

Friends and Family Money: P2P Transfers and Financially Fragile Consumers

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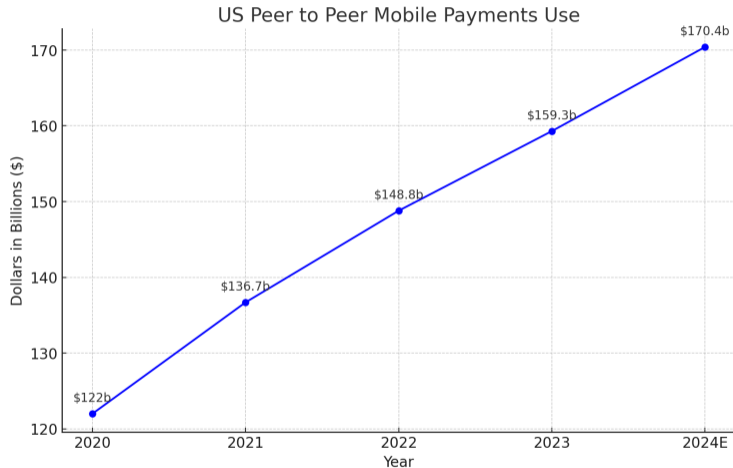
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Financial technology has revolutionized person-to-person payments



There has been an increasingly large demand for these payment systems



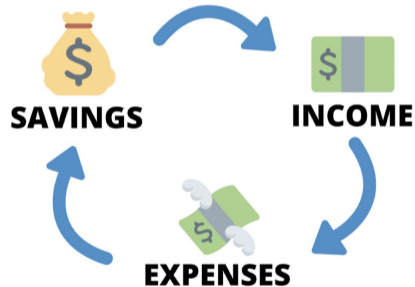
Source: insiderintelligence.com

Because previously, the process of paying friends and family was significantly less efficient.

Time to receive funds:

- ACH: varies from immediate to several business days (because of situations such as banks not being open or operational on holidays and weekends)
- Check: next or second business day - but cutoff for end of business day varies by bank
- Cash: a function of time to physically meet the sender or the timing of the US mail system
- Wire: immediate but very high flat fee, often for both sender and receiver.

Uncertainty around the timing of receipt of income can be particularly problematic for people living paycheck to paycheck



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- We study how access to peer-to-peer (P2P) payments technology, which is **low cost** and allows **real time instantaneous** transfers, impacts consumer outcomes during periods of liquidity stress

We do this via a number of steps

We Pin-point periods of liquidity stress and document that during these periods:

1. People receive more friends and family (inter-household) transfers.
2. People receive more transfers in the window immediately prior to key expenditures during these periods.
3. Access to P2P payments apps is associated with increased transfer–expense matching and reduced likelihood of incurring low balance, overdraft, and NSF fees.

How do we do this? Using massive amounts of data on individual income and expenditures from bank accounts and credit cards



How do we do this? Using massive amounts of data on individual income and expenditures from bank accounts and credit cards e.g.

