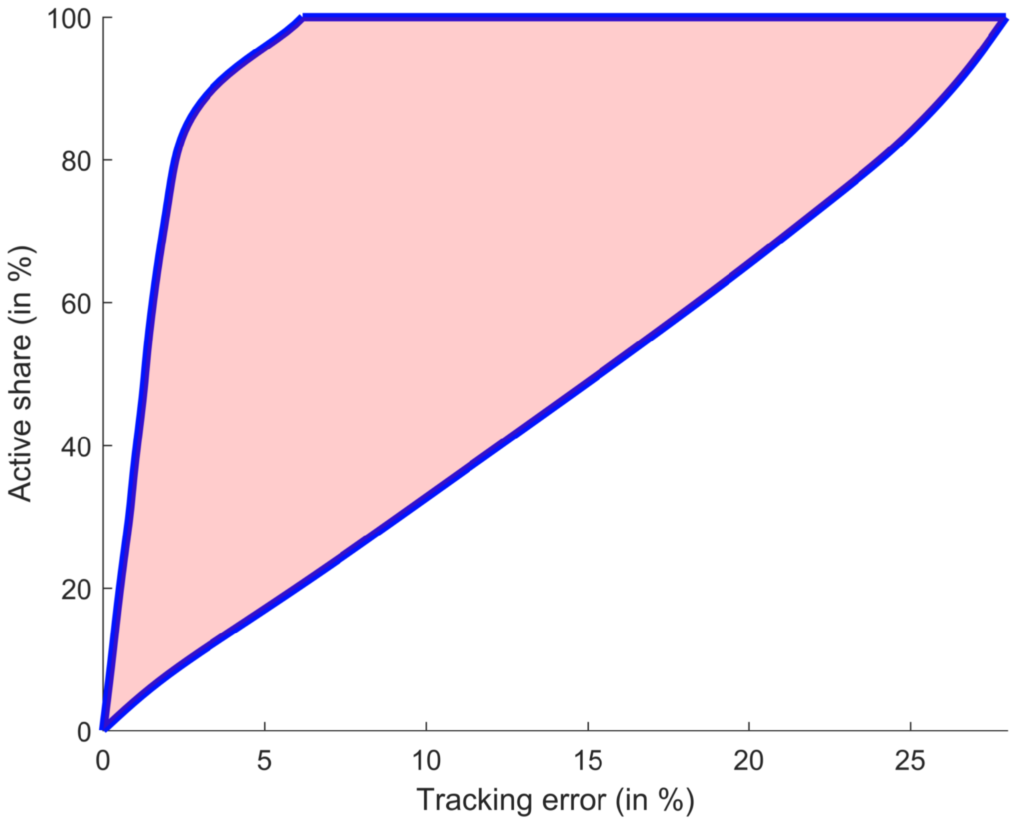
Figure: Lower and upper bounds (Eurostoxx 50, 30/12/2016)



- Average correlation = 55%

TE / AS bounds

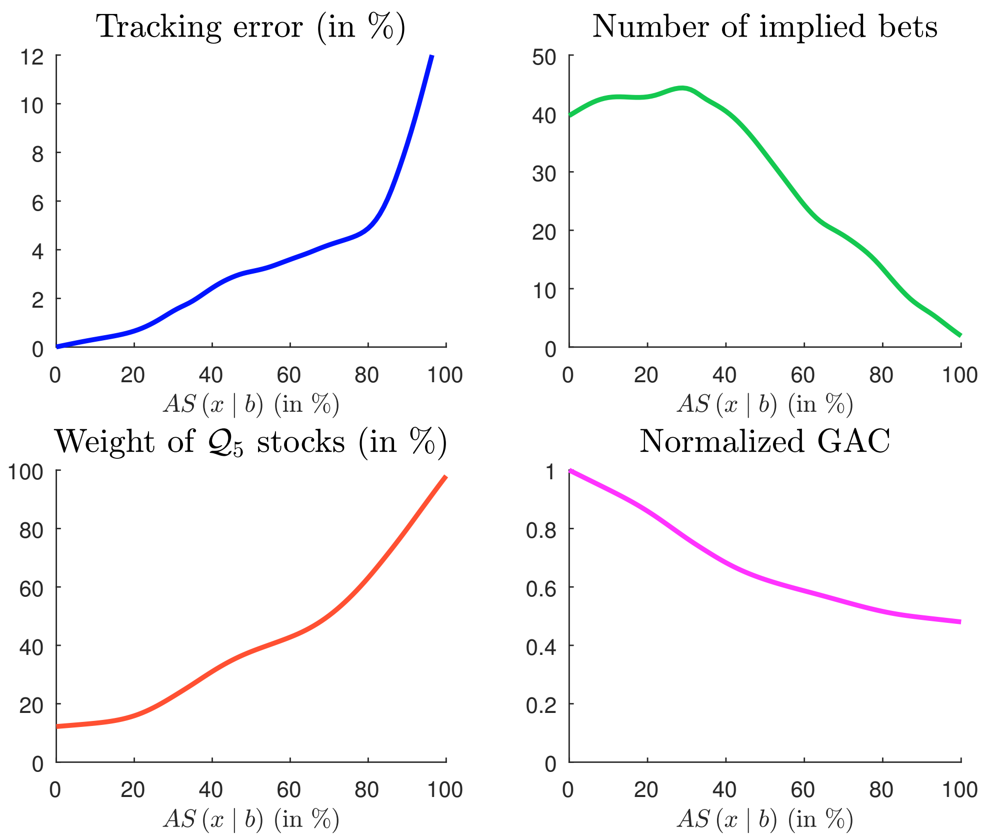
Figure: Lower and upper bounds (the case $\rho_{i,j} = 90\%$)



- The arbitrage AS/TE depends on the correlation regime
- With high correlations, the constraints are less binding
- With low correlations, the constraints are more binding

TE / AS arbitrage

Figure: The minimum TE portfolio (Eurostoxx 50, 30/12/2016)



