

The Effect of Stock Ownership on Individual Spending, Investments and Loyalty

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Motivation: Revisiting the Relation Between Investments and Consumption

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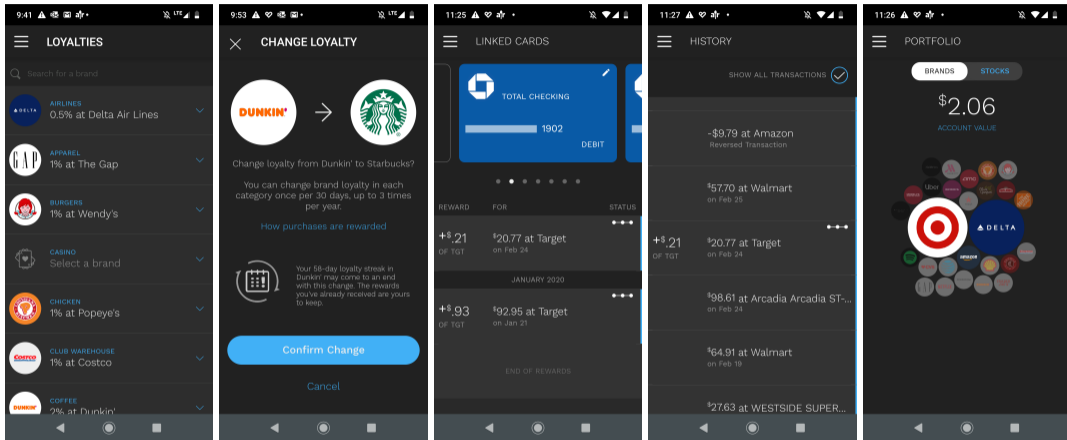
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- ▶ Previous research shows that behavioral biases in investing leads to holding of specific stocks in under-diversified portfolios (Huberman, 2001; Cohen, 2009; Keloharju et.al. 2012)
- ▶ Does ownership of specific stocks affect welfare directly through consumption? And does it affect savings/investments and stock market participation?

Setting and Data

- ▶ Data from FinTech app called **Bumped**, that rewards users with stock when they shop at selected companies' stores
 - ▶ Consumers open a brokerage account with Bumped, link their bank cards, and select their favorite brands from a list of 34 retail categories and 99 brands.
 - ▶ When they spend on selected brands, they receive fractional shares of the corresponding company
 - ▶ We observe transaction-level data from linked accounts, login activity identifiers of brand selection and rewards.

FinTech App Screenshots



Selecting Brands

Switching Brands

Linking Cards

Transactions

Portfolio Interface

Figure: Bumped App Screenshots

Identification

- ▶ **Staggered allocation of accounts**

- ▶ Users sign up for a waitlist and then Bumped releases batches of users to on-board on a first-come-first-served basis
- ▶ Users spend considerable amount of time waitlisted, on average, 4.8 months
- ▶ Actual week of account received is plausibly exogenous

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- ▶ Bumped distributed \$5 and \$10 stock rewards to users from six brands: LOW, CVX, XOM, MCD, RRGB, YUM (Lowe's, Exxon, Chevron, McDonalds, Red Robin Gourmet Burgers, Yum! KFC, Pizza Hut, Taco Bell, ...)
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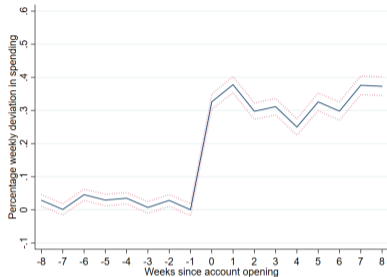
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▶ Event study design combined with DiD

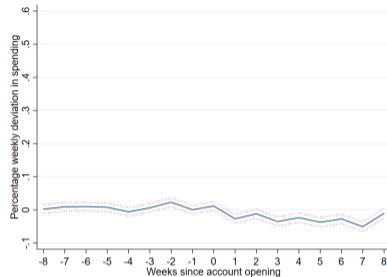
- ▶ Compare spending around account opening for individuals that receive (or not) a stock grant

Spending Results

Eligible and Ineligible Spending Responses when Bumped



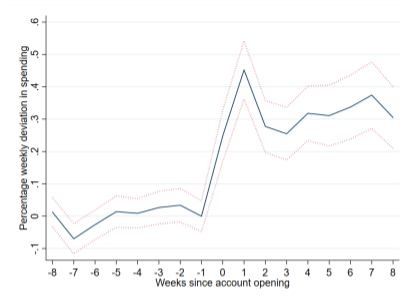
Eligible spending (std.errors in red)



