

Rotman

THE PROMISE AND PERILS OF PASSIVE INVESTING

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November 20, 2018



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Capital Markets and 'Passive' Investing

- ETFs and passive funds hold 14% of the S&P500 in aggregate up from 4% in 2007
 - 15.3 trillion in trades arose from ETF activity which is 27% of all trading on US Exchanges
- Aggregate and coordinated trading of the same securities have an impact on
 1. Prices
 2. Liquidity
 3. Price correlations
 4. Volatility
 5. Market stability
- Anomalies created by indexing may mean there is a role for active investment to counter

Effect on equities in the index

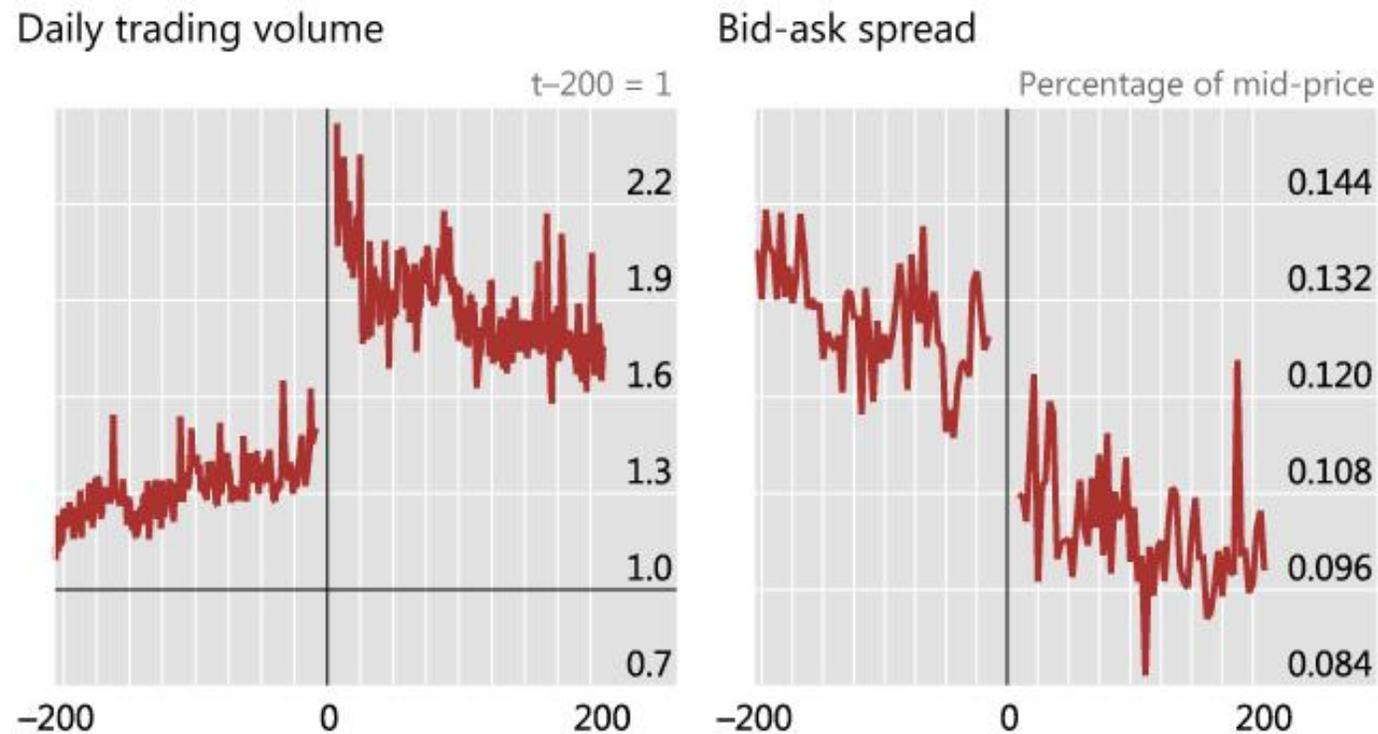
	Evaluation Period (1989-2000)	Abnormal Returns
Additions	Announcement Day	5.446%
	Announcement to Effective Day	8.9%
	Announcement +60 Days	6.189%
Deletions	Announcement Day	-8.46%
	Announcement to Effective Day	-14.43%
	+60 days	0.394%