Payment system	Date	Amount	Type	Merchant	State	City	Description
Zelle	30/01/2017	400	credit	Zelle			Zelle XXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXX
Zelle	10/06/2018	485	credit	Zelle			ZEL FROM XXXXXX XXXXX
Zelle	17/03/2021	60	credit				Zelle XXXXXXXX XXXXX XXXXXXXXXXXXX X X X XXXXXXX
Venmo	17/01/2021	296	credit		NY	New York City	VENMO*XXXXXXXX-XXXXX NEW YORK CITY NYXXXXXX 01/17
Venmo	20/09/2016	82.75	credit		NY	New York Mills	VENMO*XXXX XXX 09/20 #XXXXXX PMNT RCVD VENMO*XXXX XXXXX New York City NY
Venmo	21/12/2020	51.15	credit		NY	New York Mills	VENMO XXXXXXX XXXXX NEW Y - NA
PayPal	28/11/2015	913.63	credit				Details Payment From XXXXX XXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXX XXXXXXXXXXXX
PayPal	20/03/2016	14.35	credit				PAYPAL DES:TRANSFER ID:48D229XJRG2US INDN:XXXXXXXX XXX CO ID:PAYP
PayPal	13/10/2017	86.31	credit				PAYPAL DES:TRANSFER ID:5JYJ1AB2NZ9PY INDN:XXXX XXXXXX CO ID:PAYP
Cash App	03/04/2021	17	credit		CA	San Francisco	1 04/03 #XXXXXXXXXX PMNT RCVD Cash App*Cash Out San Francisco CA
Cash App	01/05/2020	118.2	credit				CASH APP XXXX XXXXXXX XXX X - NA
Cash App	21/08/2019	27.6	credit		CA	San Francisco	1 08/19 #XXXXXXXXXX PMNT RCVD Cash App*Cash Out San Francisco CA
Wire	03/02/2017	740,000	credit				WIRE TYPE:WIRE IN DATE: XXXXXX TIME:1628 ET TRN:XXXXXXXXXXXXXXXXXX SEQ:RFXXXXXXXXXXXX/0
Wire	03/01/2019	2,500	credit				WIRE TYPE:WIRE IN DATE: XXXXXX TIME:1109 ET TRN:XXXXXXXXXXXXXXXXXX SEQ:XXXXXXXXXXXXXXXX/
Wire	08/12/2018	779.66	credit				WIRE TYPE:WIRE IN DATE: XXXXXX TIME:0953 ET TRN:XXXXXXXXXXXXXXXXXX SEQ:XXXXXXXXXXXXXXXX
Wire	30/10/2017	2,520	credit				WIRE TYPE:WIRE IN DATE: XXXXXX TIME:1241 ET TRN:XXXXXXXXXXXXXXXXXX SEQ:DXXXXXXXXXXXXXX/
Checks	30/09/2018	1,101.56	credit		IL	Lombard	EXPRESS FUNDS CHECK D XXXXXX EXP DEP 2810 S HIGHLAND LOMBARD IL
Checks	28/12/2021	100	credit		MI		EXPRESS FUNDS CHECK D XXXXXXXX EXP DEP XXXXXXXX GRATIOT A NEW HAVEN MI
Checks	21/02/2020	0.01	credit				Mobile Check Deposit
Checks	30/08/2019	225	credit		VA	Elkton	09-30-19 16:28 AC77 MID-VALLEY-ELKTON ELKTON VA XXXXXXX 24 CHECK DEPOSIT
ATM	14/09/2017	300	credit		OH		ATM DEPOSIT XXXXXXXX DEPOSIT 4600 GRT NRTHRN N OLMSTED OH
ATM	28/03/2014	100	credit		VA	Richmond	XXXXXXXXX ATM 03/28 #XXXXXXXXXX FR SAV WEST BROAD SHOPP RICHMOND VA
ATM	03/02/2018	725	credit		MO	Independence	XXXXXXXXXXXX ATM 01/03 #XXXXXXXXXX DEPOSIT EASTLAND INDEPENDENCE MO
ATM	28/05/2018	100	credit		IN		ATM DEPOSIT XXX XXXXXXXX DEPOSIT XXXXX MAYSVILLE FORT WAYNE IN
ATM	19/07/2014	500	credit		MA	Norwood	XXXXXXXXX ATM 03/19 #XXXXXXXXXX DEPOSIT HANNAFORD MARKET NORWOOD MA
ATM	03/03/2021	1,000	credit		PA		XXXXXXXXX ATM DEPOSIT XXXXXXXX DEPOSIT 200 SOUTH 40TH PHILADELPHIA PA
ACH	01/07/2018	234	credit				X XXXXX ACH - TRANSFER XXXXXXXX
ACH	20/02/2019	200	credit				XXXX 529 ACH DEPOSIT *****3371 XXXXX XXXXX 0 0032
ACH	05/10/2015	1,500	credit				ACH CREDIT XXXX6442 XXXXXXXXTRANSFR TRANSFER
ACH	24/02/2016	35	credit				ACH CREDIT FPAQZFZVR4 XXXXX XXXXXXX DDA TO DDA

*This data are provided for illustrative purposes only. The data have been modified and do not represent the actual data.

