

Waiting for Payday, Again?

Predicting and Managing Consumer Spending

Marcel Lukas (St Andrews) & Chuck Howard (Texas A&M)
@MarcelFLukas



University of
St Andrews | FOUNDED
1413 |

Rough definition:

Individuals spend more immediately following the receipt of predictable income compared to other average days (Olfasson & Pagel 2018 (RFS); Gelman et al. 2014 (Science))



Workers spend half their spare cash within 48 hours of pay day

15% have n

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'Payday Friday' causes massive traffic jams

1 in 4 spend over half their income on payday

4 October 2019

Research from KPMG UK finds 23% of people in the UK spend more than half their income on the day it is paid into their account.

- 78% of employed Americans, including 18% of those making over \$100,000, are living paycheck to paycheck (CareerBuilder 2017; Willis Towers Watson 2020)
- Consumers face consumption shortages at the end of the pay cycle (Shapiro 2005)



Tax Refunds

Asymmetric Consumption Smoothing

Brian Baugh

Itzhak Ben-David

Hoonsuk Park

Jonathan A. Parker

AMERICAN ECONOMIC REVIEW
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(pp. 192-230)

Helicopter Money



Economics Letters
Volume 195, October 2020, 109416



Helicopter money in Europe: New evidence on the marginal propensity to consume across European households

Katharina Drescher ^a, Pirmin Fessler ^b, Peter Lindner ^c

Government shutdowns



Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/jpube



How individuals respond to a liquidity shock: Evidence from the 2013 government shutdown[☆]



Michael Gelman ^a, Shachar Kariv ^b, Matthew D. Shapiro ^{c,*}, Dan Silverman ^{d,f}, Steven Tadelis ^{e,f}

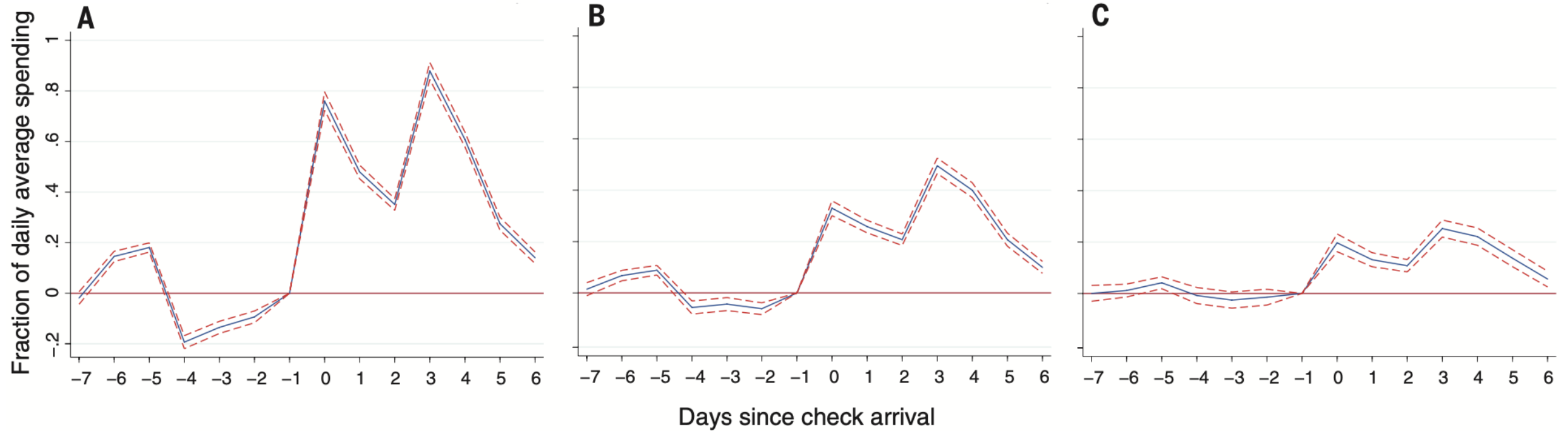
Helicopter Money

Income, Liquidity, and the Consumption Response to the 2020 Economic Stimulus Payments

Scott R. Baker, R. A. Farrokhnia, Steffen Meyer,
Michaela Pagel & Constantine Yannelis

