Loan Contracting in the Presence of (State) Usury Limits: Evidence from Auto Lending

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The views expressed are those of the author and do not necessarily reflect those of the Consumer Financial Protection Bureau or the United States.

Overview

- Consumer credit markets feature significant levels of regulation, including rules governing:
  - Disclosure of terms
  - Fair access to credit
  - Allowable contract conditions
- These regulations aim to achieve some specified policy goals, but could feature varying levels of efficacy and side-effects
- We examine the impacts of one type of regulation, state-level usury limits, in one industry, auto financing and sales

Three areas of interest considered

1. Access to any credit – Are fewer people able to finance vehicle purchases as a result of state usury limits?
   - Little to no evidence
2. Market Structure – Does law change the source of credit provided?
   - Yes, marginal consumers receive financing directly from dealers
3. Loan features- Does law change the conditions of credit provided?
   - Yes, in a way that preserves as much revenue to dealer as possible, with ambiguous consumer welfare impacts

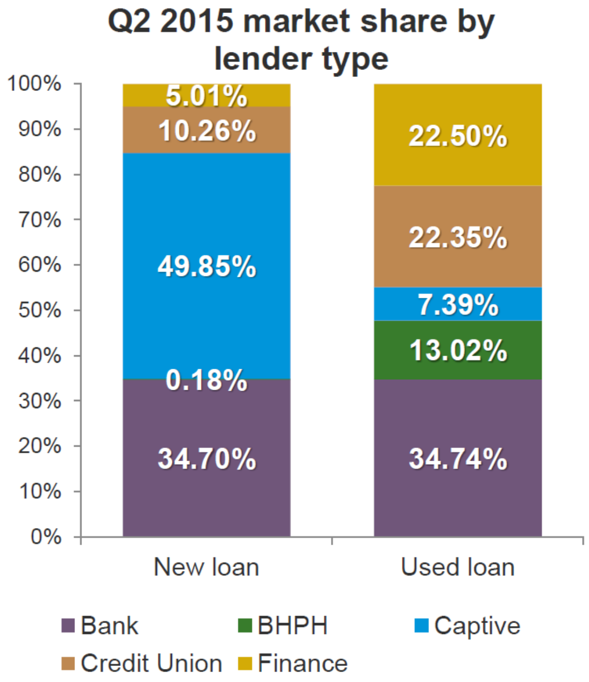
Why auto lending?

- Large credit market in which state usury limits bind
  - The majority of states limit interest rates on vehicle loans
  - Strong demand for vehicle loans among subprime borrowers
    - $70.7 billion, or 31%, of auto loans in first half of 2014 to borrowers with credit scores below 640 (Equifax, 2014)
- Flexibility in contracting
  - In-house, purchase financing provides opportunity to contract around binding usury limits
  - Lessons applicable to financing in other durable goods markets; e.g. “rent-to-own” market for furniture, electronics, appliances ($8 billion)

How do consumers finance auto purchases?

- Direct model: Customer goes to the bank and gets their own loan
  - Relatively infrequent
- Indirect model: Dealer finds customer a loan at time of purchase, acting as agent
  - Typical financing model
- Integrated model: Dealer both sells vehicle and provides financing for customer
  - Referred to as “Buy Here Pay Here” (“BHPH”) model

BHPH makes up significant share of market



Source: Experian Automotive

- Approx. 31% of loans charged off (NIADA 2014)
- 60 percent of borrowers in prior BHPH sample defaulted (Jenkins, Einav, Levin 2009; Jenkins 2008)

Contracting in BHPH Finance

- What's different from a typical car lot?

Sales process in subprime/BHPH market

1. Customer arrives at lot, provides financial information
   - Poor credit, monthly budget constrained, limited savings
2. Dealer immediately underwrites loan, determines down payment requirement and monthly ability to pay
3. Customer is shown the limited set of vehicles for which they qualify based on 2.
   - Dealers typically avoid listing cash price of vehicle to allow for flexibility (both upward and downward)

Implications of state usury limits in BHPH Finance

- When the usury rate limit is binding, an integrated dealer-lender can make up the difference by issuing the same loan, but with a higher amount financed
  - Traditional dealers may not be able to provide credit in similar circumstances
- From a welfare perspective, the only difference facing the consumer is a slower amortization rate, making early termination more difficult

