BANK FOR INTERNATIONAL SETTLEMENTS

The implications of passive investing for securities markets

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Passive investing – definition and key issues

- Passive investing is a strategy that **tracks the returns of a price index** (such as an established market benchmark)
  - No trading in the absence of changes in index composition
  - Passive label refers to the *investment approach of the fund manager* – end-investor strategies can differ

- Relative cost, performance and diversification of passive funds are key considerations for individual investors

- Effects of passive portfolio management on **securities market efficiency and stability** have been increasingly debated

The issues I will cover in this talk

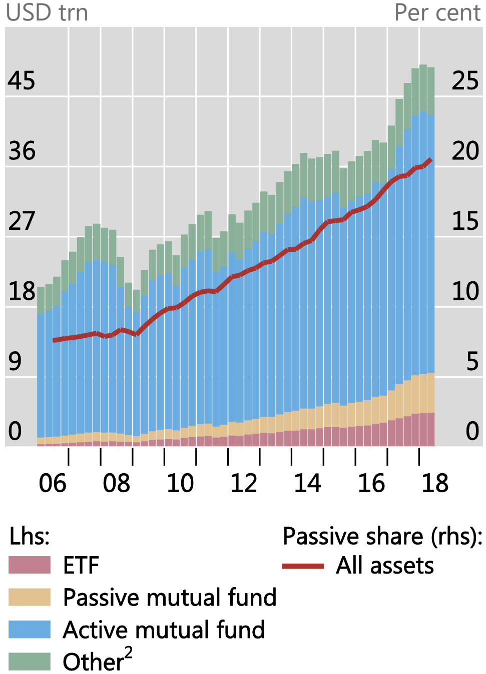
- The rise of passive investing
  - What the data show
  - Reasons for investing passively
- Implications for security pricing and issuers
  - Efficiency of price formation
  - Impact on issuer behaviour
- Implications for security price dynamics
  - Investor behaviour and the stability of fund flows
  - Possible differing effects of index mutual funds and ETFs

This talk draws on Sushko, V and G Turner (2018): "The implications of passive investing for securities markets", *BIS Quarterly Review*, March.

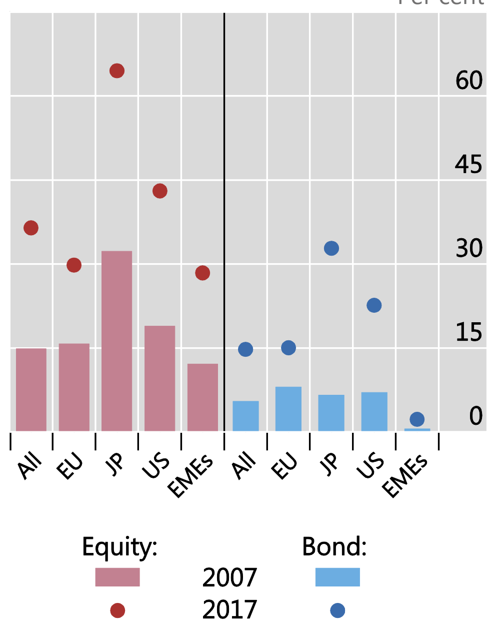
The rise of passive investing – funds view

Passive funds’ share of the fund management sector rises

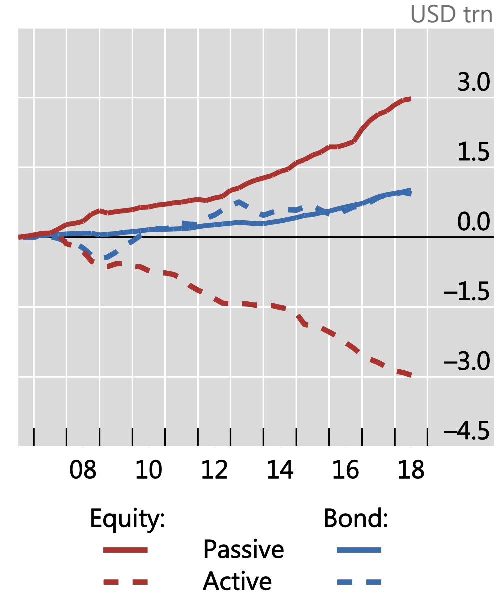
Global assets under management by fund type



Passive funds’ share of investment fund assets, by geographical focus[1]



Cumulative fund flows



[1] As of end-June for each year. [2] Includes investment fund assets of closed-end funds, hedge funds, insurance funds, investment trusts and pension funds.

