

The Evolution of the Active/Passive Split and the Cost of Price Discovery in the UK

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Overview

- Funds' positions in FTSE 350 shares
- Evolution of active/passive split in the UK
- Cost of investing in UK through funds
- Price discovery in the UK
- Conclusion

Key findings

- Around a quarter of value of fund positions in UK is now invested passively, after rapid growth over last 10 years
- Implicit transaction costs can be a considerable part of the total cost of investing in FTSE 350 through funds
- Compared to a decade ago, fewer resources appear invested in trying to beat the market
- This fall at least potentially creates a negative externality by reducing market efficiency and effectiveness

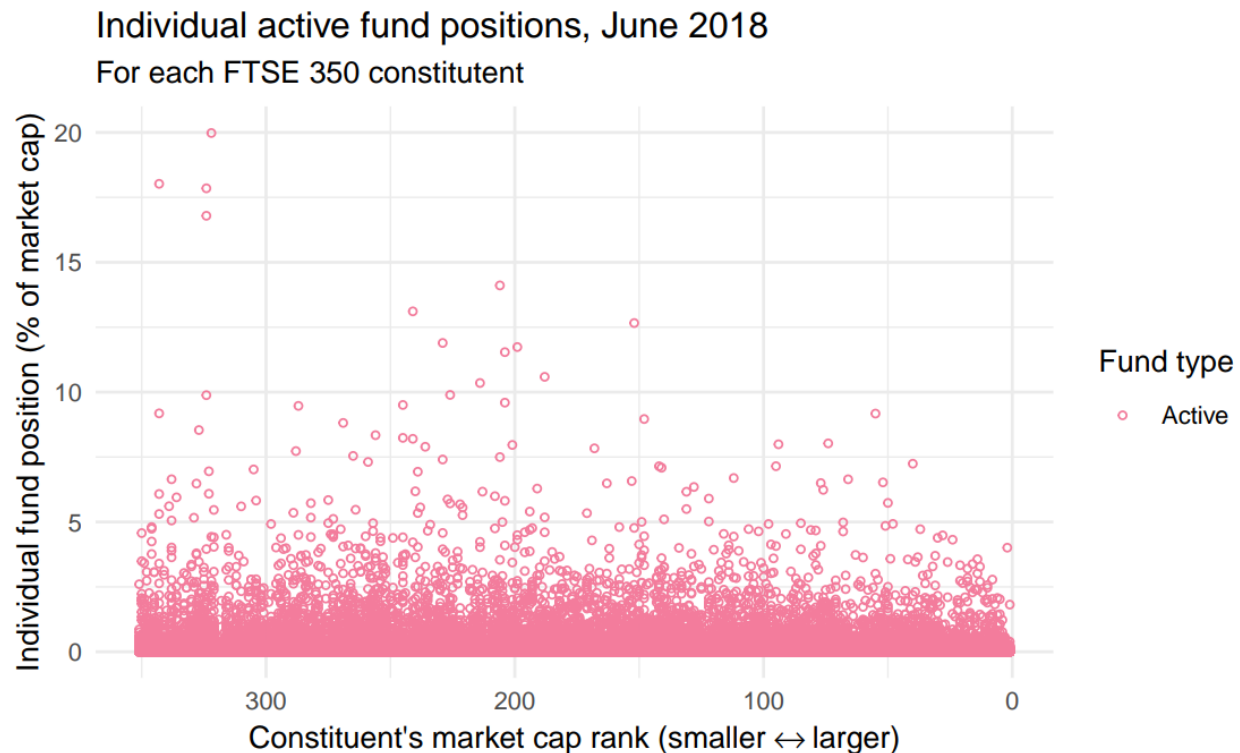
Funds' positions in FTSE 350 shares

Holdings data

- Annual fund holdings of FTSE 350 shares
 - From Refinitiv (formerly Thomson Reuters)
 - Covers 2009-2018
 - In 2018, covers nearly 300,000 positions by around 13,000 funds (inc. non-UK funds)
 - Dataset includes ETFs (around 1,100)
- Each fund has active/passive classification
 - Virtually all passive funds are index trackers
 - All other funds are classed as active