Predictions when state usury limit binds

- Market Structure
  1. Access to any credit – Same distribution of loans by credit score across presence of usury limit
  2. Share of financing models – BHPH financing will provide greater share of financing
- Loan Characteristics
  1. BHPH – Lower interest rates, increased leverage, unchanged monthly payments
  2. Traditional – Lower interest rates, lower leverage, unch. or lower payments

Data Sources – Experian AutoCount®

- Deidentified information on automobile purchases and consumer credit information
- 1/2011 through 8/2013
- Variables include:
  - Month of purchase
  - Vehicle value (Kelley Blue Book)
  - Dealer and lienholder info (and indication of whether dealer = lender)
  - Loan information – loan amount, duration, monthly payment, interest rate
  - Credit score

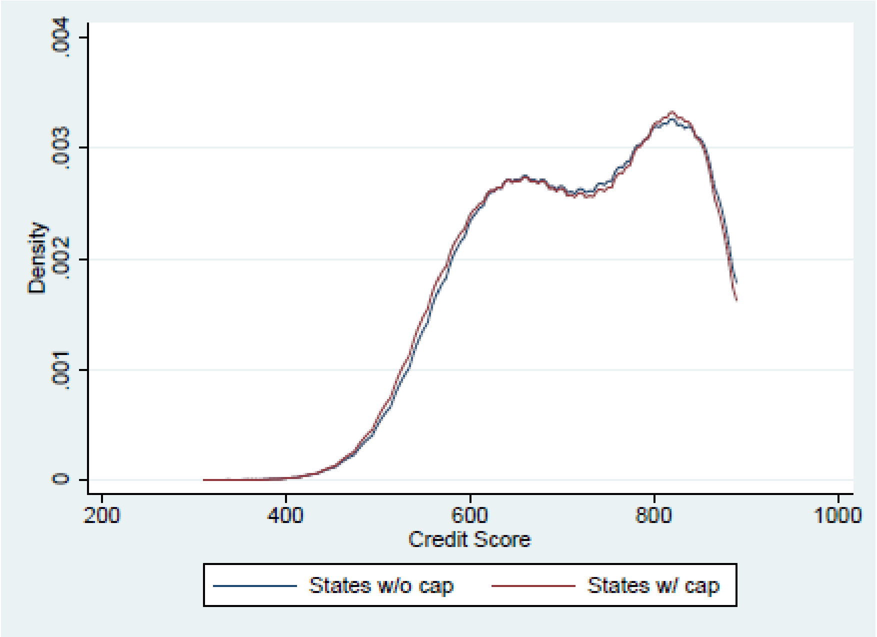
Data Sources, cont'd

- CFPB Consumer Credit Panel
  - 1/48 sample of US adult population
  - Includes information on lender type, loan type, and loan chars
  - Focus on auto finance companies when looking at loan characteristics
- State usury limits compiled directly, then cross-checked with relevant laws as found in *The Cost of Credit* (NCLC, 2009)

1. How would rationing appear in data?

- Would expect subprime consumers to be impacted most by any rationing
  - If differences in credit access exists, should see different densities of credit scores for auto customers across state usury limit presence
- Similarly, should see difference in pattern of ratio of loans/population by credit score across state usury limit presence

1. Patterns are similar across states



1. Patterns are similar across states

- FE Removed

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2. Changes occur in share of dealer-financed loans

- 22.7 percent of loans in lowest credit tier are dealer financed in states without a usury limit
- 50 percent increase in relative terms

	Dependent variable: Proportion of Financed Purchases with Dealer Financing		
Variable	(1) All	(2) All	(3) All - State FE
Cap Exists	0.0286**		
	(0.0116)		
Cap * Score 300 - 550		0.142**	0.132**
		(0.0630)	(0.0644)
Cap * Score 550 - 650		0.0480**	0.0399**
		(0.0181)	(0.0166)
Cap * Score 650 - 750		0.00825**	0.00323
		(0.00356)	(0.00250)
Cap * Score 750 - 900		0.000988	
		(0.00143)	
Time Effects	Yes	Yes	Yes
Credit Score	Yes	Yes	Yes
Adj. R-sq.	0.304	0.311	0.328
Obs.	27,901,678	27,901,678	27,901,678

