Climate Investing

Section 1.1 – Beyond Active & Passive Investing

Lionel Martellini
EDHEC Business School

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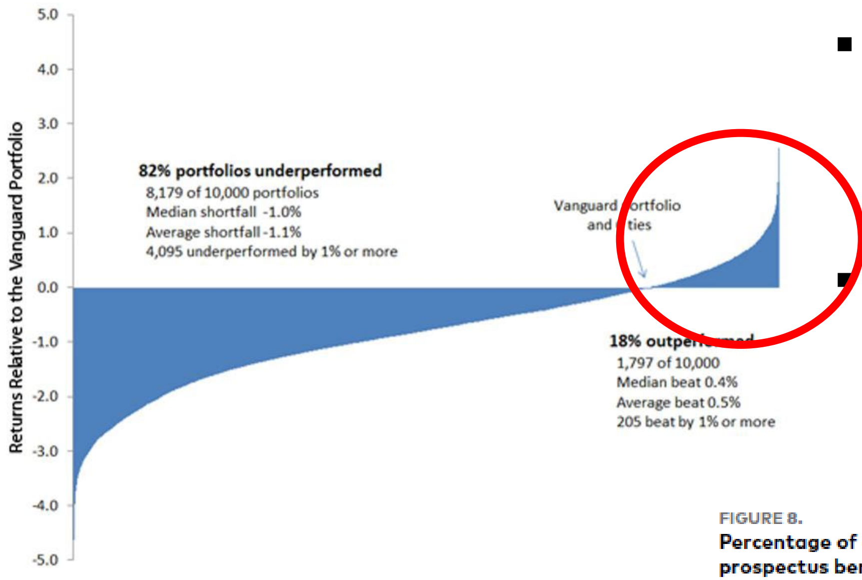
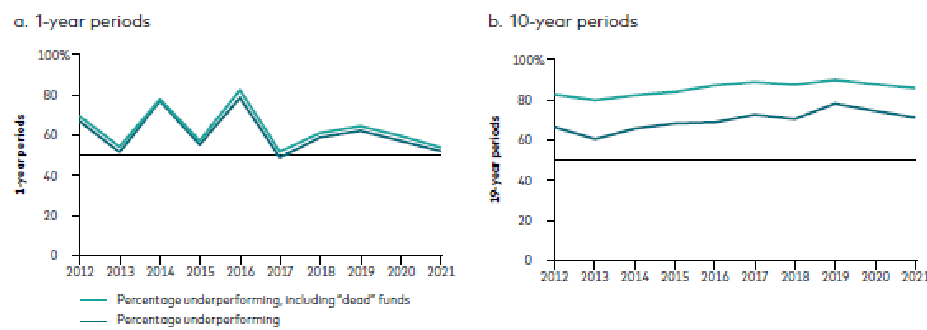
Beating the Market is Hard!

- For the longest time money management has been all about "beating the market".
- Reality check:
  - Few managers do outperform, especially after accounting for fees and survivorship bias.



- What should we do?
- Multi-management and open architecture: invest in best managers.

FIGURE 8.
Percentage of active U.S. equity funds underperforming over rolling periods versus prospectus benchmarks



Past performance is not a guarantee of future results.
Notes: Performance is calculated relative to the prospectus benchmark. "Dead" funds are those that were merged or liquidated during the period. Performance is NAV-based, and returns are in USD, net of fees with income reinvested.
Sources: Vanguard calculations, using data from Morningstar, Inc.