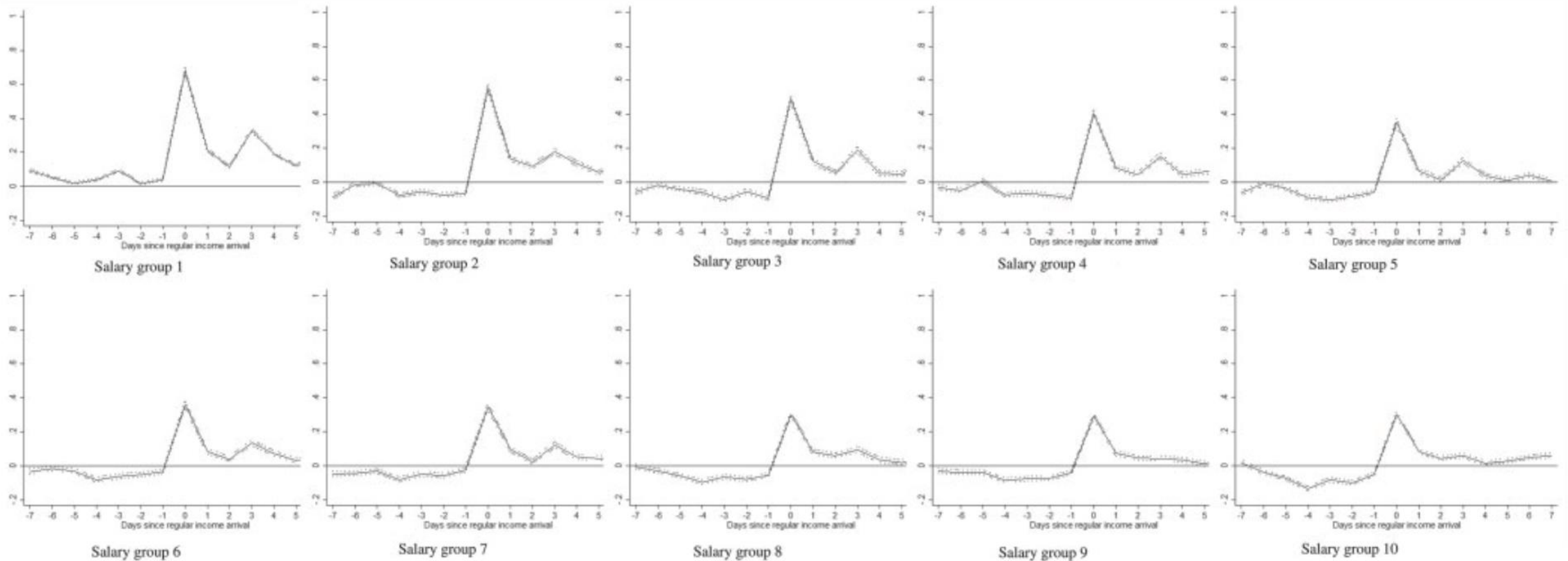
Existing evidence for the Payday Effect

Gelman (2014, Science) on discretionary spending across income groups



Existing evidence for the Payday Effect

Olafsson & Pagel (2018, RFS) on discretionary spending by income tercile. They find that individuals exhibit a payday effect even if they have liquidity reserves and a high salary.



There is little agreement on why the payday effect occurs.

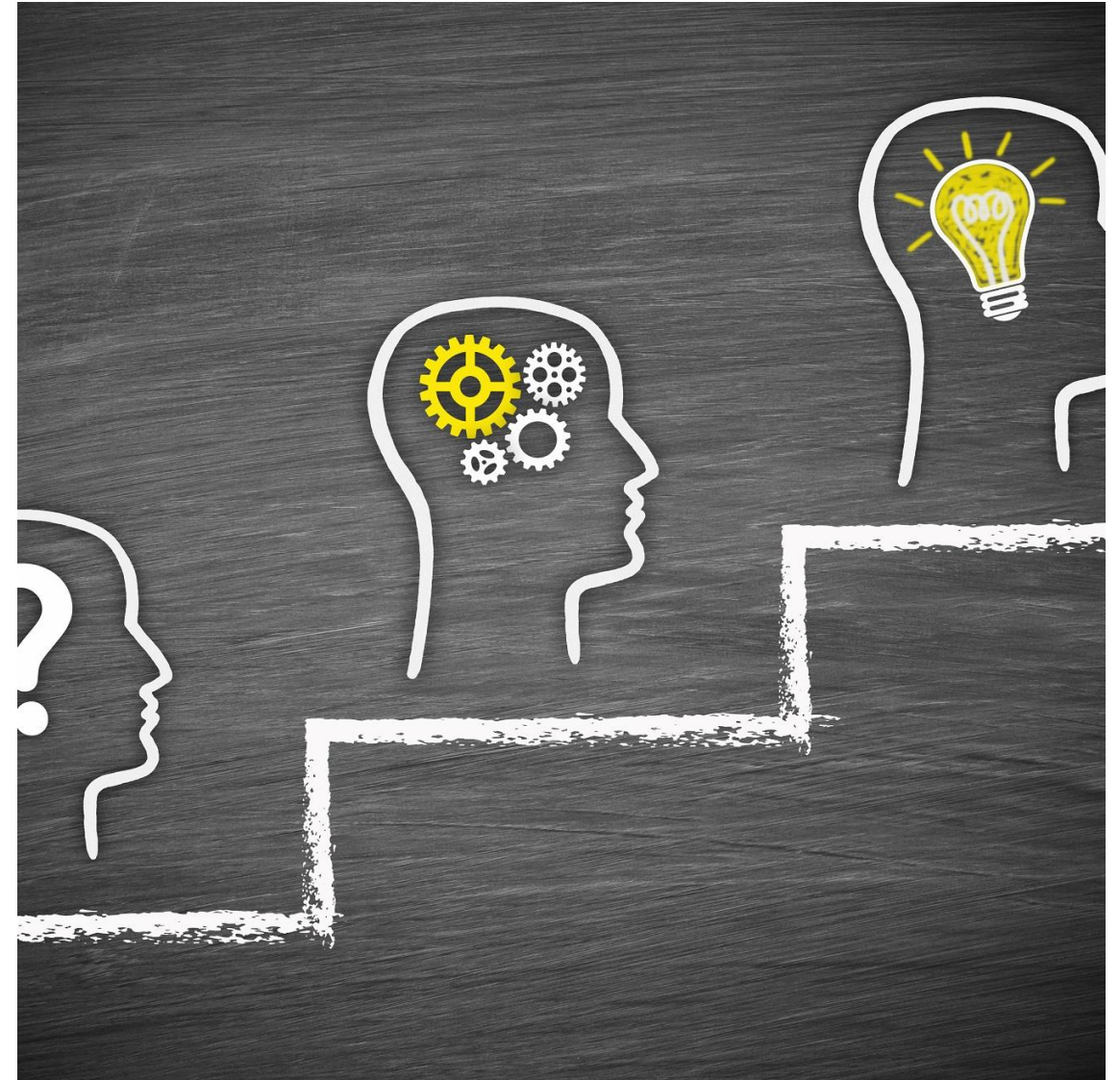
Thought to be the result of...