Active fund positions

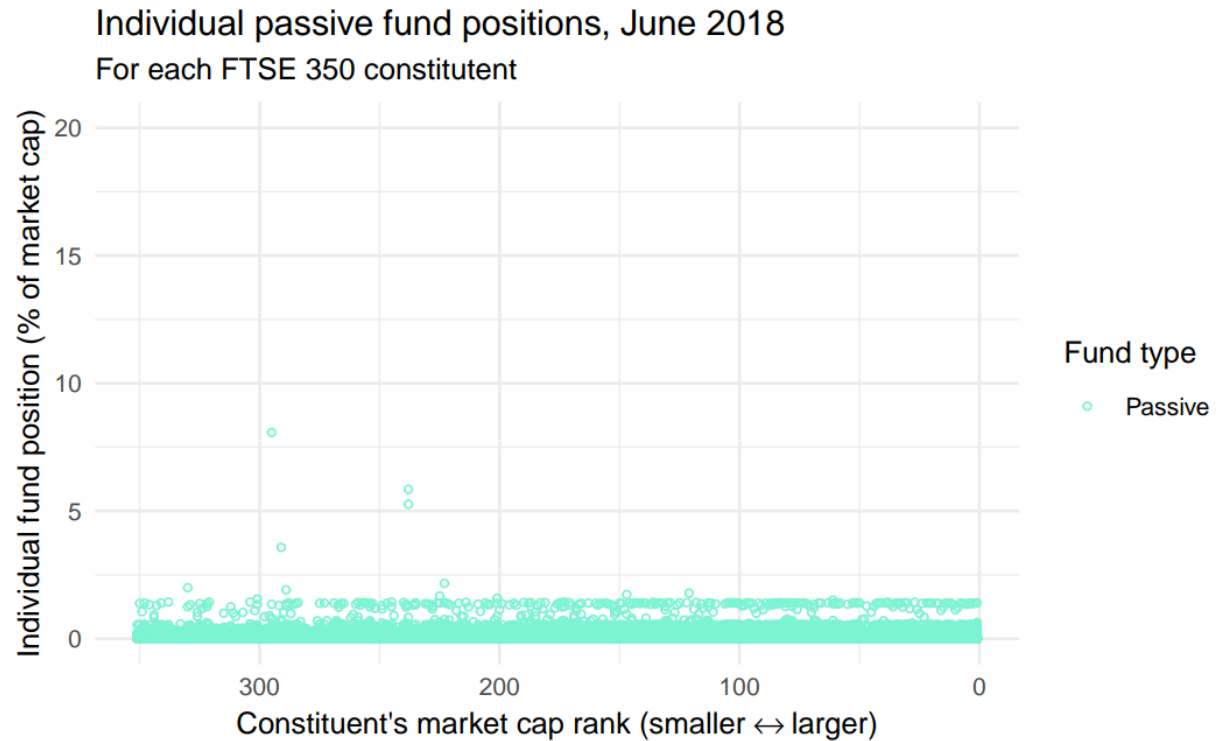
- Most active funds' positions amount to less than 2% of market cap
- However, some positions account for more than 10%
- Larger stakes appear more likely when share's market cap is smaller



