Data from Secondary Markets: Insights and Implications for Development

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DECFP

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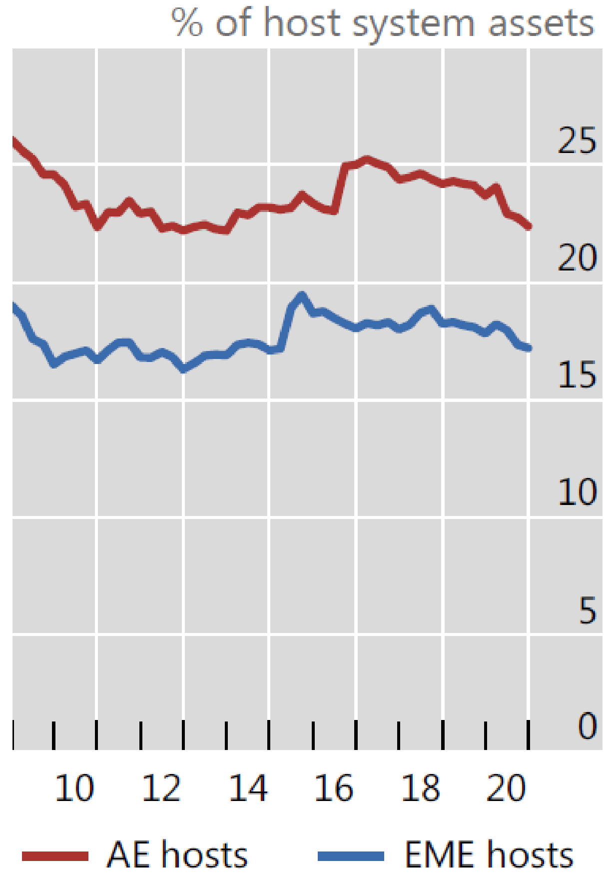
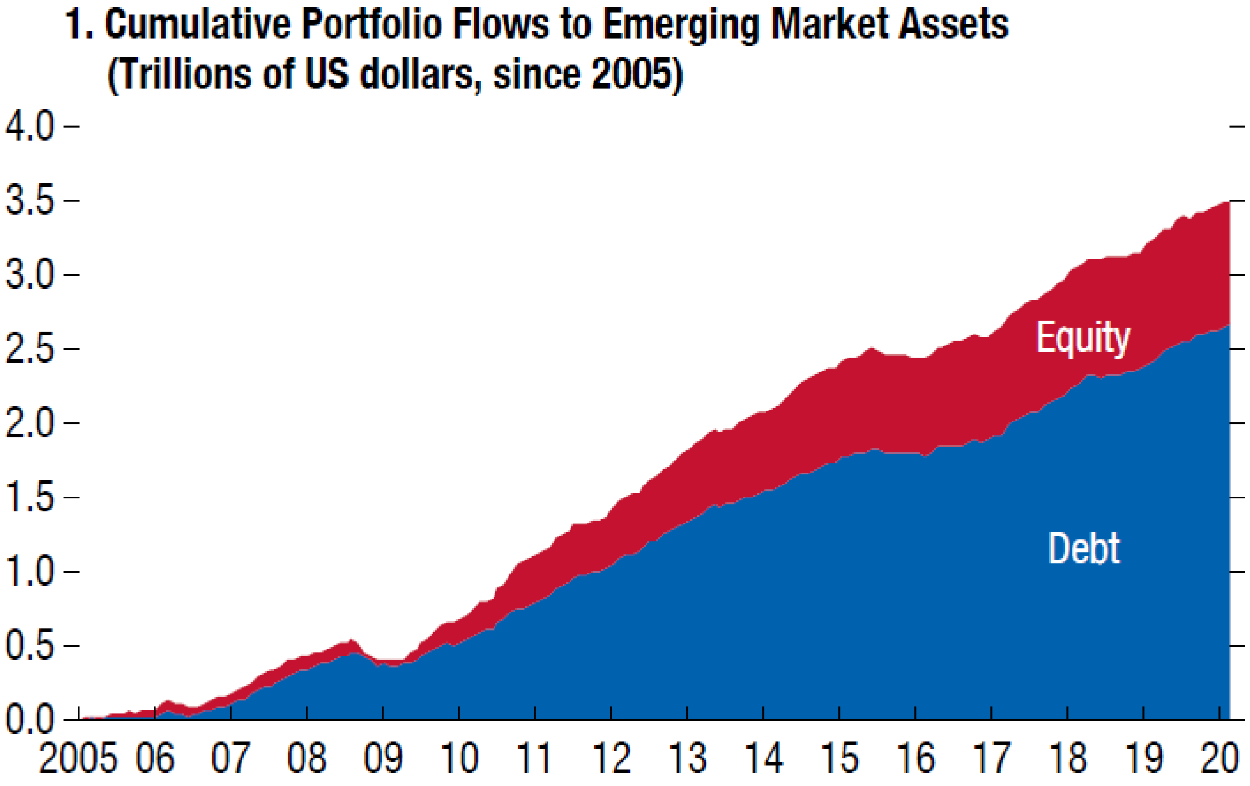
Cross-border financial assets
Banks vs. Non-bank Institutions

Foreign banks local presence mostly stable over time



Source: BIS (2022)

