

The Shift from Active to Passive Investing:

Potential Risks to Financial Stability?

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Paying for Efficient and Effective Markets

FCA/LSE/SEBI Conference

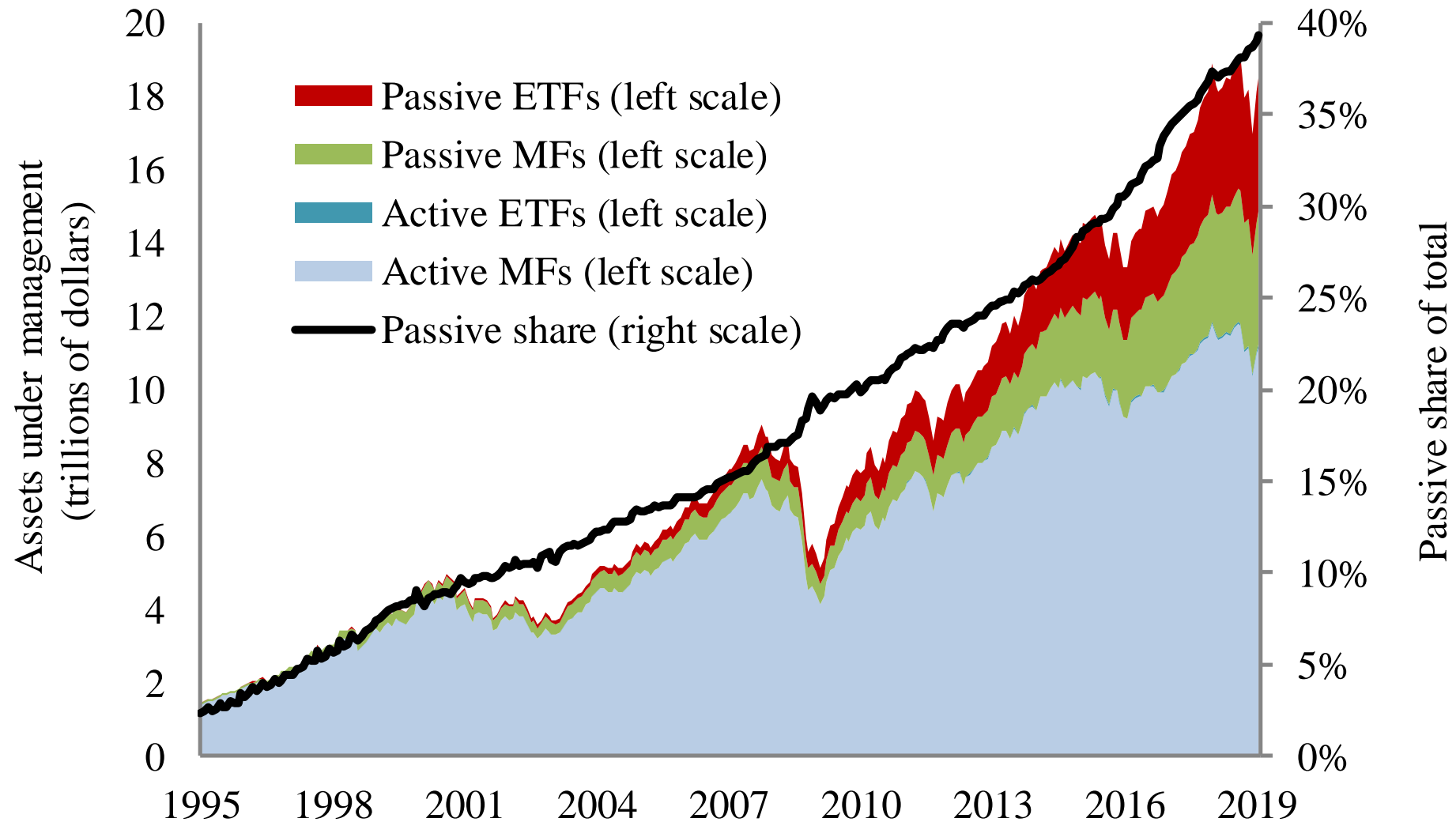
March 23, 2019

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Introduction

- Substantial shift in the asset management industry from active to passive investment strategies.
 - We focus on U.S. registered products, but there is evidence the shift is global and prevalent in other investment vehicles.
- **Active** strategies give portfolio managers discretion to select individual securities.
 - Objective is often outperforming a benchmark.
- **Passive** strategies use rules-based investing to track an index.
 - Typically by holding all of its constituent assets or a representative sample.
- The active-passive distinction is not always clear cut.
- This paper explores the potential implications of the active-to-passive shift for **financial stability**.

Assets in active and passive MFs and ETFs



The active to passive shift

- Several factors appear to have contributed:
 - Underperformance of active funds
 - Lower costs of passive funds
 - Growth of ETFs, which are largely passive
 - Greater regulatory focus on fees
- Sparked wide-ranging commentary:
 - Claims about effects on industry concentration, asset prices, volatility, price discovery, market liquidity, and corporate governance.
- Shift may have a variety of effects that are relevant for policy
 - For example, effects on financial stability, competition, corporate governance
 - Our focus today: financial stability implications.

Preview of results

Risk type	Description	Impact of active-to-passive shift on FS risks
Liquidity and redemption risk	Funds redeem daily in cash regardless of portfolio liquidity; investors respond procyclically to performance	Reduces
Market volatility	Geared (passive) ETFs require high-frequency “momentum” trades, even in the absence of flows	Increases
Industry concentration	Passive asset managers are more concentrated than active ones	Increases
Index-inclusion effects	Assets added to indexes experience changes in returns and liquidity, including greater comovement	Unclear

Roadmap

1. Liquidity transformation and redemption risk
2. Strategies that amplify market volatility
3. Asset-management industry concentration
4. Indexing effects on asset valuations, volatility, liquidity, and comovement