Source: Analysis of Refinitiv data

Passive fund positions

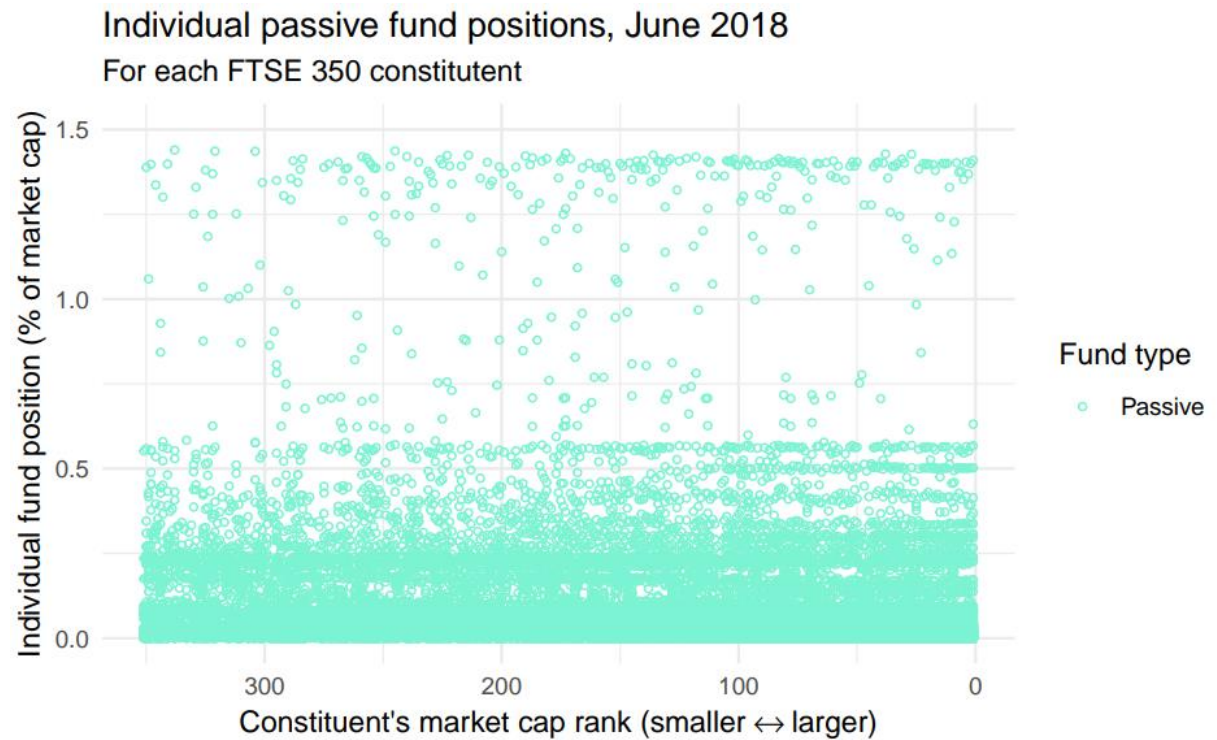
- As expected, virtually all positions are small relative to market cap
- A handful of large stakes in smaller shares stick out, from sector-tracking funds
- Index-tracking pattern is visible from horizontal lines



Source: Analysis of Refinitiv data

Passive fund positions (zoom)

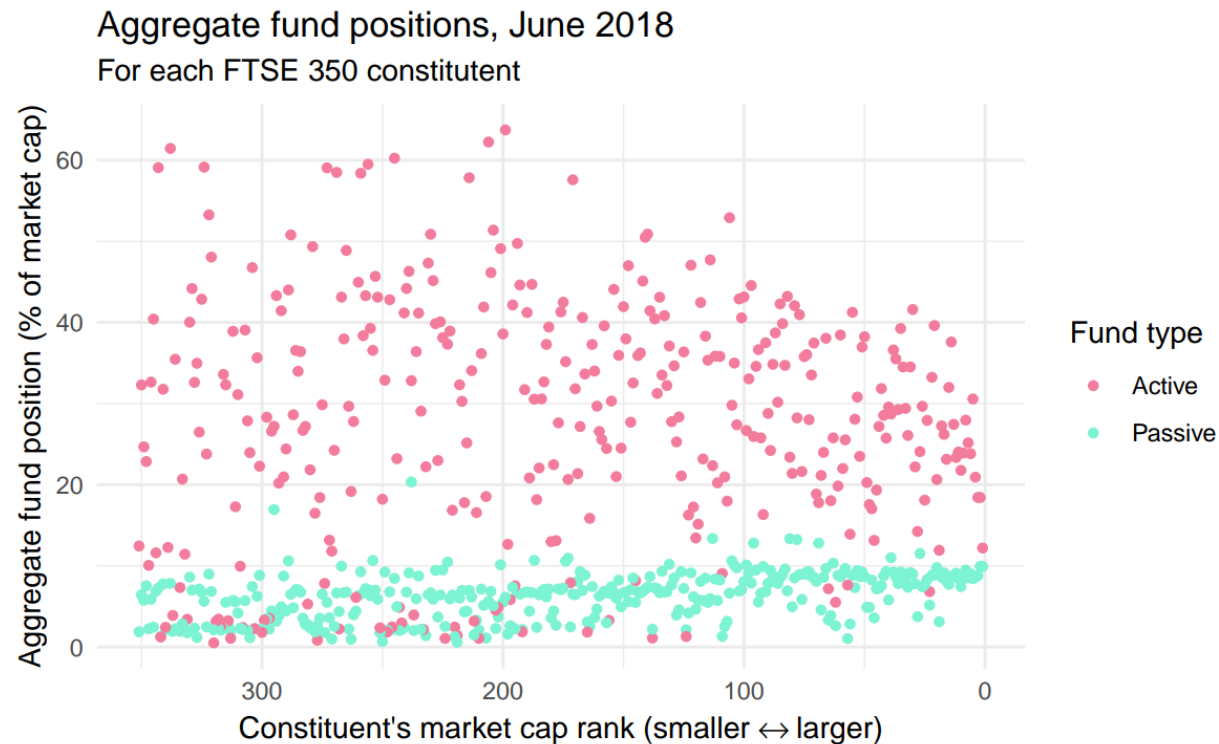
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Source: Analysis of Refinitiv data