Sources: Lipper; authors’ calculations.

The rise of passive investing – securities market view

Passive funds' estimated share of outstanding market[1]

In per cent

Securities market	2007	2017
Equities[2]		
Europe	2.3	3.3
Japan	2.0	5.5
United States	6.0	14.7
EMEs	1.2	2.3
Bonds[3]		
Europe	1.0	0.9
United States	1.2	4.5

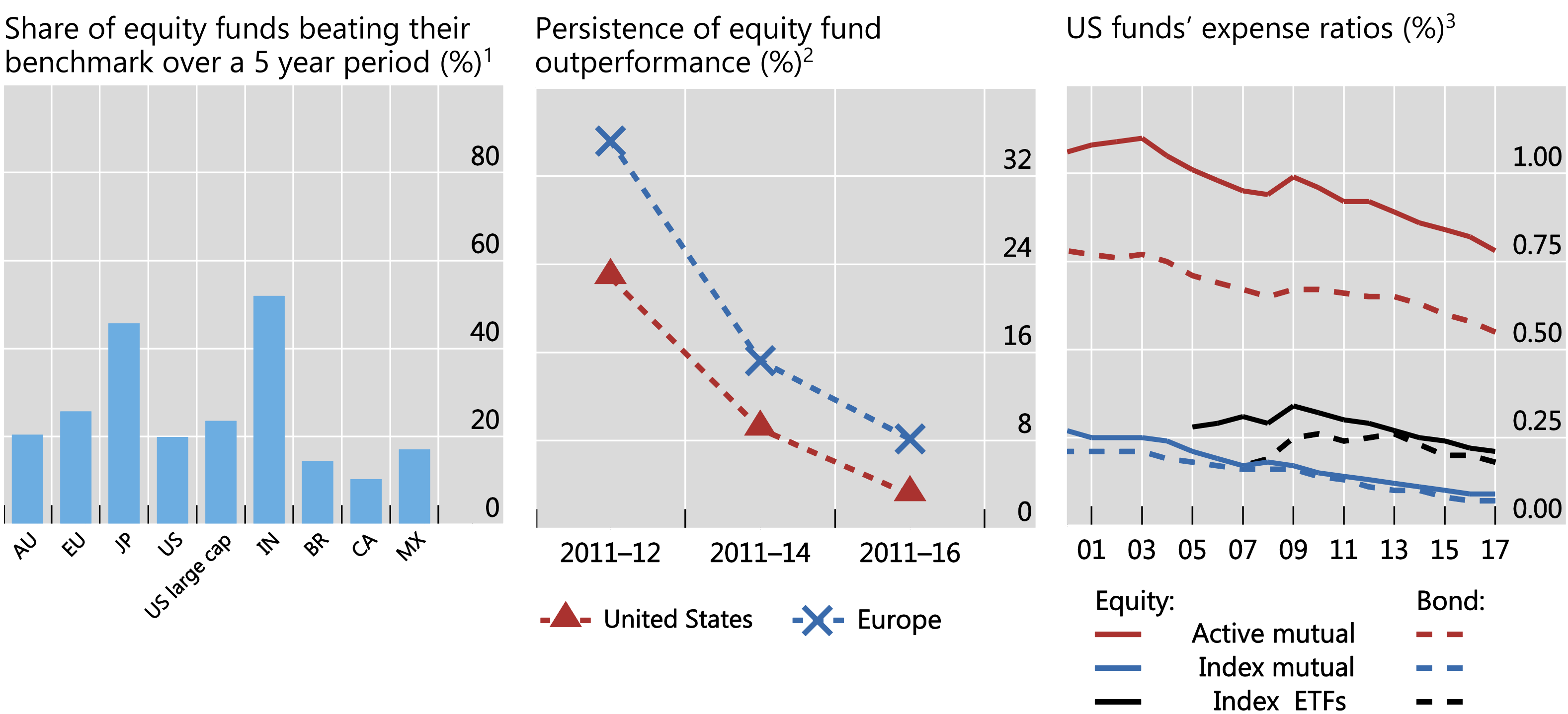
[1] End-June data for each year. [2] Equity market capitalisation (denominator) based on Bloomberg World Market Capitalization indices. [3] Bond market capitalisation (denominator) based on Bloomberg Barclays Pan-European Aggregate, Bloomberg Barclays Pan-European High Yield, Bloomberg Barclays US Corporate High Yield and US Aggregate Bond Indices.

