Discussion: Household Balance Sheets and Financial Stability Session

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Federal Reserve Bank of Boston and NBER

Cleveland Fed OFR Financial Stability Conference
Cleveland, November 22, 2018

These notes reflect the views of the author and don't necessarily reflect the official positions of the Federal Reserve Bank of Boston or the Federal Reserve System.

Disclaimer

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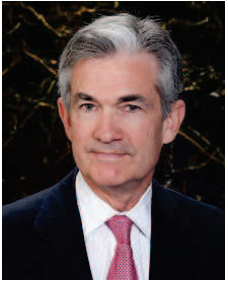
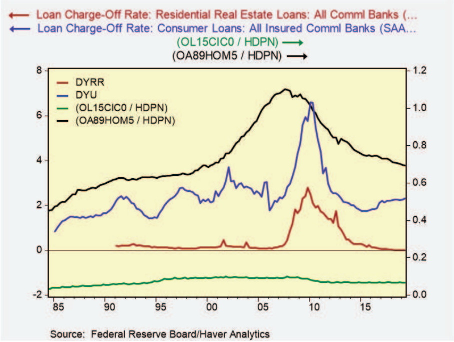


- When I say "we", I don't mean Jay and me.

3 Papers about consumer debt

- Smoothing consumption with debt
  1. Intertemporal smoothing: Permanent income hypothesis
  2. Default and completing markets



Del Valle, Scharlemann and Shore (2019)

- Households hit by a transitory shock
  - Smooth consumption by borrowing

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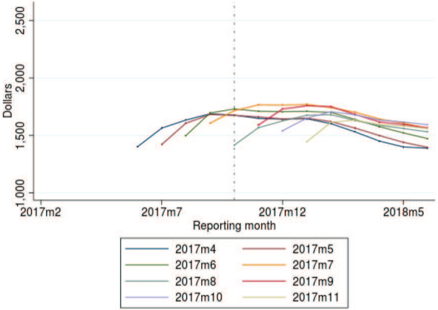
Least Flooding



- Take out new credit cards
    - Teaser Rates

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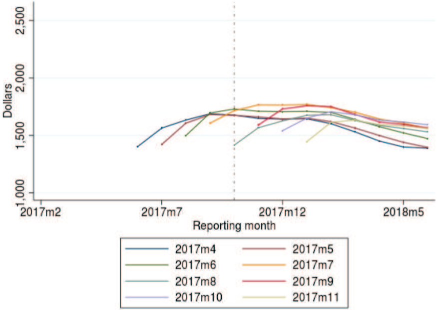

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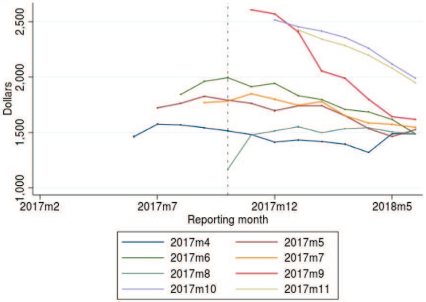

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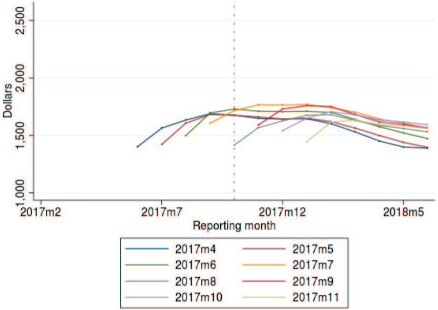

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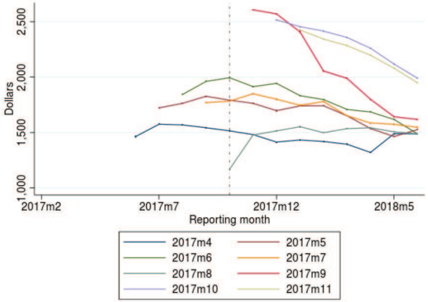

