



Private Student Loans and BAPCPA: How Were Four-Year Undergraduates Affected by the Increased Collectability of Student Loans?

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Research Question

How and to what extent did the change to make private student loans (effectively) non-dischargeable in bankruptcy affect underwriting, pricing, and availability?

Federal v. Private Student Loan Markets

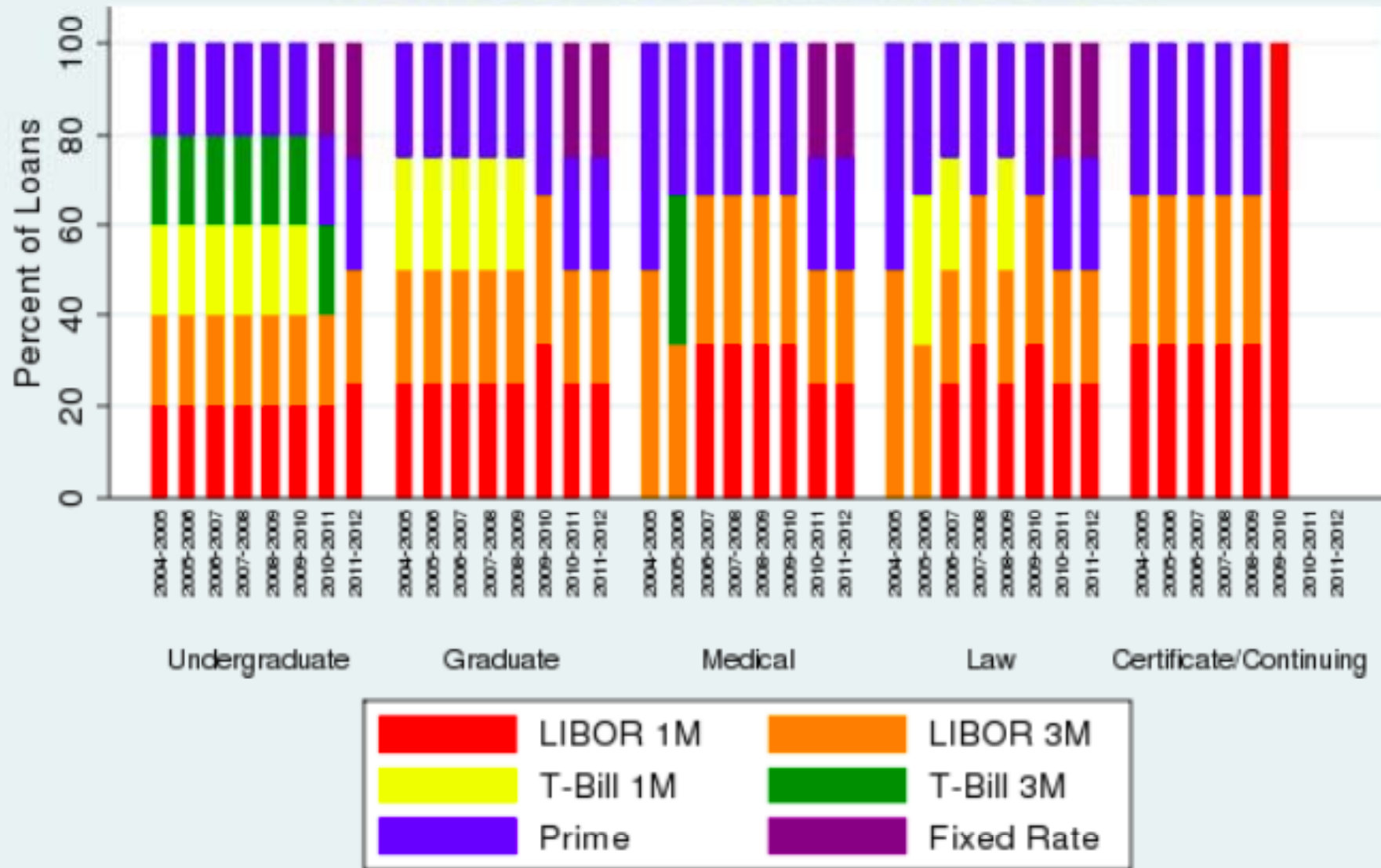
Federal Loans

- Entitlement; not risk-priced
- Generally fixed rate set by Congress
- Max amount that can be borrowed set by law
- Presumptively non-dischargeable in bankruptcy since 1998