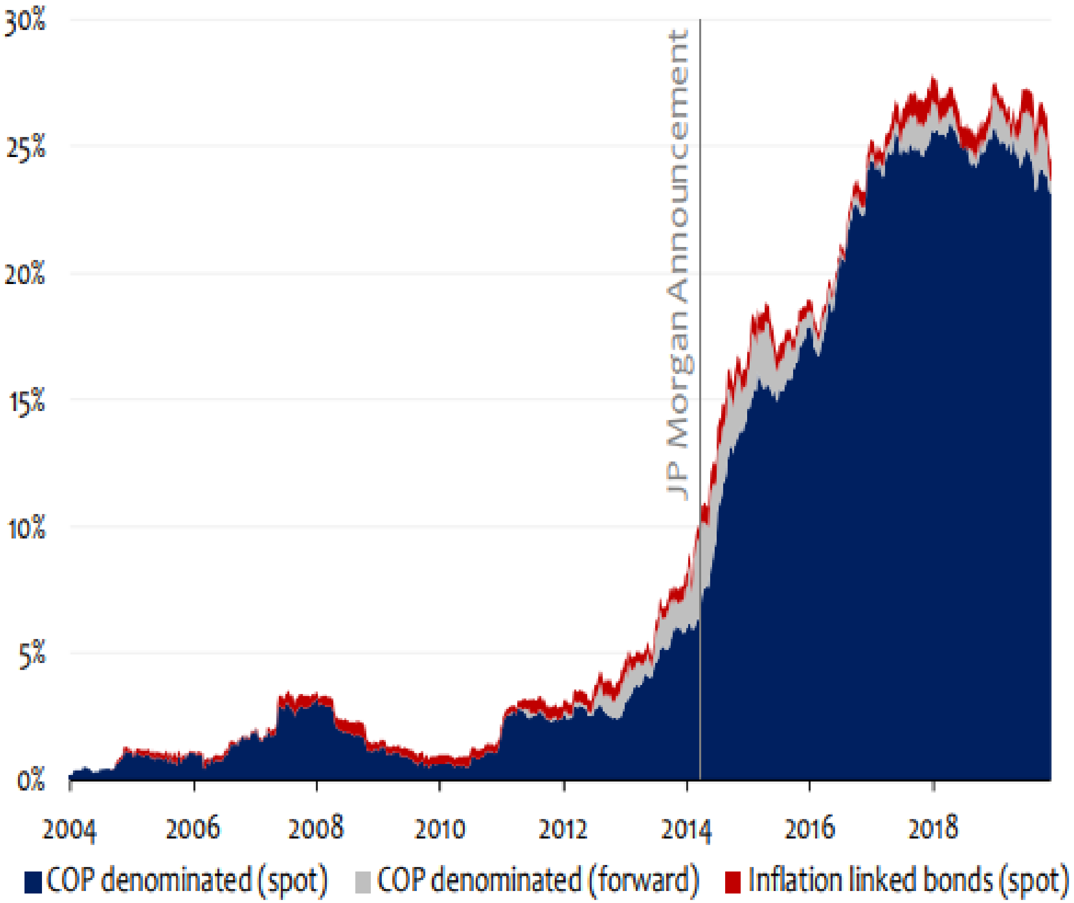
Large portfolio flows to EM since GFC



Source: IMF (2020)

… relative to domestic assets

Colombia: Holdings of sovereign bonds by non-residents (% of total debt outstanding)



Source: Romero et al. (2020)

- Portfolio disclosure of non-bank financial institutions and individuals is limited (including domestic investors)
- "You can tell that the value of global portfolio investment has soared, but not precisely where it is invested or by whom." Economist (2022)

This talk

- Research partnership: Universidad de la Sabana, World Bank, and *Bolsa de Valores de Colombia* – universe of transactions and ownership of Colombian Stocks/Bonds since 2006

1. Asset demand elasticity
2. Ownership concentration and liquidity
3. Stock market participation

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Asset demand elasticity

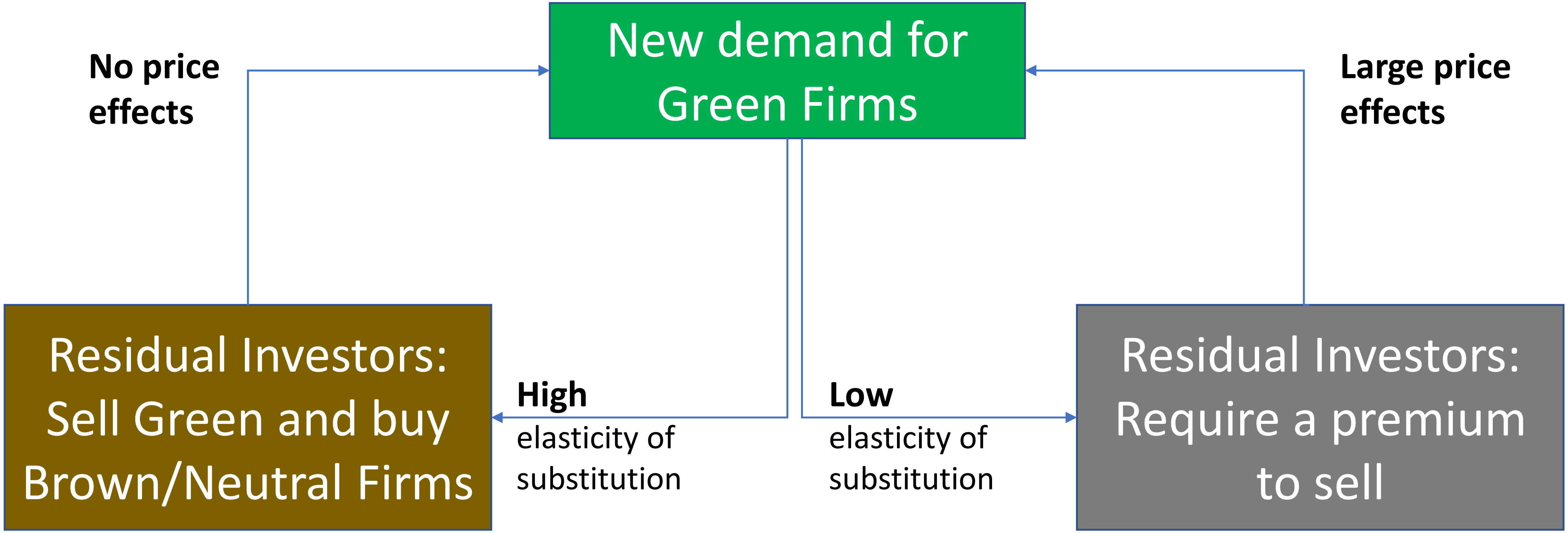
- How a shift in demand for specific assets will affect prices? What is the price impact of a 1% demand shock?