Sources: Bloomberg; Lipper; authors' calculations.

Arguments for passive investing

- **Efficient markets** imply very limited room to outperform the market if incurring active management fees and trading costs
- Outperformance a ‘zero sum game’ (Sharpe 1991, Malkiel 2003)
- Empirical literature is generally consistent with the theory that, after fees, **active managers underperform on average**
  - For most active funds, underperformance clear in recent years
- Very difficult to identify ex ante the active fund managers that are skilled enough to consistently beat the market

Active funds have failed to outperform their benchmark



Based on S&P indices for each share market. For illustrative purposes only; individual active funds may have different benchmarks. Data as of 30 June 2018. [2] Share of active funds outperforming their benchmark during the corresponding periods. [3] Asset-weighted averages.

Sources: Investment Company Institute; Lipper; S&P Dow Jones Indices; authors' calculations.

Passive investing and the efficiency of security price formation

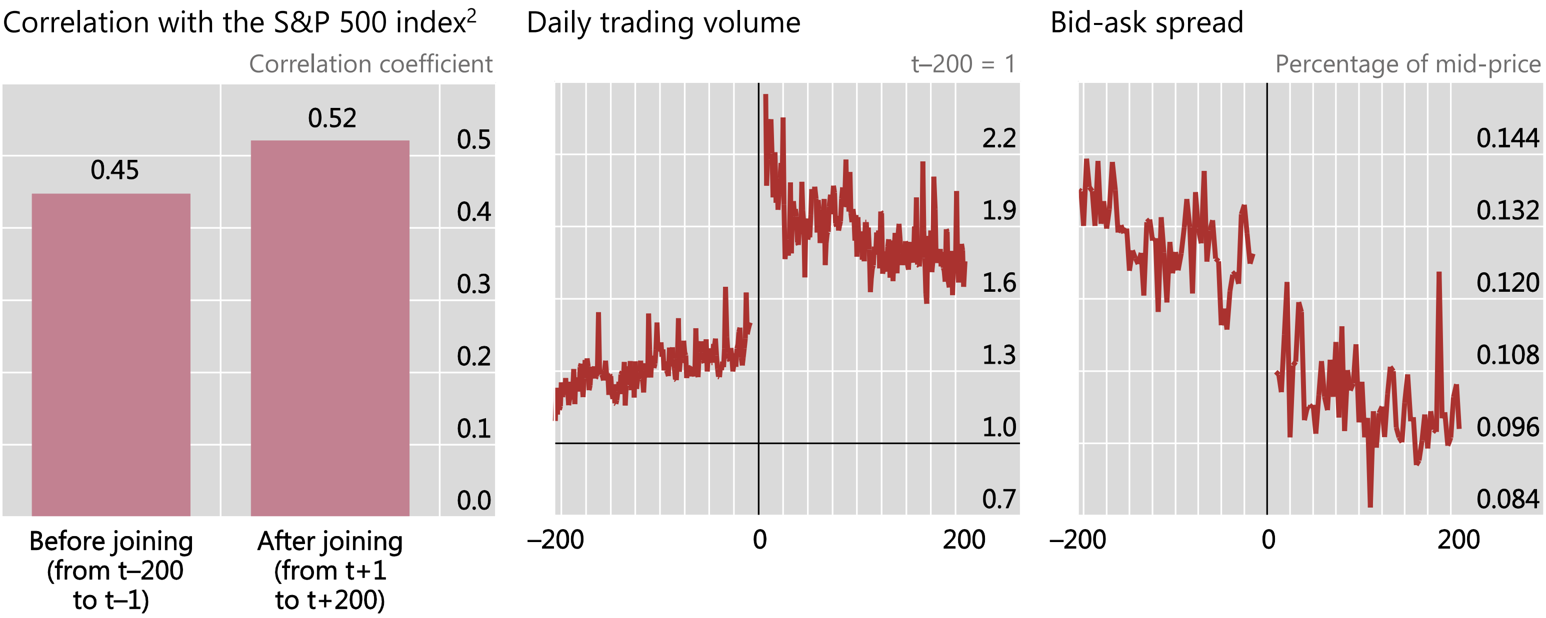
- Portfolio-level rather than security-level investment
  - Implies emphasis on systematic (or common) factors