Theory 1 of Consumer Credit: No Self-Control

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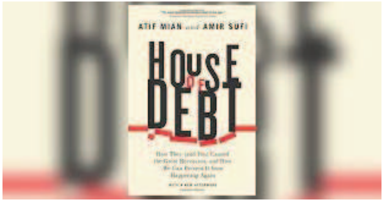
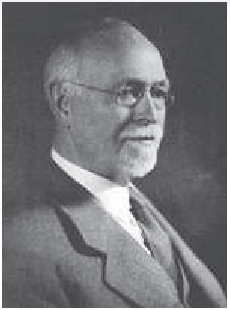


Theory 2: Consumption Smoothing



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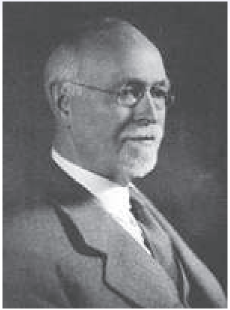

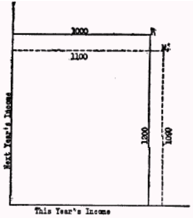

CHART 25
Effect of Borrowing Upon an Individual's Income Position.

- Irving Fisher (1930) invented indifference curves
- Different combinations of present and future consumption

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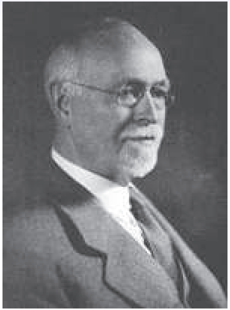

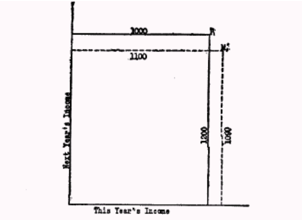

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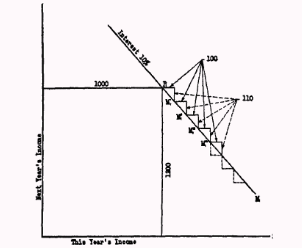

CHART 26
Successive Changes in an Individual's Income Position Produced by Successive Borrowings at the Market Rate of Interest.

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- Different combinations of present and future consumption
- Consumption frontier

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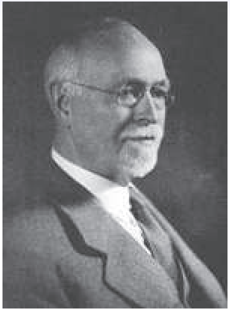

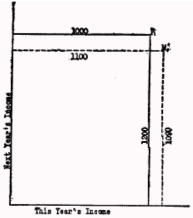

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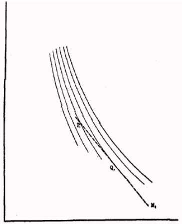
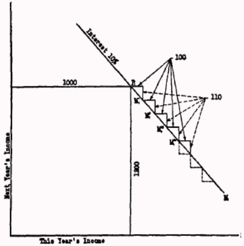


CHART 34
The Final Income Position (Q_1) of Individual 1 Fixed by Tangency of the W_1 Line to the M_1 Line at Q_1.



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- Irving Fisher (1930) invented indifference curves
- Different combinations of present and future consumption
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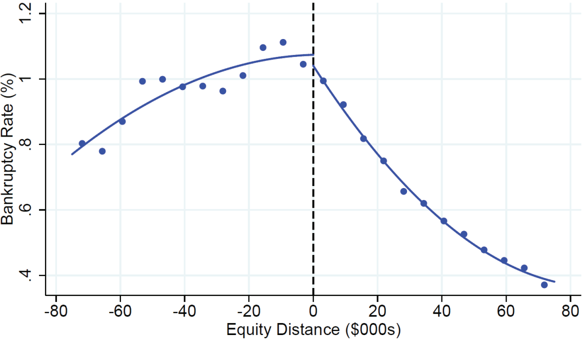
- Borrowing moves you down and to the right