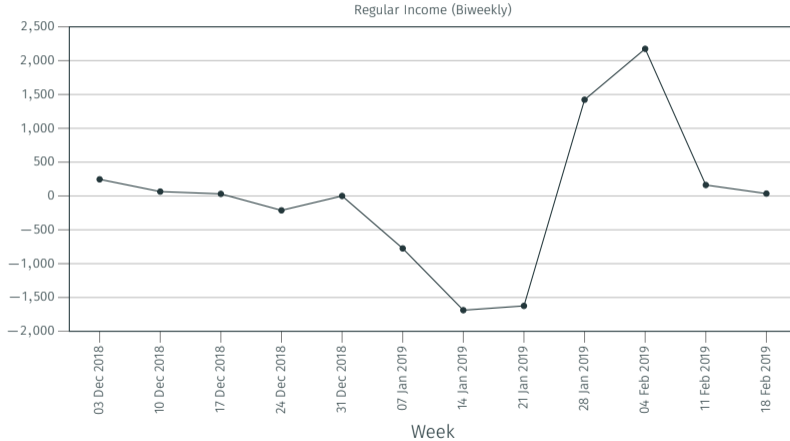
How do we pin-point periods of liquidity stress? “Regular” persistent income loss



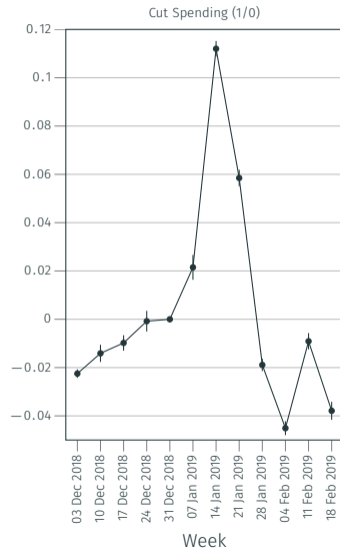
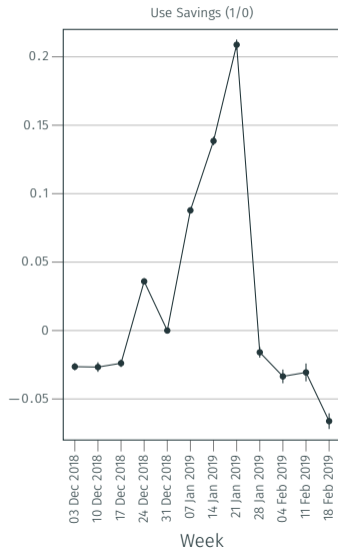
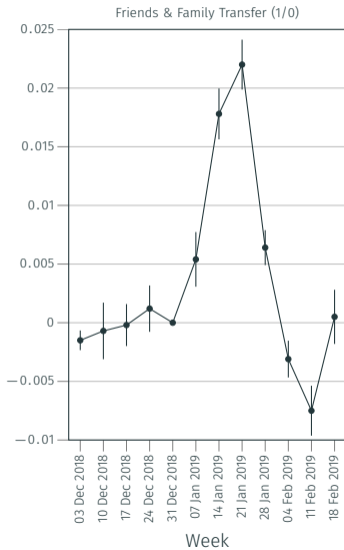
How do we pin-point periods of liquidity stress? Unexpected transitory income loss



The Federal government shutdown of 2018/2019: Affected employees lost thousands of dollars of regular income



How do people cope after losing income?



How do people cope after losing income?

After income loss, people

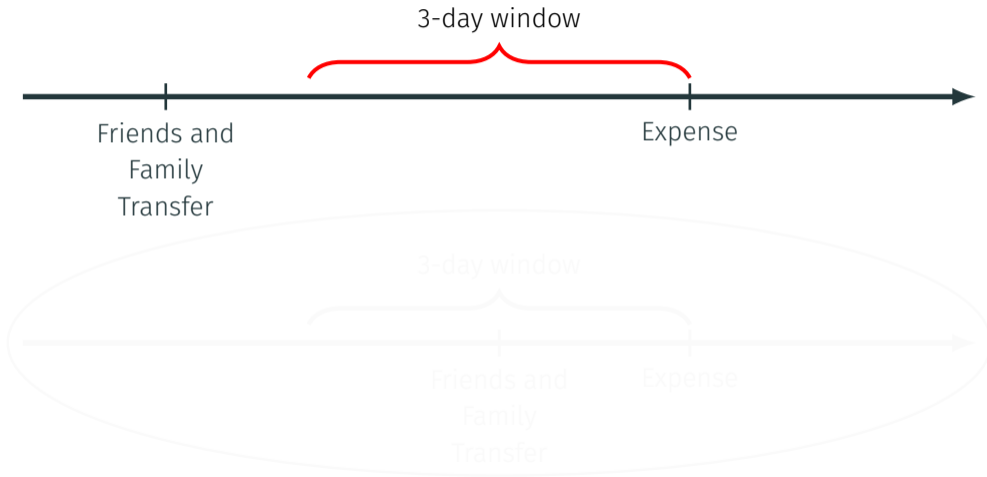
- Cut spending
- Use Savings
- Receive more transfers from Friends and Family

How do people cope after losing income?

