

# Asset Managers and Price Efficiency

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# Motivation

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- Common narrative: passive investment improves individual investment decisions (low cost, limited agency, good monitors, etc.)
- Passive investors affect asset prices through their trading decisions (**strategic incentives**) and the **equilibrium impact** on other investors
- Are the capital allocations informationally efficient?
- Important for welfare and market efficiency
- Important for firms' cost of equity
- Evidence from my two studies

# Research Design

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- **Theory** (Kacperczyk, Nosal, Sundaresan, 2019):
  - Consider a general equilibrium model with active and passive sector
  - The joint role of market power and information
  - Look at price informativeness as a function of market size
- **Empirics** (Kacperczyk, Sundaresan, Wang, 2020):
  - Study the importance of institutional investors (active and passive) for price efficiency globally
  - Emphasize the informational frictions in markets

# Price Informativeness

## PRICE INFORMATIVENESS

- Price informativeness ( $PI = \frac{Cov(p_i, \epsilon_i)}{\sigma_p}$ ) is

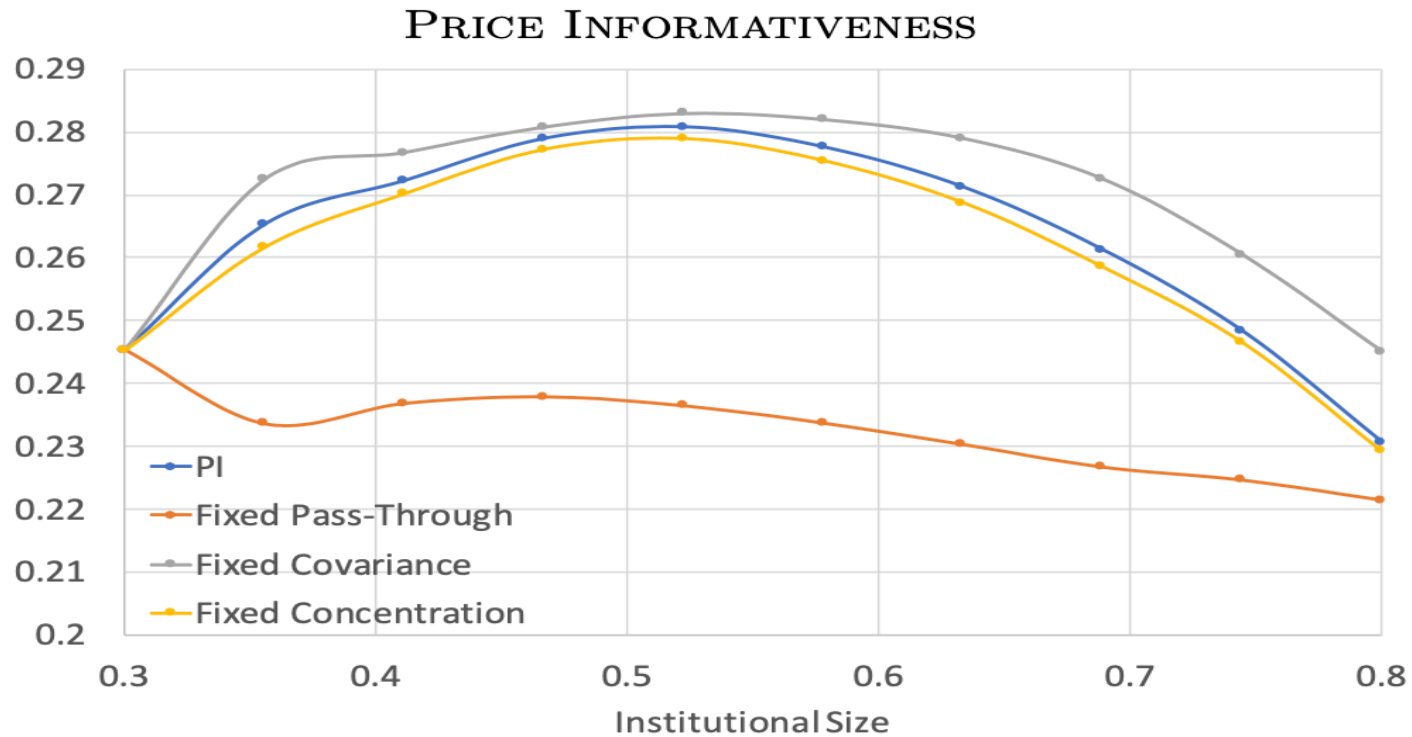
$$PI_i = \frac{\sigma_i \sum_j \frac{\lambda_j \beta_{1ji}}{\sum_j \lambda_j \beta_{1ji}} \frac{\alpha_{ji}-1}{\alpha_{ji}}}{\sqrt{\left( \sum_j \frac{\lambda_j \beta_{1ji}}{\sum_j \lambda_j \beta_{1ji}} \frac{\alpha_{ji}-1}{\alpha_{ji}} \right)^2 + \frac{\sigma_{xi}^2}{(\sum_j \lambda_j \beta_{1ji})^2 \sigma_i^2} + \sum_j \frac{\lambda_j^2 \beta_{1ji}^2}{(\sum_j \lambda_j \beta_{1ji})^2} \frac{\alpha_{ji}-1}{\alpha_{ji}^2}}}$$

