

Untangling the credit card debt puzzle

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FDIC Consumer Research Symposium
16 October 2020

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Co-hold (i) low-yield liquid assets (ii) revolving credit card debt

- ▶ Long-standing puzzle (Gross and Souleles, 2002) because could save on interest without reducing liquidity
- ▶ US: 20–40 percent of households co-hold
- ▶ Rationale for co-holding matters
 1. Do households incur avoidable costs?
 2. Advise models of household financial behavior

What my paper does

1. New facts on co-holding with electronic bank data
 - ▶ Persistence of co-holding
 - ▶ Gathergood and Olafsson, 2020
 - ▶ Intra-household pooling and co-holding

What my paper does

2. Tests existing strategic hypotheses for co-holding

- ▶ Liquidity premium hypothesis
 - ▶ Telyukova, 2013; Zinman, 2007
- ▶ Precautionary borrowing hypothesis
 - ▶ Druedahl and Jørgensen, 2018; Fulford, 2015; Gorbachev and Luengo-Prado, 2018
- ▶ Intra-household pooling (or lack thereof)
 - ▶ Bertaut, Haliassos and Reiter, 2009; Choi and Laschever, 2018

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3. Study a new behavioral hypothesis for co-holding
 - ▶ Anchoring to the minimum payment on credit card debt

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Today focus on intra-household pooling and anchoring

Data

- ▶ Proprietary data on customers of a large Finnish bank
 - ▶ Link individuals in same household
 - ▶ Focus on households that use bank as main bank
 - ▶ # of households \approx 290k; # of individuals \approx 400k
- ▶ Monthly panel January 2014–December 2017
- ▶ E-o-m balances on deposit and unsecured credit accounts
 - ▶ Credit card (\approx 75 %) + other unsecured credit lines (\approx 25 %)
 - ▶ Focus on interest-accruing credit balance
- ▶ Nominal interest rates:
 - ▶ Unsecured credit: 5 to 10 percent (APRs higher)
 - ▶ Liquid assets \approx 0 percent

Defining “puzzling” co-holding

$$\text{Co - holding} = \min(\text{deposits}, \text{unsecuredDebt})$$

1. Fixed (EUR) criteria:

- ▶ Co-holding over 500 EUR
- ▶ Deposits over 1,500 EUR

2. Relative (to income) criteria:

- ▶ Co-hold more than 25 percent of monthly disposable income

Distribution of household co-holding

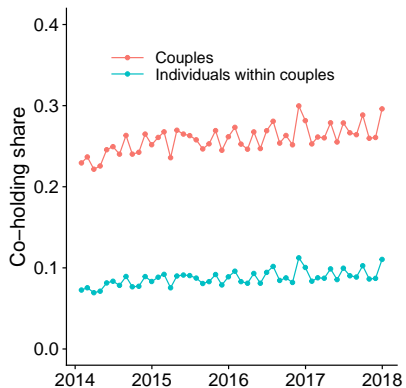
Table 1: Distribution of key co-holding variables

	N	Mean	Q0.01	Q0.1	Q0.25	Q0.5	Q0.75	Q0.9	Q0.99
All observations									
Deposits	14,002,464	19,495	-782	373	1,680	6,558	20,967	49,242	172,561
Unsecured debt	14,002,464	997	0	0	0	0	1,124	3,482	9,223
Co-holding	14,002,464	465	0	0	0	0	460	1,592	4,941
Puzzle observations									
Deposits	2,412,093	11,028	1,532	1,848	2,520	4,555	10,509	23,862	95,441
Unsecured debt	2,412,093	2,795	519	711	1,071	1,936	3,696	6,052	11,174
Co-holding	2,412,093	2,158	519	711	1,071	1,769	2,697	4,063	7,958

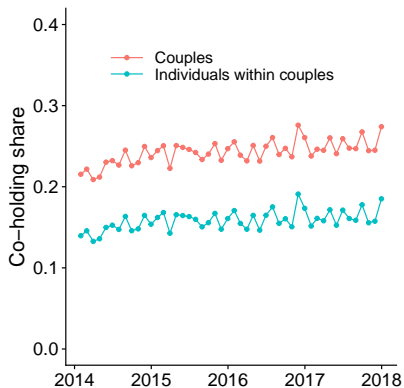
^a Puzzle if over 500 EUR of unsecured debt and over 1,500 EUR of deposits.

