# Push to Read and Trade

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## Introduction

In the digital age, individual investors increasingly rely on mobile apps for real-time market updates. This study examines the impact of mobile push notifications on investor behavior, distinguishing the effects of the notifications from the news content itself. Utilizing a natural variation where approximately 7% of push notifications *fail* to reach investors due to technical issues, I create a quasi-experimental setting. My preliminary results indicate that push notifications significantly shape investor behavior, prompting both passive news consumption and active stock research. Notably, successful notification delivery enhances news reading time and stock click rates, particularly for stocks included in investors' watchlists, portfolios, or focus lists.

## Research Questions


- How do investors react to mobile alerts?
- How to disentangle pushes from news?
- Do push notifications impact asset prices?

## Motivations

- Investors are increasingly using mobile apps for news consumption.
- Pushed news remains in the notification center until checked or dismissed.
- Components of mobile push notifications:
  - News/information/trading signals
  - Exogenous attention triggers
  - Information on other investors' information sets

## Empirical Challenges

- Push notifications are endogenous; platforms do not send them randomly.
  - The platform's recommender system matches features between news and investors.
  - As a result, investors are more likely to receive pushes about stocks they are closely tracking, such as those on their watchlist.

⇒ Ideally, I would like to understand the impact if the investor did *not* receive the push.

## A Natural Experiment

"Fortunately," the platform cannot always guarantee the delivery of push notifications. About 7% *fail* to reach investors' devices due to platform-side issues, such as network congestion. These pushes fail unexpectedly. I compare investors who receive the push notifications with those who do not, due to these platform-side technical issues.

- Add news- and user-level fixed effects
- Control for user-time level variables (e.g., daily online time)
- Control for user-stock-time variables (e.g., if the stock is in the watchlist)

## Preliminary Results: Push Triggers "Active" Stock Research

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|---|---|---|---|---|---|---|---|
| | Log Stock Click Count 24-hour *pre*- and *post*-Push | | | | | | |
| | [-24:0] | [0:1] | [0:1] | [0:1] | [1:24] | [1:24] | [1:24] |
| Push Succ Dummy | 0.000 | 0.027*** | 0.036*** | 0.032*** | -0.003 | 0.002 | -0.002 |
| | (0.135) | (12.851) | (17.114) | (15.563) | (-1.196) | (0.659) | (-0.794) |
| 𝟙(In Watchlist) | 0.580*** | 0.207*** | | | 0.529*** | | |
| | (42.341) | (29.982) | | | (43.299) | | |
| 𝟙(In Portfolio) | | | 0.697*** | | | 1.793*** | |
| | | | (22.827) | | | (39.191) | |
| 𝟙(In Focuslist) | | | | 0.389*** | | | 1.028*** |
| | | | | (28.262) | | | (44.398) |
| Push Succ Dummy ×𝟙(In Watchlist) | 0.065*** | 0.085*** | | | 0.047*** | | |
| | (4.902) | (12.418) | | | (4.092) | | |
| Push Succ Dummy ×𝟙(In Portfolio) | | | 0.350*** | | | 0.172*** | |
| | | | (10.679) | | | (3.709) | |
| Push Succ Dummy ×𝟙(In Focuslist) | | | | 0.224*** | | | 0.178*** |
| | | | | (16.735) | | | (8.699) |
| Log Online Time | 0.056*** | 0.028*** | 0.027*** | 0.028*** | 0.058*** | 0.057*** | 0.058*** |
| | (31.552) | (29.239) | (29.029) | (29.059) | (33.379) | (33.070) | (33.214) |
| Overall R-squared (%) | 10.213 | 4.907 | 3.781 | 5.199 | 9.337 | 6.373 | 9.496 |
| Within R-squared (%) | 8.296 | 3.547 | 2.536 | 3.729 | 6.989 | 4.281 | 7.123 |
| Between R-squared (%) | 27.200 | 22.558 | 16.557 | 17.795 | 29.561 | 20.970 | 24.995 |
| N | 4,187,269 | 4,187,269 | 4,187,269 | 4,187,269 | 4,187,269 | 4,187,269 | 4,187,269 |