1.  $\sum_j \frac{\lambda_j \beta_{1ji}}{\sum_j \lambda_j \beta_{1ji}} \frac{\alpha_{ji}-1}{\alpha_{ji}}$ : covariance, weighted by relative pass-through
2.  $\lambda_j \beta_{1ji} = \frac{\partial \lambda_j q_{ji}}{\partial s_{ji}}$ : information pass-through to quantities (hump-shaped)
3.  $\sum_j \frac{\lambda_j^2 \beta_{1ji}^2}{(\sum_j \lambda_j \beta_{1ji})^2} \frac{\alpha_{ji}-1}{\alpha_{ji}^2}$ : learning-weighted HHI

# Results: Theory

## NUMERICAL EXPERIMENT: OWNERSHIP

- Varying industry size ( $1 - \lambda_0$ )
  - Hump-shaped PI curve



# Results: Theory

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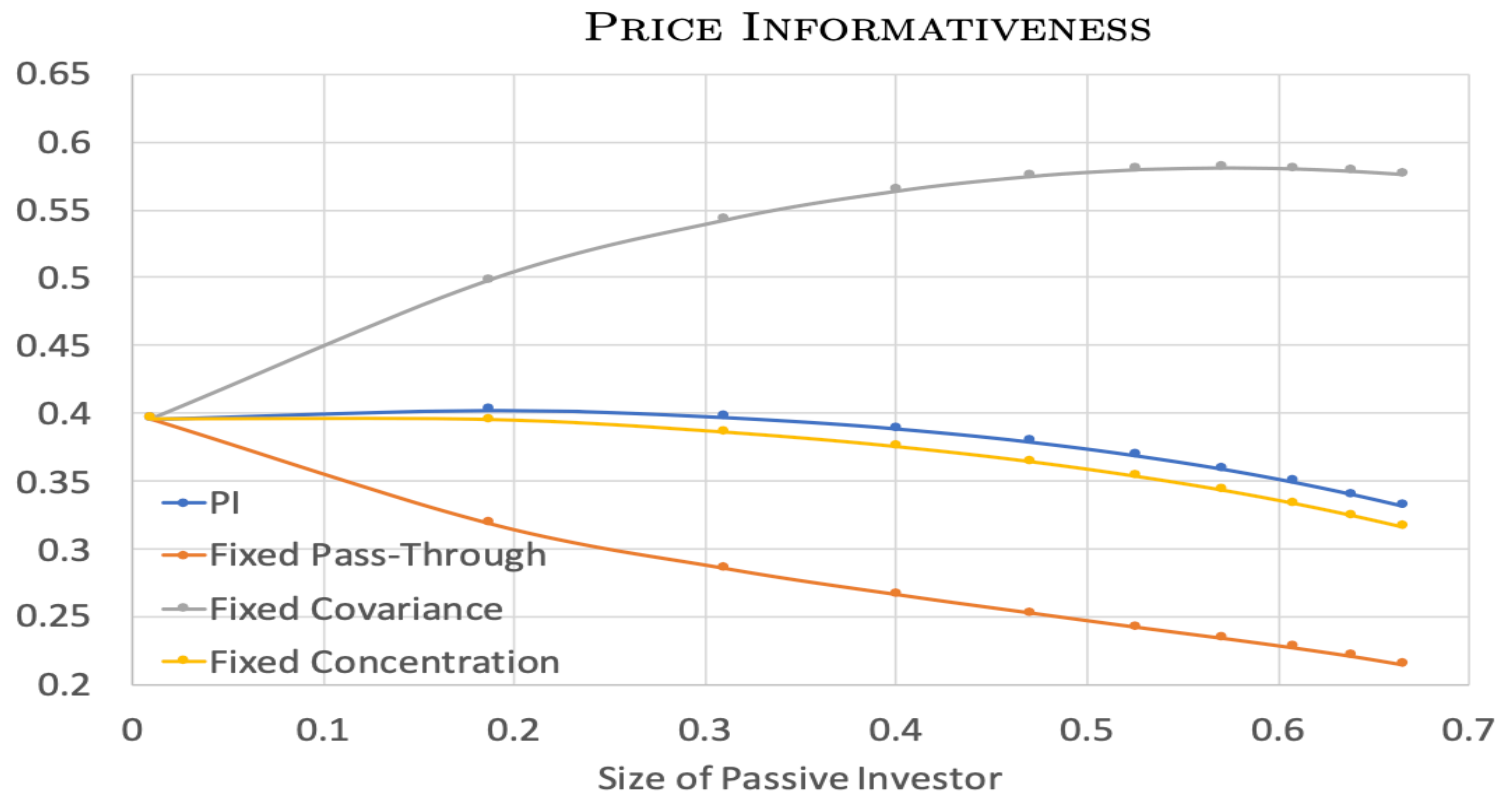
## PASSIVE VS ACTIVE

- Shift AUM from active to passive
  - Less active ownership  $\Rightarrow$  less active trade  $\Rightarrow$  PI  $\downarrow$
  - Less active ownership  $\Rightarrow$  less spreading of learning  $\Rightarrow$  pass-through effects and covariance effects potentially nonmonotonic response
- Heterogeneity in PI response for individual assets
  - As smaller active oligopolists specialize in learning
  - Some assets' PI drop (lower vol), others' increase (higher vol)