The case for low-cost index fund investing - Vanguard Research - 2022

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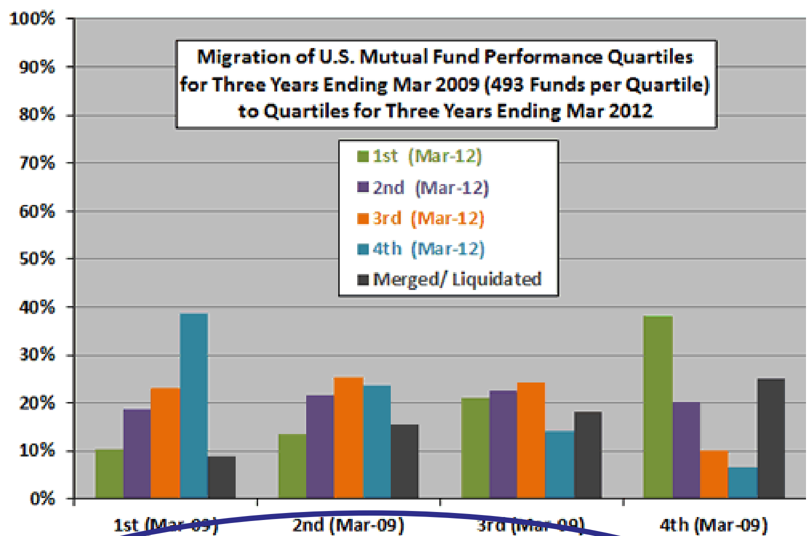
Consistently Beating the Market is Even Harder!



Out of the top-25% funds from '06-'09, only 10% of them were again top-25% from '09-'12.

Out of the top-25% funds from '06-'09, nearly 40% of them ended up in the worst-25% from '09-'12.

Out of the worst-25% funds from '06-'09, 38% of them rebounded to being the the top-25% from '09-'12.

Out of the worst-25% funds from '06-'09, nearly 25% of them were merged/liquidated from '09-'12.

- Key question is not only the existence of outperformance:
  - It is also its persistence.
- Reality check:
  - Outperformance does not seem to persist.

S&P persistence scoreboard, available for example at the following link:
www.cxoadvisory.com/21090/investing-expertise/mutual-fund-performance-persistence

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Consistently Beating the Market is Even Harder!

- Key question is not only the existence of outperformance:
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FIGURE 5.

Actively managed domestic funds failed to show persistent outperformance

Initial excess return quintile, five years ended December 2016	Number of funds	Subsequent nonoverlapping five-year period (percentage of funds) ending December 2021					
		Highest quintile	2nd quintile	3rd quintile	4th quintile	Lowest quintile	Merged/ liquidated
Highest quintile	956	18.31%	18.20%	17.89%	17.15%	15.90%	12.55%
2nd quintile	956	12.45%	18.51%	21.34%	16.00%	15.06%	16.63%
3rd quintile	956	15.90%	15.90%	14.75%	18.83%	13.60%	21.03%
4th quintile	956	15.48%	15.17%	14.02%	15.17%	13.60%	26.57%
Lowest quintile	957	14.63%	8.88%	8.78%	9.51%	18.60%	39.60%

Past performance is not a guarantee of future results.

Notes: The far-left column ranks all active U.S. equity funds as they fall into Morningstar's nine style categories for U.S. equity based on their excess returns relative to their stated benchmark during the five-year period as of the date listed. The remaining columns show how funds in each quintile performed over the next five years. Performance is NAV-based, and returns are calculated in USD, net of fees with income reinvested.

Sources: Vanguard and Morningstar, Inc.

The case for low-cost index fund investing - Vanguard Research - 2022

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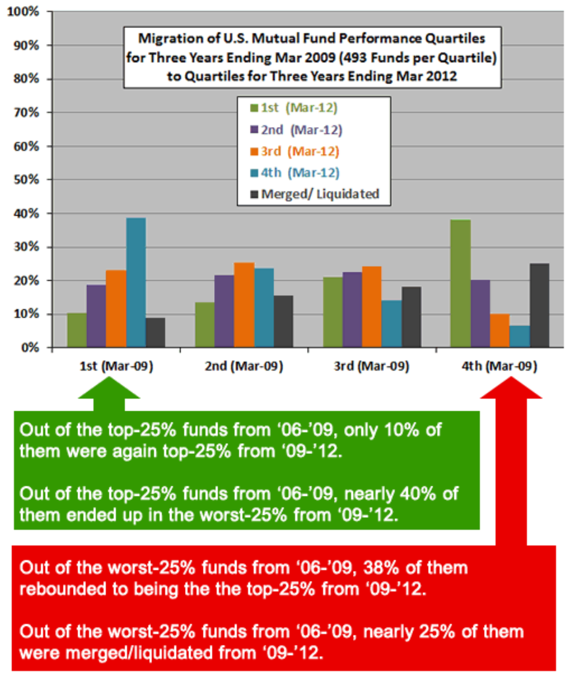
Consistently Beating the Market is Even Harder!