- Passive investors rely on active investors' efforts in seeking out, producing and using **information on individual securities**
  - Could conceivably reduce the diversity of valuation opinions and fundamental information embedded in prices

- Greater co-movement of securities after index inclusion
  - Literature supports non-fundamental demand shocks eg Barberis et. al. (2005), Claessens and Yafen (2013)
  - Erode the benefits from diversification?

Effects of inclusion in a major equity market index

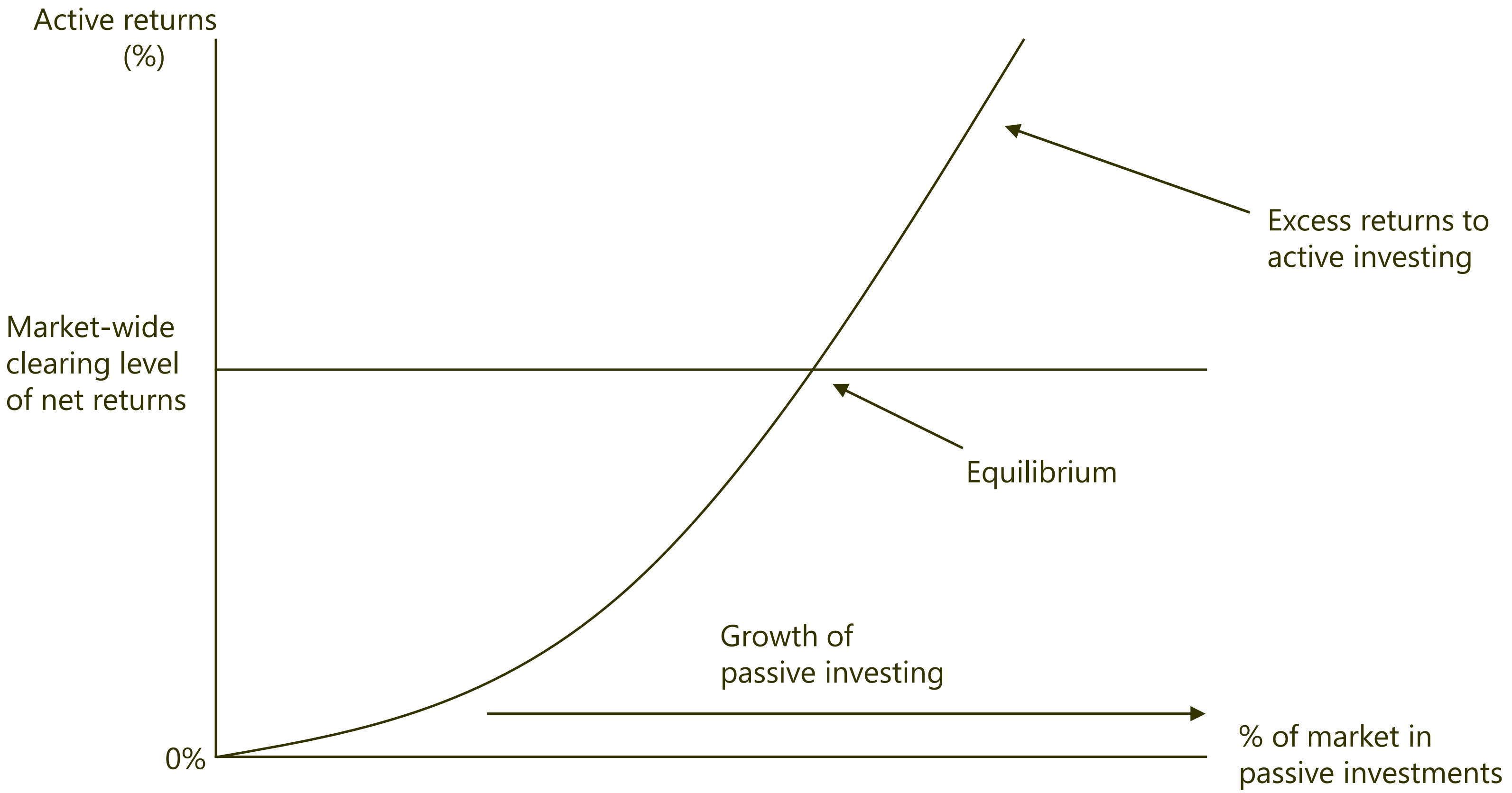
Inclusion in the S&P 500 increases correlation and improves liquidity[1]