Co-holding and intra-household pooling

Co-holding by couples and individuals within couples

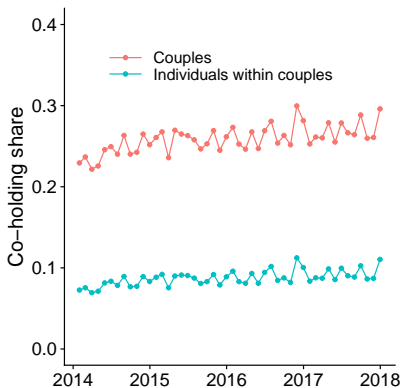


Co-holding > 500 EUR and deposits > 1500 EUR

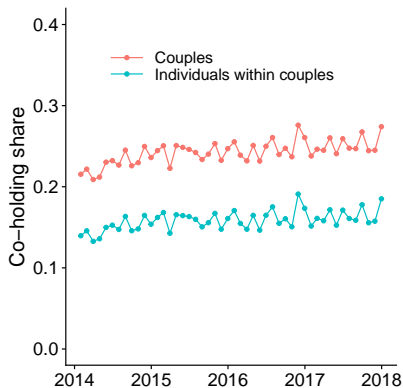


Coholding > 0.25 x monthly disposable income

Co-holding by couples and individuals within couples



Co-holding > 500 EUR and deposits > 1500 EUR



Coholding > 0.25 x monthly disposable income

With different rel. criteria, co-holding by individuals 20–35 pct lower than by couples

Evidence of uncooperative behavior within couples?

- ▶ Jan 2015: co-holders with mortgage eligible for cheap liquidity
 - ▶ Free offer to stop principal payments for up to 12 months
 - ▶ Cheap long-term source of liquidity
 - ▶ Median nominal mortgage interest rate = 1.3 percent
 - ▶ Median nominal unsecured credit rate = 7 percent
 - ▶ Median remaining mortgage maturity \approx 12 years
 - ▶ No effects on future banking terms
- ▶ Does distribution of assets and liabilities affect take up?
 - ▶ Co-operation: distribution does not matter
 - ▶ Conflict: saver prevents borrower access to liquidity

Test of household cooperation in liquidity demand

$$\mathbb{1}_{\text{liquidity},p,h} = \beta_1 \text{unsecuredDebtShare}_{p,h} + \beta_2 \text{depositShare}_{p,h} +$$
$$\sum_{b=1}^{10} \gamma_b \mathbb{1}_{\text{deposits}_h \in \text{depositBin}_b} + \sum_{b=1}^{10} \theta_b \mathbb{1}_{\text{unsecuredDebt}_h \in \text{unsecuredDebtBin}_b} +$$
$$\mathbb{X}_h + \epsilon_{p,h}$$

Test of household cooperation in liquidity demand

Table 2: Uncooperative behavior if individual decision on liquidity offer

	<i>Dependent variable:</i>		
	Apply for liquidity offer (0/1)		
	(1)	(2)	(3)
depositShare	-0.008 (0.006)	0.009 (0.007)	-0.049*** (0.012)
unsecuredDebtShare	0.034*** (0.005)	0.012** (0.006)	0.083*** (0.009)
Sample	All co-holding couples	Joint application	Individual application
Household controls	Yes	Yes	Yes
Take-up rate	0.28	0.29	0.24
Unique individuals	50,991	37,432	11,621
Unique households	45,209	35,063	9,274
Observations	50,991	37,432	11,621