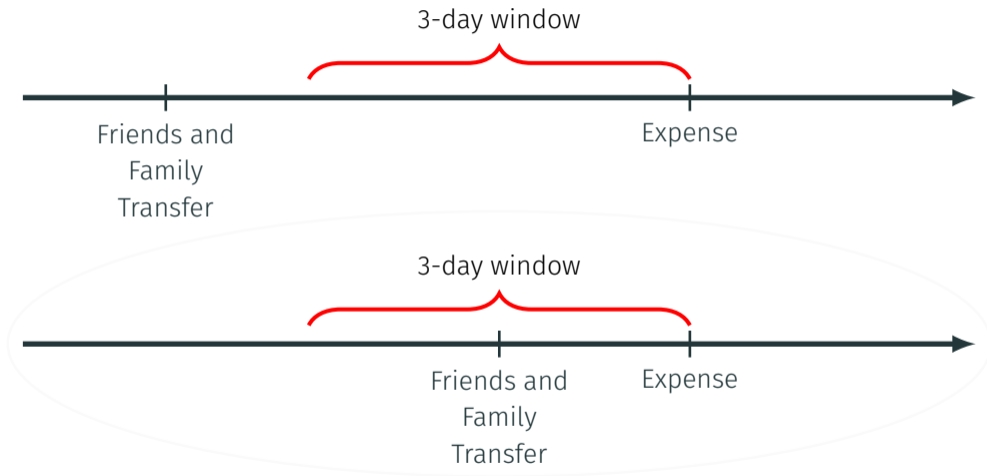
After income loss, people

- Cut spending
- Use Savings
- Receive more transfers from Friends and Family
- Match these transfers to outgoing expenses more.

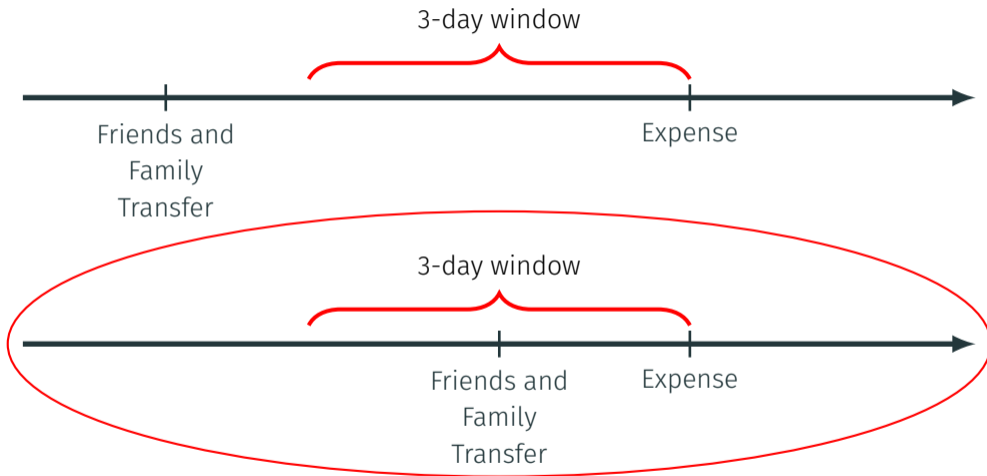
What is transfer – expense matching?



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What is transfer – expense matching?



Taking stock of where we are

- We have pinpointed periods of liquidity stress which we show are moments when people receive transfers from friends and family.
- We also provide new evidence that people match these incoming transfers to outgoing expenditures, and do so more when experiencing liquidity stress
- We hence identify *exact* moments when the timing of receipt of income especially matters.
- We next assess to what extent access to P2P transfer apps impacts (a) the likelihood of matching and (b) other consumer outcomes.

Peer-to-peer transfer app access

- Assessing how P2P payment app use is correlated with consumer outcomes during periods of liquidity stress is problematic
- Why? The use of P2P payments apps is probably correlated with un-observable individual characteristics that drive both outcomes as well as P2P payments app use in the first place.
- We need an instrument → which is just variation in access to P2P payments apps that is unrelated to individual characteristics.