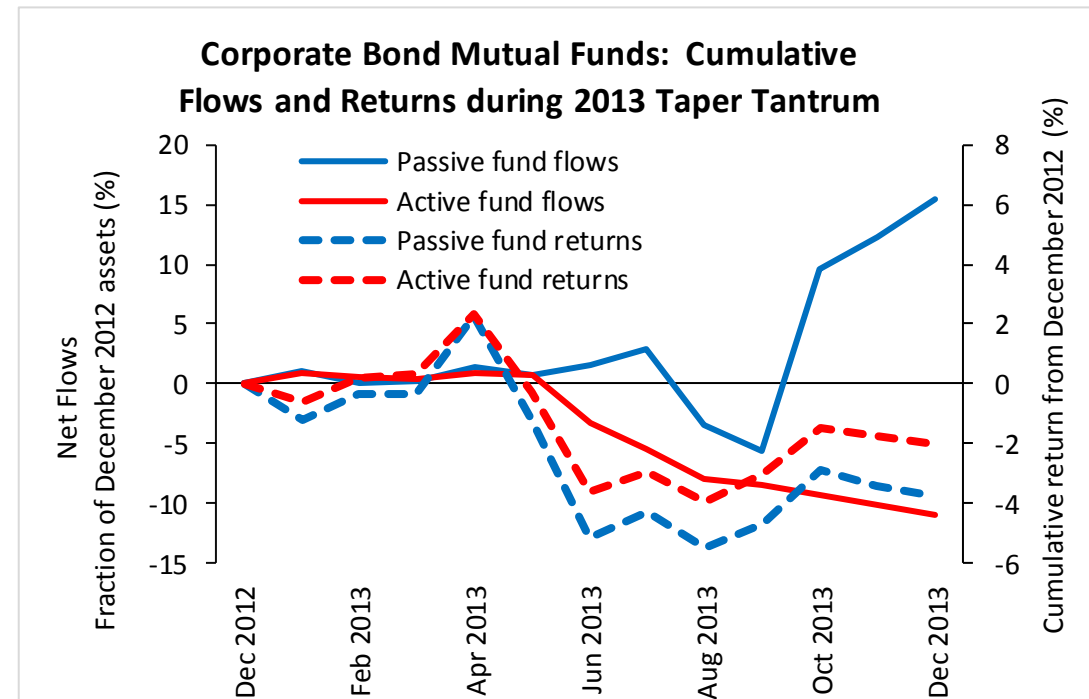
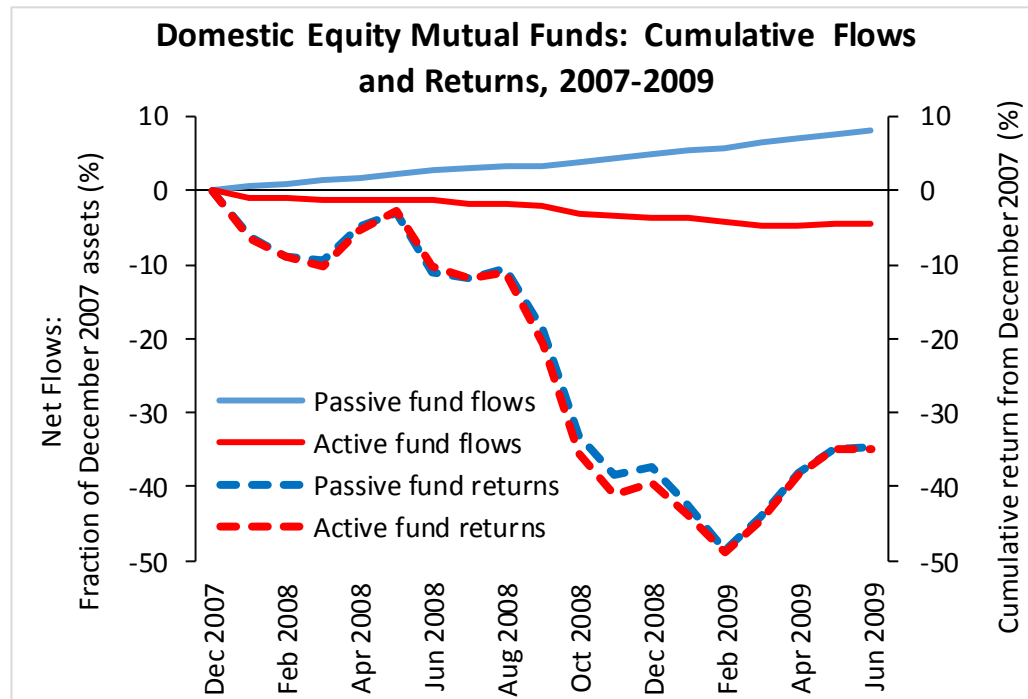
1. Liquidity transformation and redemption risks

--ETF growth reduces liquidity transformation

- Unlike mutual funds, which offer cash to redeeming investors, ETF redemptions typically involve in-kind exchanges.
 - ETF's shares traded for "baskets" of securities.
- ETFs that redeem in kind perform minimal liquidity transformation.
- A shift of assets from mutual funds to ETFs reduces the likelihood that large-scale redemptions would have destabilizing effects.