Key to understand many questions in financial economics (Koijen and Yogo, 2021):

1. How a shift in foreign assets demand affect domestic asset prices?
2. What is the impact of QE on asset prices? Distribution of duration and market risk across households and institutional investors
3. Changes in risk-based capital regulation of non-bank financial institutions could have an important impact on corporate bond yields
4. Asses how socially responsible investing affects firms' investment decisions through their cost of capital

Asset demand elasticity

- How a shift in demand for specific assets will affect prices? What is the price impact of a 1% demand shock?



Asset demand elasticity: Index rebalancing

- Addition/deletion of stocks into/from major indexes (e.g., S&P500, Russell 2000)
- Entail sudden and large demand shocks for affected securities
- Existing literature focuses on prices effects
- Currently no direct evidence on investor behavior (High frequency data on investors portfolio is unavailable, low-frequency only covers a subset of investors)
- Problematic to estimate demand elasticity for stocks (we need both prices and quantities)
- Estimates vary widely even within studies (Chang et al., 2015)

The Anatomy of Index Rebalancing: Evidence from Transaction Data

Escobar, Pandolfi, Pedraza & Williams (2021)

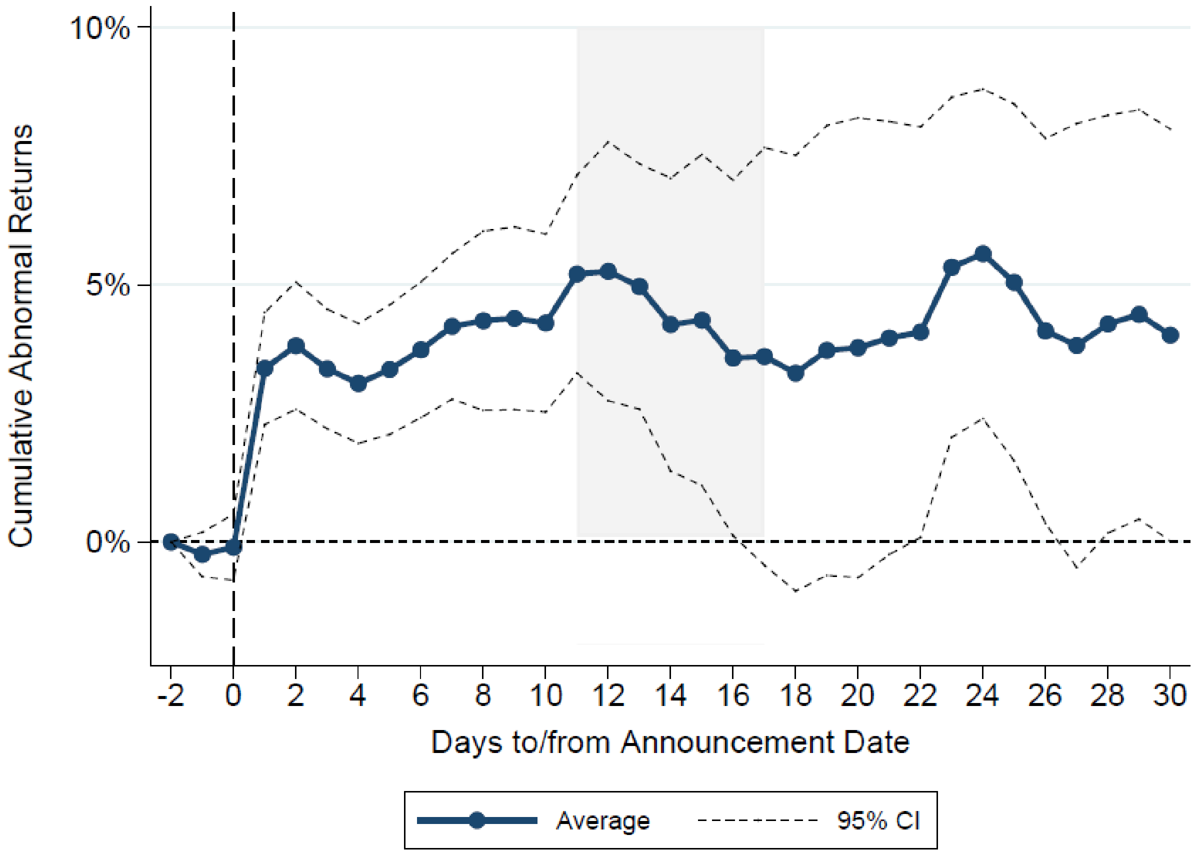
- Use addition/deletions of Colombian stocks from MSCI indexes to:
   i. Study price effects