Note: State-level clustered standard errors in parentheses, * p<0.10, ** p<0.05, *** p<0.01

3. State usury limits and loan characteristics

- Examine loan contracting among dealer-financed loans
  - Terms of loan only available if lender reports to credit bureau
- Our sample includes loans with complete information
  - 40,000 transactions (collapsed to 28,000 observations)

3. Summary statistics

Variable	Total
Credit Score	577.23
	(81.56)
Interest Rate	0.19
	(0.08)
Monthly Payment	403.19
	(195.15)
Term	42.00
	(14.53)
Amt. Fin.	$ 12,340.49
	($ 6,148.93)
LTV	1.64
	(0.44)
Vehicle Value (KBB)	8,266.80
	(5,109.54)
Obs.	28,155

3. APR and binding state usury limit

Variable	(1) IV	(2) IV	(3) IV	(4) IV
Pr(Binding = 1)	-0.0782***	-0.0934***	-0.0958***	-0.0668***
	(0.0268)	(0.0302)	(0.0303)	(0.0231)
Vehicle Value (KBB)		-0.00297***	-0.00382***	
		(0.000435)	(0.000841)	
Amt. Financed ('000s)			0.00105	
			(0.000732)	
Term			-0.000143	
			(0.000275)	
Constant	0.227***	0.255***	0.259***	0.229***
	(0.00341)	(0.00613)	(0.0123)	(0.0460)
Time Effects	Yes	Yes	Yes	Yes
Credit Score	Yes	Yes	Yes	Yes
ACS Vars.	No	No	No	Yes
Observations	28,152	28,152	28,149	27,941
K-P F-statistic	3.50	3.48	3.67	4.19
Num. Deg. of Freedom	29	29	29	29
Denom. Deg. of Freedom	3,736	3,736	3,736	3,687
Partial R-sq.	0.10	0.09	0.10	0.08

Note: Instruments incl. rate cap presence, level, and quadratic; credit tier; and cap and credit score interaction. Dealer-state clustered standard errors in parentheses, * $p<0.10$, ** $p<0.05$, *** $p<0.01$

3. Other loan characteristics shift as well…

Monthly Payment:

Variable	(1) IV	(2) IV	(3) IV	(4) IV
Pr(Binding = 1)	-45.25	78.41	-4.11	85.89
	(137.3)	(96.41)	(170.3)	(96.90)

LTV:

Variable	(1) IV	(2) IV	(3) IV
Pr(Binding = 1)	0.683***	0.512***	0.730***
	(0.135)	(0.122)	(0.129)

Term Length:

Variable	(1) IV	(2) IV	(3) IV	(4) IV
Pr(Binding = 1)	-23.16***	-13.16**	-18.61***	-17.20***
	(7.162)	(5.824)	(5.285)	(5.337)