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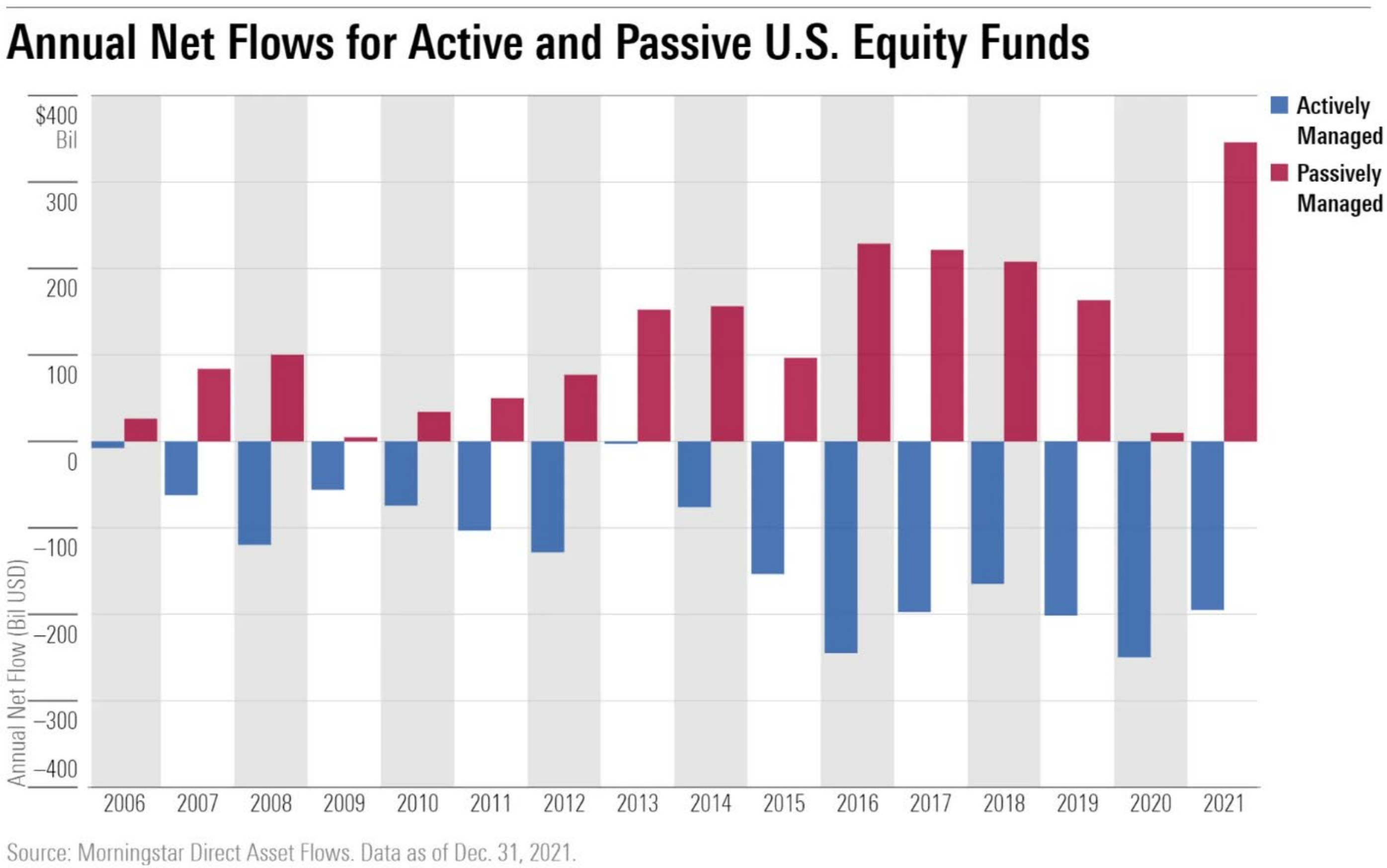
Sources: Vanguard and Morningstar, Inc.