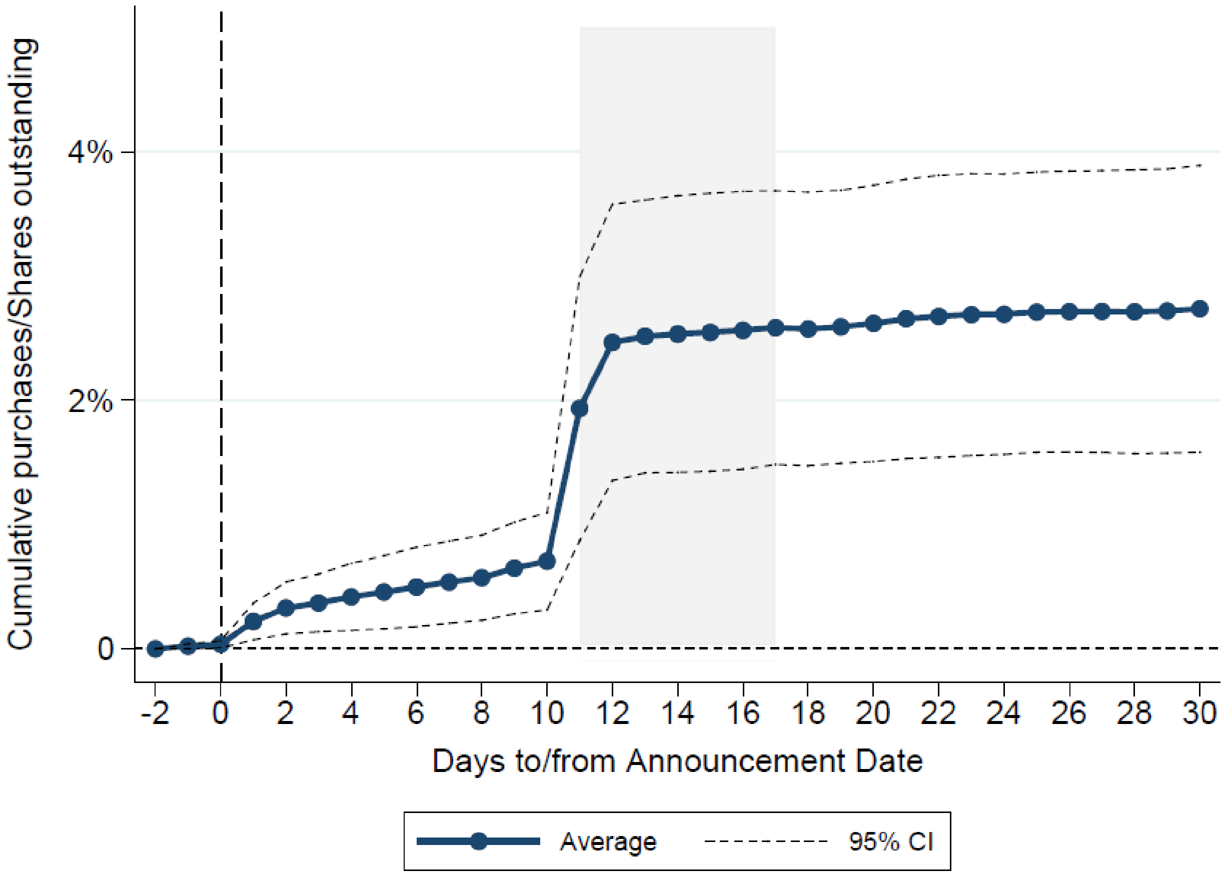
   ii. Examine changes in quantities, by investor type:

   iii. Estimate stock demand elasticity

Foreign Investors

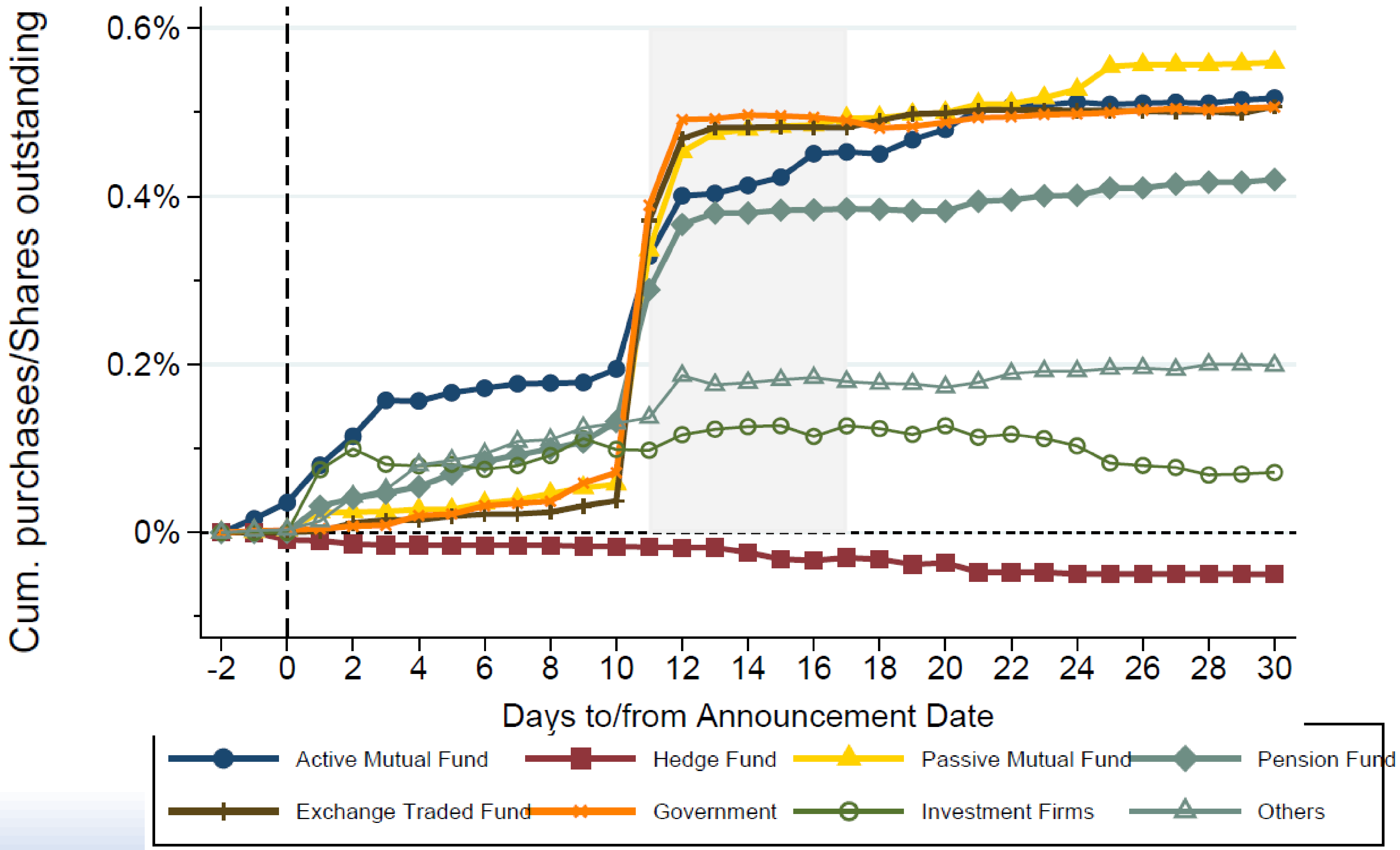
Index rebalancings





Foreign Investors

By type



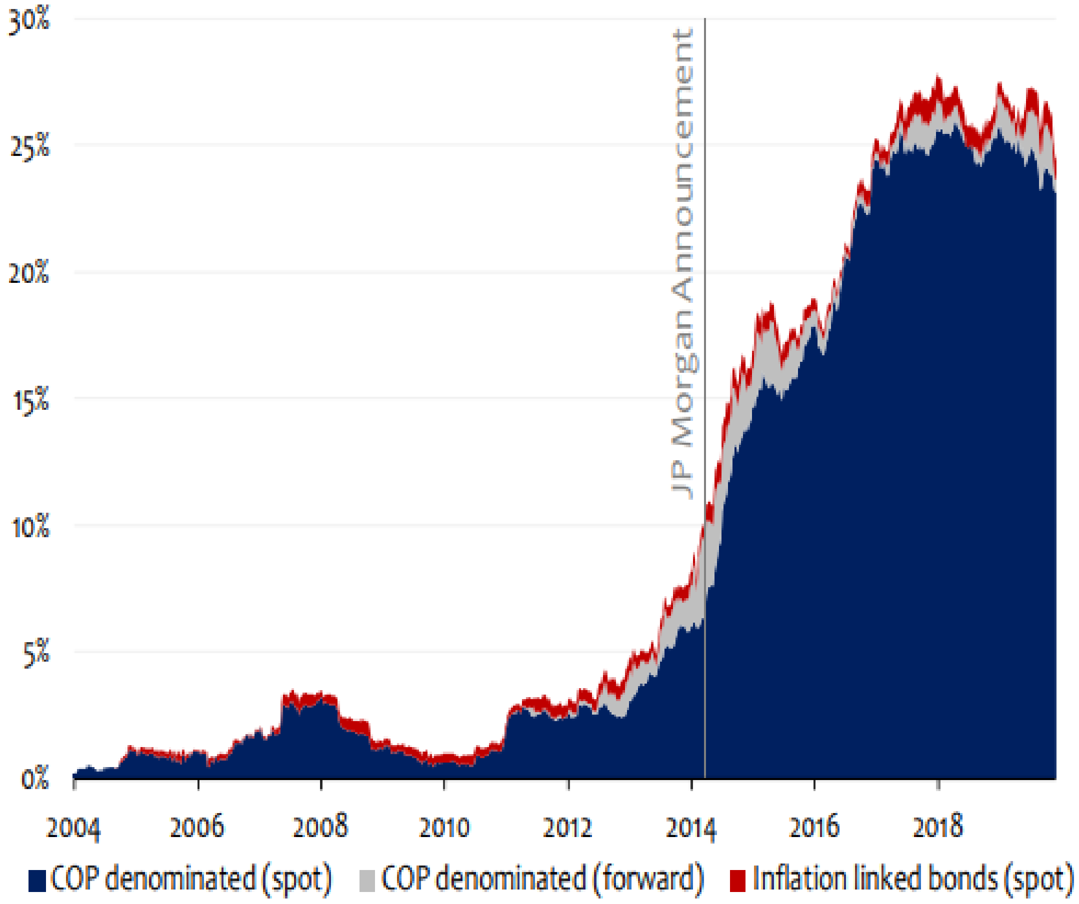
The Anatomy of Index Rebalancing: Evidence from Transaction Data

Escobar, Pandolfi, Pedraza & Williams (2021)

- Use addition/deletions of Colombian stocks from MSCI indexes to:
    1. Study price effects: MSCI inclusions entail a median CAR of 5.5% from announcement to implementation
    2. Examine changes in quantities, by investor type: Large increase in the demand by foreign investors (both passive and non-passive) which is not absorbed by arbitrageurs
    3. Estimate stock demand elasticity = -0.34; A 1% increase in demand leads to an increase of 3% in stock prices

Real Effects

Holdings of sovereign bonds by non-residents (% of total debt outstanding)



Williams (2018) – An example:

1. Inclusion of Colombian government bonds in JP Morgan index
2. Market makers (domestic banks) sold bonds to foreign investors
3. Increase credit in municipalities

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Domestic Institutions

Market concentration and business group affiliation

- Key players for financial development: provide funding for firms, enhance market liquidity (Stulz 1999a,b), and promote better corporate governance (Aggarwal et al., 2011)

In developing countries:

- Business groups dominate private sector activity –collections of listed and non-listed companies with significant amount of common ownership

- Money management institutions (pension funds, investment companies) typically have ties to these busines groups