To construct our instrument, we make use of three features of peer-to-peer payments apps

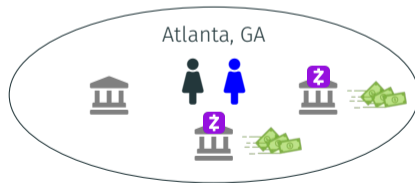
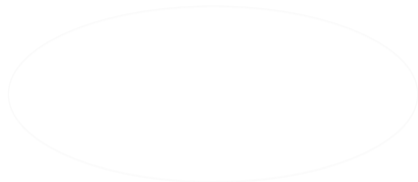
1. P2P payments apps are network goods
2. The use of one P2P payments apps can have spillovers into the use of others
3. The likelihood of using Zelle specifically is a function of whether one's bank offers Zelle

We use consumers' *close social circle* exposure to bank branches of banks that offer Zelle as an instrument for access to peer-to-peer payments apps

City of Social Circle (Consumer 1)

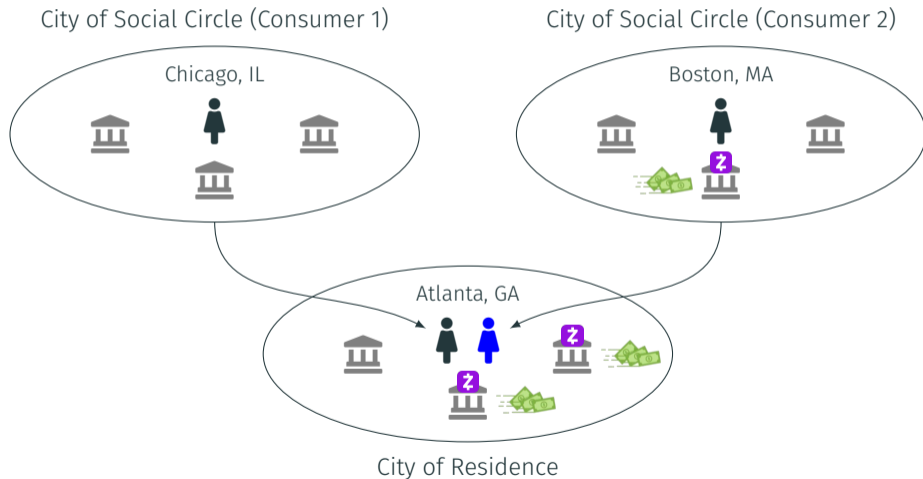


City of Social Circle (Consumer 2)



City of Residence

We use consumers' *close social circle* exposure to bank branches of banks that offer Zelle as an instrument for access to peer-to-peer payments apps



What do we find?

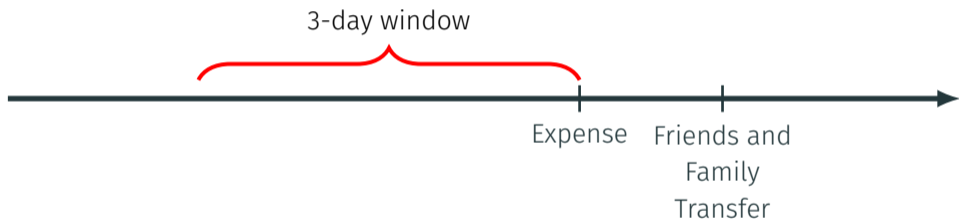
- Zelle exposure of bank partnerships at the location of close social circle strongly predicts both Zelle use and other p2p app use.
- We have a good instrument for P2P payment app access!

How does P2P payment access help people who are severely liquidity stressed?

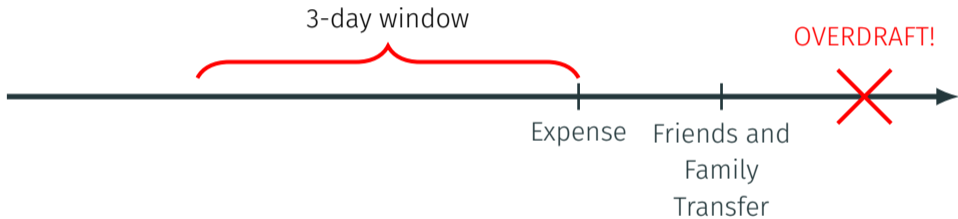
People who have lost income, who also live paycheck-to-paycheck and who have received a Friends and Family transfer:

- Match incoming transfers to expenses more strongly predicts both Zelle use and other p2p app use (but don't receive more transfers in amount).
- Incur less overdrafts and NSF fees down the line.