- Key question is not only the existence of outperformance:
  - It is also its persistence.
- Reality check:
  - Outperformance does not seem to persist.
- Implication:
  - Multi-management is not the way out – what should we do?
  - One should perhaps consider going passive?

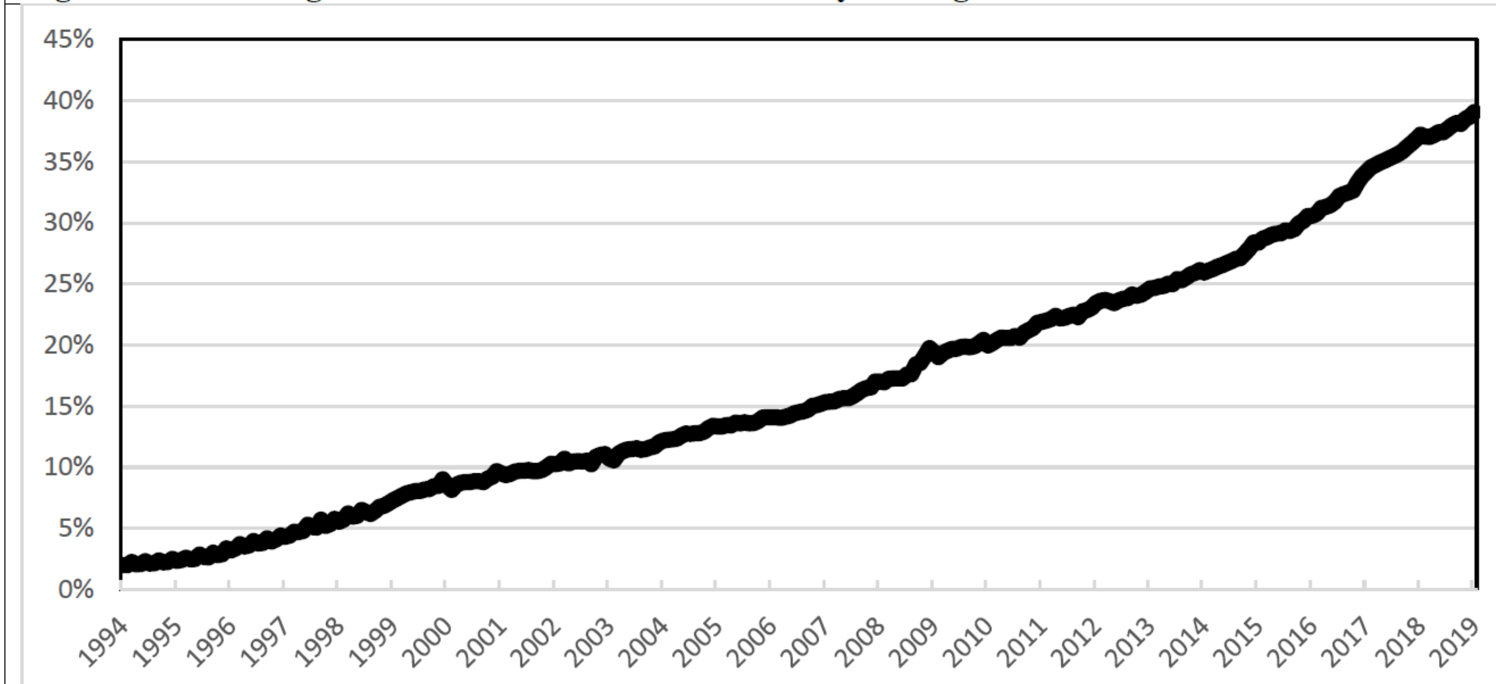
Increasing Interest in Passive Money Management – Flows



(Institutional) investors have taken notice of the underperformance of active managers.