[1] Sample based on 462 stocks joining the S&P 500 between January 2000 and September 2017. Stocks subject to mergers and acquisitions, stocks with poor data availability and those that have left the index during the first 30 days after the inclusion date are excluded. t=0 is the index inclusion date specific to each stock. [2] Correlation of daily returns with the S&P 500 index.

Sources: Bloomberg; Thomson Reuters Eikon; authors' calculations.

At some point opportunities for excess active returns should naturally emerge



Source: Blackrock (2017)

Passive investing and security issuers

- Useful to also consider the influence of passive investing from **the perspective of security issuers**

- Impact of **index inclusion and exclusion** on issuers
  - Country index effects can be relatively large eg MCSI reclassification of Israel in 2010 (Raddatz et al, 2017).
  - Interaction with rating changes

- The **decisions and profile of issuers might be altered**
  - Passive investors cannot sell their holdings
  - Traditional bond indices mechanically favour leveraged companies over exposure to size (Sushko and Turner, 2018)

Passive funds and security price dynamics

- Do passive funds have a **stabilising influence** on aggregate (market) prices? How do their end-investors behave?
- Passive portfolios **automatically rebalance** – managers do not need to trade in the absence of investment or redemption orders
  - Passive funds could therefore be a stabilising force against any procyclical investment decisions of active managers
- But large inflows and outflows into passive funds could conceivably exacerbate investment trends (eg inflows are mechanically directed to overvalued stocks in a rising market)

