# On the Rise of Payment Firms

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# Summary

- Research focus
  - Payment Firms
  - An increasingly important type of financial intermediary
- Ambitious question that inspires future research
  - Stylized facts on the growth of payment firms
  - Explore the source underlying the pattern

# Main Findings

- Payment firms
  - Exponential growth in the past decade
  - Market cap/profitability: exceed banks
- Maybe related to the fast growth of the E-Commerce sector
  - Two approaches
- First approach: stock return co-movement
- Second approach: based on micro-level transaction level data
  - A large, online furniture retailer from Germany
  - Available payment options: Buy-now-pay-later (51%), PayPal (29%), credit card (10%)
  - Use different shocks to show that payment availability is important for transaction completion

# Payment Firms: Stylized Facts

- Measure: based on business description keywords and SIC codes
  - 116 payment firms

| Rank | Payment Firms | Banks | Brokers, Dealers, Non-Dep. Institutions | Insurance |
|---|---|---|---|---|
| 1 | Visa (465bn) | JP Morgan (387bn) | Morgan Stanley (124bn) | United Health (332bn) |
| 2 | Mastercard (355bn) | Bank of America (262bn) | Blackrock (110bn) | Anthem (79bn) |
| 3 | PayPal (275bn) | Citigroup (128bn) | Charles Schwab (100bn) | Cigna (74bn) |
| 4 | Square (99bn) | Wells Fargo (125bn) | Goldman (95bn) | Marsh & McLennan (59bn) |
| 5 | American Express (97bn) | US Bancorp (70bn) | CME (65bn) | Progressive Corp (58bn) |
| 6 | FIS (88bn) | Truist (65bn) | ICE (65bn) | Humana (53bn) |
| 7 | Fiserv (76bn) | PNC (63bn) | Capital One (45bn) | Metlife (42bn) |
| 8 | Global Payments (64bn) | BNYM (38bn) | Blackstone (44bn) | Travelers (35bn) |
| 9 | Discover (28bn) | State Street (26bn) | MSCI (37bn) | Centene (35bn) |
| 10 | Fleetcor (23bn) | First Republic (26bn) | T. Rowe Price (35bn) | Verisk (34bn) |

Several observations:

1. Measurement issue
2. Top 3 payment firms: 70% of top 10 market cap

   (Top 3 banks: 65%)

# Stylized Facts: Wishlist

- More dimensions of the pattern
- What is the frac. of top 10 payment firms relative to the entire sector?
  - Further validates measurement
  - More information on market structure
- More on the time series trend
  - Currently only the aggregate trend for the payment firm sector
  - Decomposition
    - Credit card firms (Visa, Mastercard, Amex, Discover)
    - Other payment solution firms (PayPal, Square, etc.)
    - Especially the top three firms on the list
  - Different business model and reliance on E-Commerce

# Micro-level Evidence: Interpretation

- Evidence: Payment option availability relevant for transaction completion
  - Payment firm’s bargaining power vis-a-vis E-Commerce firms
- My reading: payment service plays a significant role for E-Commerce
- Is this finding unique to E-Commerce merchants?
  - How would the evidence differ if the same analysis is performed for an offline retailer?
  - Is payment option availability not a significant factor for offline transactions?
  - if not, then why is payment firms much more correlated with E-Commerce?
- How is E-Commerce different from Brick-and-Mortar in the demand for payment services?

# Micro-level Evidence: Interpretation

- Payment convenience?
  - Less demand for cash?
  - But credit cards are also used heavily in B&M retailers
  - Top 2 payment firms are traditional credit card firms
- More access to liquidity and credit?
  - Credit or liquidity facility provided by the retailer (collaborating with payment firms)?
  - Leverage big data advantage
  - BNPL in the micro-evidence is one example: current evidence suggests a stronger effect on transaction completion
  - Same caveat on the relevance since top 2 payment firms are traditional credit card firms
- Another possibility: technology development consolidates payment method

# Micro-level Evidence: Empirical Analysis

- Data are at the transaction level
- Observe detailed information on transactions
- Observe customer identity?
  - Identify multiple purchases by the same consumer
  - Not obvious
- Dependent variable: transaction success dummy
- Possible that the same customer returns to purchase after experiencing the negative shocks to payment availability?
  - Use a different accepted payment method
  - Return with the required additional information to start a new purchase (e.g., credit card verification password)

# Micro-level Evidence: Empirical Analysis

- Evidence on the relevance of PayPal
- Using PayPal outages to extract exogenous variation in payment availability
  - Based on tail of the distribution of the search index
- Confounding factors?
  - Correlated with other factors that may affect other payment methods?
  - If specific to PayPal, also possible to attract customers from other online retailers

# Other Minor Comment

- Asset pricing evidence
- Co-movement of stock prices between payment firms and E-Commerce firms
  - E-Commerce minus Brick-and-Mortar (EMB) factor
- Proxy for brick-and-mortar stores: S&P 500 consumer subsectors
  - Include E-Commerce firms, likely larger ones
  - Implication: EMB captures the return difference between smaller E-Commerce firms and BM firms? How much of the growth in E-Commerce is driven by the larger firms?
  - Suggestion