From Chen, Noronha, and Singal (2004)

- Because of price impact, there is a drag on index fund returns (Petajisto, 2011)
 - Buy after inclusion and sell after the deletion
 - “Trading against the wind” drag performance 50 bp

Effect on equities in the index

Daily trading volume and liquidity for shares recently added to an index increase

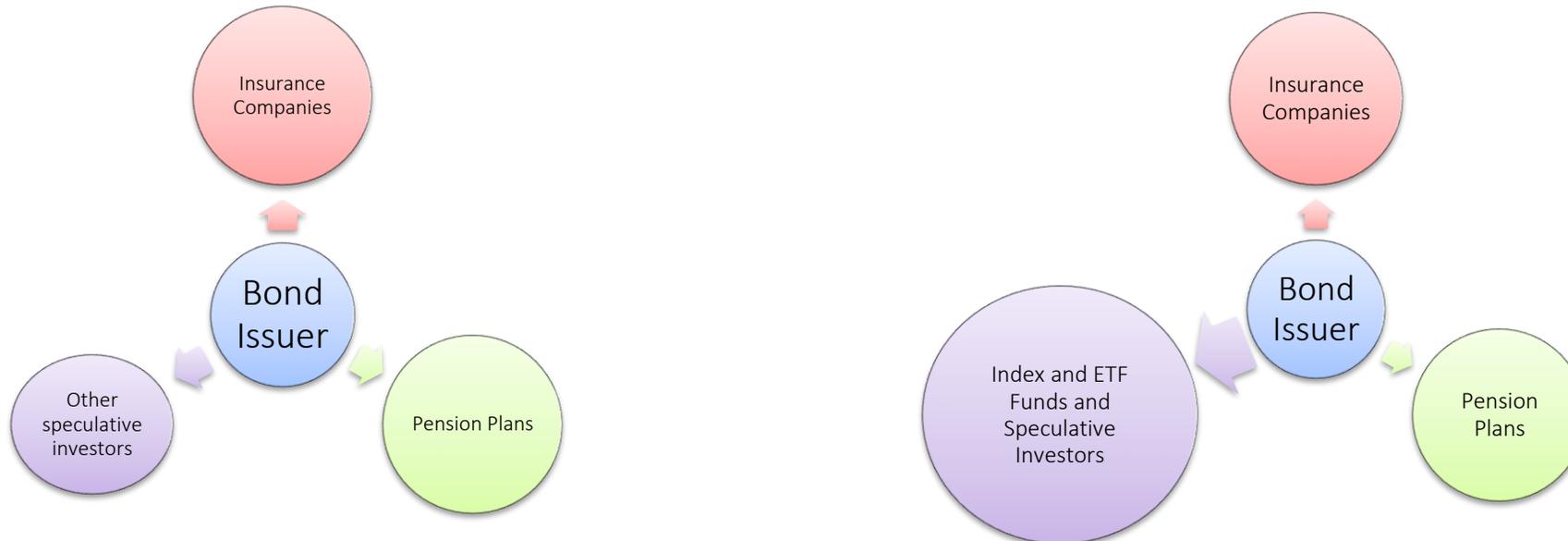


Question of whether this is increasing or decreasing price efficiencies?