# Results: Theory

## NUMERICAL EXPERIMENT: PASSIVE VS ACTIVE

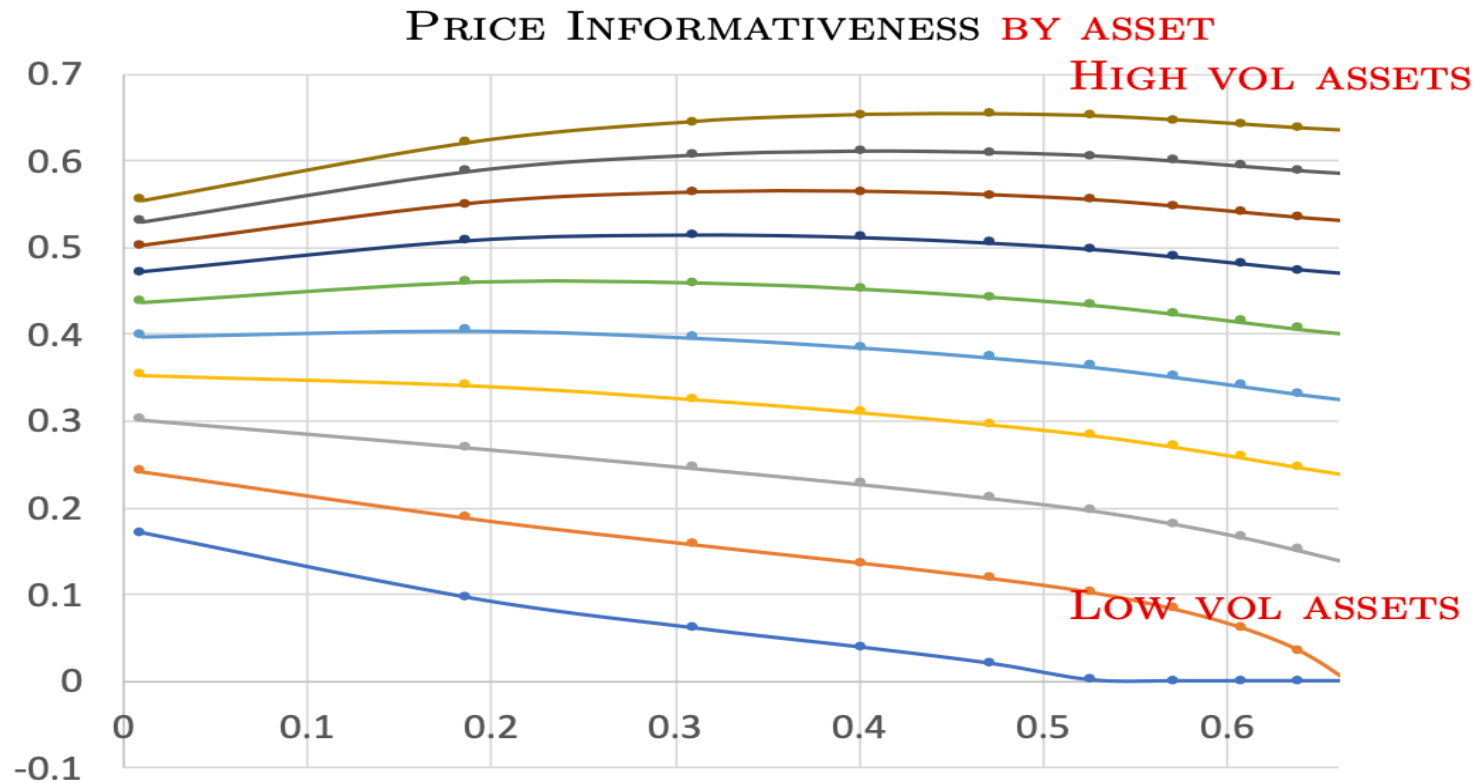
- Increase AUM of passive sector (Farboodi, Matray, Veldkamp (2017))



# Results: Theory

## NUMERICAL EXPERIMENT: PASSIVE VS ACTIVE

- Increase AUM of passive sector (Farboodi, Matray, Veldkamp (2017))