Financial constraint or illiquidity
(e.g. Gelman et al. 2014; Shapiro 2005)

Psychological response to payday (e.g.
Olafsson and Pagel 2018)



- Loewenstein et al. (2014) argue that individuals can only obtain and use a limited amount of information
- An example for this is that consumers fail to update their consumption plans even if their financial situation changes (e.g., Reis 2006).
- However, increasing the attention of individuals or the saliency of relevant information seems to positively influence decision-making (e.g., Bordalo et al., 2012a, 2012b, 2013).
- if the decision-makers lack financial literacy or numeracy skills, improved transparency in information disclosure can support financial decision-making (Soll et al., 2013)



- Even if all information is available, individuals often struggle to wait for an event.
- This desire for instant gratification, also known as present-bias (e.g., Balakrishnan et al., 2017) can have several negative consequences (Milkman et al., 2008).
- Importantly, these behaviours can only partly be explained by hyperbolic discounting models (e.g., Angeletos et al., 2001; Cochrane, 1988; Laibson et al., 2007; Loewenstein & Prelec, 1992).
- Strömbäck et al. (2017) find that self-control influences financial behaviour and subjectively perceived financial well-being (including financial anxiety and perceived financial security).



- Existing studies suggest that using interventions such as reminders through apps can reduce late fees (e.g., Medina, 2021) and budget apps help to reduce spending (Lukas & Howard, 2023)
- However, conducting a meta-analysis of existing studies on financial literacy, Fernandes et al. (2014) find that most interventions have very small or only temporary effects
- Karlan et al. (2016) show the efficiency of text reminders in terms of saving commitment suggesting that the introduction of mobile notifications can support individuals in their behaviour.
- Hillis (2017) shows that individuals are improving their ability to smooth their consumption of food stamps when available balances are made easy to access.



1. The Payday effect exists in a UK sample and is higher in categories linked to impulsive spending.
2. The magnitude of the payday effect is lower after an individual joins MDB than before.
3. Increased attention, measured by login frequency, is positively related to consumption smoothing.
4. The magnitude of the payday effect increases in the sub sample of users who stopped using the app.