Private Loans

- Underwritten based on borrower and co-borrower characteristics; risk-priced
- Generally variable rate, indexed
- Max amount based on underwriting
- Became presumptively non-dischargeable in 2005

Index Used to Calculate Interest Rate

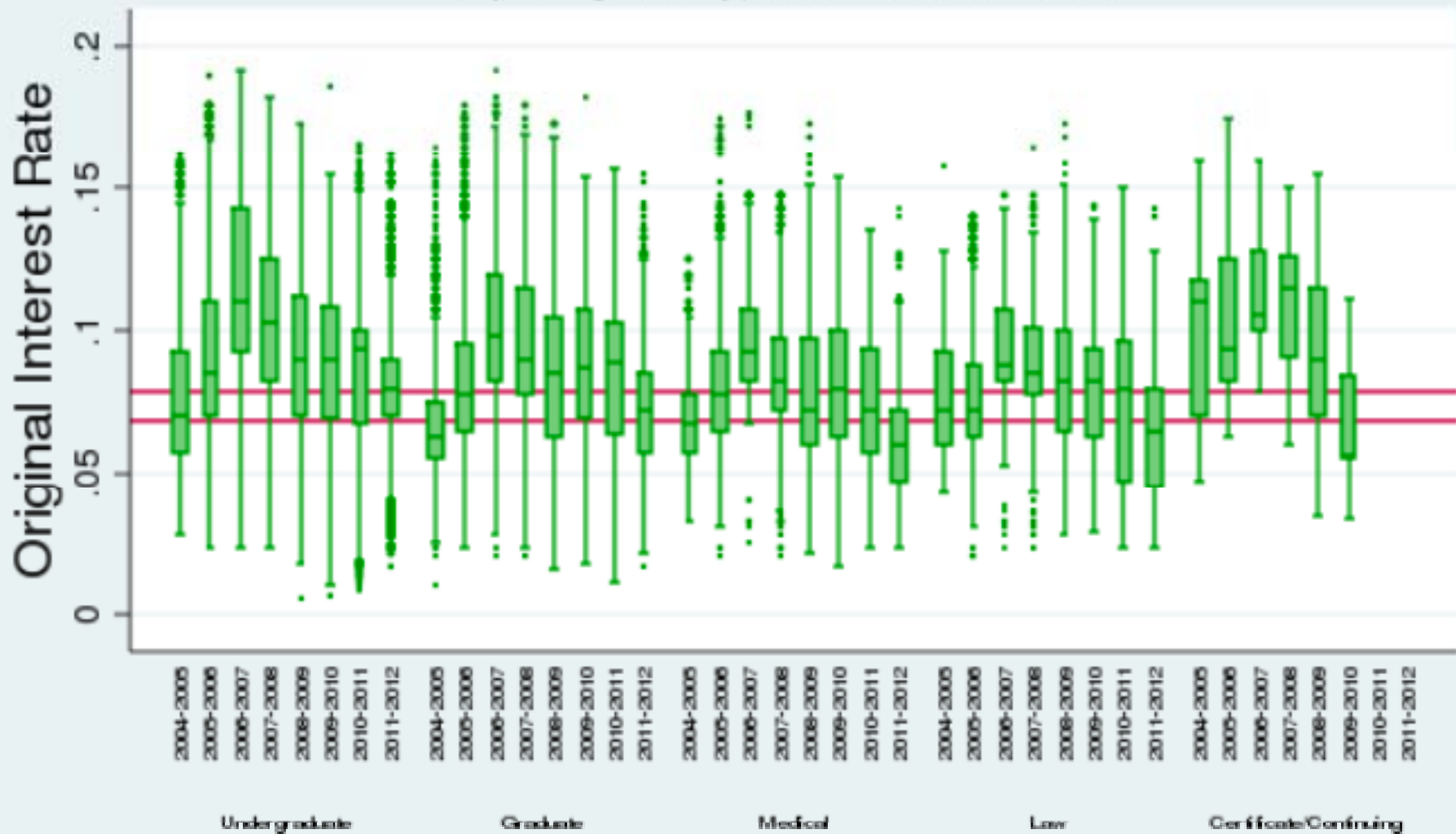


Restricted to educational loans with data on loan balances.