Increasing Interest in Passive Money Management – Stocks

Figure 1: Percentage of Fund Assets that Are Passively Managed

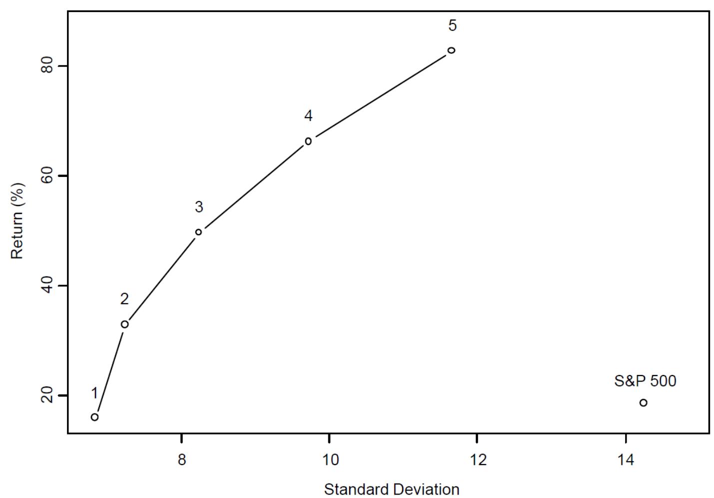


Source: Morningstar

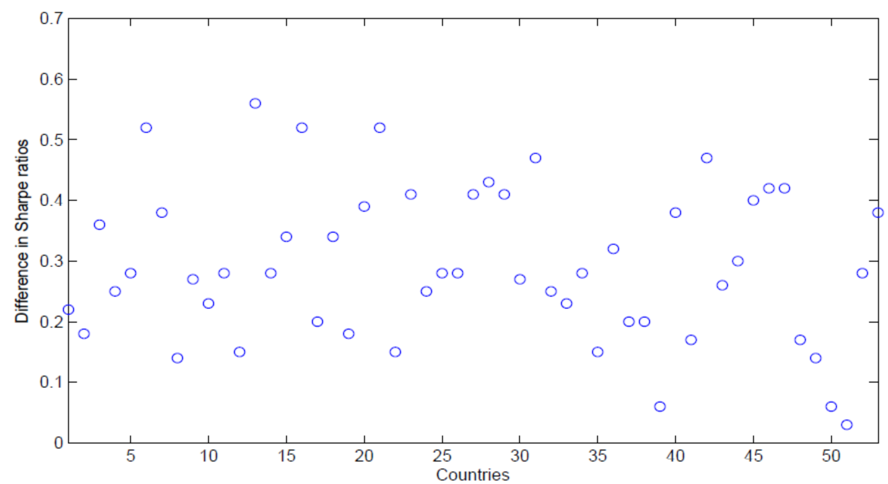
Morningstar predicts that the total assets in passive investments will overtake active AUM at some point in 2019-2020.

Limits of Passive Money Management

- Assumption for passive MM:
  - Cap-weighted equity indices are efficient benchmarks.
- Reality check:
  1. CW indices are not on the EF.
  2. CW indices are dominated by naive EW benchmarks.



Based on data for the period 1979-1998. The efficient frontier assumes a perfect forecast of the future covariance matrix and of the future mean return. Figure taken from Schwartz (2000), Figure 3, page 19.



Extracted from Platen and Rendek (2010). Differences in Sharpe ratios between 53 EW country indices and their CW counterpart. Sample period is January 1973 until March 2010.

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Limits of Cap-Weighted (CW) Equity Benchmarks

- While cap-weighted indices are most often used as default choices for investment benchmarks by active and passive managers, these benchmarks suffer from two main, distinct, limitations, which translate into inferior risk-adjusted performance.

- Shortcoming # 1: CW indices provide an inefficient diversification of *unrewarded specific* risks, due to a strong concentration in largest cap stocks.

- Shortcoming # 2 (see next time): CW indices provide an inefficient exposure to *rewarded systematic* risks; for example they exhibit large cap and growth biases, while value and small cap biases are instead rewarded.