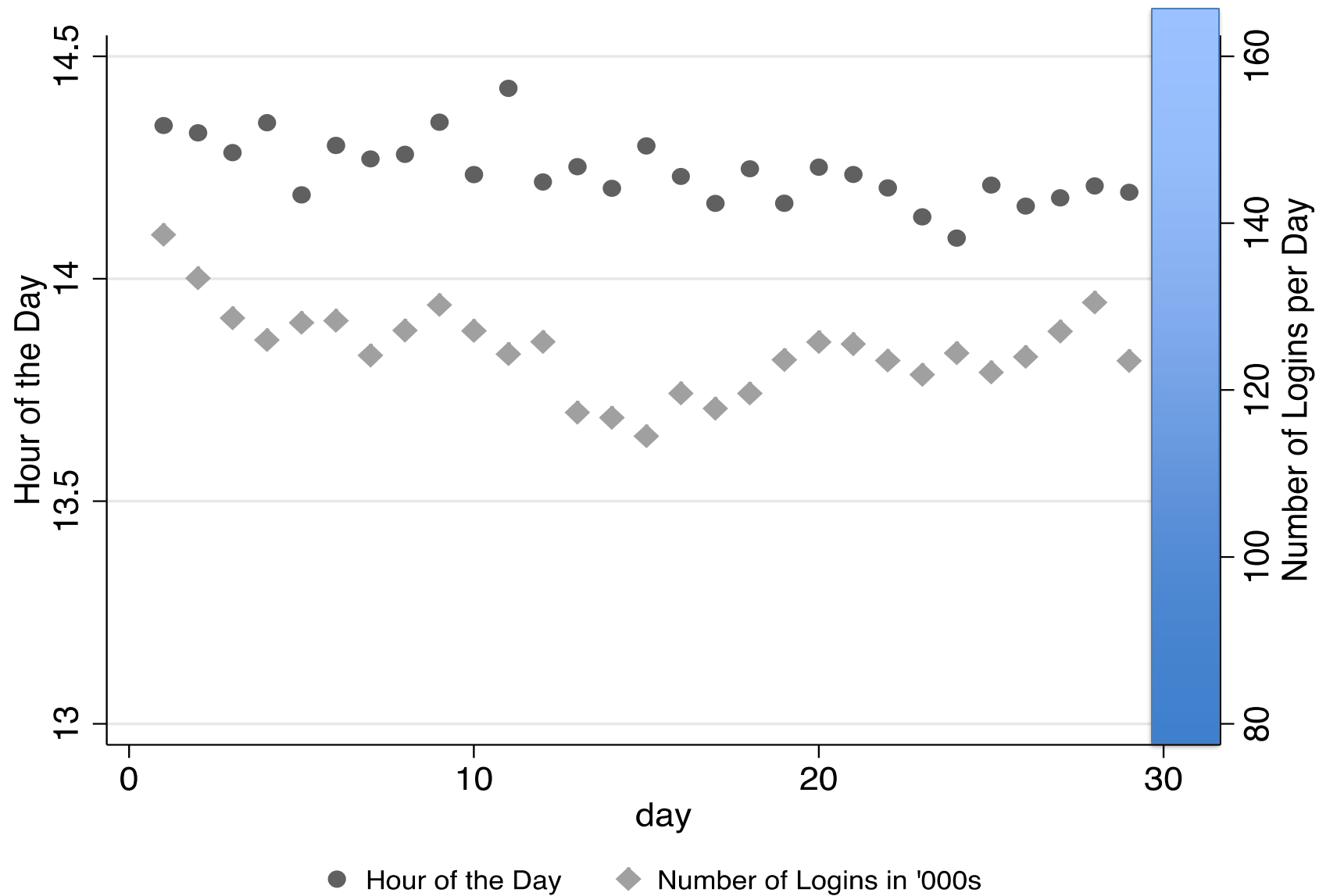


Money Dashboard

- Includes all user banking transactions between January 2013 and December 2018
- The sample consists of users who receive a regular paycheck ($n = 67,370$).



Waiting for payday?



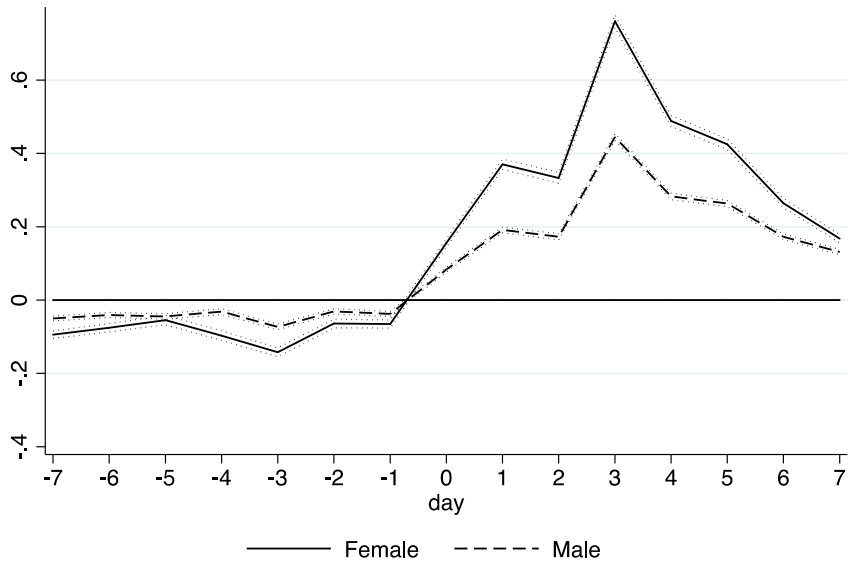
$$Y_{ict} = \sum_{k=-7}^7 \beta_{kc} I_i(\text{Paid}_{t-k}) + X'_{it} + \varepsilon_{it}$$