1. Liquidity transformation and redemption risks

--Passive funds may have smaller performance-related redemptions



1. Liquidity transformation and redemption risks

--Passive mutual fund flows appear to be less reactive to performance

- Are passive fund flows more/less procyclical than active funds?
- We regress MF net flows on:
 - Current and lagged returns
 - Lagged flows (not shown)
- And, in *pooled* regressions:
 - Passive dummy
 - Interaction: passive x returns
- Results
 - Passive stock funds less reactive
 - Passive bond funds *appear* less reactive (but flows are noisy)

Flow-performance regressions (selected results)

	U.S. domestic equity funds May 2000 - February 2019			U.S. corporate bond funds May 2010 - February 2019		
	(1)	(2)	(3)	(4)	(5)	(6)
	Active only	Passive only	Pooled	Active only	Passive only	Pooled
1. Constant	-0.05** (-2.52)	0.18** (4.65)	-0.06** (-2.82)	-0.09 (-1.07)	1.22** (2.09)	-0.09 (-0.29)
2. Passive	.	.	0.19** (5.01)	.	.	1.29** (2.53)
3. Returns _t	0.026** (6.35)	-0.003 (-0.55)	0.025** (5.29)	0.288** (5.04)	0.221 (0.87)	0.281 (1.29)
4. Returns _{t-1}	0.010** (2.38)	0.010* (1.83)	0.011** (2.36)	0.221** (3.54)	-0.084 (-0.33)	0.278 (1.29)
5. Passive × Returns _t	.	.	-0.028** (-4.18)	.	.	-0.062 (-0.22)
6. Passive × Returns _{t-1}	.	.	-0.002 (-0.34)	.	.	-0.365 (-1.30)
Adjusted R ²	0.50	0.17	0.53	0.55	0.15	0.33
Observations	226	226	452	106	106	212

Notes. Dependent variable is aggregate net flows (percent of lagged assets) to mutual funds. *t*-statistics in parentheses. **/* denotes significance at the 5/10 percent level. Data are monthly. Flows for individual funds winsorized at 5 / 95 percent levels before aggregation. Regressions also include three lags of net flows and two additional lags of returns and passive × returns. Source: Morningstar, Inc., authors' calculations.

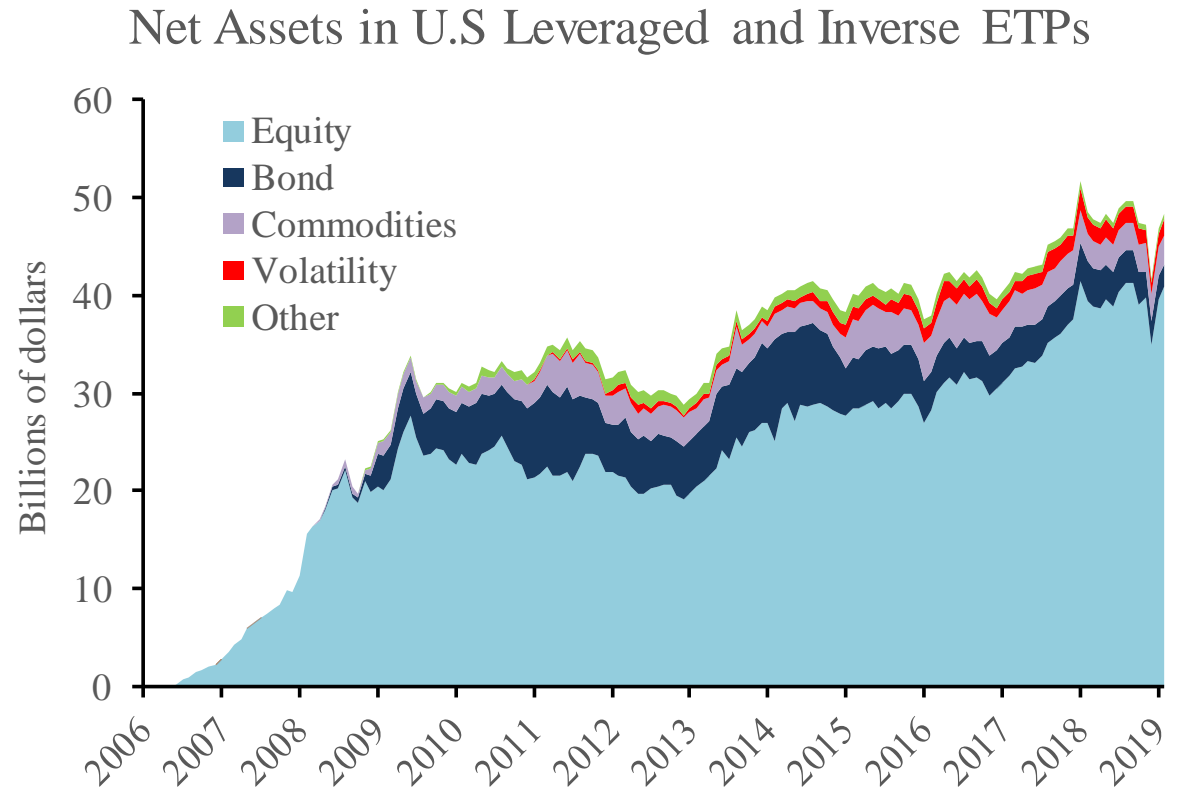
1. Liquidity transformation and redemption risks