Aggregate fund positions

- Aggregating positions across funds shows clear patterns
- Active ownership decreases with higher market cap and so does variance
- Passive ownership increases with higher market cap

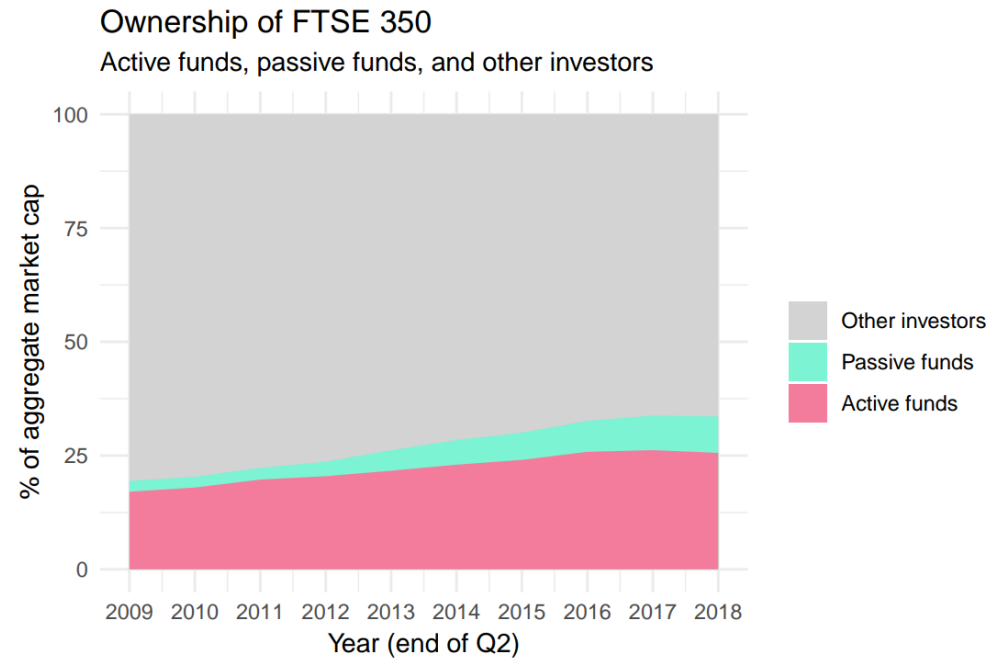


Source: Analysis of Refinitiv data

Evolution of active/passive split in the UK

Overall UK equity ownership

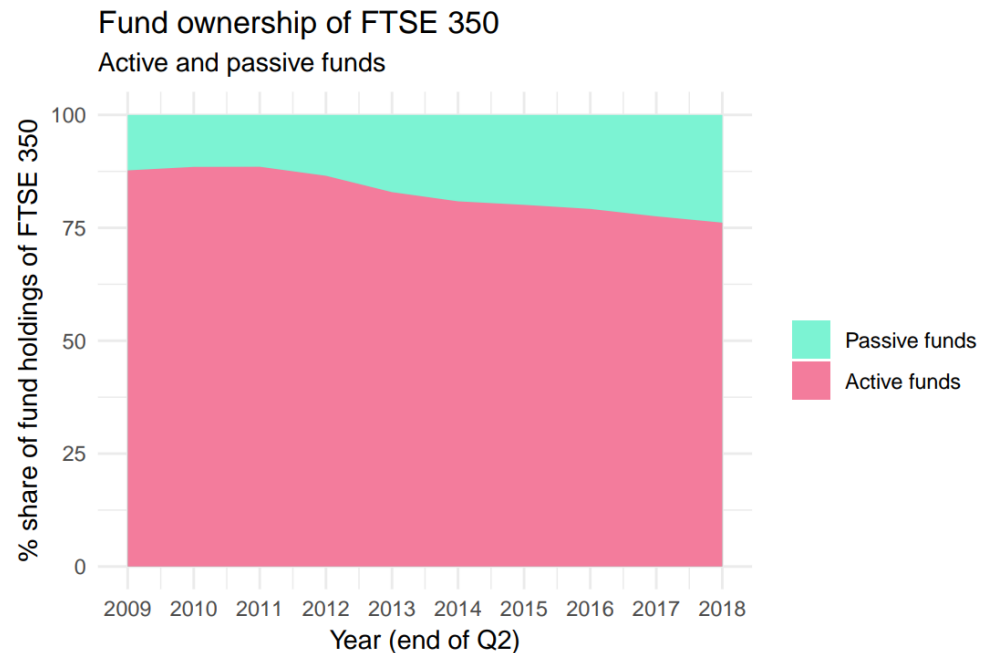
- In 2018, a third of UK equity was owned through the funds in data
- Around 8% of UK equity owned through passive funds
- Active funds' share appears to decline in absolute terms