- Herfindahl index $\mathscr{H}(x) = \sum_{i=1}^{n} x_i^2$
- Number of bets $\mathscr{N}(x) = \mathscr{H}(x)$
- $\mathcal{Q}_5$ = the 10 smallest stocks
- GAC = (normalized) geometric average capitalization
- The small cap bias of high AS portfolios
- **AS = Promoting small cap stocks?**

The closet indexing debate

"Closet indexing is an issue which has attracted the attention of investor protection groups and investors alike throughout the European Union and ESMA has played a key role in an EU-wide inquiry to get to the heart of the matter. [...] In partnership with national regulators we are taking a closer look into this issue." *(S. Maijoor, ESMA Chairman, 02/02/2016).*

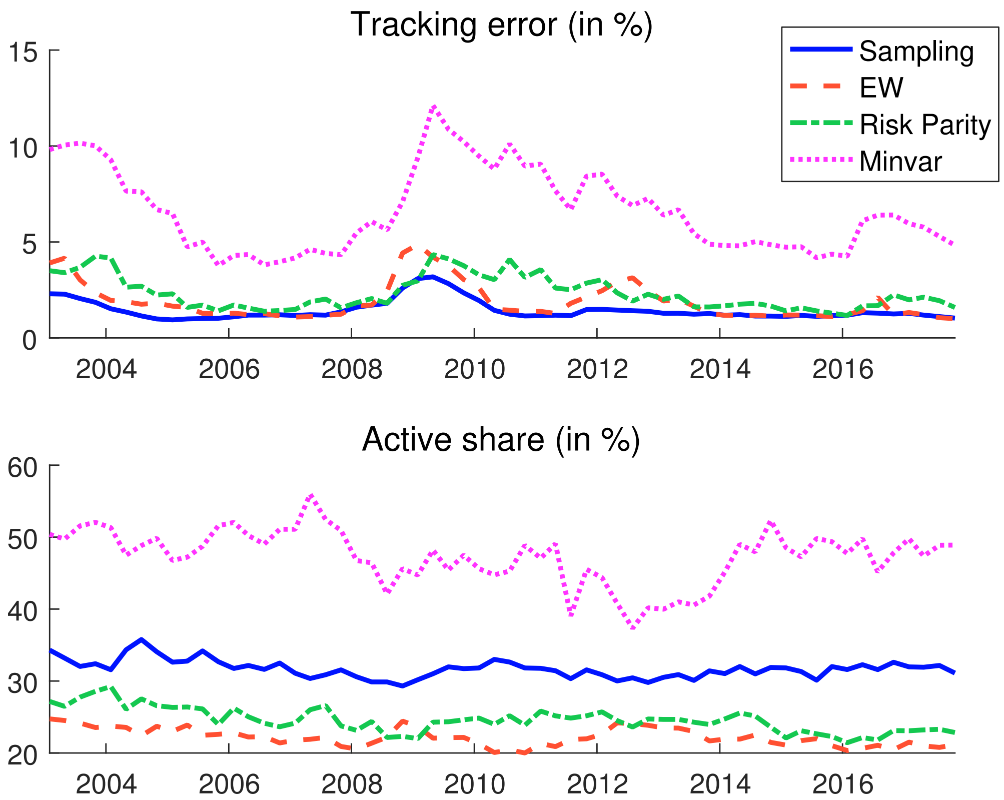
Table: ESMA's results (2600 equity funds, 2012-2014)

Criteria	Potential closet indexing funds	Potential actively managed funds
$AS < 60\% + TE < 4\%$	15%	85%
$AS < 50\% + TE < 3\%$	7%	93%
$AS < 50\% + TE < 3\%$ $+R^2 > 95\%$	5%	95%

Source: ESMA (2016), Statement ESMA/2016/165.

Are smart beta portfolios closet indexing?

Figure: Eurostoxx 50 Index (2003-2018)