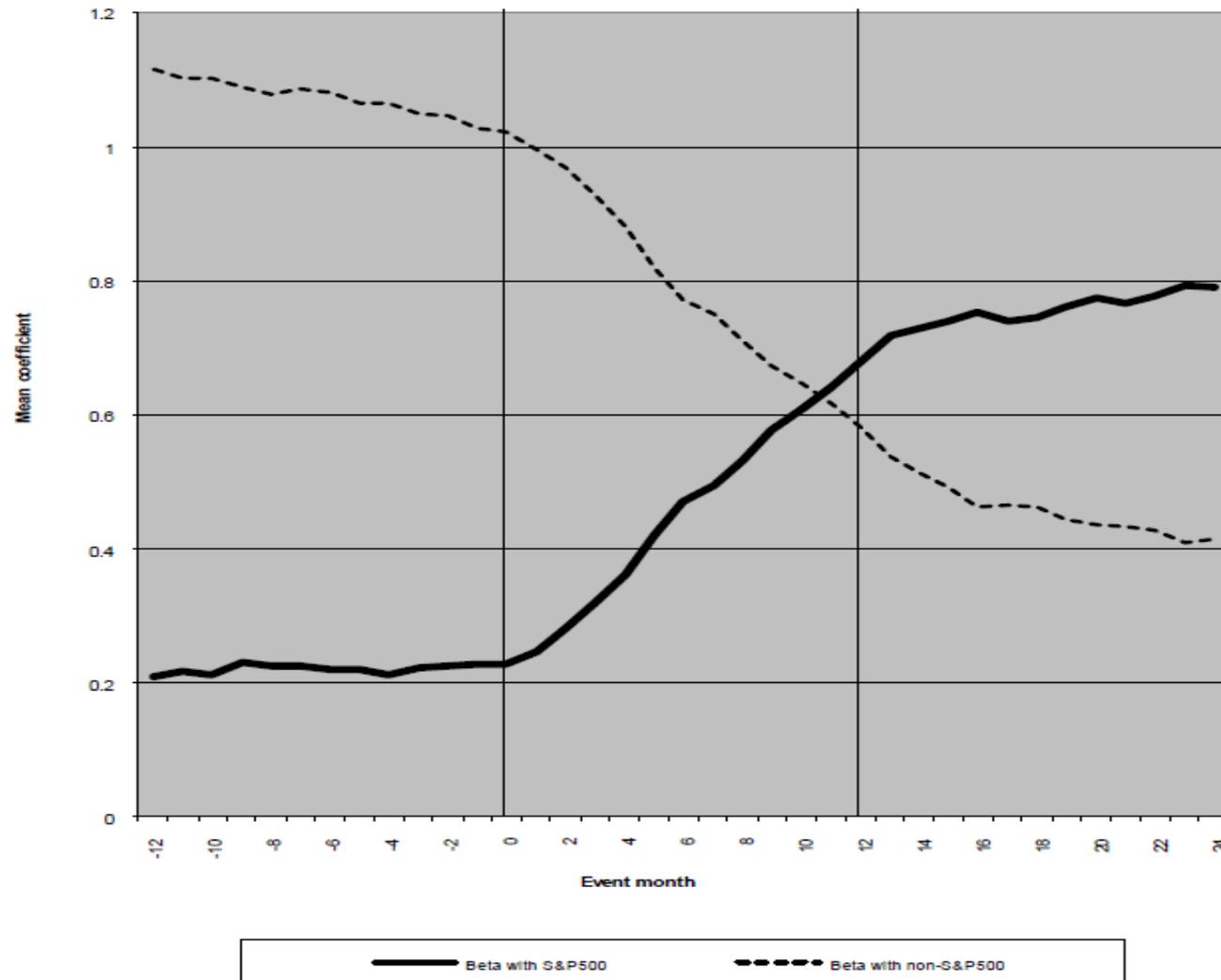
Effect on bonds in the index

Bonds in the index experience a similar effect although the effect is potentially larger with bonds since typical market for bonds is to insurers/pensions which buy and hold

- Also a sense that the index and passive investing may have helped expand the bond market and increased demand and improved liquidity in the bond market
- May encourage issuers to issue more debt and take on more leverage in 'good times'



Comovement with index



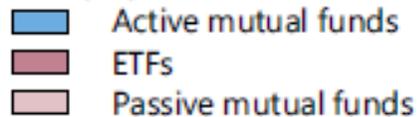
- Indexing implies buying and selling the same stocks and bonds at the same time
- Stocks which join the S&P index tend to correlate more with the other firms in the index and less with stocks out of the index
- Less diversification benefits

Barberis, Shleifer, and Wurgler (2005)