--Passive mutual funds probably less likely to hold highly illiquid assets

- Anecdotal evidence suggests that serious problems with liquidity risk management are more likely in active funds.
 - Investment strategies like that of the Third Avenue Focused Credit Fund are less feasible for passive funds.
- Lack of data on liquidity of funds' portfolios is an impediment to drawing firmer conclusions.

2. Strategies that amplify market volatility

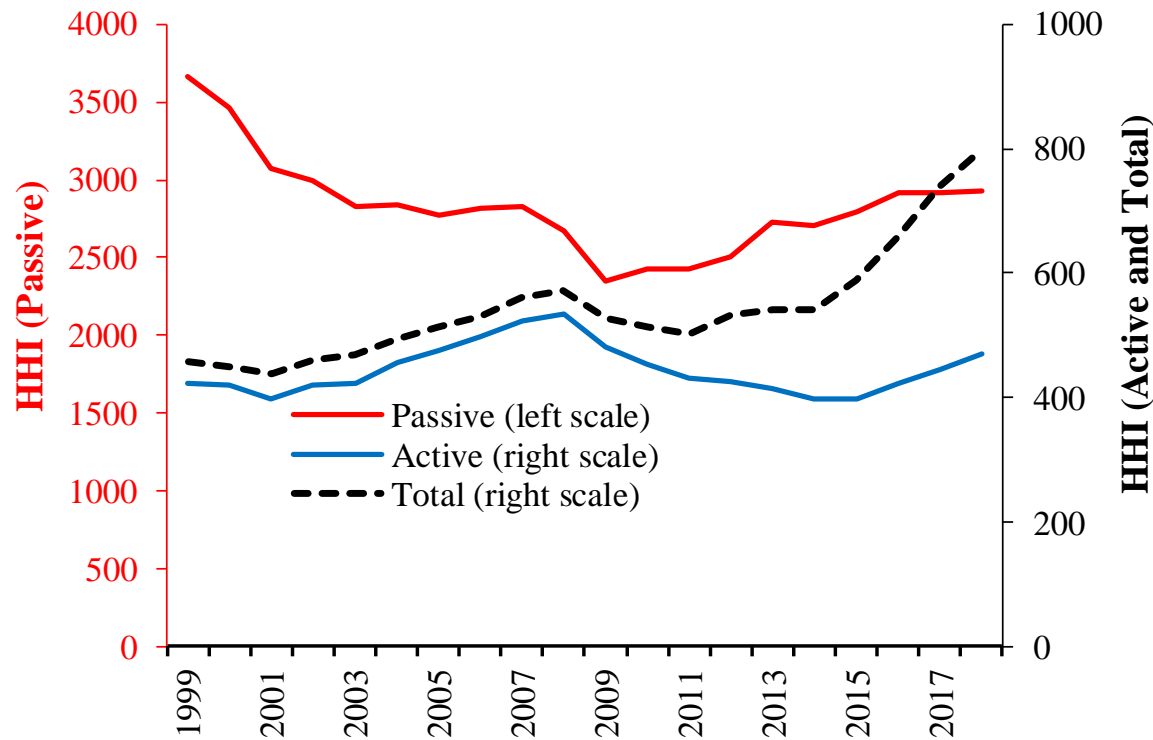
- Some passive strategies require fund *managers* to rebalance portfolios by trading in same direction as recent market moves.
 - Leveraged *and* inverse exchange-traded products (LETPs) *both* must buy on days when asset prices rise and sell when prices fall (Tuzun, 2014).
- Rebalancing flows are distinct from investor flows (and from liquidity and redemption risks).
 - Rebalancing flows relative to fund size can be large compared to typical investor flows.
- Rebalancing flows appear to have exacerbated market volatility
 - Stocks during the financial crisis (Tuzun, 2014).
 - Volatility products on February 5, 2018.
- LETPs relatively small now, but growth could increase risks.