# Empirical Setting

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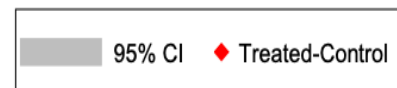
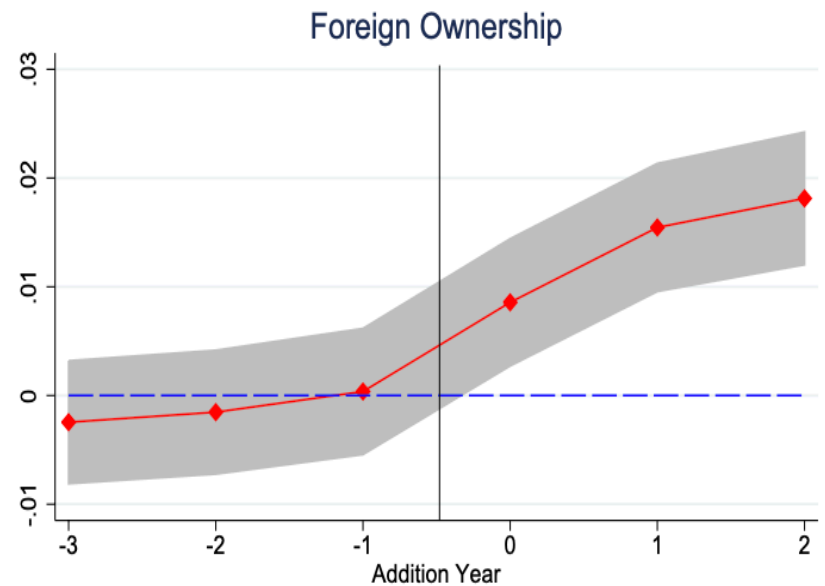
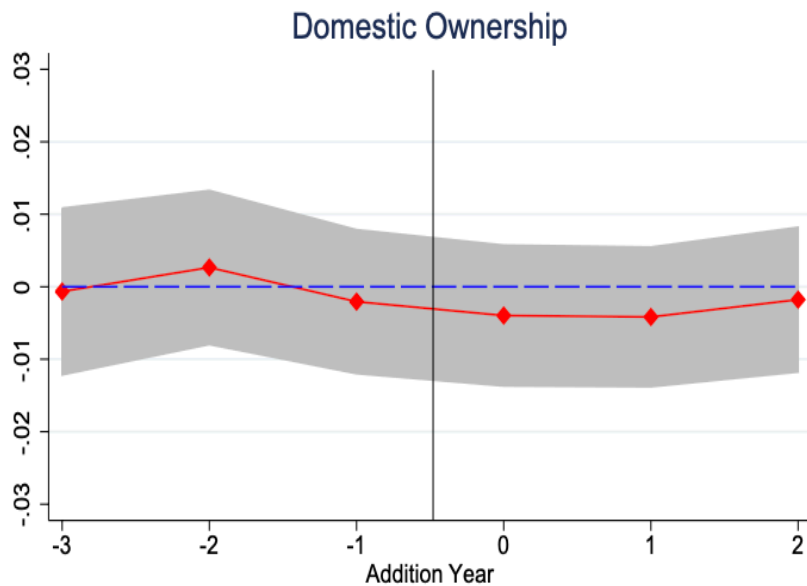
- Examine price informativeness (same definition as in theory) by:
  - Domestic vs. foreign investors
  - Active vs. passive investors
  - Stage of country's development
- Use MSCI index inclusion as a shock to relative ownership

# Results: Overall Sample

	(1)	(2)	(3)	(4)
	Classification 1		Classification 2	
	ACTIVE=Active Managed / PASSIVE=ETF&Index Funds		ACTIVE=Transient&Dedicated / PASSIVE=Quasi-Indexers&Index Funds	
	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$
$\log(M/A) * FOR\_ACTIVE E_{i,t}$	0.074*** (0.012)	0.065*** (0.014)	0.068*** (0.012)	0.066*** (0.017)