Domestic Institutions

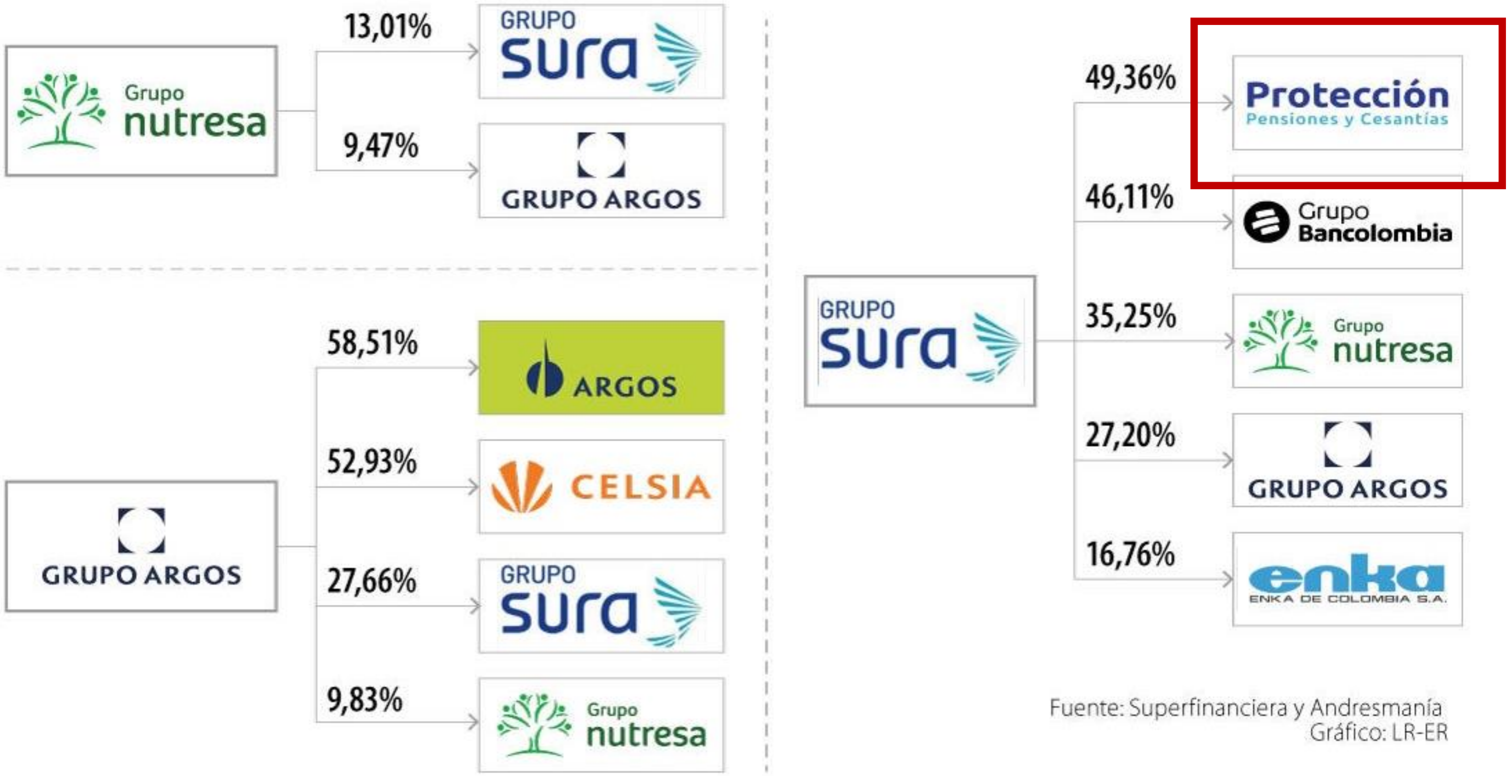
Market concentration and business group affiliation

- Potential frictions:
    a) Enhance managerial entrenchment
    b) Access to private information in affiliated firms

- Ownership concentration and business group ties exacerbate information asymmetries; might discourage investment and increase capital costs

Domestic Institutions

Business group example



Pension Fund Management Company

- Manages DC pension accounts
- Portion of domestic assets includes stocks from companies of the BG

Informed Trading in Business Groups

Pedraza (2020)

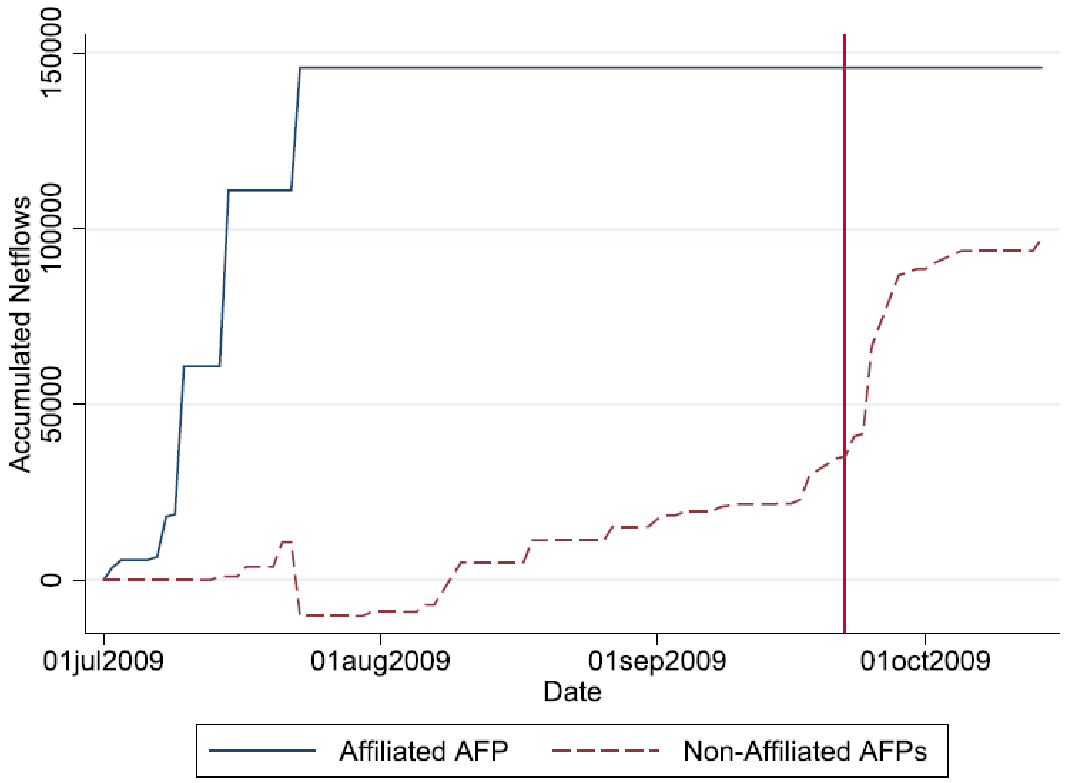
- Systematic evidence of informed trading by institutional investors in companies that belong to the same business group