β_{kc} is the fraction by which individual spending deviates from average daily spending for that month

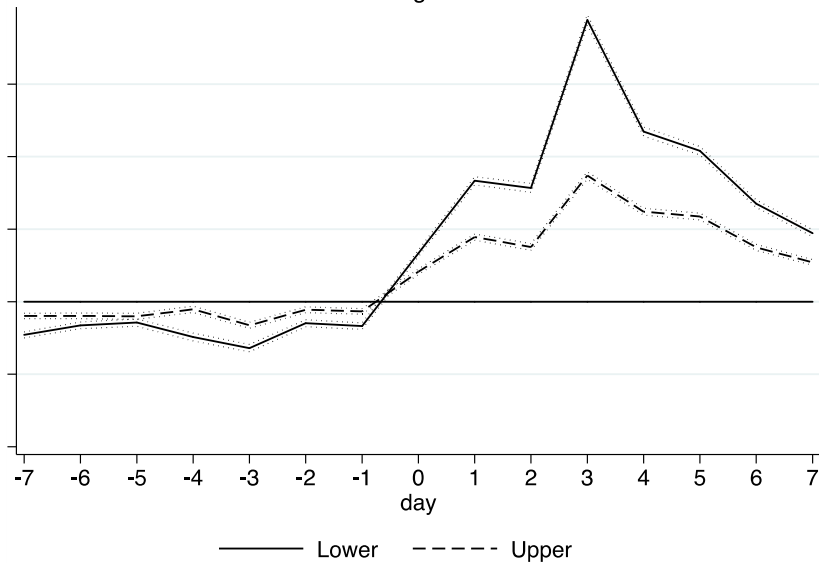
Y_{ict} is the spending ratio for an individual calculated as the ratio of spending to the monthly average of daily spending for each user.