Indarte (2019)

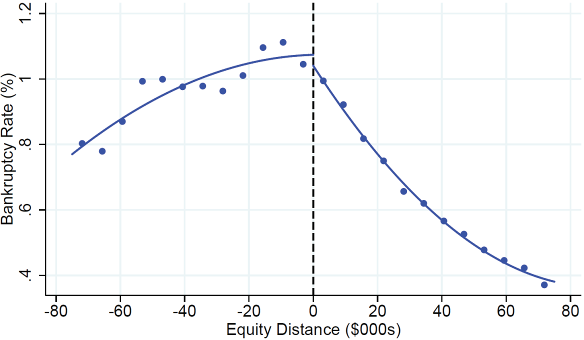
Figure 5: The Effect of Seizable Equity on Bankruptcy Filings



- Why is this picture surprising?

Indarte (2019)

Figure 5: The Effect of Seizable Equity on Bankruptcy Filings



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  - More equity $\Rightarrow$ More Wealth
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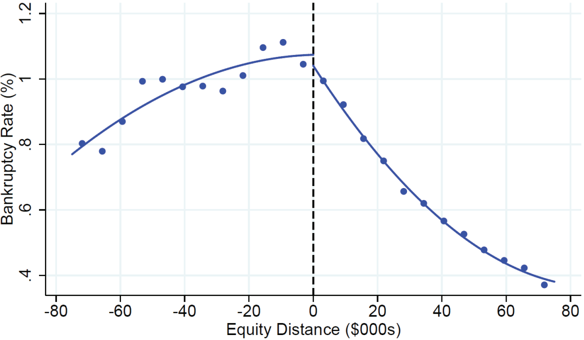

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- Below exemption
  - Bankruptcy does not wipe out equi

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- Borrowers design their own securities in which negative payoffs occur in states where it is efficient for them to default
  - penalty is part of the contract
- Zame (1993) argues that adding new markets cannot do the same thing – if risks are idiosyncratic.

> *"default improves the efficiency of markets and does so in a way that simply opening new markets cannot... [Default allows] traders to enter into contracts that they will be able to execute with high probability but not with certainty."*

Bankruptcy and Risksharing

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Δ	-\$200k	\$0k	-\$100k	50%
3. Bad Shock, Bankruptcy, 100k exemption				
1	\$300k	-\$400k	\$100k	
Δ	-\$200k	\$0k	\$0k	0%

Bankruptcy and Risksharing

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- Bigger exemption leads to more risk sharing.
- But bankruptcy is an option
  - No sharing of gains

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2. Bad Shock, Bankruptcy, no exemption				
1	\$300k	-\$400k	\$ 0k	
Δ	-\$200k	\$0k	-\$100k	50%
3. Bad Shock, Bankruptcy, 100k exemption				
1	\$300k	-\$400k	\$100k	
Δ	-\$200k	\$0k	\$0k	0%
4. Good Shock, Bankruptcy, 100k exemption				
1	\$700k	-\$400k	\$300k	
Δ	+\$200k	\$0k	\$200k	100%

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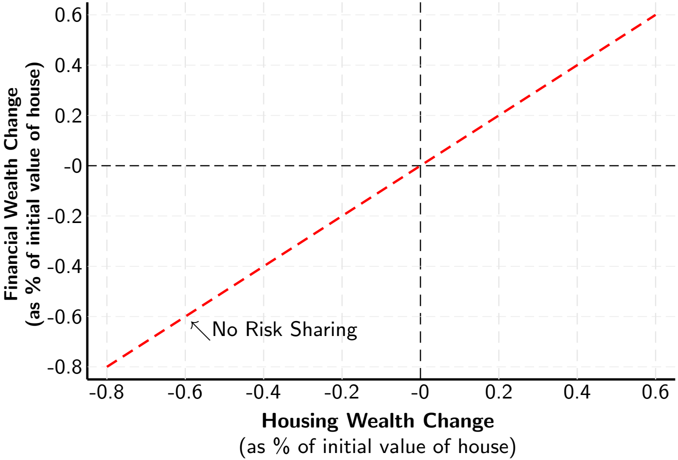