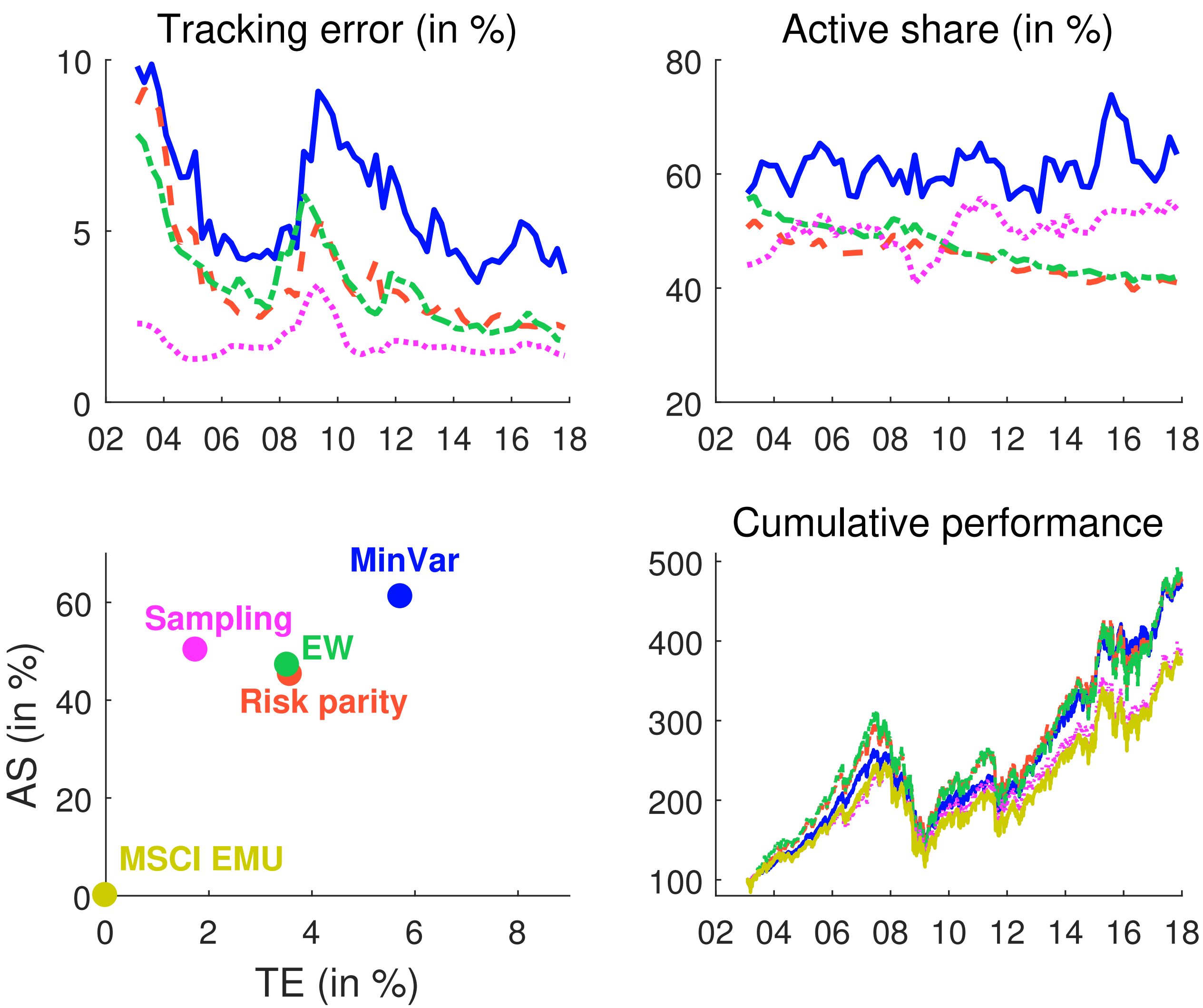


- Universe = Eurostoxx 50
- Sampling = TE minimization with 25 stocks and 5% max weight
- EW & risk parity
- Minvar = minimum variance portfolio with 30 stocks and 5% max weight
- Smart beta portfolios may be closet indexing!

