FinTechs and the Market for Financial Analysis

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“With 80% of the data in the world created in the last two years, judgment matters more than ever. Technology is a complement to sound judgment and knowledge, not a substitute.”
– Joyce Chang, Global Head of Research, J.P. Morgan
Overview

Research Question

**Ideal**: Prices that fully reflect available analysis, providing accurate signals for investors to allocate capital.

- Yet gains to informational efficiency since 1960 have been modest (Bai, Philippon, and Savov (2016)).
- FinTechs have the potential to significantly disrupt this status quo.

**RQ**: Do FinTechs affect the production of financial analysis? If so, how?

- FinTechs don’t provide original research rather they aggregate and streamline others research.
- “Aggregation” implies FinTechs could serve as substitutes or complements to analysts. This economic tension, in turn, could impact analyst’s research quality.
Overview

Literature Review

Analysts Role in Capital Markets: Extensive, mature literature.

Big Data and Information Aggregators: A few published pieces and recent working papers.

Broader Economics Literature: Papers on media and bias.
FinTechs as a Complement

- Without FinTechs, investors need to search for financial analysis.
- With FinTechs, investors learn the best analysts and click-through to their research.
FinTechs as a Substitute

- With FinTechs, investors learn the best analysis is from bloggers so skip analysts’ research.

- With FinTechs, investors rely only on the signal and forgo reading original-content financial analysis.

<table>
<thead>
<tr>
<th>Filter Opinions</th>
<th>Blogger Name</th>
<th>Blog</th>
<th>Sentiment</th>
<th>Date</th>
<th>Follow</th>
<th>Article</th>
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<td>8 days ago</td>
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Grennan (Duke University)
What We Do

1. **Data:** Gather novel data on FinTechs, financial analysis online, and how investors discover such analysis.
   - Business plans for 290 FinTechs, 1.3 million pieces of financial analysis, and click data for over 1 million investors.

2. **Descriptive statistics:** Show how noisy online analysis is and how FinTechs streamline such analysis.

3. **Regression evidence:** Explore how the market for financial analysis changes when FinTechs enter. We find support for two responses:
   - **Investor Response** – Analyze internet click data to determine if FinTechs are substitutes or complements for original content.
   - **Analyst Response** – Analyze quality of research reports where FinTechs concentrate in an instrumental variable framework.
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Is the Financial Analysis Online Any Good?

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3. Investors mostly skim. Investors views 16 pages of financial analysis on blogs in 6.6 minutes per month.

4. The analysis they read is probably bad. 90% of the time, the market-adjusted returns to blog recs were negative at an investment horizon of 6 or 12 months.
FinTechs Aggregate and Synthesize Existing Analysis

- We observe 290 FinTechs with a mean founding year of 2008.

- 72% of the FinTechs target retail investors and 60% target professional investors with some targeting both.

- Capabilities include: aggregating financial news (83%), datamining for investment signals (57%), evaluating and ranking existing financial advice (27%), crowdsourcing financial advice (16%), and aggregating financial bloggers and analyst (11%).

- These are legitimate businesses. On average, they have 5 investors, raised $10 million in funding, and have 70 employees.
A Key Role of FinTechs is to “Aggregate”

- Aggregating info from analysts.

- Aggregating and evaluating the info.

**Wall Street Analysts Ride The Micron Earnings Train**

2017 Sep 27, 12:17pm

**Analyst Color:** Baird, Betsy Van Hees, Earnings, Joseph Moore, Kevin Cassidy, Long Ideas, Loop Capital

Micron Technology, Inc. (NASDAQ: MU) shares jumped 8 percent Wednesday after the company topped market expectations for fiscal fourth-quarter revenue and EPS and issued forward guidance above Wall Street’s expectations. A number of Wall Street analysts weighed in on Micron following the... [Read More >>]

**Queso Performance For Chipotle Said To Be ‘Underwhelming’**

2017 Sep 27, 12:12pm

**Analyst Color:** Andrew Strelzik, BMO Capital Markets, Chipotle, CMG, Queso, restaurants, Price Target

Investors hoping Chipotle Mexican Grill, Inc. (NYSE: CMG) would see a notable boost from its new queso offering may want to reconsider their thesis, at least according to analysts at BMO Capital Markets. The firm’s Andrew Strelzik maintains a Market Perform rating on Chipotle’s stock with a price... [Read More >>]

**Sentiment Indicators**

Understand the potential impact of a story with positive and negative sentiment indicators.
New Data Shows How Investors Find Analysis Online

- ComScore data measures how consumers use the Internet.
- Rotating sample of 50,000 internet users per month (designed to be nationally representative of U.S. households).
- Collect detailed browsing behavior at the website level on personal computers and mobile devices.
Do FinTechs Serve as Substitutes or Complements?