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Co-holding and anchoring

Anchoring in credit card debt payments

- ▶ Evidence that low credit card debt payments common and consistent with anchoring to minimum payment
 - ▶ Guttman-Kenney et al., 2018; Hershfield and Roese, 2015; Keys and Wang, 2019; Navarro-Martinez et al., 2011; Stewart, 2009

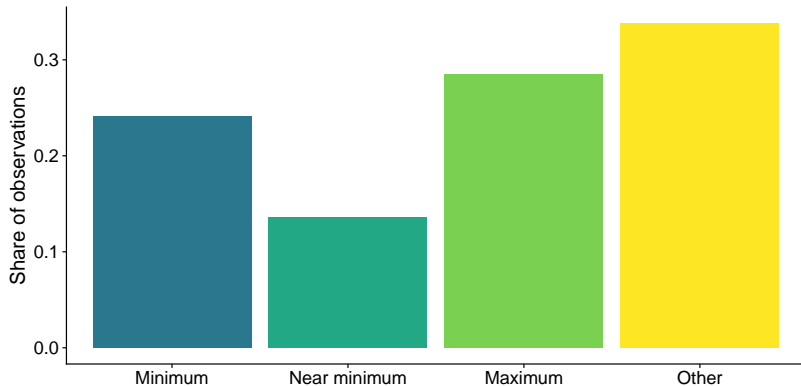
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- ▶ My contribution
 - ▶ Low payments often coincide with high liquidity
 - ▶ Regular low payments correlate with co-holding

How common are low payments?

- ▶ Study individuals with 3+ credit card invoices in 2015
 - ▶ Require electronic invoicing and no autopay
 - ▶ # of individuals \approx 135k; # of invoices \approx 1.25 M
- ▶ Categorize payments relative to minimum and total balance

How common are low payments?



Note: Near minimum payments are within 50 EUR of the minimum.

Figure 1: Distribution of electronic invoice payments

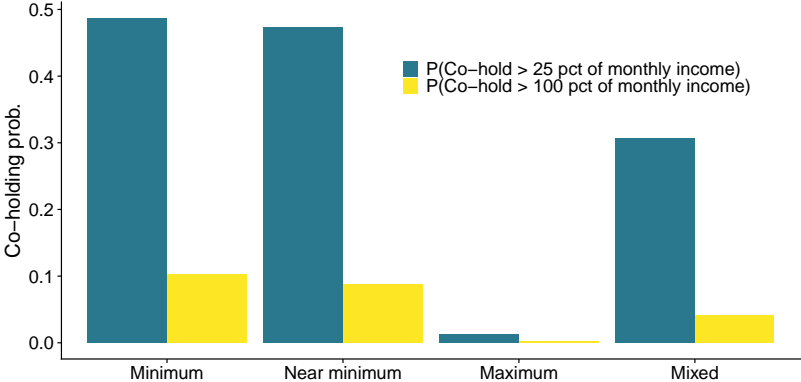
Low payments despite high liquidity

Table 3: Liquidity with low payments

	N	Deposits to monthly disposable income						
		Q25	Q50	Q60	Q70	Q80	Q90	Q95
Minimum payments	303,830	0.15	0.54	0.79	1.14	1.86	4.19	8.17
Near-minimum payments	171,242	0.15	0.53	0.78	1.12	1.79	3.93	7.52
Near-minimum payments (active)	51,992	0.20	0.59	0.83	1.15	1.76	3.52	6.41

^a Active near-minimum payments refer to individual actively changing the payment from the contractual minimum (default option) to a higher amount. Not subject to confounders of salience/effort.

Low regular payments coincide with co-holding



Note: Payer type minimum/near minimum/maximum if over 50 percent of payments of a given type.

Figure 2: Co-holding by regular payment type

Conclusions

- ▶ Document new facts and test hypotheses for co-holding

Main results

1. Lack of intra-household pooling → co-holding
2. Anchoring to credit card minimum payment → co-holding
3. Liquidity-based hypotheses insufficient to explain co-holding
4. Imperfect persistence → cross-sections portray co-holding inaccurately