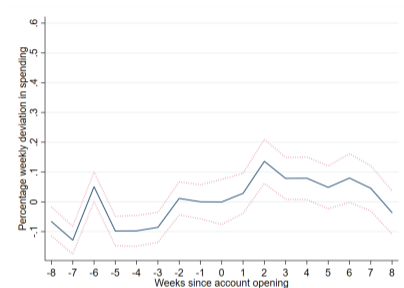
Ineligible spending (std.errors in red)

- ▶ **Eligible spending jumps up by 40% and stays persistently high (averages 59 USD per week \Rightarrow 24 USD increase in spending per week)**
- ▶ 0.73 USD in rewards per week \rightarrow Effectiveness of 3287% vs 350% for cash-back (Vana et.al. 2018)

Incremental Spending Increase for Grant Recipients



Incremental effect of grant receivers
on eligible spending in granted
companies' stores



Incremental effect of grant receivers
on overall eligible spending

- ▶ **Incremental Effect of 30-40 pp increase in spending on selected grants.**
- ▶ **No incremental effect on overall eligible spending.**

Investments

Transfers to brokerage accounts

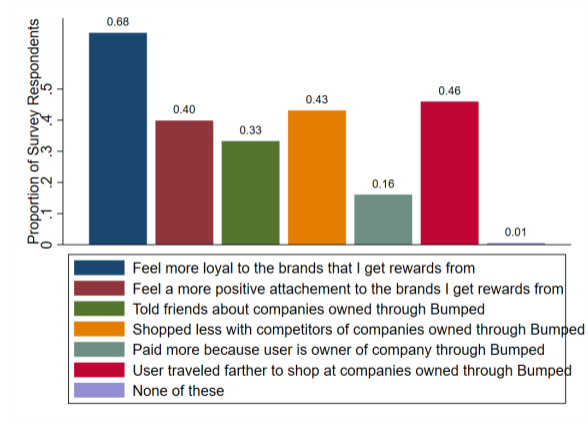
- ▶ 20% increase in the value of transfers to brokerage accounts outside of Bumped (baseline of \$ 6 USD per user-week).
- ▶ 25% increase in the probability of making a transfer to a brokerage account outside of Bumped (baseline of 2% per user-week).
- ▶ We regressed spending in certain brands (in % relative to total spending) of our Bumped users on holdings of the corresponding stocks (in % relative to all holdings) of Robinhood clients and find large positive correlations at the daily and weekly levels: 0.18 vs 0.03 in aggregate data.

Survey Evidence

Survey evidence: Changing behaviors

► “Since signing up for Bumped...

- 1 I feel more loyal to the brands that I get rewards from
- 2 I feel a more positive attachment to the brands I get rewards from
- 3 I have told my friends about companies I own through Bumped
- 4 I have shopped less with competitors of companies owned through Bumped
- 5 I have paid more for something because of owning a company through Bumped
- 6 I have traveled farther or gone out of my way to shop at companies owned through Bumped”



Psychological Mechanisms

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- ▶ Wealth or price effects are unlikely to be the whole story: No variation in response to the size of rewards and our effects are much larger than those estimated for cash back in the literature

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- ▶ Users develop emotional ties towards the company owned — **Loyalty** (Cohen, 2009)

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 - ▶ 40% of individuals subscribe to the statement that they “feel a more positive attachment toward the brands they get rewards from.”
 - ▶ This translates to increases in willingness to pay - price and effort, as shown in the survey.
- * Why does stock ownership trigger loyalty?
- ▶ Users changing their behavior to favor the company owned to match their **identity** and reduce **cognitive dissonance** (Benabou and Tirole, 2011), specially in the presence of **illusion of control** (Langer, 1975).
 - ▶ Survey: “[...] When I shop in the companies I own, I help them and help myself at the same time”

Conclusion

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- ▶ Does receiving stocks of certain companies affect consumers' spending in those companies' stores?
- * Individuals spend 40% more per week on elected brands after being allocated a Bumped account (on average across all brands) and receiving a stock grant further increases spending by 30-40%
- * Survey evidence suggests that stock ownership creates emotional ties towards the company owned, i.e. loyalty and motivates them to take actions (they think) can benefit it