- FinTechs divert attention from original analysis.

- Users visit 57% fewer original-content websites, view 55% fewer pages, and spend 34% less time there when they visit a FinTech website.

<table>
<thead>
<tr>
<th></th>
<th>Reads original-content financial analysis</th>
<th>Dep. var. = Page views of original-content financial analysis</th>
<th>Time spent on original-content financial analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>User visits a FinTech website</td>
<td>-57.4*** (0.10)</td>
<td>-55.0*** (0.36)</td>
<td>-33.7*** (0.38)</td>
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<tr>
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<tr>
<td>Adjusted R-squared</td>
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<td>6.5%</td>
<td>6.7%</td>
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<tr>
<td>Observations</td>
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<td>1,090,746</td>
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**Conclusion:** FinTechs are substitutes.
Do Analysts Respond to FinTech Competition?

1. **Traditional View:** FinTechs make it more difficult for financial analysts to suppress unfavorable information. This incentivizes analysts to produce **less biased, more accurate** financial reports.

2. **Alternative View:** FinTechs through aggregation divert attention from analysts. This incentivizes analysts to produce **more biased, less accurate** financial reports.

3. **Intensive Margin:** FinTechs change the likelihood that reputation would be damaged from catering to conflicts of interest.

4. **Extensive Margin:** FinTechs change an analyst's outside job options. This leads to compositional changes in analysts.
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Test Linking Analysts’ Research Quality to FinTechs

\[ \text{ReportQuality}_{it} = \alpha + \beta \text{FinTechs}_{it} + \Gamma X_{it} + f_i + \delta_t + \epsilon_{it} \]

Obs. at the level of stock \( i \) in quarter \( t \).

\( \text{ReportQuality}_{it} \) is consensus analyst optimism bias or accuracy.

\( \text{FinTechs}_{it} \) measures the competition from non-traditional sources for equity \( i \) in quarter \( t \).

\( X_{ijt} \) is a vector of observables (analyst coverage, firm size, market-to-book, volatility, etc.)

\( f_i \) is an equity fixed-effect; \( \delta_t \) is a quarter fixed-effect.

**Instrument** for \( \text{FinTechs}_{it} \) using newspaper titles that heighten psychological biases to induce interest.

- **Relevance**: Those that supply non-traditional analysis aren’t limited in their coverage, so write about what is on their mind.

- **Exclusion restriction**: Titles are random since they are at the editor of WSJ, Financial Times, etc... discretion.
FinTechs Increase Analysts’ Optimism Bias

- FinTech concentration is associated with a 0.5 standard deviation increase in optimism bias (cross-section); 0.2 increase (within).
- In aggregate, this represents a 22% increase in optimism.

<table>
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<th>Dep. Var. = Analyst Bias (As % of EPS)</th>
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<tr>
<td>Time Fixed Effects</td>
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<td>Adjusted R²</td>
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FinTechs Decrease Analysts’ Forecast Accuracy

- FinTech concentration is associated with a 0.7 standard deviation decrease in accuracy (cross-section); 0.2 decrease (within).
- In aggregate, this represents a 17% decrease in accuracy.

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Data supports both intensive and extensive margin responses.

**Intensive margin:** The change in reporting quality is greatest for stocks where analysts’ conflicts of interest are strongest. The same analyst is more biased for affiliated stocks (e.g., brokerage has underwriting or advising relationship). Similar results when compare independent vs. non-independent analysts.

**Extensive margin:** The changing pool of analysts explains part of the change in reporting quality. Less experienced analysts contribute more to the bias.
Statistical Tests Suggest Robust Finding

1. Definition of accuracy and bias.
   - Mean vs. median measures of accuracy and bias.
   - Accounting vs. finance literature definitions of accuracy and bias.

2. Level of analysis.
   - Equity vs. analyst-level of analysis. Analyst level allows for many more controls.

3. Construction of instrument.
   - Limiting set of newspapers. Limiting to those with highest coverage.

   - Limit to only high-quality online analysis.
Conclusion

1. **Original data:** Gather novel data on FinTechs, financial analysis online, and how investors discover such analysis.

2. **FinTechs are substitutes:** FinTechs divert attention from deep information producers such as sell-side analysts. We show that investors who visit a FinTech are 57 percentage points less likely to view original-content research.

3. **Information production changes in response:** Analysts respond to FinTech entry by producing less accurate, more biased research. Hence, FinTechs should not be viewed as traditional competition.

4. **Next Steps:** Evaluate the asset pricing consequences of FinTechs entry into the market for financial analysis.