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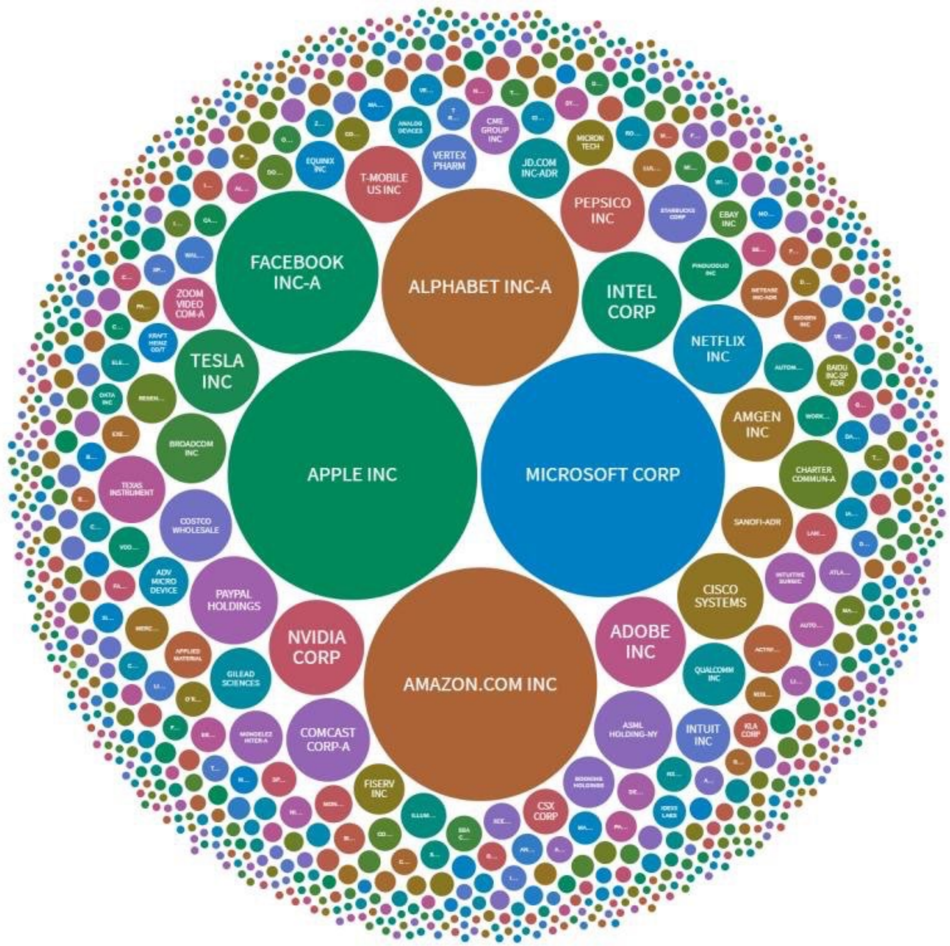
Concentration of CW Indices – NASDAQ (July 30, 2020)