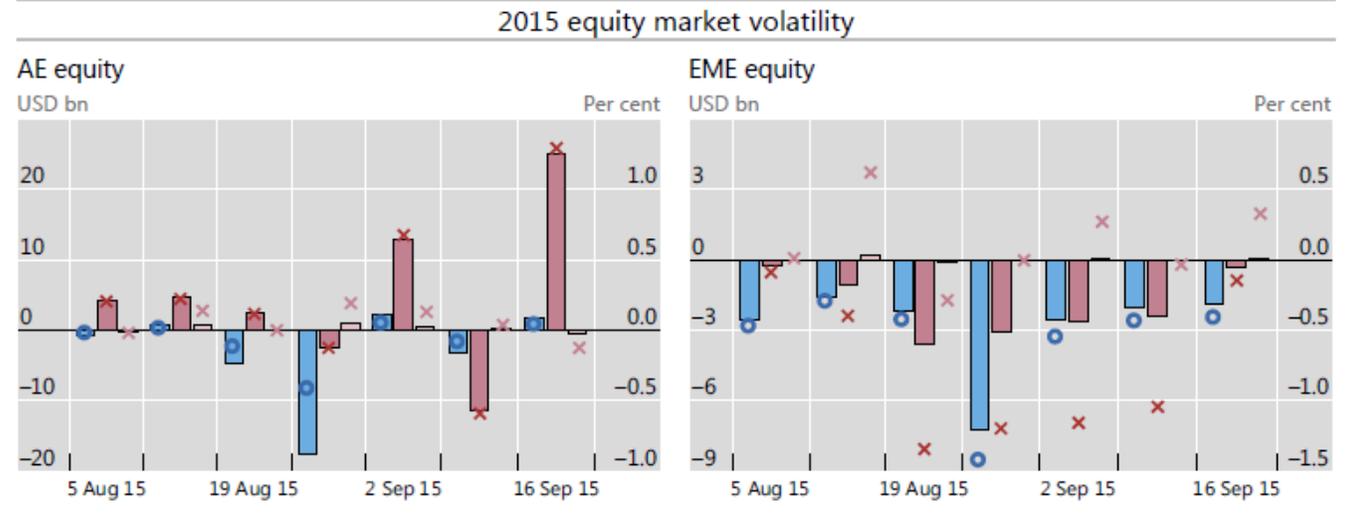
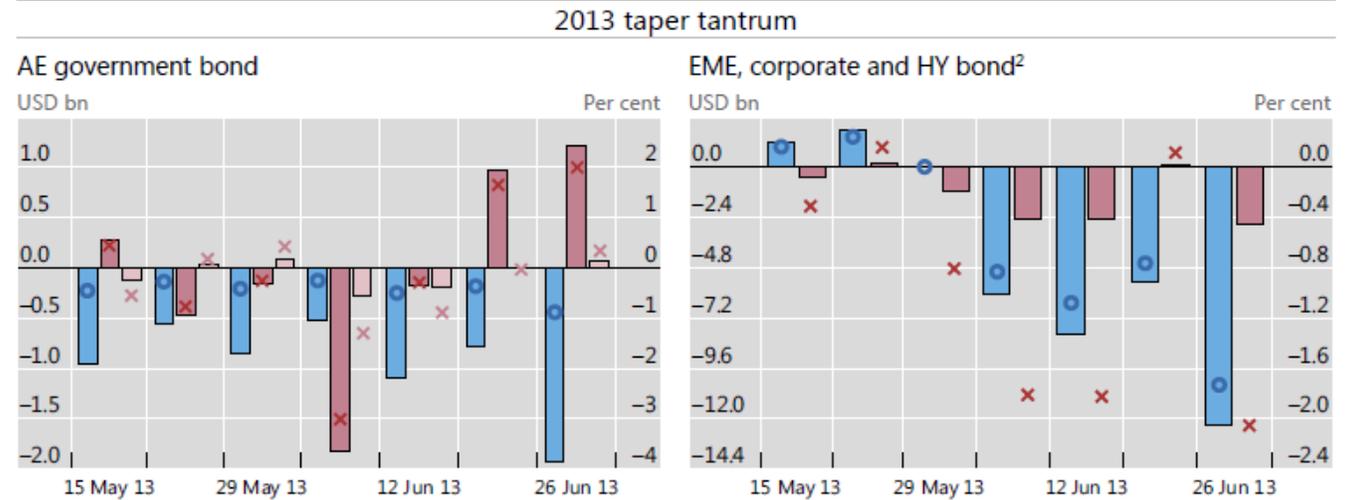
Volatility

- Does passive or index investing increase volatility?
 - Depends crucially on fund flows
 - Passive flows → Reduced volatility
 - Volatile flows → Increase volatility
- Consider two volatile market periods
 - Bond funds in 2013 taper tantrum
 - Equity funds in 2015 market volatility

Net flows (lhs):



Net flows/total net assets (rhs):



Volatility

- Appears that 'classic' index investors are much more stable through volatile periods
 - These investors can stabilize markets
- ETF investors appear more active in flows so these flows are concerning
 - Two views whether adds to market volatility