$\Rightarrow$ **Confusion between concentration and active management**

The impact of the universe

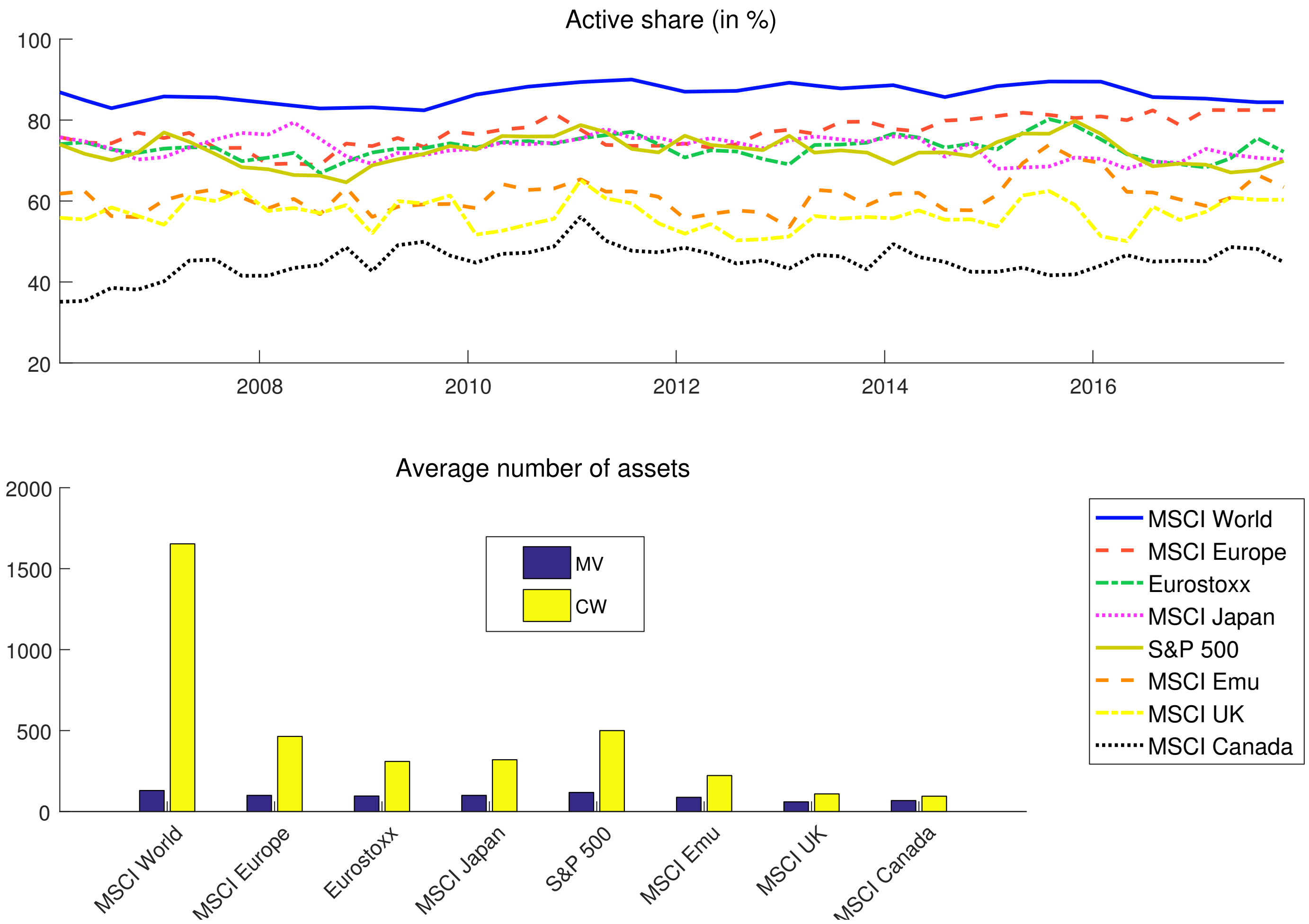
Figure: MSCI Emu Index



Active share is not related to performance

The impact of the number of stocks

Figure: The minimum variance (investable) portfolio

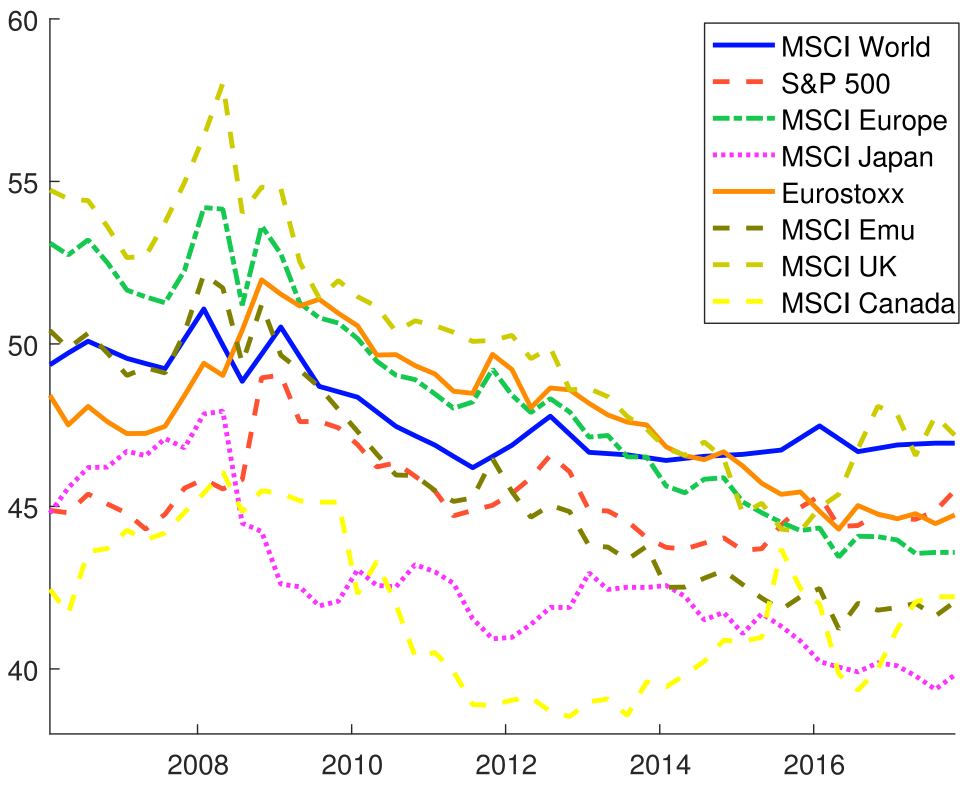


Active share is related to the number of CW components

... and the frequency distribution of CW weights

The impact of the style management

Figure: Active share of EW portfolios

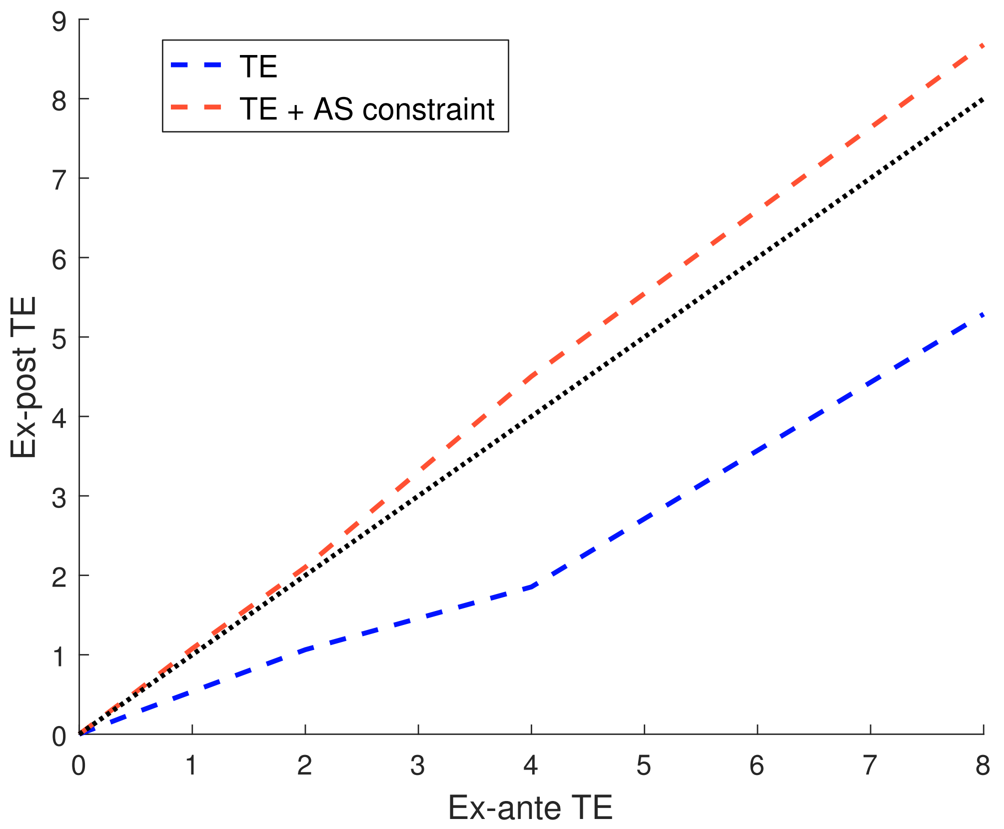


- CW index = trend-following
- EW portfolio = mean-reverting/contrarian
- If the CW weight of Asset i increases (decreases), the EW portfolio will sell (buy) the asset at the end of the month
- EW = Anti-CW strategy

$\Rightarrow$ **According to AS, mean-reverting strategies are closet indexing!**

Active share helps to control the ex-post tracking error

Figure: Sampling portfolios (CAC 40 Index)



Source: Amundi Research (2018)

- CAC 40 Index
- 2007-2017
- Covariance matrix calculated with a one-factor CAPM model
- AS > 50%

- What about bond portfolios? $\Rightarrow$ AS does not work since weights do not reflect the benchmark structure
- We must include duration or DTS in the AS definition