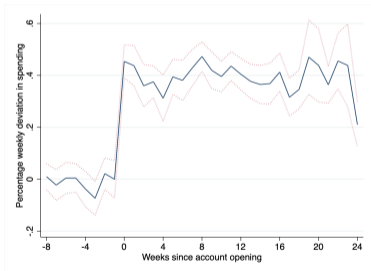
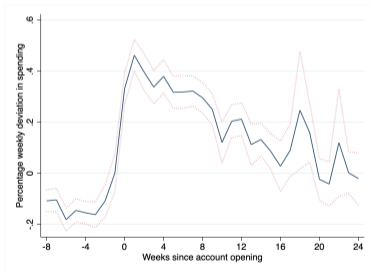
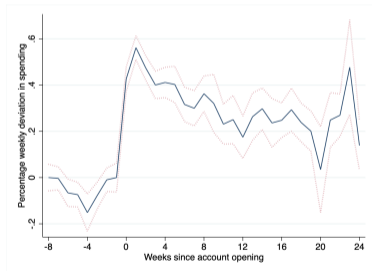
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 - * Survey evidence suggests that stock ownership creates emotional ties towards the company owned, i.e. loyalty and motivates them to take actions (they think) can benefit it
- ▶ Broader implications:
 - * We uncover stock ownership as a new determinant of brand preferences and consumer capital which affect firm value
 - * Investment choices affect consumption directly → implications for life-cycle consumption, savings, stock market participation, and equity premia

Appendix

Robustness: Eligible Spending when Bumped for Terciles of Waitlisted

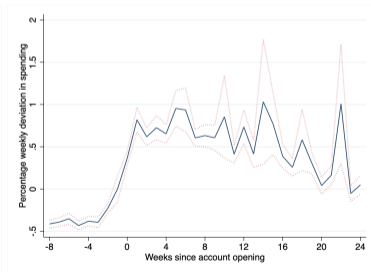
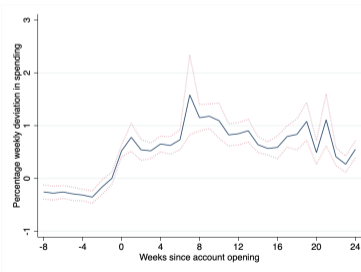
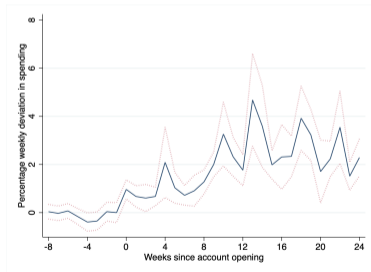
- ▶ We do not find differences in eligible spending when looking at individuals that were waitlisted for a short versus a long time



Robustness

Robustness: Eligible Spending when Bumped for Terciles of Rewarded versus Eligible

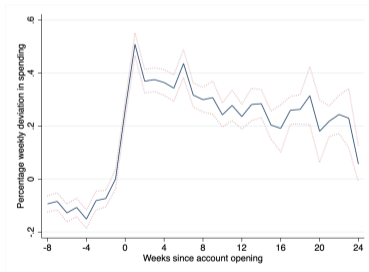
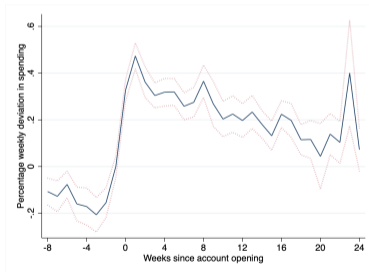
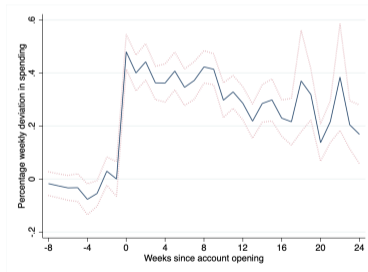
- ▶ 69% of eligible spending was rewarded on average, with a 26% standard deviation
- ▶ No differences in eligible spending on account opening is seen, when individuals are split according to being rewarded little versus a lot



Robustness

Robustness: Eligible Spending when Bumped for Terciles of Logins

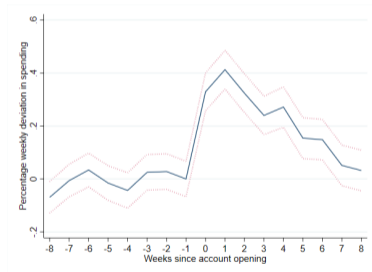
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Robustness

Robustness: Number of Transactions when Bumped

- ▶ Increase in number of transactions is small, in line with presumption that individuals do not switch to linked cards or reduce ATM withdrawals



Robustness

Robustness: ATM withdrawals

- ▶ No decrease in ATM withdrawals (no substitution from cash to card spending)

Robustness

ATM withdrawals		
	Net withdrawal amount	Percentage deviation
Post 8 weeks	16.828 (13.625)	-3.086 (6.864)
Post more than 8 weeks	23.419 (19.149)	-22.271 (15.355)
Constant	-81.902*** (8.451)	12.995* (6.838)
User fixed effects	✓	✓
Week-by-year fixed effects	✓	✓
Observations	958207	418108
Adj. R squared	0.124	0.024