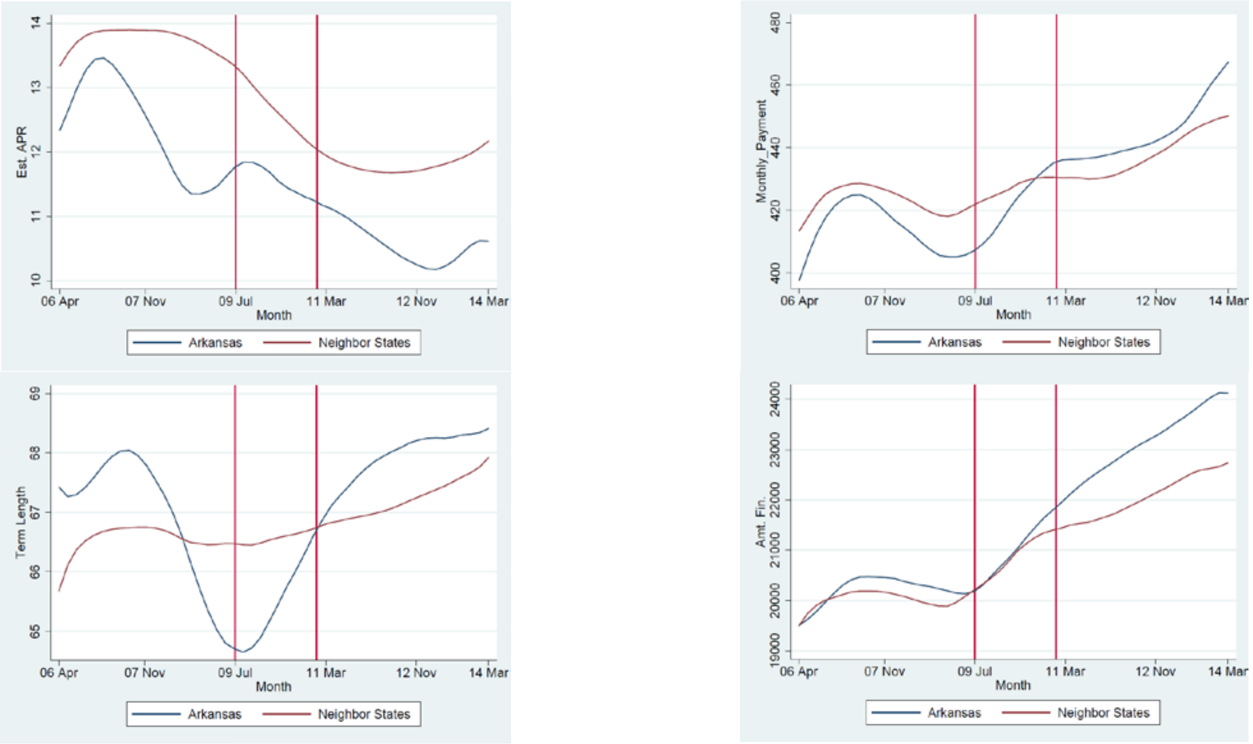
3. Summary of changes

- Rates and terms fall, monthly payment unchanged, LTV increases (mostly from fall in vehicle value)
- This matches a story where dealers/financers want to maintain total expected return on asset
  - Dealers maintain the monthly payment, but trade profits between collateral margin and risk pricing
  - Increased moral hazard and default risk mitigated by shorter loan length and lower collateral value at risk
- Potential impact: For all types of "prepayment" consumers will owe more per dollar of collateral value

3. Within-state variation – AR law change

- No state-level limit changes occur over AutoCount sample time frame
- Until 6/24/2009, AR usury limit tied to Fed discount rate
  - During Great Recession limit went from ~10% to 5.5%
  - Federal law then overrode limit to 17%, with permanent change on 1/1/2011
  - CFPB CCP covers this time frame

3. Event Study – AR v. neighbor states



3. Lender Financing Comparison – AutoCount and CCP

	Reg. Type	APR	Amt. Fin ('000s)	Term Length	Payment	LTV
I. AutoCount Results - Lender Financing						
Pr(Binding = 1)	Baseline	-0.0579***	-7.794***	3.370	-178.2***	-0.270***
		(0.0127)	(1.926)	(2.281)	(38.12)	(0.0615)
Pr(Binding = 1)	ACS Incl.	-0.0673***	-2.473	7.492***	-101.6***	-0.183***
		(0.0097)	(1.629)	(1.919)	(31.04)	(0.0406)
II. - CFPB CCP Results - Auto Finance Cos.						
AR post change	Baseline	0.0031***	.5312***	-0.170	15.16***	
		(0.0009)	(.1994)	(0.237)	(3.576)	
AR post change	ACS Incl.	0.0031***	.5670***	-0.162	15.77***	
		(0.0009)	(.1993)	(0.237)	(3.572)	

Note: Instruments for I. incl. rate cap presence, level, and quadratic; credit tier; and cap and credit score interaction. Dealer-state clustered standard errors in parentheses, * p<0.10, ** p<0.05, *** p<0.01

- Note: The coefficient in I. reflects a decrease in the level of the binding rate, that of II. reflects an increase, so signs should flip

Summary/Conclusion

- State usury limits:
  - Do not significantly impact ability of subprime consumers to finance a vehicle purchase
  - Tilt market composition toward higher levels of dealer financing, especially for marginal subprime consumers
  - Lower interest rates for affected consumers, with additional impacts dependent on source of financing
    - Dealer financed purchases see increased leverage, shorter terms, and similar monthly payments
    - Lender-financed purchases see decreased leverage, longer terms, and lower monthly payments

Questions?

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