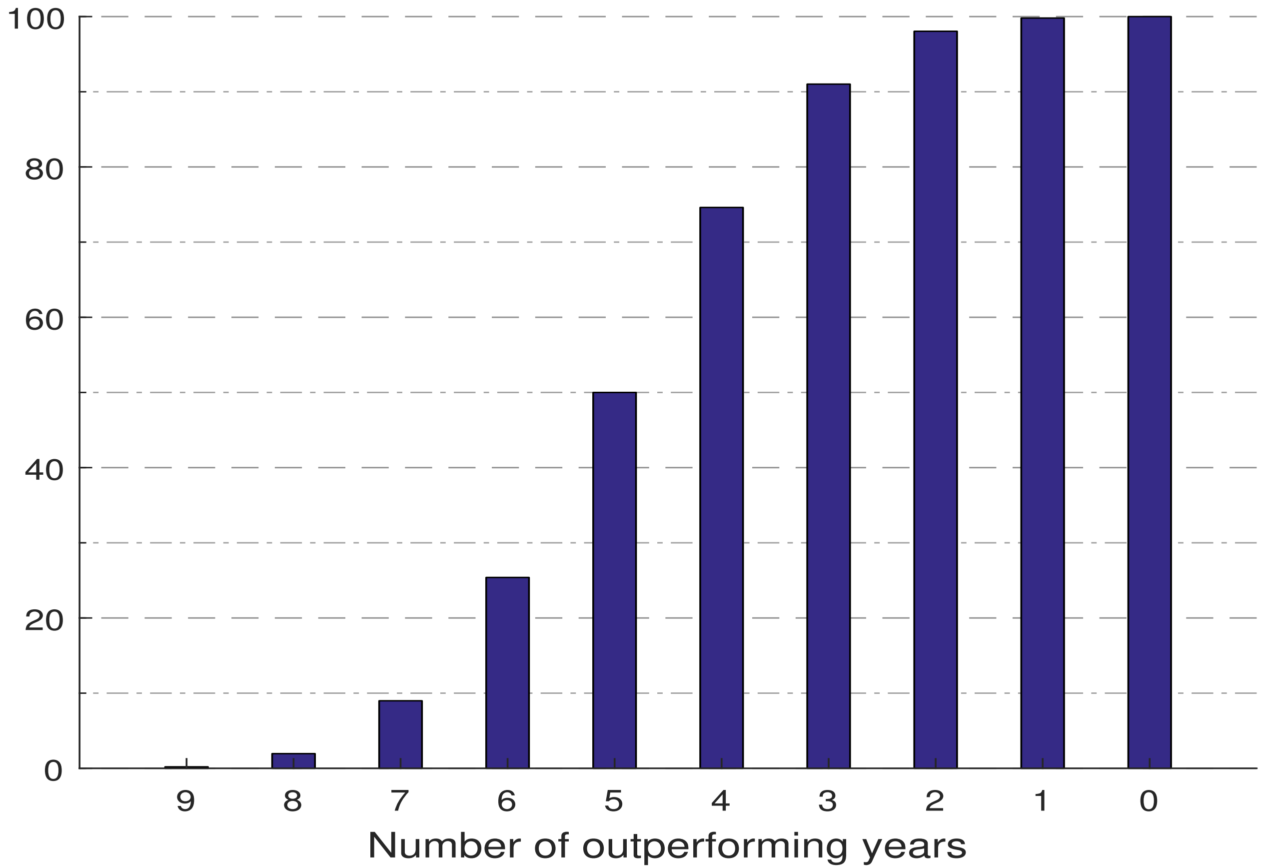
Key takeaways

Summary III

- Active share is not a predictor of future performance
- The mathematics of active share are not so obvious, since active share depends on the benchmark and the investment universe
- The debate on closet indexing is an issue of management fees
- The question "Who is Closet Indexing?" is certainly ill-posed, because it is a tricky problem
- The question "Who is active?" is easier

It is difficult to beat the market in the long-run

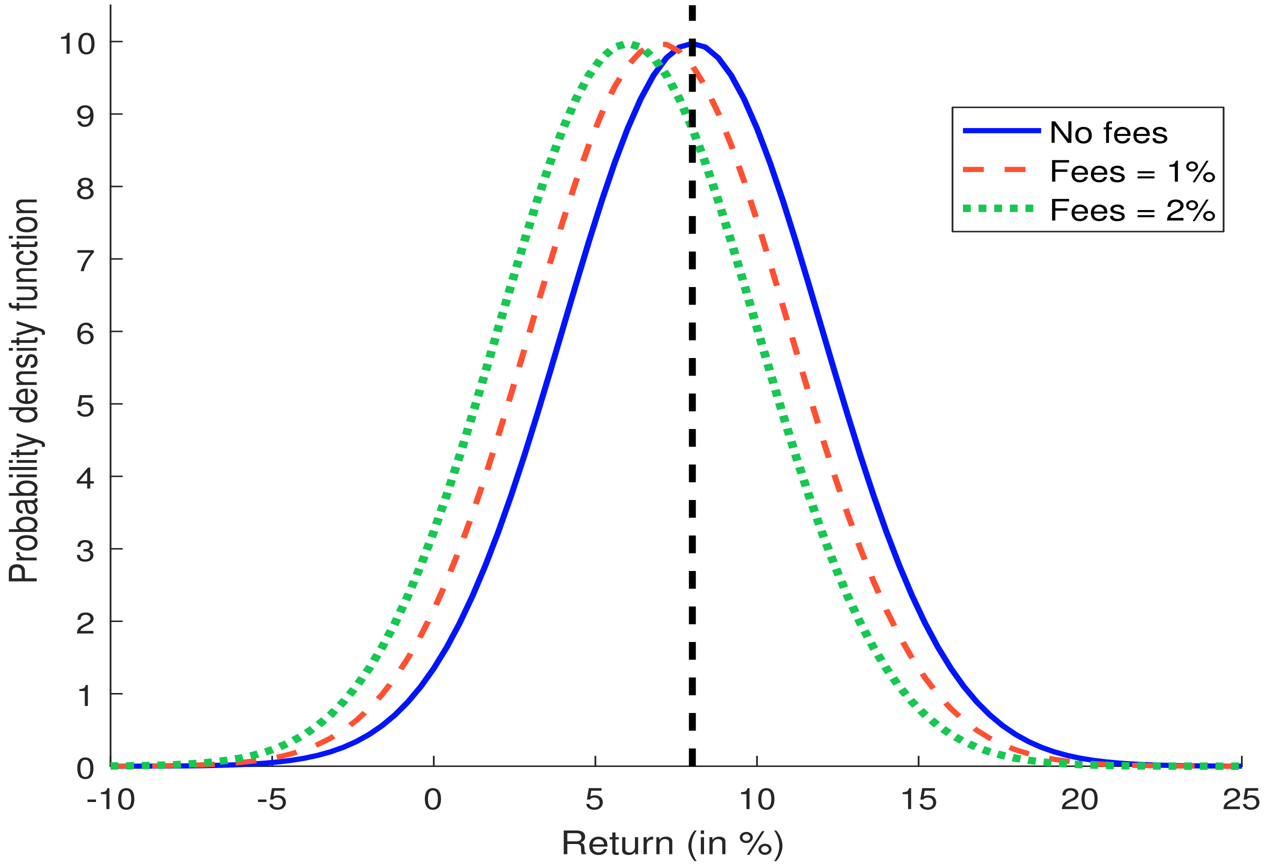
Figure: Cumulative distribution of the number of years where active managers outperform the market (fees = 0)