How does this happen?



How does this happen?



- Consumers often rely on friends & family money transfers in times of need. Yet, traditional payments methods are slow and costly.
- Peer-to-peer (P2P) payments app technology improves inter-household transfers through improved matching of the timing of transfers to key expenditures.
- Improved certainty of income timing benefits consumers through preventing a cascade of low-liquidity penalties such as overdraft fees.

Summary stats

Panel A: Mean

	Monthly Representative Sample		Federal Government Employees Sample		
	All Users	Constrained Users	All Employees	Employees with Lost Income	Constrained Employees with Lost Income
	(1)	(2)	(3)	(4)	(5)
Friends & Family Transfer (1/0)	32.3%	26.7%	29.7%	30.4%	27.1%
Friends & Family Transfer (\$)	673	207	513	588	159
Friends & Family Transfer (#)	0.89	0.68	0.78	0.79	0.65
Use Savings (1/0)	64.5%	55.4%	49.3%	51.3%	47.8%
Cut Spending (1/0)	41.0%	37.0%	41.6%	41.5%	36.8%
Low Balance Fee (1/0)	4.2%	4.3%	3.4%	3.4%	5.9%
Overdraft Fee (1/0)	3.9%	4.1%	3.3%	3.3%	5.8%
NSF Fee (1/0)	0.5%	0.4%	0.2%	0.3%	0.3%
Constrained Users (%)	31.5%	100.0%	23.0%	19.3%	100.0%
Matching (1/0)	22.9%	21.3%	20.7%	20.6%	22.7%

Summary stats

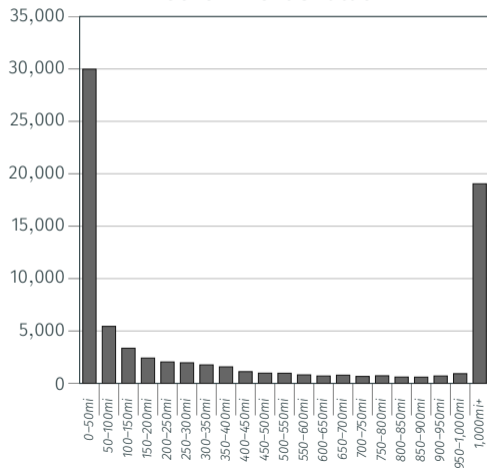
Panel B: Median

		Monthly Representative Sample		Federal Government Employees Sample		
		All Users	Constrained Users	All Employees	Employees with Lost Income	Constrained Employees with Lost Income
		(1)	(2)	(3)	(4)	(5)
Regular Income	(\$)	3,261	1,955	5,400	6,288	2,763
Total Income	(\$)	4,562	2,284	6,786	7,645	3,106
Total Spending	(\$)	4,098	1,989	5,737	6,108	3,034
<i>N</i>		196,331	61,918	75,077	28,149	17,260