Default and risk sharing

- For mortgages but intuition is identical
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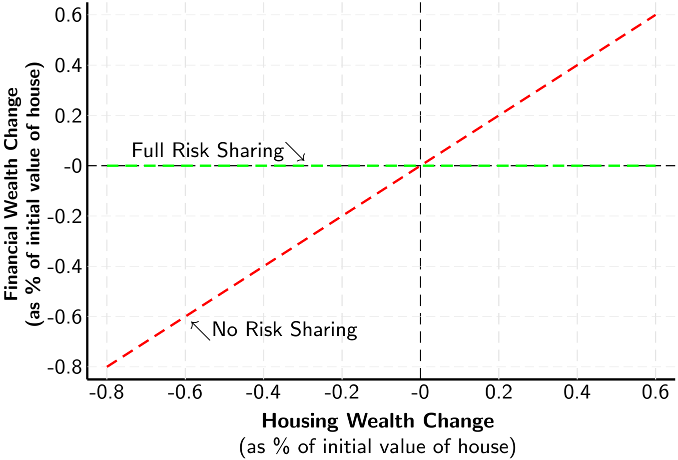

Risk sharing in the data

- *Ex post* outcomes
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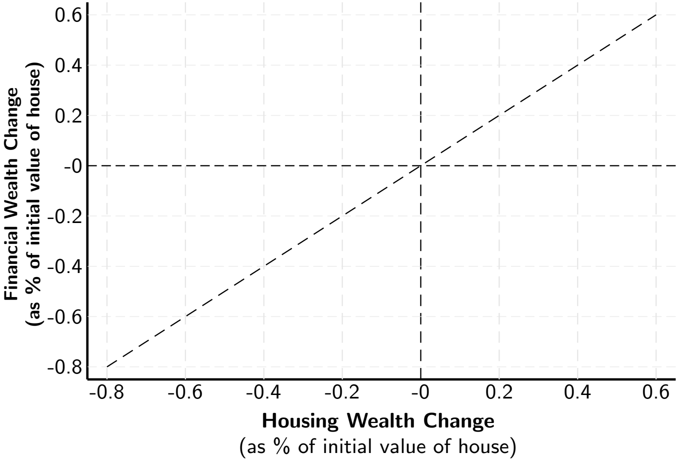

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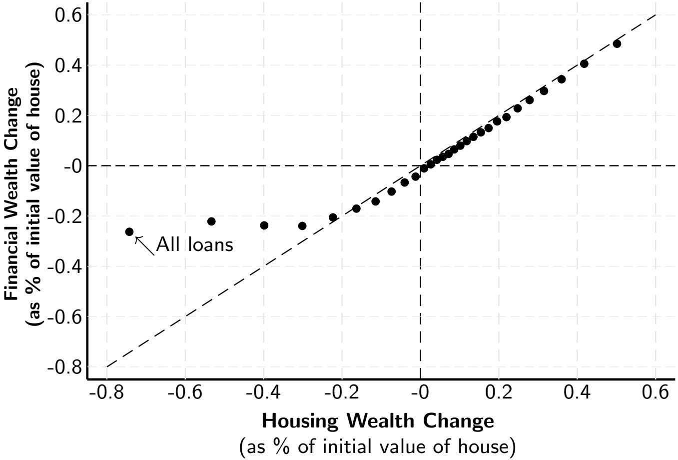