$\log(M/A) * FOR\_PASSIVE E_{i,t}$	0.174*** (0.046)	-0.076 (0.083)	0.142*** (0.032)	-0.020 (0.048)
$\log(M/A) * DOM\_ACTIVE E_{i,t}$	0.057*** (0.006)	0.037*** (0.009)	0.051*** (0.006)	0.033*** (0.010)
$\log(M/A) * DOM\_PASSIVE E_{i,t}$	0.081*** (0.026)	0.045 (0.033)	0.094*** (0.013)	0.058*** (0.019)
$\log(M/A)_{i,t}$	0.009*** (0.002)	-0.024*** (0.003)	0.009*** (0.002)	-0.024*** (0.003)
$FOR\_ACTIVE E_{i,t}$	-0.026* (0.013)	-0.078*** (0.020)	-0.020 (0.016)	-0.083*** (0.018)
$FOR\_PASSIVE E_{i,t}$	-0.055 (0.051)	-0.362*** (0.092)	-0.070** (0.030)	-0.201*** (0.041)
$DOM\_ACTIVE E_{i,t}$	0.007 (0.012)	-0.003 (0.013)	0.008 (0.012)	-0.003 (0.014)
$DOM\_PASSIVE E_{i,t}$	-0.033 (0.032)	-0.019 (0.044)	-0.009 (0.023)	-0.005 (0.027)
Controls	Yes	Yes	Yes	Yes
Observations	186,714	165,344	186,714	165,344
$R^2$	0.706	0.621	0.706	0.621