View #1: ETFs increase market volatility

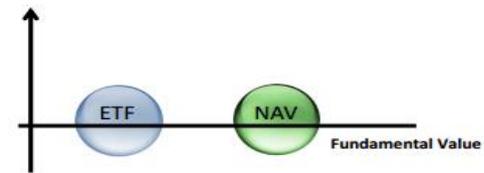


Figure 1a. Initial equilibrium

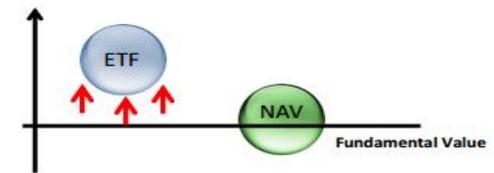


Figure 1b. Non-fundamental shock to ETF

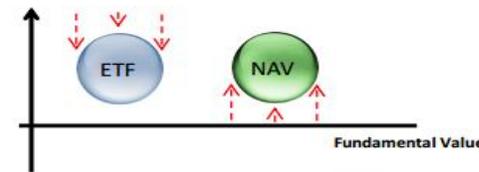


Figure 1c. Initial outcome of arbitrage: the non-fundamental shock is propagated to the NAV, and the ETF price starts reverting to the fundamental value.

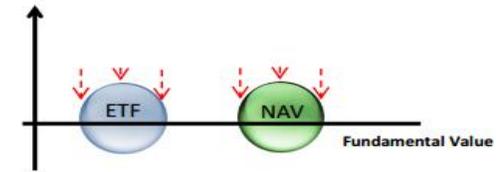


Figure 1d. Re-establishment of equilibrium: after some time, both the ETF price and the NAV revert to the fundamental value.

Volatility

- Very difficult to test and distinguish between View #1 and View #2
- Paper by Ben-David, Franzoni, and, Moussawi conclude that shares with more ETF ownership are more volatile
 - Side with View #1
- One's view of the relation between ETF flows and volatility is critical for evaluating bond funds

View #2: ETFs help with price discovery and respond to volatility in fundamental

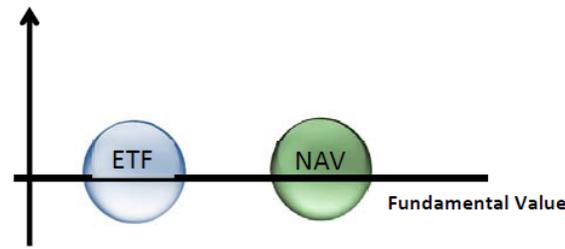


Figure 2a. Initial equilibrium

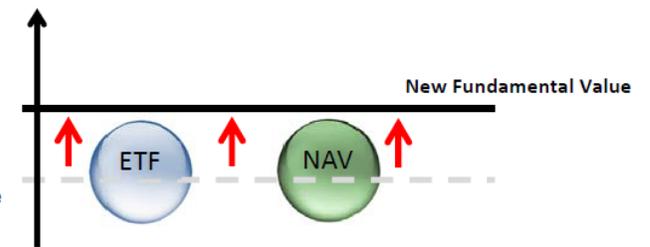


Figure 2b. Shock to fundamental value

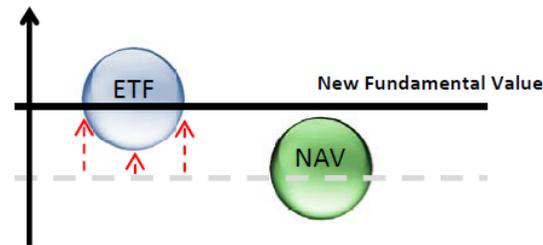


Figure 2c. Price discovery takes place in the ETF market. The ETF price moves to the new fundamental value.

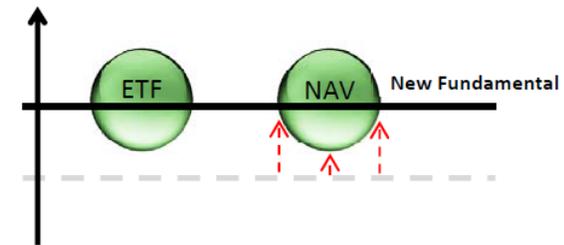


Figure 2d. After a delay, the NAV catches up with the new fundamental.