Source: Analysis of Refinitiv data

Relative share of active/passive fund ownership

- Passively-managed share of fund holdings has doubled over last decade
- Now account for around a quarter of UK fund holdings
- Shift does not appear to be slowing down



Source: Analysis of Refinitiv data

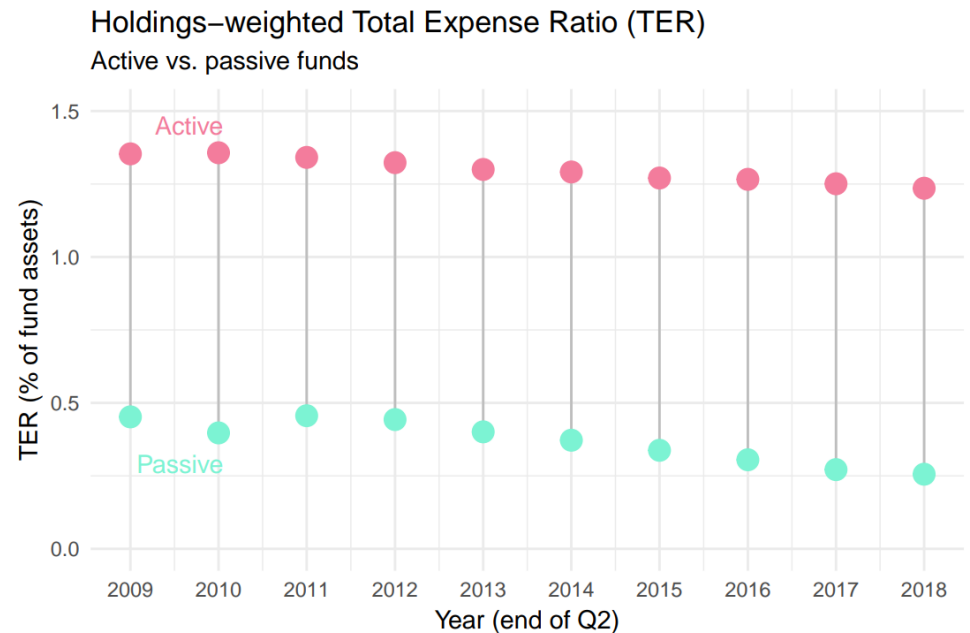
Cost of investing in UK through funds

Fund data

- Refinitiv's Lipper covers Total Expense Ratio and Fund Turnover for majority of funds
- Morningstar data on MiFID II ex ante transaction costs covers around 40% of funds in data
- Extrapolate to all active/passive funds based on funds for which data is available

Explicit fund management costs

- Funds' asset-weighted expense ratio in 2018:
 - Active: 1.24%
 - Passive: 0.26%
- Passive charges have fallen faster than active ones over last decade



Source: Analysis of Refinitiv data

Implicit transaction costs

Costs that are not explicitly charged to investors in funds - challenging to calculate

To estimate:

- **Lower bound:**

- *Asset-weighted MiFID II ex ante transaction costs*

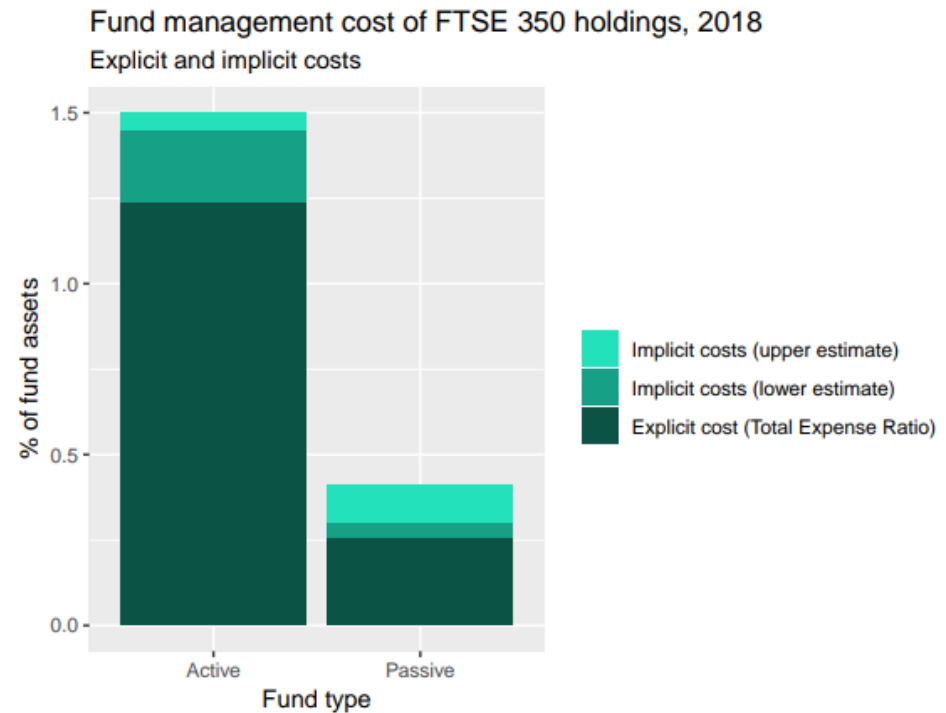
- **Upper bound:**

- *Per-turnover unit estimates for price impact and spread*, scaled by asset-weighted fund turnover ratios*

*Edelen et. al. (2013). Shedding Light on “Invisible” Costs: Trading Costs and Mutual Fund Performance. *Financial Analysts Journal*, 69(1):33-44

Total cost of investing in FTSE 350 through funds

- Estimated total cost in 2018:
 - Active: 1.45%-1.50%
 - Passive: 0.30%-0.41%
- Implicit transaction costs add to the differential between active and passive costs
- Investors in active funds appear to incur around 110 basis points more p.a.



Source: Analysis of Refinitiv and Morningstar data

Price discovery in the UK

Estimating the cost of price discovery by funds (1)

French (2008)* discuss how the difference in cost of investing through active and passive funds can be interpreted as price discovery, if:

- No net transfers between active and passive funds
- No net transfers between funds and other investors

Following this approach, we estimate the price discovery cost of funds (PDCF) as follows*:

$$PDCF = \frac{\text{Price discovery cost of funds}}{\text{Total Fund Assets}} \simeq \frac{\text{Active Fund Assets}}{\text{Total Fund Assets}} * (\text{Active Fund Cost} - \text{Efficient Passive Fund Cost})$$

*French (2008). Presidential Address: The Cost of Active Investing. *Journal of Finance*, 63(4):1537-1573

**We define the cost of an *efficient passive fund* as the asset-weighted passive cost in 2018.

***In this step, we use upper bound estimates for implicit costs, as MiFID II data is not available for 2009.

Estimating the cost of price discovery by funds (2)

Using this approach, we estimate:

$$PDCF = \frac{\text{Price discovery cost of funds}}{\text{Total Fund Assets}} \simeq \frac{\text{Active Fund Assets}}{\text{Total Fund Assets}} * (\text{Active Fund Cost} - \text{Efficient Passive Fund Cost})$$

$$PDCF_{2009} \simeq 88\% * 1.19\% = 1.05\% \text{ of fund assets p.a.}$$

$$PDCF_{2018} \simeq 76\% * 1.09\% = 0.83\% \text{ of fund assets p.a.}$$

- This suggests that fund investors' expense for price discovery has fallen 20% over last 10 years
- This fall is driven by two factors:
 - Actively-managed share of fund assets fell by 13%
 - Cost differential between active funds and *efficient* passive funds falling by 8%
- Open question: has market efficiency and effectiveness been affected by the rise of passive investing?

Conclusion

- Around a quarter of value of fund positions in UK is now invested passively, after rapid growth over last 10 years
- Decline in resources invested in trying to beat the market is a direct benefit to investors
- However, this fall at least potentially creates a negative externality by reducing market efficiency and effectiveness
- More research needed on how to achieve the optimal balance