Informed Trading in Business Groups

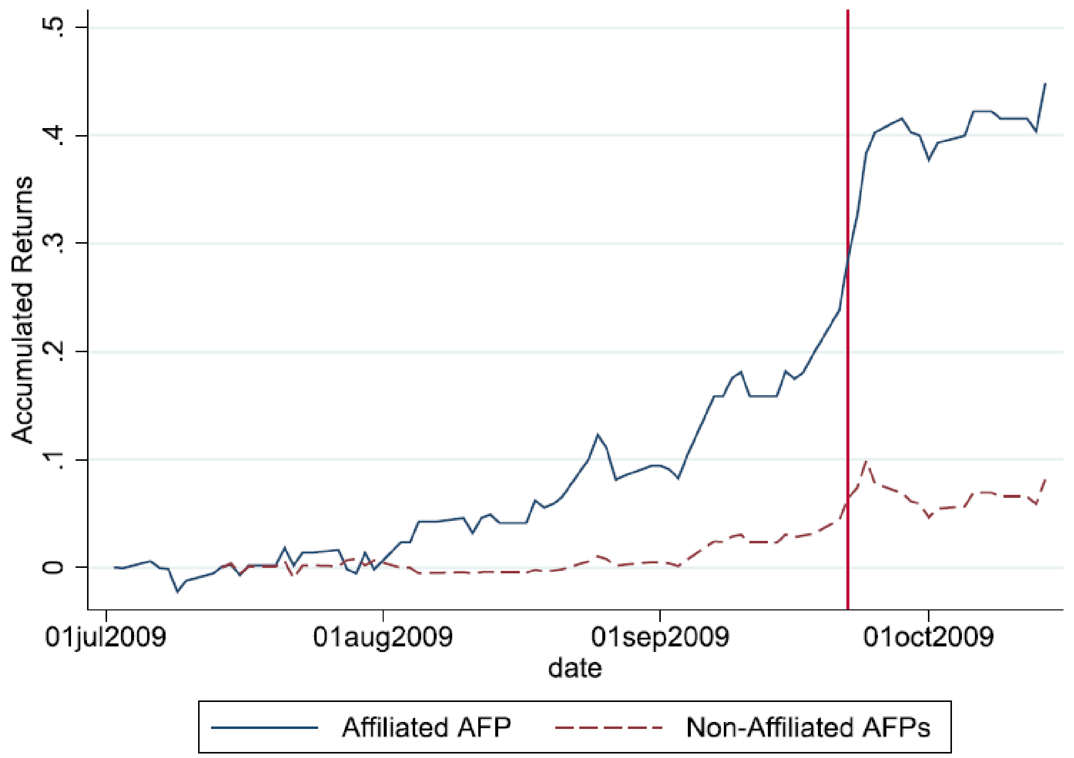
Pedraza (2020)

- Example: Trading around corporate news – M&A

(a) Accumulated Net Flows (number of shares)



(b) Accumulated Returns



Informed Trading in Business Groups

Pedraza (2020)

- Systematic evidence of informed trading by institutional investors in companies that belong to the same business group

- Trades by affiliated AFPs outperform the trades of non-affiliated AFPs in the same stock-month by 0.85 percent (11% per year)

Domestic Institutions

Key Implications

- Adverse selection discourages outside investors to participate in these markets; increase agency cost for minority shareholders
- Lower liquidity and higher cost of capital (Leaño & Pedraza, 2019): stocks trade at discount, 8 to 15%
- Higher cost of capital is offset by internal capital markets within BGs
- Reduces the incentives for IPOs of companies without BG affiliation. In equilibrium, majority of listed companies are state-owned or BG-affiliated

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Individual Investors

Social interactions and financial decisions

- Information sharing with peers plays an important role for investment decision making – stock market participation and portfolio choice (e.g., Duflo & Saez, 2003; Hong, et al., 2004; Bursztyn, et al., 2014)

- Social interactions improve financial literacy (Haliassos et al., 2020; Ouimet & Tate, 2020)

- Peer influence might be a conduit for spreading biases and investment mistakes (Hvide & Ostberg, 2015)

- Individuals invest actively and generate inferior returns. Do social interactions exacerbate or mitigate this tendency?

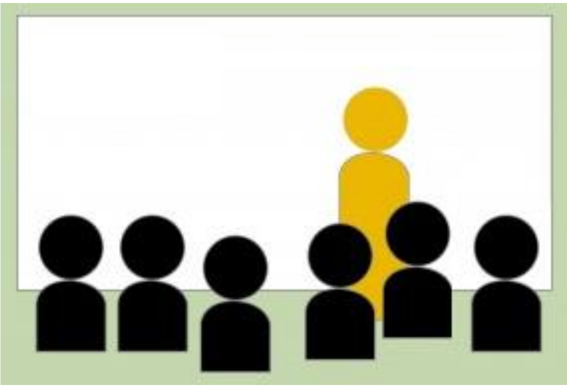
Active Trading and (Poor) Performance: The Social Transmission Channel

Escobar and Pedraza (2021)

- Identifies peer effects in stock market participation: How investment strategies are transmitted across individuals
- Natural experiment in a high-stakes environment: exogenous assignment of students in a financial training program
- Three sources of data: (i) Stock transactions, (ii) program enrollment, and (ii) survey on social interactions

Methodology

1. No experienced students



2. Some students with trading background

2.A. Negative outcomes

2.B. Positive outcomes

- Examine stock market participation among inexperienced students
- Strategies and performance