3. Asset management industry concentration

-- Shift to passive *contributes* to increased concentration

Concentration of Passive and Active MFs and ETFs



Source: CRSP, authors' calculations.

- Passive managers are more concentrated.
- The shift to passive has increased concentration in the asset management industry.
- Idiosyncratic problems for very large asset management firms may have broader effects.

3. Asset management industry concentration

-- Concentration may amplify idiosyncratic problems at very large asset managers

Top 5 Passive MFs and ETF Managers as of December 2018

	Overall market share (percent)		Passive fund AUM, December 2018 (\$bill.)
	December 1999	December 2018	
Vanguard	10	24	3,323
BlackRock	1	8	1,407
State Street	0	3	585
Fidelity	14	9	449
Charles Schwab	0	1	184

Notes: Managers are listed in order of *passive* AUM ranking (1-5) in 2018. "Overall market share" indicates asset manager's market share for all (actively *and* passively managed) mutual funds and ETFs. "Passive fund AUM" includes both index mutual funds and ETFs.

* Source: CRSP, authors' calculations.

4. Indexing effects

Type of index-inclusion effect	Description	Financial stability concerns	Evidence that active-to-passive shift has exacerbated?
Valuation	Price of asset increases when it is added to index	Index bubbles; artificial incentives to increase leverage	No
Volatility	Volatility of asset price increases when asset is added to index	Volatility arising from ETF trading may be a systematic source of risk	Mixed
Liquidity	Liquidity of asset affected when it is added to index	Reduced liquidity may make markets more vulnerable to shocks	Mixed; some evidence of both reduced and increased liquidity
Comovement	Asset returns and liquidity move more closely with those of other index members when asset is added to index	Wider propagation of shocks; assets more likely to become illiquid simultaneously	Mixed

4. Indexing effects

- **Valuation.** Prices of assets tend to rise when they are included in indexes.
 - However, valuation inclusion effects have diminished as indexed investing has grown.
- **Volatility.** Prices of assets added to index become more volatile.
 - Unclear if volatility arising from ETF trading induces a systematic source of risk.
- **Liquidity.** Assets added to the index experience a liquidity effect.
 - Mixed evidence: liquidity reduces for investment-grade corporate bonds, but increases for speculative-grade bonds.
- **Comovement.** The comovement of assets' return and liquidity with the index tends to rise when they are included in the index.
 - But return comovement inclusion effects have diminished as indexed investing has grown.
- Research on inclusion effects has focused on U.S. stocks; we have less information about other types of assets (other equity, fixed income).
 - Not yet possible to draw broad conclusions.

Conclusions

- Shift to passive management may have several modest effects on FS
- It may have increased some risks
 - Market volatility amplification
 - Asset management industry concentration
- It may have reduced some risks
 - Liquidity and redemption risks
- In some other dimensions the impact is less clear
 - Index inclusion effects: valuation, volatility, liquidity, and comovement