- p is the annual probability to outperform the market
- We consider a 9-year study period
- Market = the sum of active managers
- Assumption = no skills
- $p = 50\%$ is the theoretical value

It is difficult to beat the market in the long-run

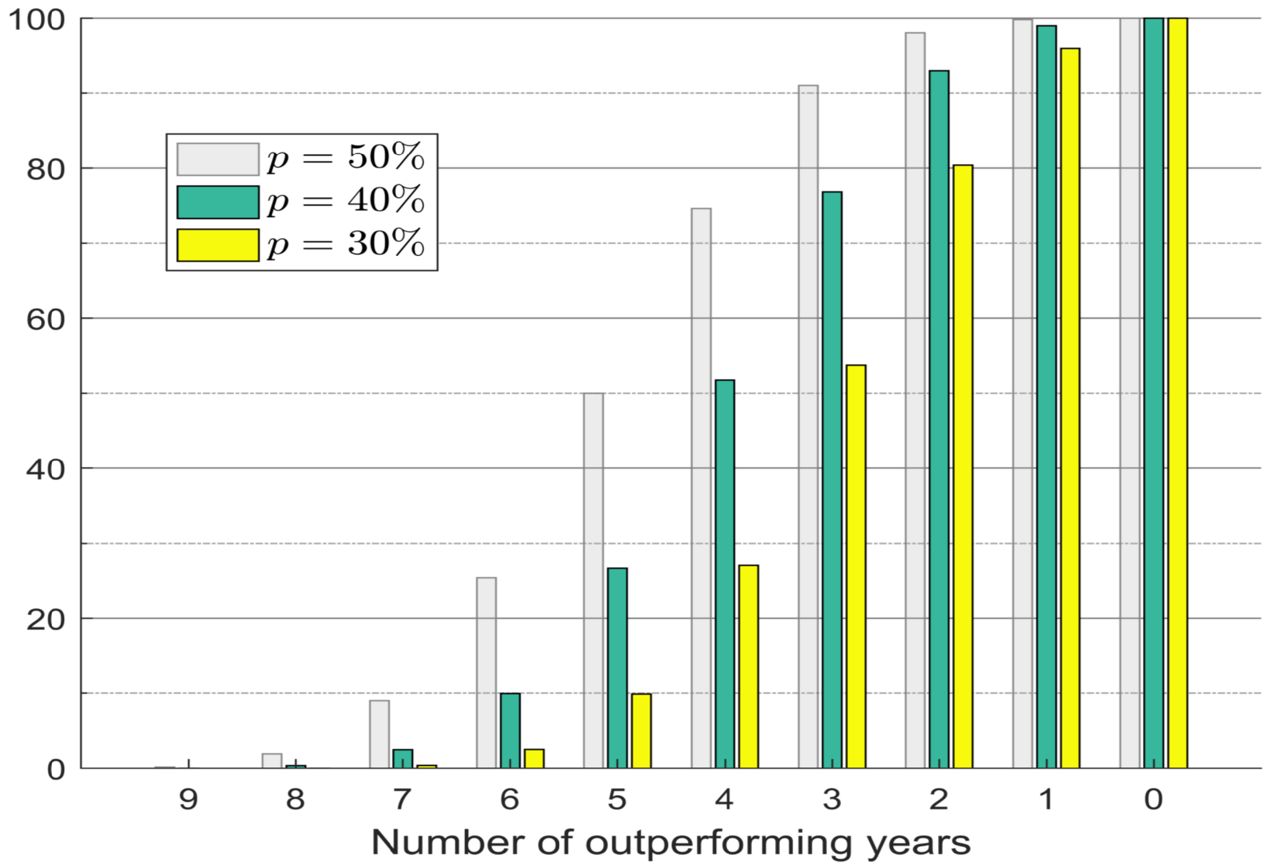
Figure: Impact of management fees on the probability p



- We assume that the (equity) risk premium is 8% and the dispersion of active manager returns is 4%
- $p = 50\%$ if Fees $= 0\%$
- $p = 40.1\%$ if Fees $= 1\%$
- $p = 30.9\%$ if Fees $= 2\%$

It is difficult to beat the market in the long-run

Figure: Cumulative distribution of the number of years where active managers outperform the market