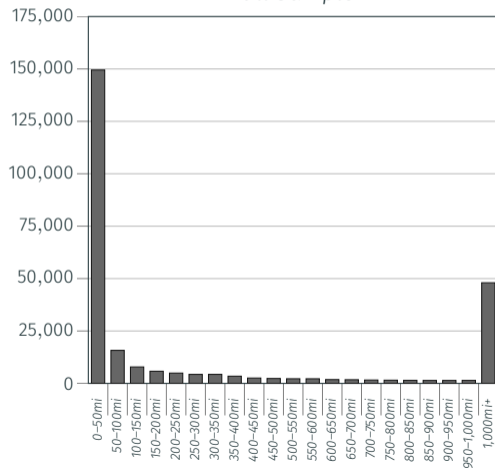
Consumer close social circle distance

Panel A: Histograms for Any Social Circle Dist

Government Shutdown



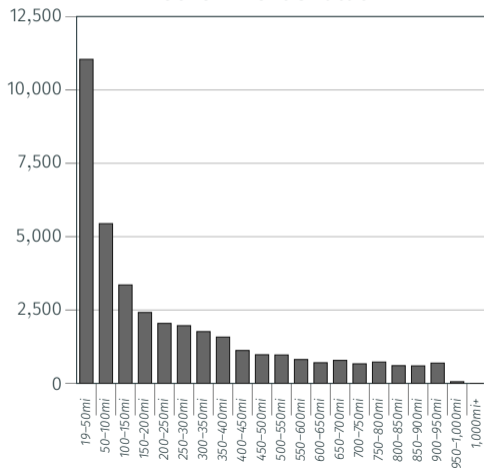
Full Sample



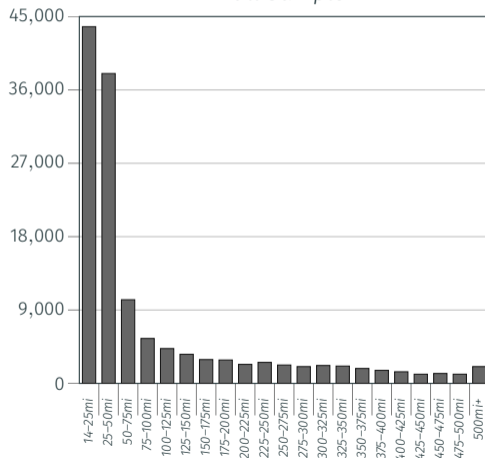
Consumer close social circle distance

Panel B: Histograms for Social Circle Dist $P_{25}-P_{75}$

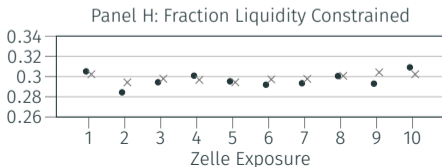
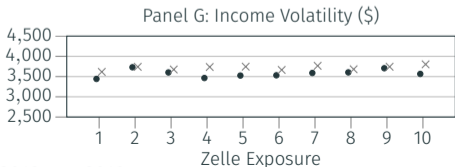
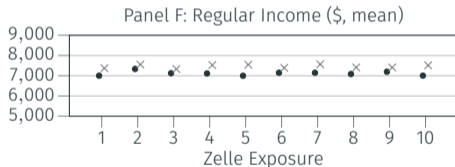
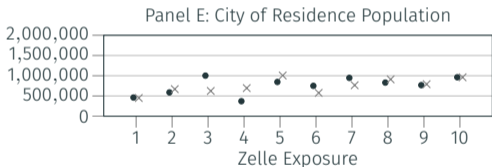
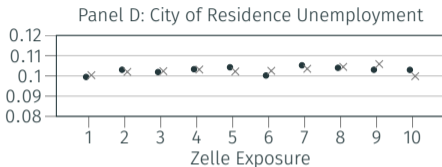
Government Shutdown



Full Sample



Close social circle exposure to Zelle is uncorrelated with user characteristics controlling for user location



Peer-to-peer payments app access is sometimes associated with more frequent and smaller transfers

Panel A: Government Shutdown/Post Shutdown

Dependent Variable =	Friends & Family Transfer (\$)		Friends & Family Transfer (#)	
	Any Social Circle Dist	Social Circle Dist $P_{25}-P_{75}$	Any Social Circle Dist	Social Circle Dist $P_{25}-P_{75}$
	(1)	(2)	(3)	(4)
Zelle Exposure	-1.058 (2.253)	5.083 (3.666)	0.00480 (0.0157)	0.0398 (0.0263)
Person Fixed Effects	N	N	N	N
City of Res Fixed Effects	Y	Y	Y	Y
Observations	17,485	8,866	17,485	8,866
R-squared	0.0345	0.0398	0.0365	0.0379

Peer-to-peer payments app access is sometimes associated with more frequent and smaller transfers

Panel B: Full Sample/Time of Income Loss

Dependent Variable =	Friends & Family Transfer (\$)		Friends & Family Transfer (#)	
	Any Social Circle Dist	Social Circle Dist $P_{25}-P_{75}$	Any Social Circle Dist	Social Circle Dist $P_{25}-P_{75}$
	(1)	(2)	(3)	(4)
Zelle Exposure	11.30 (8.464)	12.74 (9.264)	0.195*** (0.0153)	0.186*** (0.0185)
Person Fixed Effects	N	N	N	N
City of Res Fixed Effects	Y	Y	Y	Y
Observations	122,960	65,858	122,960	65,858
R-squared	0.0353	0.0435	0.0230	0.0270

Zelle partnerships across the U.S. and over time

Panel A: Zelle partnerships in 2017

Panel B: Zelle partnerships in 2020