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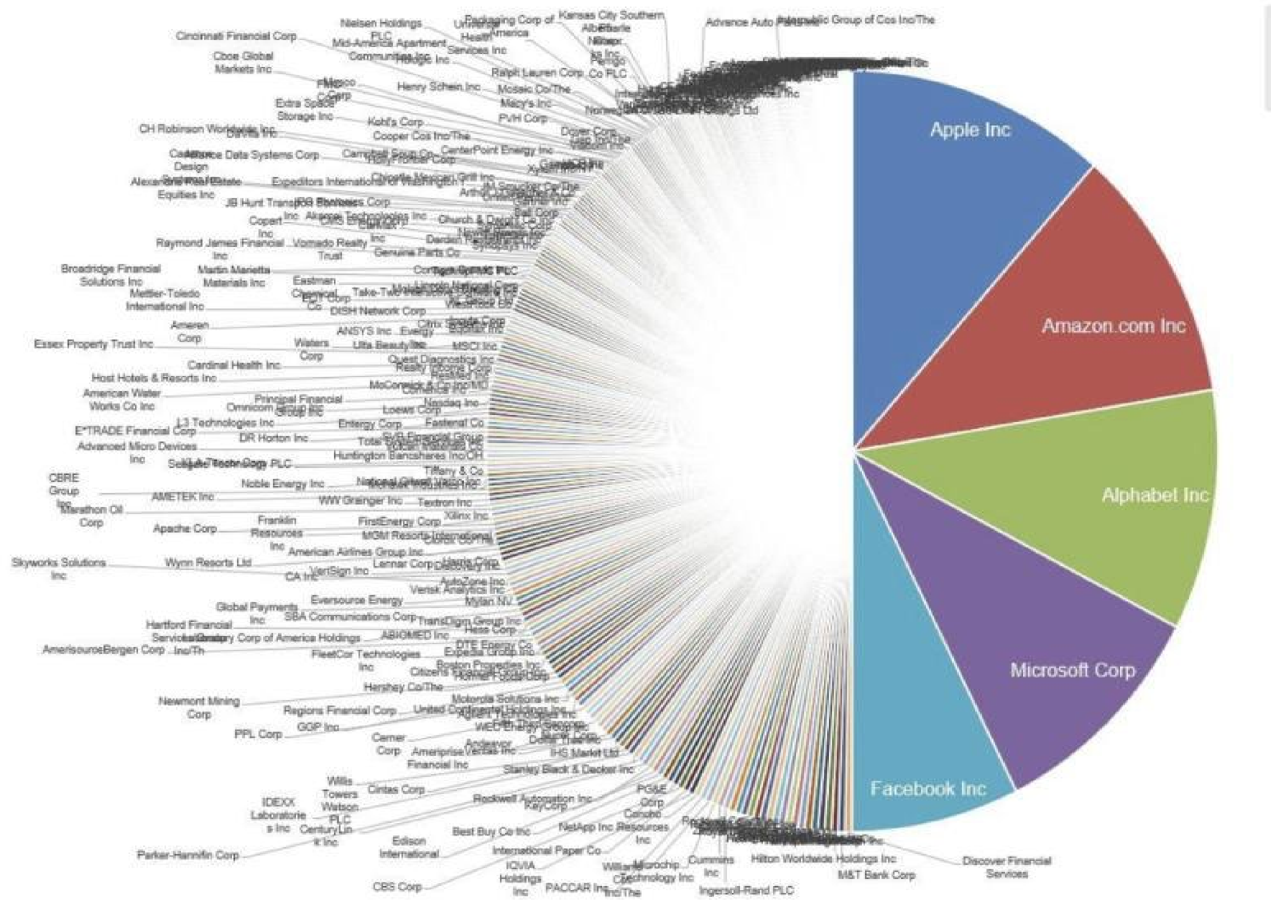
Concentration of CW Indices – Another Perspective



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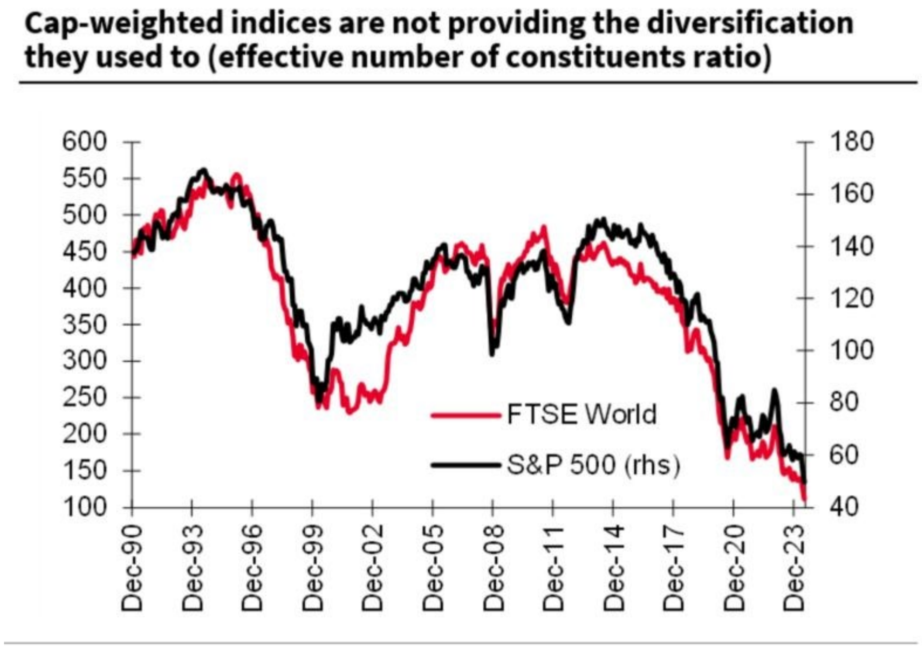
Concentration of CW Indices – Lack of Diversification