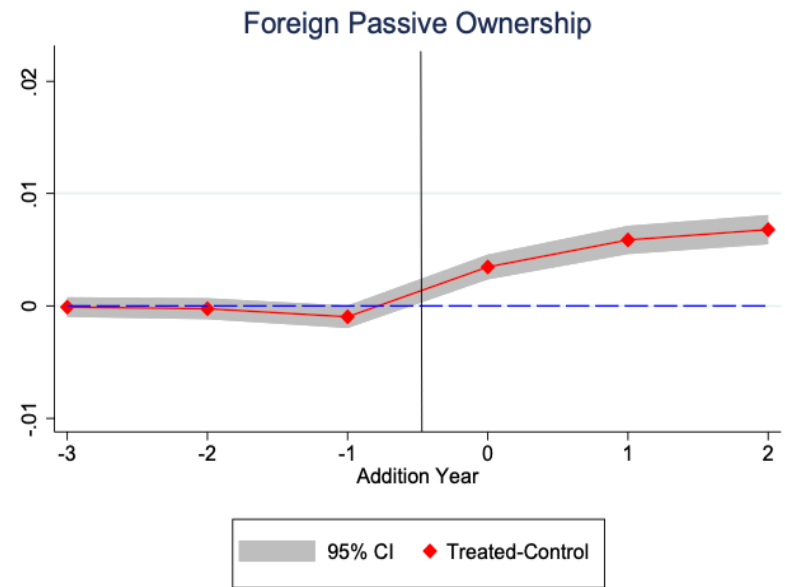
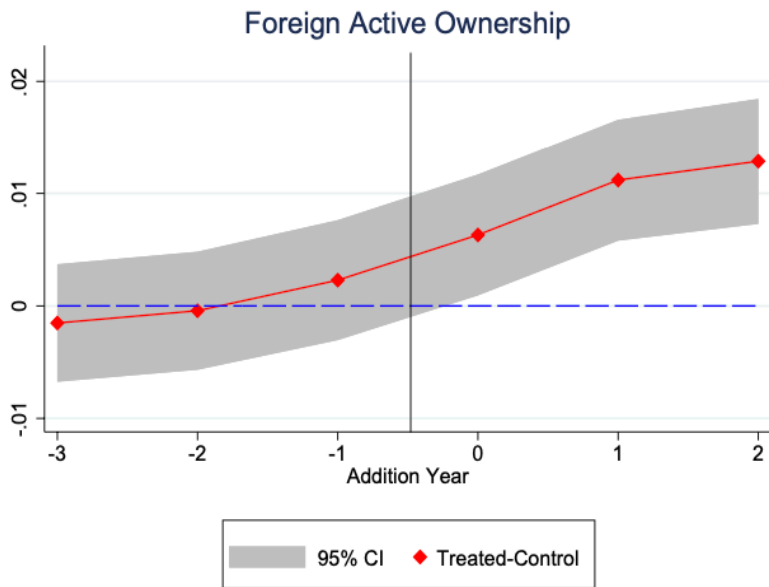
# Results: MSCI Shock (Foreign Ownership)

What happens when a stock gets included in the MSCI?