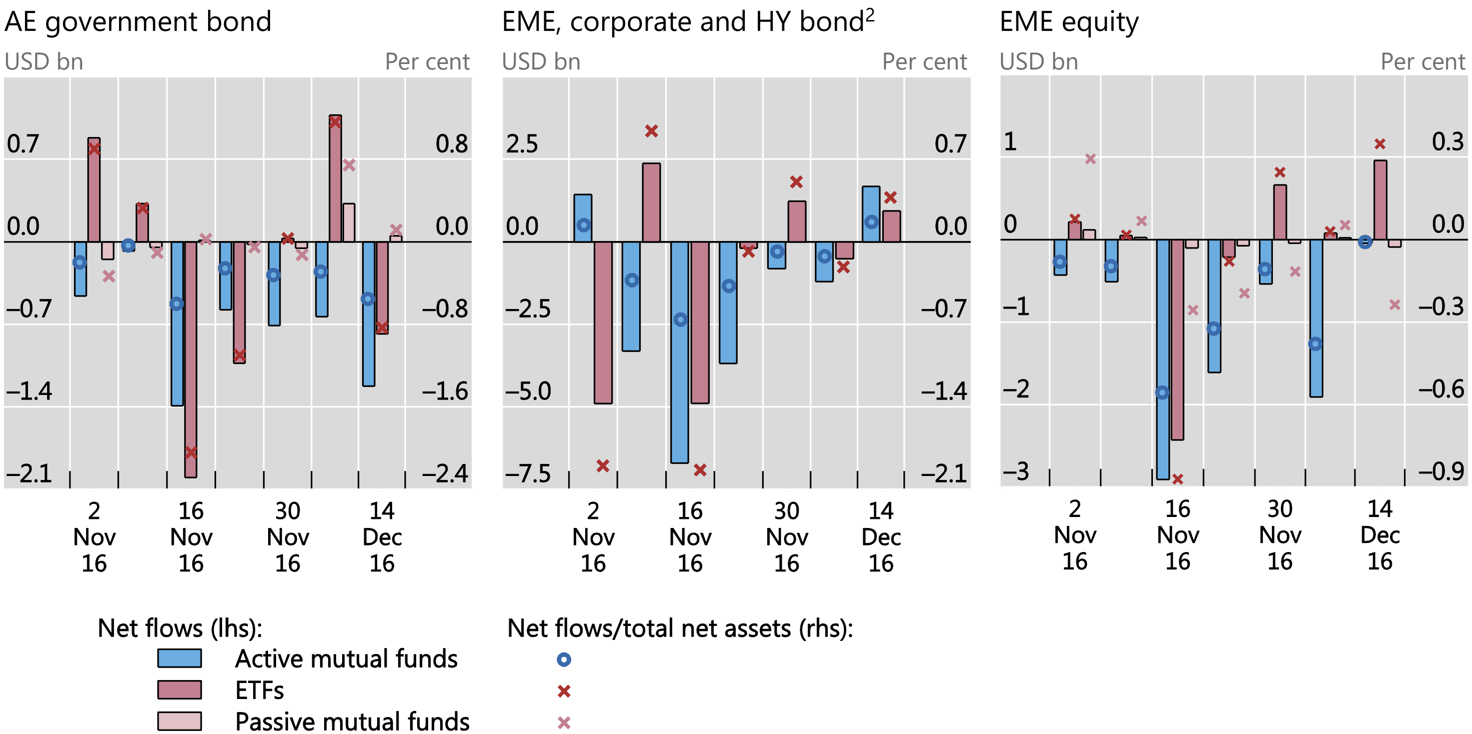
Behaviour of investors in passive funds

- Some reasons to believe that index funds are being used in a more stable way by their investors
  - Preferred by “buy-and-hold” investors to minimise costs, also institutional users that do not want to trade because of rigid investment mandates or for tax reasons
  - Absence of discretion might make investors less inclined to shift balances in response to fund performance

- BUT…the **emergence of ETFs** – an index-tracking product enabling frequent low-cost trading – could engender different behaviour

Fund flows in a recent market sell-off episode

Fund flows across fund types – 2016 presidental election episode[1]



[1] Based on weekly data. [2] HY = high yield. Passive mutual funds have been excluded given the small size of total net assets invested in these asset classes.

Sources: EPFR; authors' calculations.

Investor trading of ETFs

- **Near-immediate liquidity** (at a price close to the NAV) is underpinned by authorised participants' primary market arbitrage (ie fund flows)
  - Secondary market arbitrage also appears to be important
- ETFs' intra-day portfolio trading feature could attract, even encourage, **high turnover and short horizon strategies**
- While some studies conclude ETFs enhance price discovery, most find they transmit non-fundamental shocks or increase volatility
  - But extra noise trading deepens market liquidity (in good times)

Conclusion

- Strong growth in passively managed portfolios has generated debate about their impact on market efficiency and price dynamics

- There are good reasons to believe that mechanical passive investment rules can erode pricing efficiency somewhat. But any effects are unlikely to be large at this point and need to be balanced against passive fund benefits.

- Given the lack of managerial discretion, whether passive funds contribute to price cycles depends on end-investor behaviour.
  - Active mutual funds appear more procyclical in times of stress
  - Rising ETF activity and its impact on market volatility warrants close attention

Thank you!

References

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