- "Effective number of constituents" of S&P 500 is currently about 10 times smaller than nominal number of constituents (excessive concentration due to cap-weighting scheme) !

$$ENC = \left(\sum_{i=1}^{N} w_i^2 \right)^{-1}$$

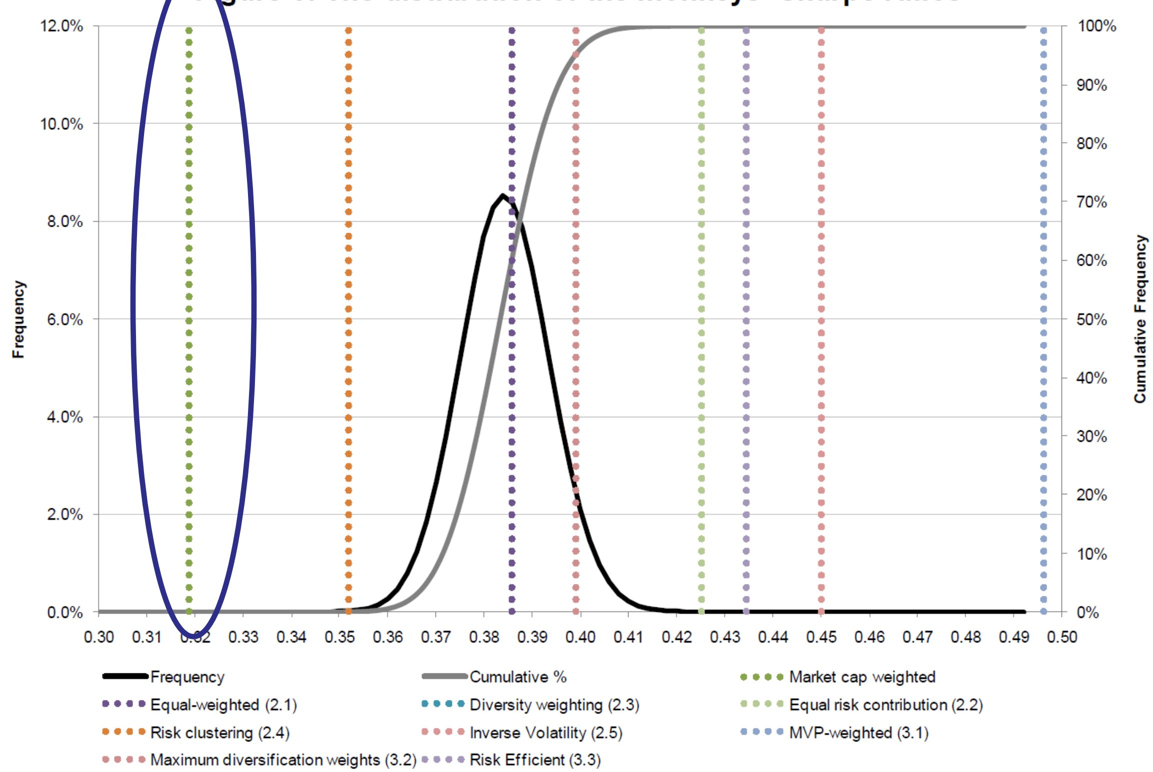


(*) FTSE world index contains 4,291 stocks as of June 2024

Monkeys are Smarter than CW – Can You Outsmart a Monkey?

- Take 1,000 monkeys randomly selecting weights – CW is substantial worse than all the 1,000 monkeys!

Figure 6: The distribution of the monkeys' Sharpe ratios



An evaluation of alternative equity indices - Part 1: Heuristic and optimised weighting schemes, Andrew Clare, Nick Motson & Steve Thomas, working paper, Cass Business School (2013).

Why is CW so bad?

Because CW leads to poor diversification.

Clare, Motson & Thomas: "One of the reasons why the randomly weighted indices rarely produce a set of weights similar to the Market-cap index is that there is only a very small prospect of any stock having a weight as high as, for example, 10.0%."