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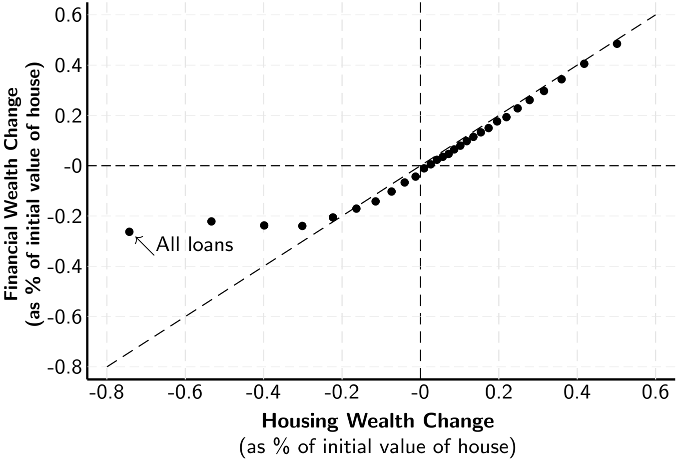

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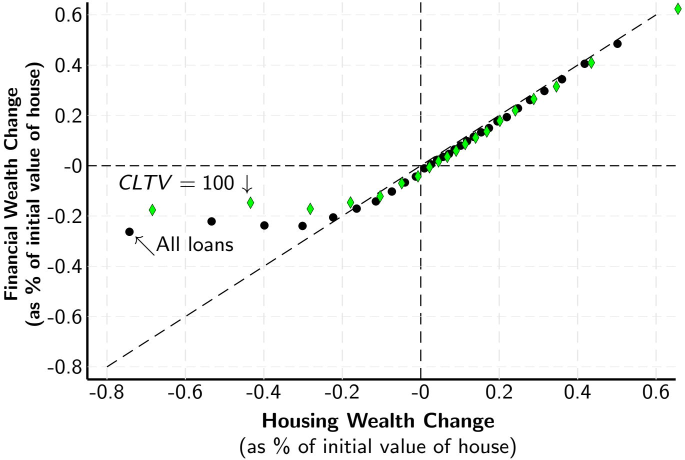

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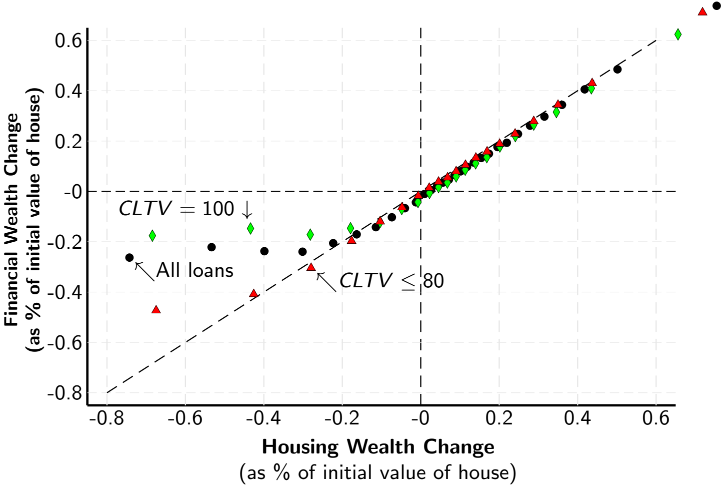

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  - High leverage = high risk sharing
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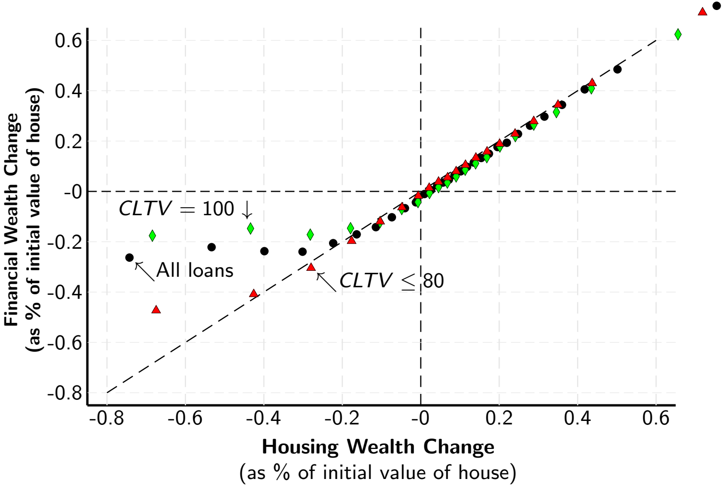
- Exemption plays exactly the same role as down payment