Results: Market entry

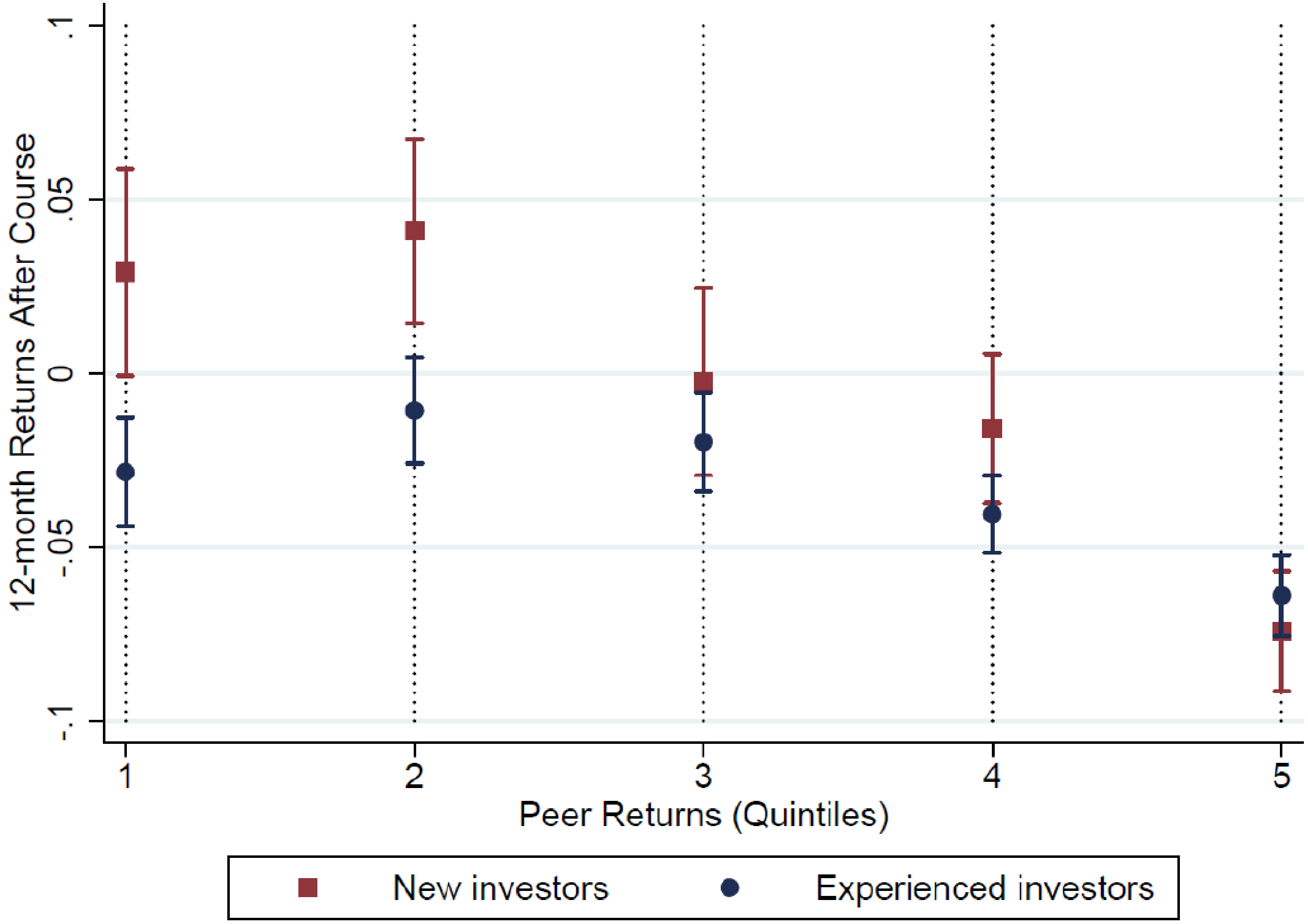
i. Exposure to classmates with trading background leads to higher stock market participation

ii. Positive peer returns increase market participation among classmates

iii. No marginal effect from negative peer outcomes on market entry (Kaustia & Knupfer, 2012)

iv. Stock purchases of new investors and experienced classmates are highly correlated

Investor performance



Sample of students entering the market after completing their course (1,350) + experienced students that continued trading

Results: Performance after training

v. Experienced students obtain worse returns than new investors, specially those with the highest returns prior to the course

vi. New investors that shared a classroom with “successful” peers underperform other rookie investors

Positive returns attract new investors → result from portfolios with high idiosyncratic volatility → direct spillovers in stock selection → social interactions promote the adoption of high volatility strategies even without inherent preference for volatility

Conceptual Framework

Social transmission bias (Hirshleifer, 2020)

- Self-presentation & positive self-view: In social settings individuals are selective about the information they want to share with others (Schlenker, 1980; Leary & Kowalski, 1990)
- Transmission of signals are biased toward positive outcomes: “investors like to recount to others their investment victories more than their defeats” (Han et al., 2020)
- Learning under selective communication:
  - Biased signals from peers disproportionally attract uninformed individuals to equity trading
  - Overestimate the value of active trading and generate inferior returns

Individual Investors

Lessons

- Important to understand the sources of communication bias within a social group
- Selective communication seems to play a key role in the transmission of ideas, and—most importantly—in the behavior of people exposed to biased information
- Potential benefits to targeting policy interventions to people with central positions in the social network, who are likely to receive and disseminate biased signals
- Individuals trying to time the market with their pension savings generate large price pressure and increased volatility in financial markets (undermine price discovery): Da et al., (2016)

Final remarks

- Cross-border investments involve issuers covered by regulators in one country and buyers covered by regulators in another

- Portfolio-holdings data is helpful to reveal the opportunities and challenges to develop equity and bond markets

- Private equity flows often lags flows to listed companies. Important source of funding with uncertain future