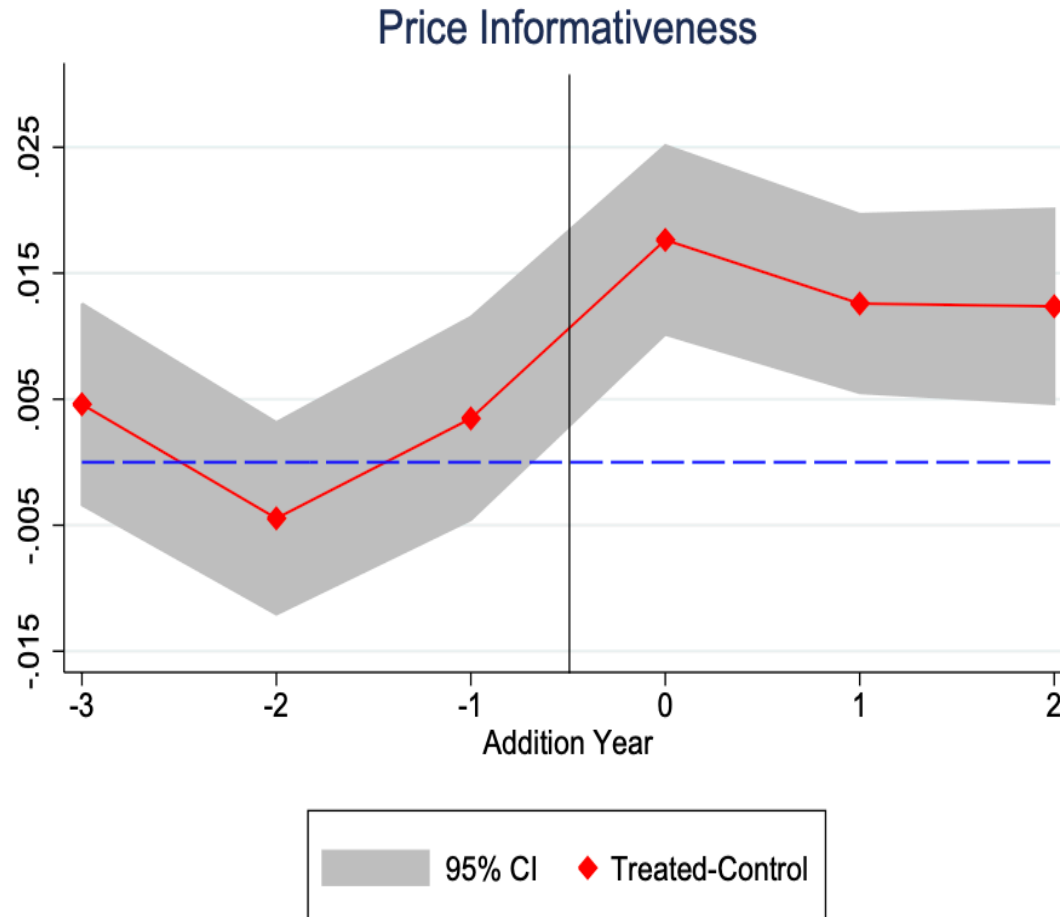


# Results: MSCI Shock (Active Ownership)

Panel A: MSCI Shock



# Results: MSCI Shock (Informativeness)



# Results: Long-Term Performance

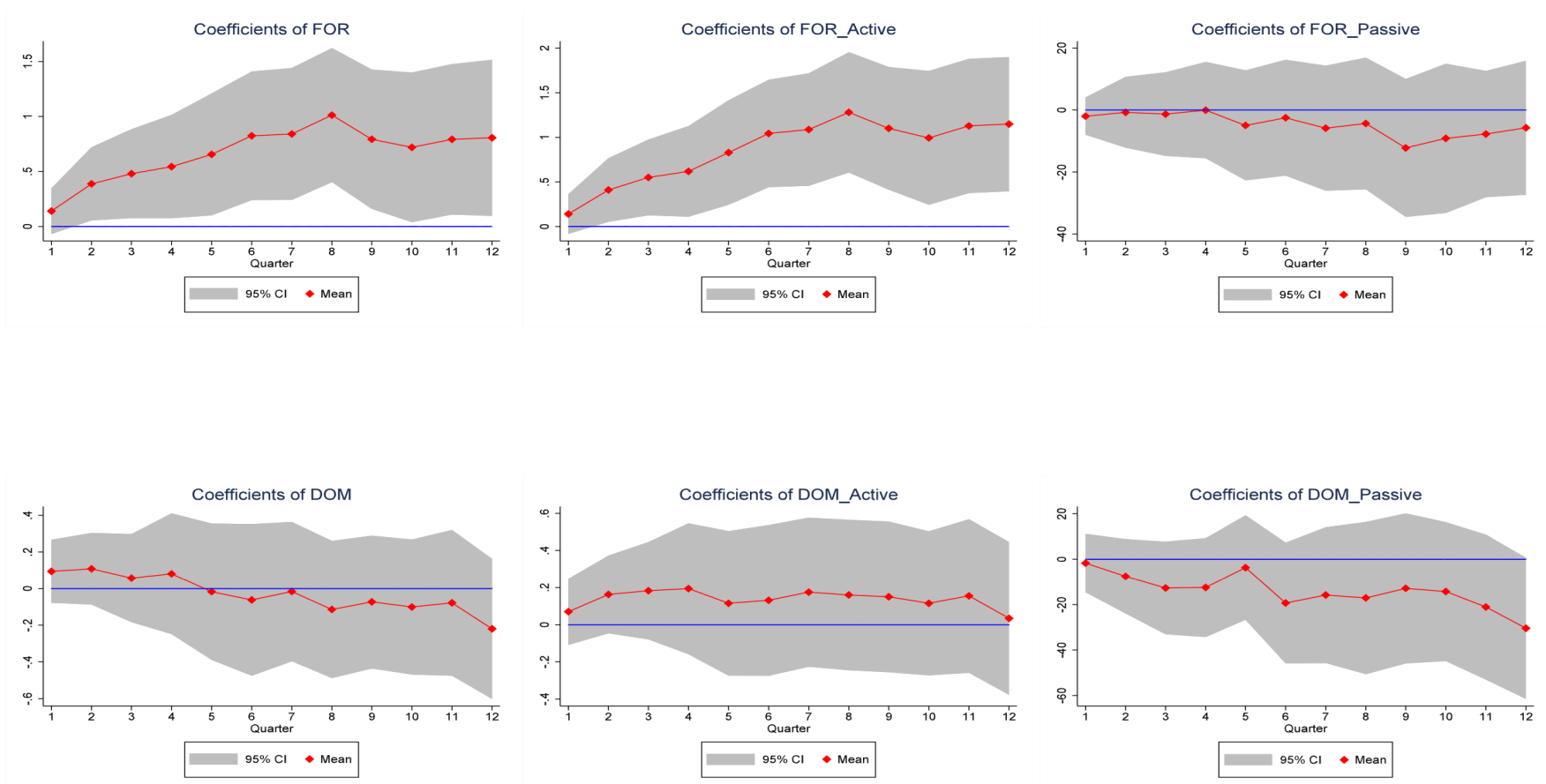


Figure 7: Long-term Performance of Institutional Investors

# Conclusions

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- Institutional investors improve price informativeness...
- ... but the effect is largely coming through active investors
- Restricting the participation of active investors induces an entry of passive investors and lowers price informativeness
- The effect depends on the origin of capital and the assets in which the capital is allocated