Chava, Ganduri, Paradkar and Zeng (2019)

- Focus on the period of the crisis

Depvar: Δ*CC Balance*	(1)	(2)	(3)	(4)	(5)
Δ CC limit	0.744***	0.854***			
	(46.40)	(25.05)			
Exposure			-3.080	-9.805***	
			(-1.02)	(-4.57)	
Δ CC limit (instrumented)					2.064***
					(4.52)
Individual FE		✓		✓	✓
Bank characteristics	✓	✓	✓	✓	✓
Bank performance	✓	✓	✓	✓	✓
Lending quality	✓	✓	✓	✓	✓
Credit card controls	✓	✓	✓	✓	✓
N	158,432,533	158,432,533	158,432,533	158,432,533	158,432,533

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- Exposed banks ⇔ riskier borrower?
  - Full set of individual fixed effects.

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What about the extensive margin?

- What did we learn from del Valle, Scharlemann and Shore?
  - Extensive margin is what matters!

Depvar:	Δ Agg. CC Limit	Δ Agg. CC Balance		
	(1)	(2)	(3)	(4)
Weighted exposure	-3.827***	-1.216**		
	(-9.56)	(-2.55)		
Δ Agg. CC limit			0.859***	
			(43.56)	
Δ Agg. CC limit (instrumented)				0.318***
				(2.87)
Zip-code FE	✓	✓	✓	✓
Consumer quality	✓	✓	✓	✓
N	133.501.009	133.501.009	133.501.009	133.501.009

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- Does it matter that credit limit did not go up at Lender A?

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				(2.87)
Zip-code FE	✓	✓	✓	✓
Consumer quality	✓	✓	✓	✓
N	133.501.009	133.501.009	133.501.009	133.501.009

What about the extensive margin?

- What did we learn from del Valle, Scharlemann and Shore?
  - Extensive margin is what matters!
- Does it matter that credit limit did not go up at Lender A?
- Look at all credit cards for individual borrower
  - Still find effect

Depvar:	Δ Agg. CC Limit	Δ Agg. CC Balance		
	(1)	(2)	(3)	(4)
Weighted exposure	-3.827***	-1.216**		
	(-9.56)	(-2.55)		
Δ Agg. CC limit			0.859***	
			(43.56)	
Δ Agg. CC limit (instrumented)				0.318***
				(2.87)
Zip-code FE	✓	✓	✓	✓
Consumer quality	✓	✓	✓	✓
N	133.501.009	133.501.009	133.501.009	133.501.009

What about the extensive margin?

- What did we learn from del Valle, Scharlemann and Shore?
  - Extensive margin is what matters!
- Does it matter that credit limit did not go up at Lender A?
- Look at all credit cards for individual borrower
  - Still find effect
- But no individual fixed effects any more
  - Are borrowers at bank A unobservably different?

Depvar:	Δ Agg. CC Limit	Δ Agg. CC Balance		
	(1)	(2)	(3)	(4)
Weighted exposure	-3.827***	-1.216**		
	(-9.56)	(-2.55)		
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			(43.56)	
Δ Agg. CC limit (instrumented)				0.318***
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Zip-code FE	✓	✓	✓	✓
Consumer quality	✓	✓	✓	✓
N	133.501.009	133.501.009	133.501.009	133.501.009

The slide you've all been waiting for...

The slide you've all been waiting for...

- The end.