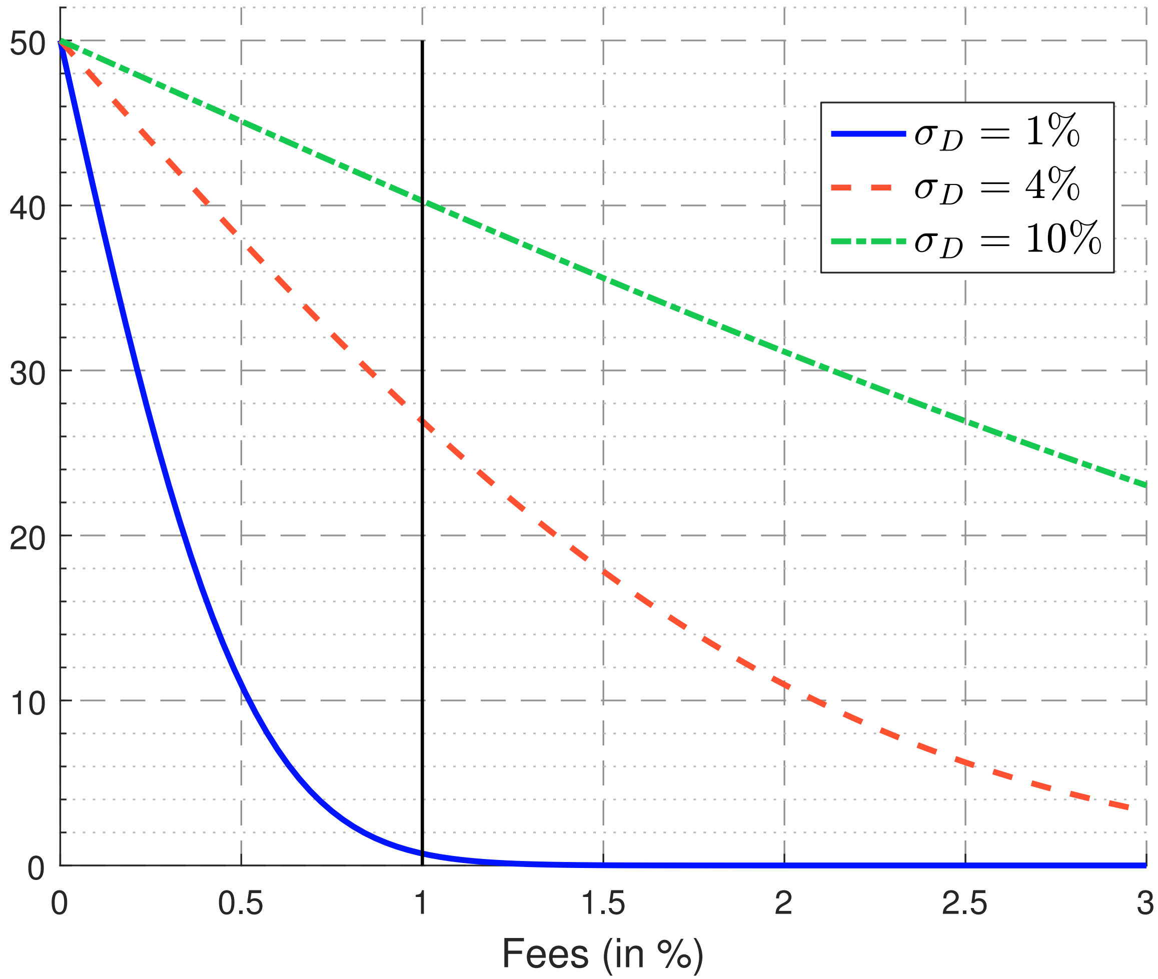


- The impact of fees is important
- The probability distribution is shifted to the left if we introduce manager skills
- Why is it shifted to the right in practice[a]?

[a] Because of attrition rate...

It is difficult to beat the market in the long-run

Figure: Probability to outperform during 5 years (in %)



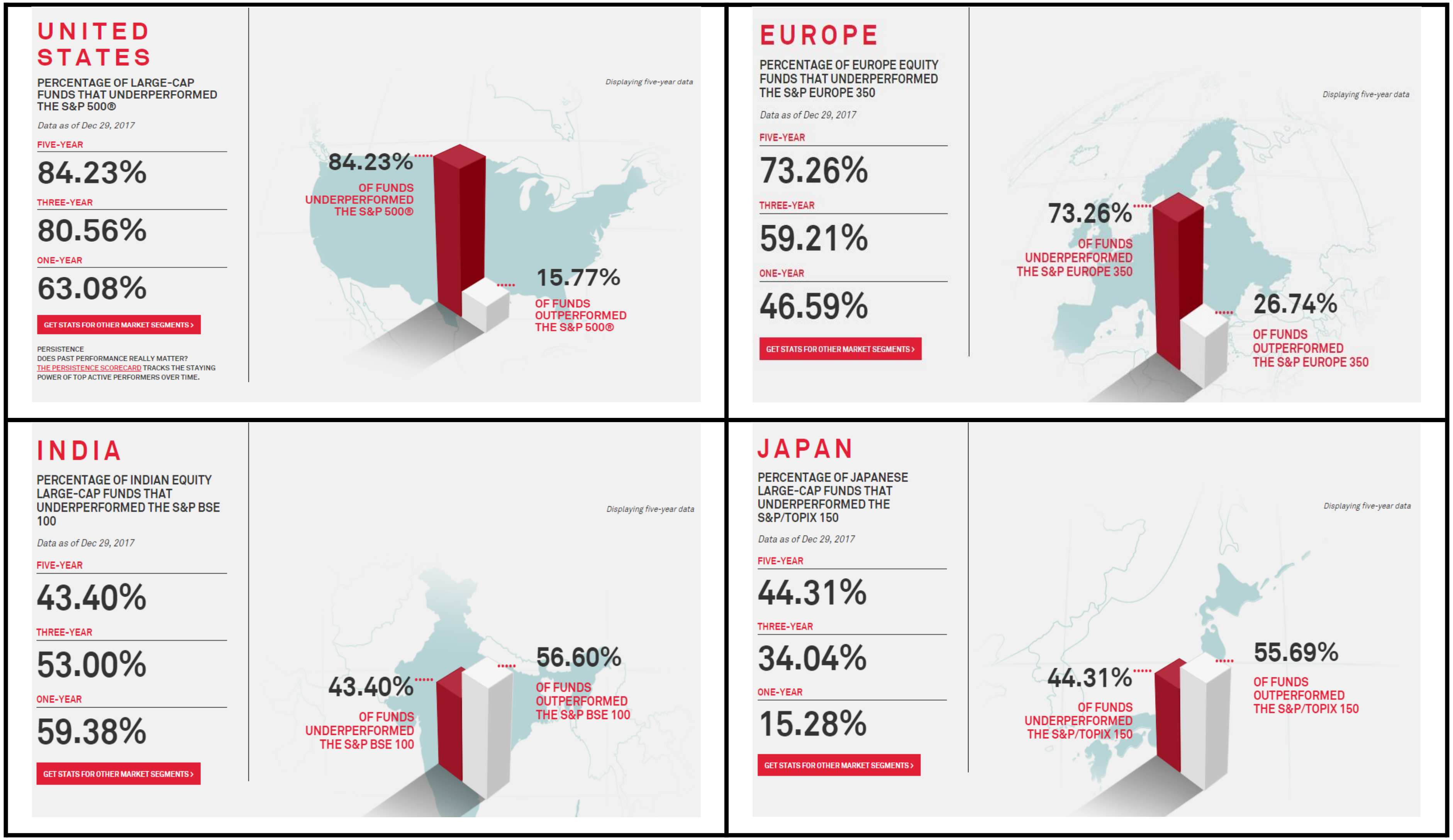
- We note f the management fees and σ_D the performance dispersion
- We have:

$$p = \Phi\left(-\frac{f}{\sigma_D}\right)$$

- p is a decreasing function of f and an increasing function of σ_D
- The right quantity of interest is $\dfrac{f}{\sigma_D}$

Ranking vs benchmarking

SPIVA (S&P Indices Versus Active, `us.spindices.com/spiva`)



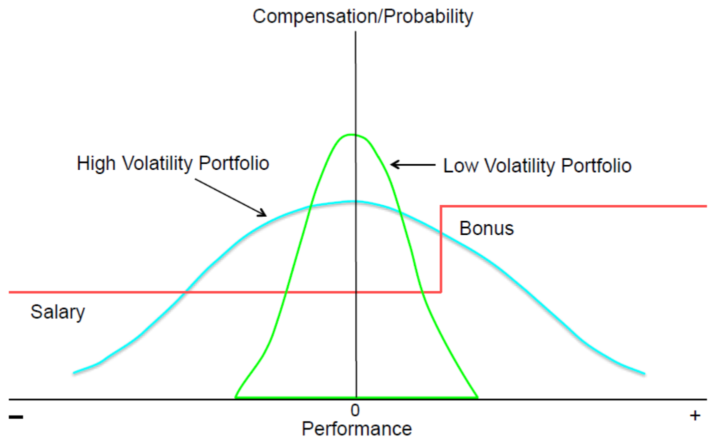
The issue of performance is biased

- Previous analysis = all other things being equal
- The battle between active management and passive management is endogenous, because the market portfolio is the aggregation of active management
- The issue of survivorship
  - For academics, survivorship bias is viewed as a positive effect for the active management industry:
    - It implies that performance is underestimated
  - For active managers, survivorship bias is viewed as a negative effect for the active management industry:
    - Only the best active managers survive
    - Talented managers capture new assets

$\Rightarrow$ Active managers don't only compete with other active managers, but they also compete with themselves
$\Rightarrow$ Endogenous selection increases the probability to underperform in the future

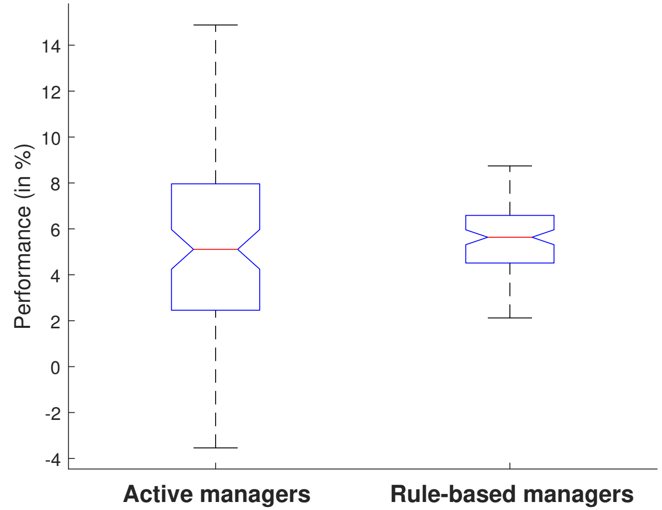
Why will active managers still have a role to play?

Figure: Option-like manager compensation



Source: Baker and Haugen (2012)

Figure: Performance dispersion



For illustrative purposes only

What do we need for a market to function properly?

- Backward-looking or forward-looking?
- Low return dispersion or high return dispersion?
- Crowding behavior or contrarian behavior?
- Stop-loss or start-again?

Key takeaways

Summary IV

- Performance evaluation: ranking or benchmarking?
- What is the right benchmark of active management?
- More and more benchmarks (cap-weighted, minimum variance, risk factors)
- Benchmarking $\Rightarrow$ crowning glory of tracking error and relative performance[a] (e.g. the mid-2000s break in equity mutual funds, the investment puzzle of institutions, etc.)

[a] Nobel Prize Richard Thaler: What does the theory become if utility maximization includes the performance of other economic agents?

Conclusion

- Passive/systematic/active management
- The question of systemic risk
- What is the room for active managers?
  - Systematic managers = rule-based active managers?
  - Discretionary active managers = only alpha/specific risk strategies?
- The active management debate is more an issue of costs and fees, and less a problem of performance (endogenous problem)
- How to assess the active nature of fund managers?
- The central place of contrarian investors in financial markets
  - Systematic managers: short-term contrarian, long-term trend following?
  - Active managers: short-term trend-following, long-term contrarian?
  - Bull market regime vs bear market regime

Backward-looking vs forward-looking investors

Only forward-looking investors may be contrarian (e.g. March 2009)

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