Results by Demographic

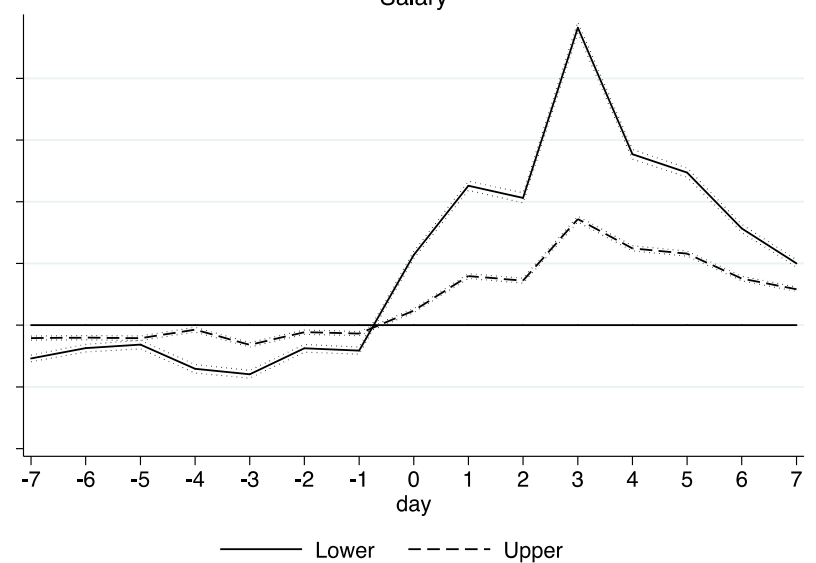
Gender



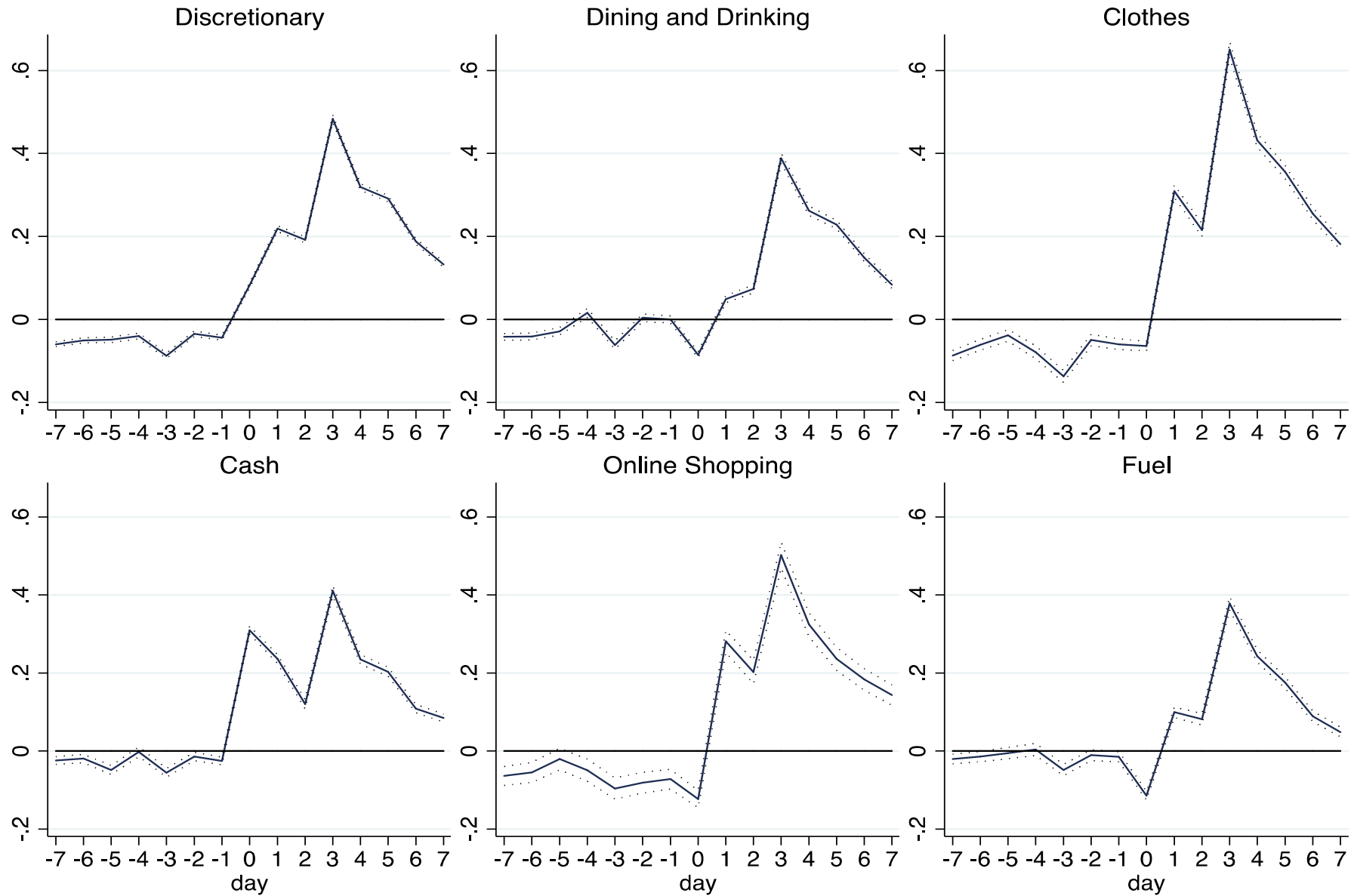
Age



Salary



Results by Category



Discussion (Payday Effect across Categories)

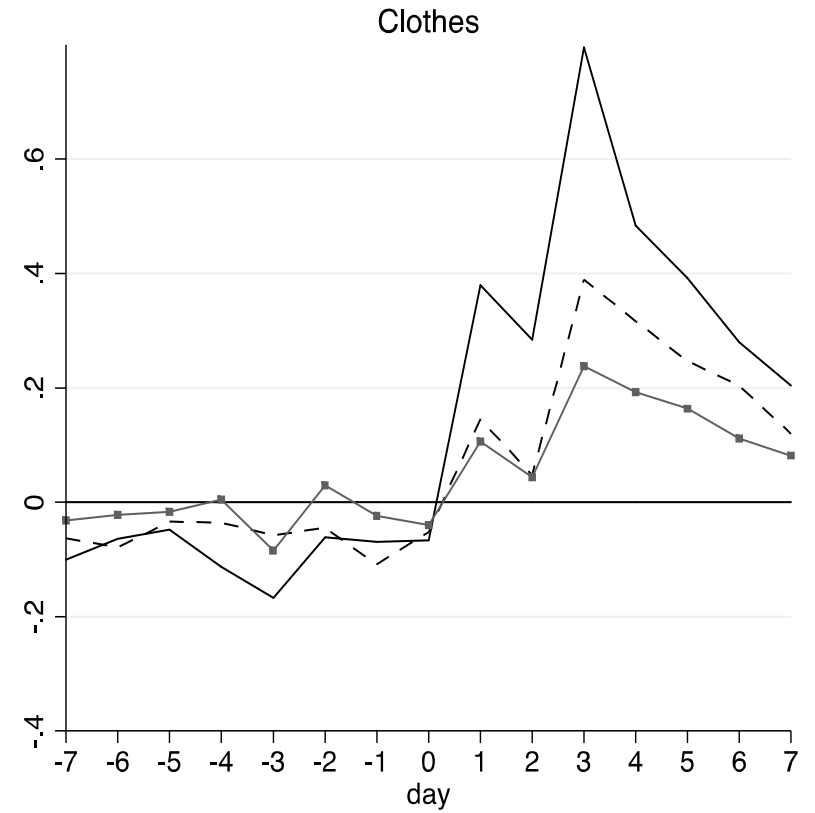
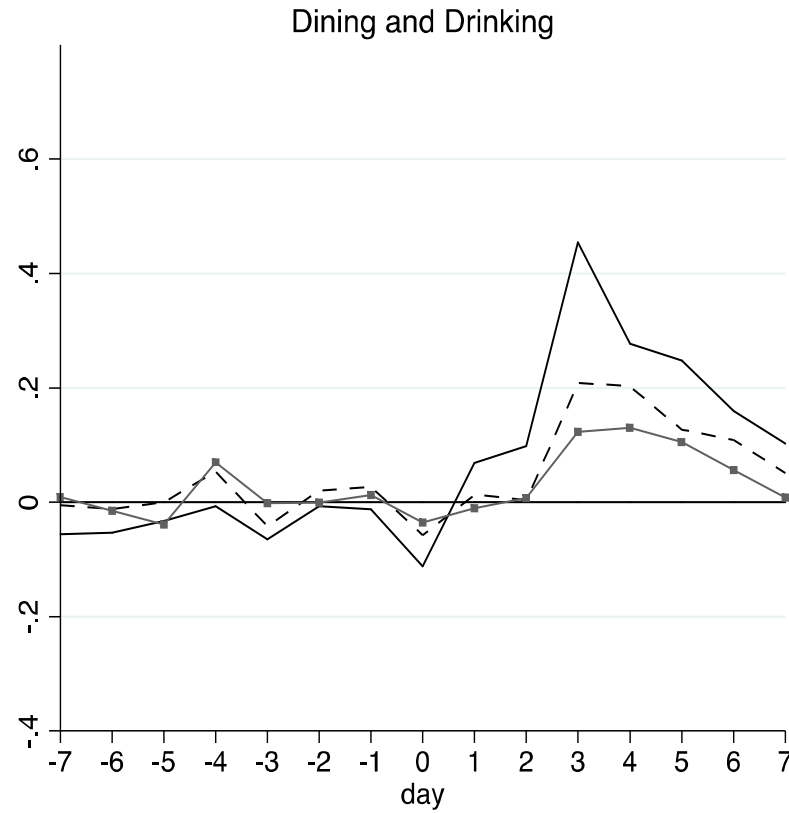
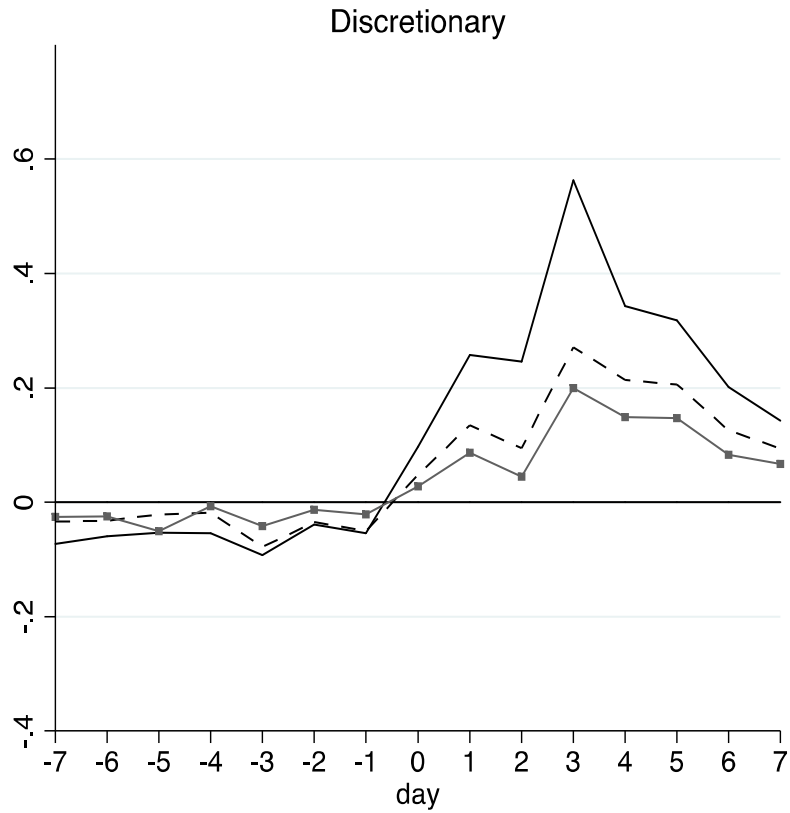
- We find that individuals significantly deviate from their average spending patterns around payday. The effect is especially strong for clothing (+73%) and online shopping (+58%).
- Increases in categories such as dining and drinking (+44%) and cash withdrawals (+45%) show that individuals spend significantly more on or just after payday.
- While it is reasonable to assume that individuals may want to save money over a certain time frame to spend on clothing or online shopping, it is unlikely that they would actively put it aside to spend on dining and drinking or to withdraw cash.