Market Instability

Investors observe high market returns

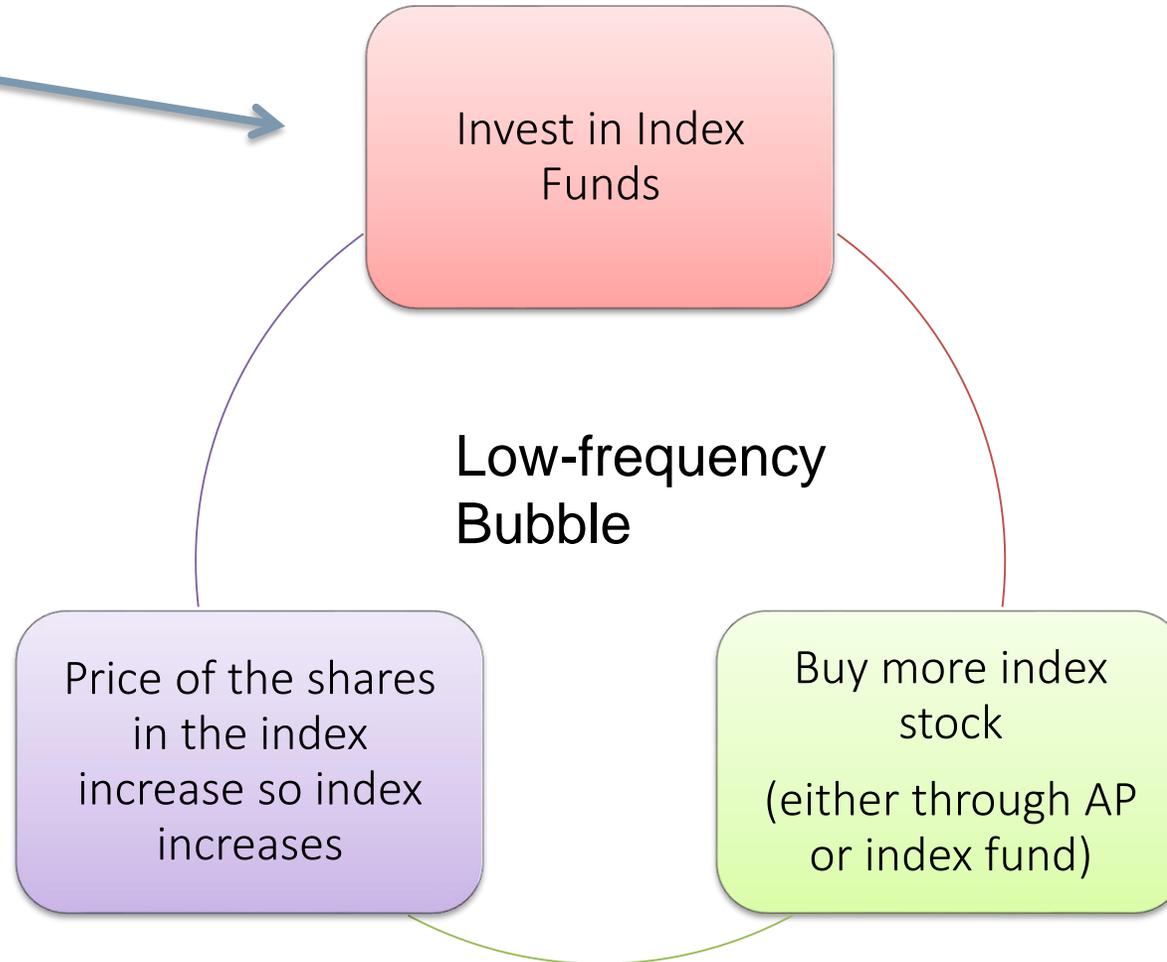


Invest in Index Funds

Low-frequency
Bubble

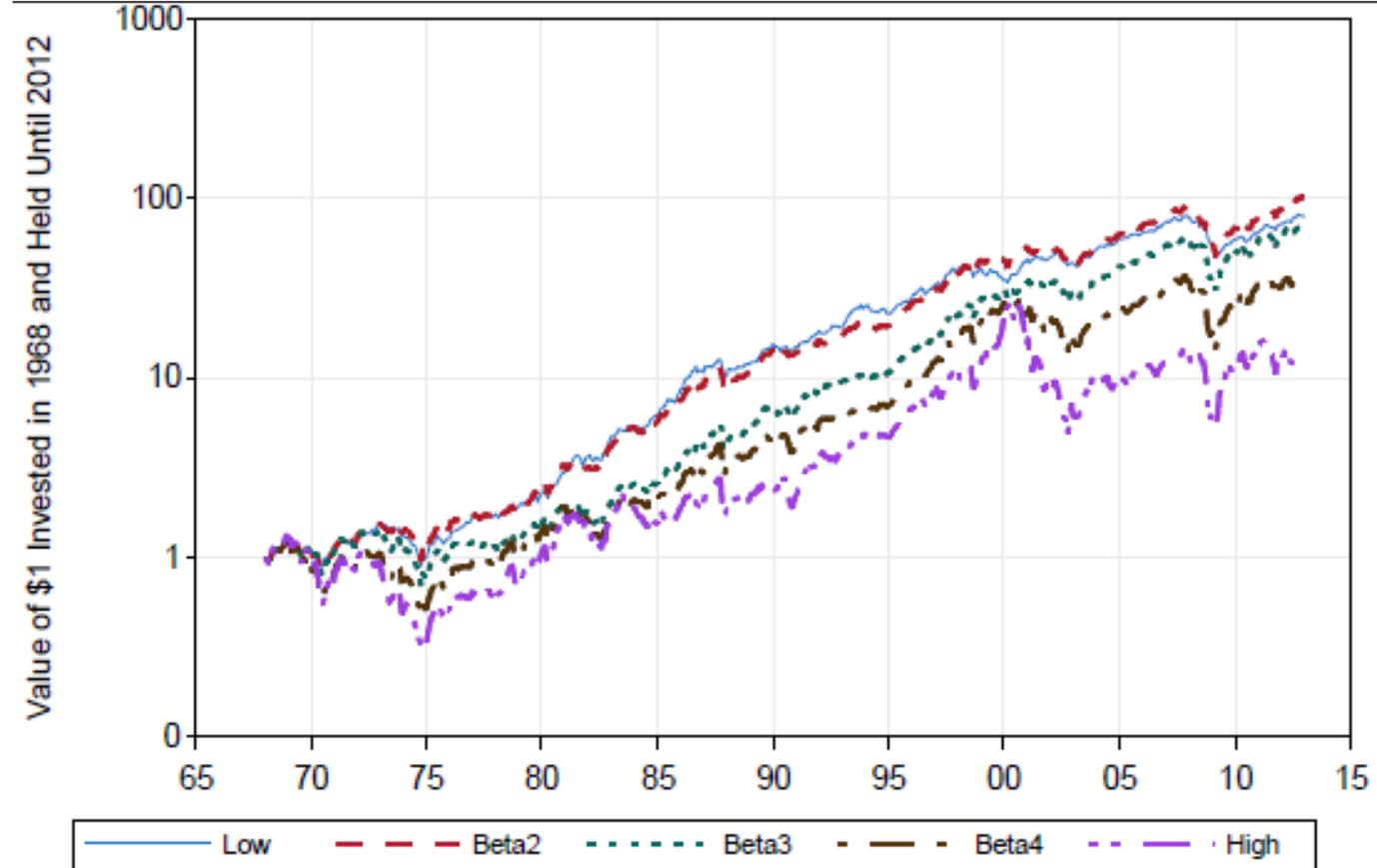
Price of the shares
in the index
increase so index
increases

Buy more index
stock
(either through AP
or index fund)



Can active management offset anomalies?

- Observe price anomalies and potential deviation from fundamentals caused by indexing and passive investment
 - Equilibrium for active managers to exist with index funds
- One caveat: Active managers benchmark themselves to indices
 - Increase 'closet-indexing' incentives
 - Propogates interest in buying high-beta stocks tied to underlying index
 - Potential reason why high-beta stocks have low return premiums compared to low-beta stocks



Thank You

Conclusion

- Passive investing has an effect on prices, liquidity and correlations of assets in the market
- Some think that index funds may increase total demand (especially for bonds) that help market
- Mixed views on whether passive investing adds to market volatility but difficult to measure
- Possible feedback loops that can create bubbles
- Active management has an important role in mitigating anomalies caused by correlated trading