RQ 2: Does using the app help to reduce the payday effect?

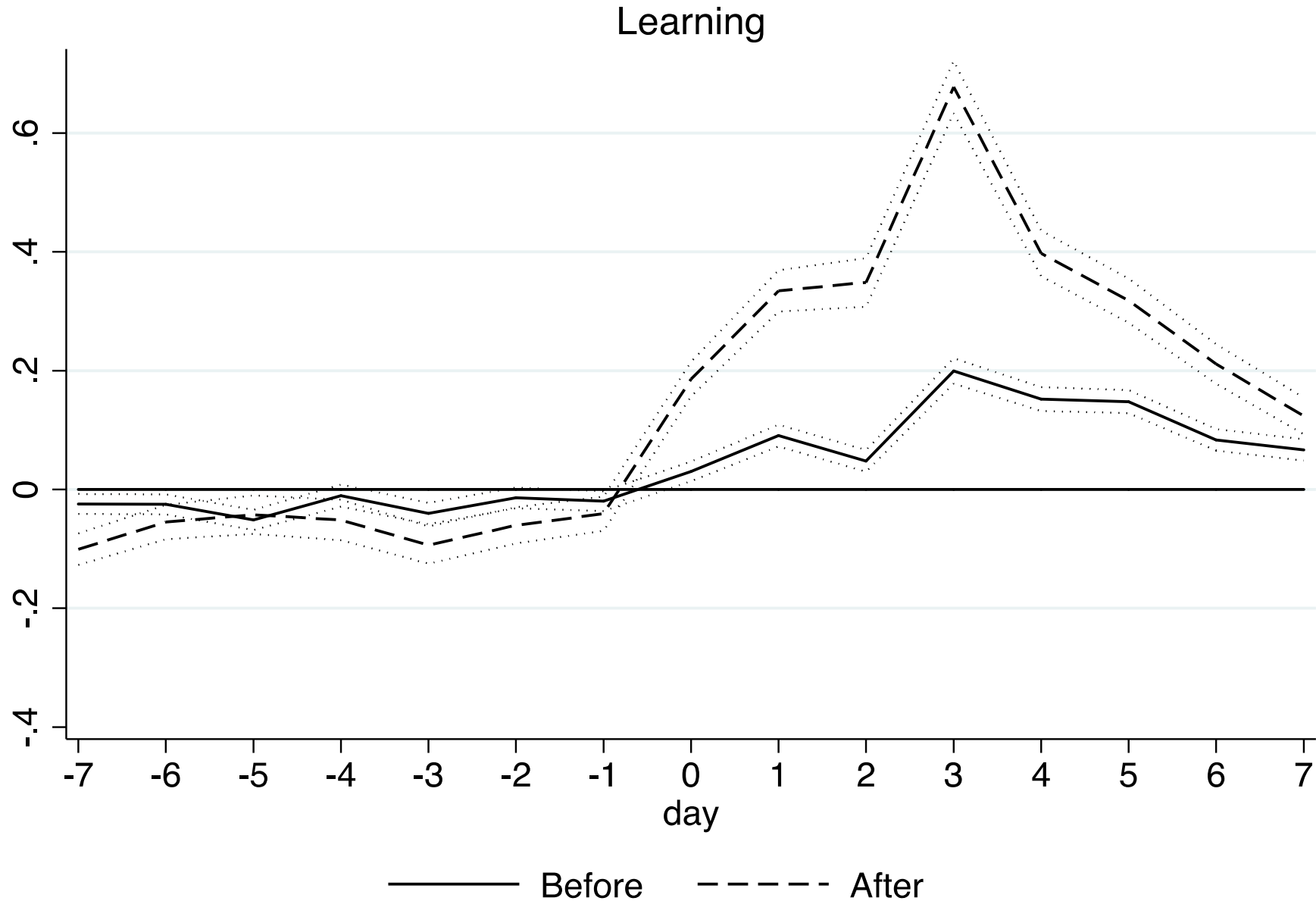


RQ 3: Does attention moderate the effect?



- The central research question of this paper was whether joining and using a money app helps to improve financial decision-making
- Spending for discretionary items is on average 72% higher before an individual joins the platform. The month after joining, this deviation from average spending is reduced to 60% and three months after that to 56%
- login frequency is strongly correlated with consumption smoothing. For example, comparing the same values as above, we find that users only spend 28% more on discretionary items one day after payday if they log in once per month and only 21% more if they log in at least six times in the respective months
- Interestingly, the behaviour during the seven days leading up to the payday seems not to be influenced by login activity

RQ 4: Can users learn to change their behaviour?



- Literature on learning would suggest that high levels of attention over several months should increase the users' capability to smooth their consumption around payday
- However, once users who frequently used the app in the past stop using the service, their propensity to consume more around payday increases significantly.
- Three days after payday, individuals in the active group spend 20% more than they do on average during the other days of the month. Those users who stopped using the app then spend on average 68% more on the same day.
- This suggests that while using a service such as MDB seems to help individuals to smooth their consumption, they need to keep using it to retain this effect. This suggests that users do not seem to learn from frequently checking their accounts and that they start spending more around payday, independent of their prior behaviour when they were actively using the app.

- We find that once users start using this platform, they smooth their consumption. This finding adds large-scale descriptive evidence of consumption decisions to the existing literature on attention and financial decision-making (e.g., Hirshleifer & Theo, 2003; Stango & Zinman, 2014).
- the present paper extends the scope to general consumption patterns and implies that increasing the saliency of past spending helps to significantly change behaviour around payday.
- Related to this is the contribution to the literature on the influence of technology on financial literacy (e.g., Hillis, 2017; Levi, 2016).
- The present analysis supports this finding and shows that once users engage with the app, they are smoothing their consumption to a much larger extent
- Analysis of the behaviour of active users who stopped using the app shows that they are no longer smoothing their consumption. Thereby this study contributes to the literature on learning and financial literacy (e.g., Carlin et al., 2017)

Thank you very much for your attention

- Possible endogeneity concerns:
 - Users who sign up in the first place might want to change their spending habits
 - Those users who log in, might want to change their spending patterns
- Conducted an experiment nudging people to more realistically predict their spending
 - 3,700 participants (600 incomplete)
 - 2 treatments (groceries & online shopping) & 2 controls (same categories, no help with prediction)
 - Ran experiment on typical paydays, emails were sent between 27th and 30th of November
- We hope that this exogenous 'attention shock' helps us with establishing causality
- This survey also included questions to individual characteristics which could build the basis for further analysis
 - Impulsivity
 - Propensity to plan
 - Optimism
 - Self-Control
 - ...



You're invited to participate

Hi Marcel ,

As a valued user of Money Dashboard we invite you to participate in a research survey run in partnership with Dr Marcel Lukas (**University of St. Andrews**) and Dr Chuck Howard (**Texas A&M University**) to help Money Dashboard users like yourself improve their financial well-being by learning more about how spending habits impact financial health.

In exchange for your 10 minute survey responses, **you will be entered to win one of five £1000 cash prizes.**

[Take the Survey Now](#)

Participation in the survey is optional, however there is up to **£5000 in cash prizes** to give away for participants who complete this survey. The draw will consist of one £1000 cash prize for every two hundred who complete the survey, up to a maximum of five prizes.