Source: CFPB PSL Rpt

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Original Interest Rate By Program Type & Academic Year

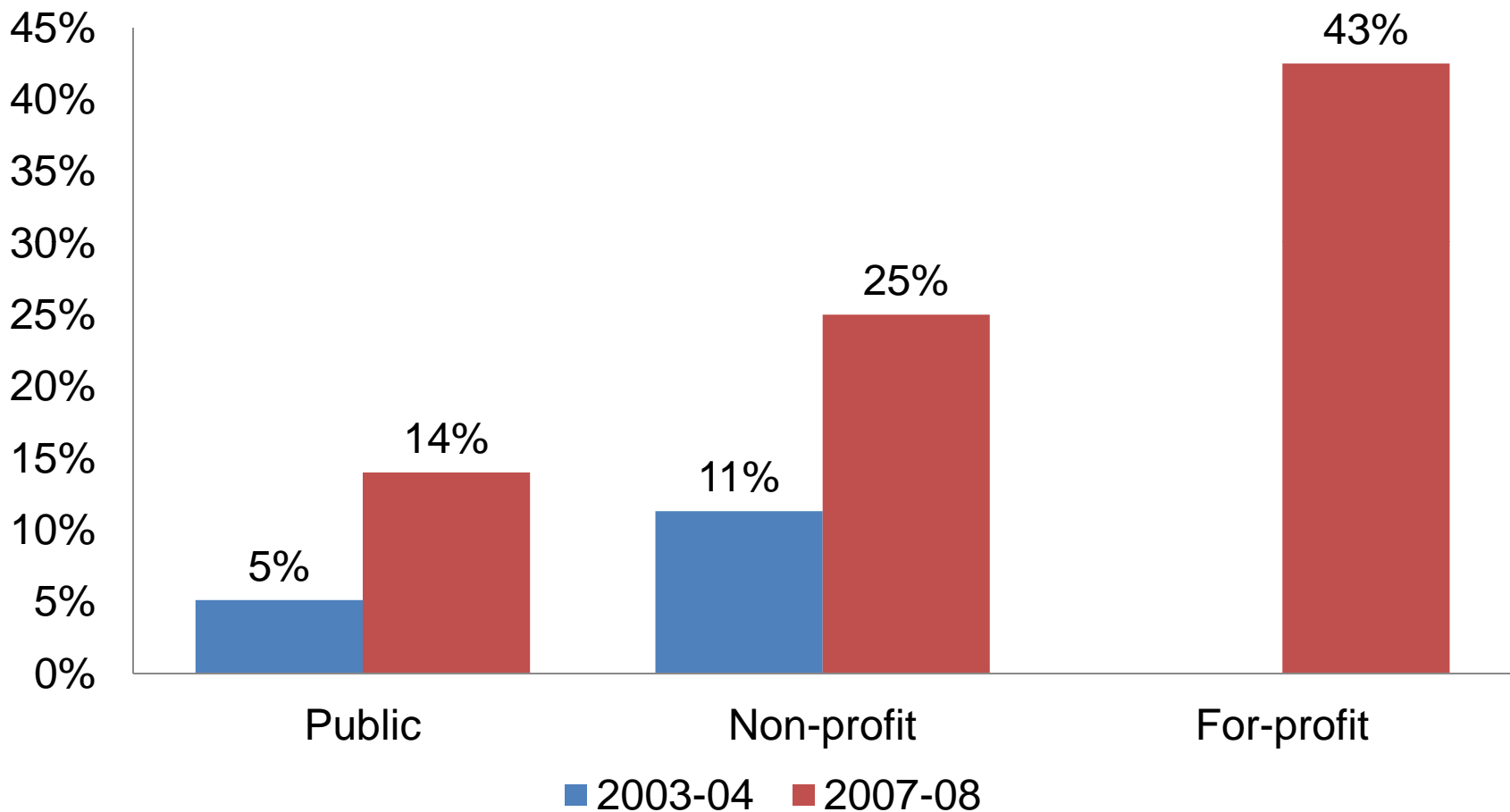


Horizontal line at 6.8 percent and 7.9 percent.
 Restricted to educational loans with data on loan balances.

Source: CFPB PSL Rpt

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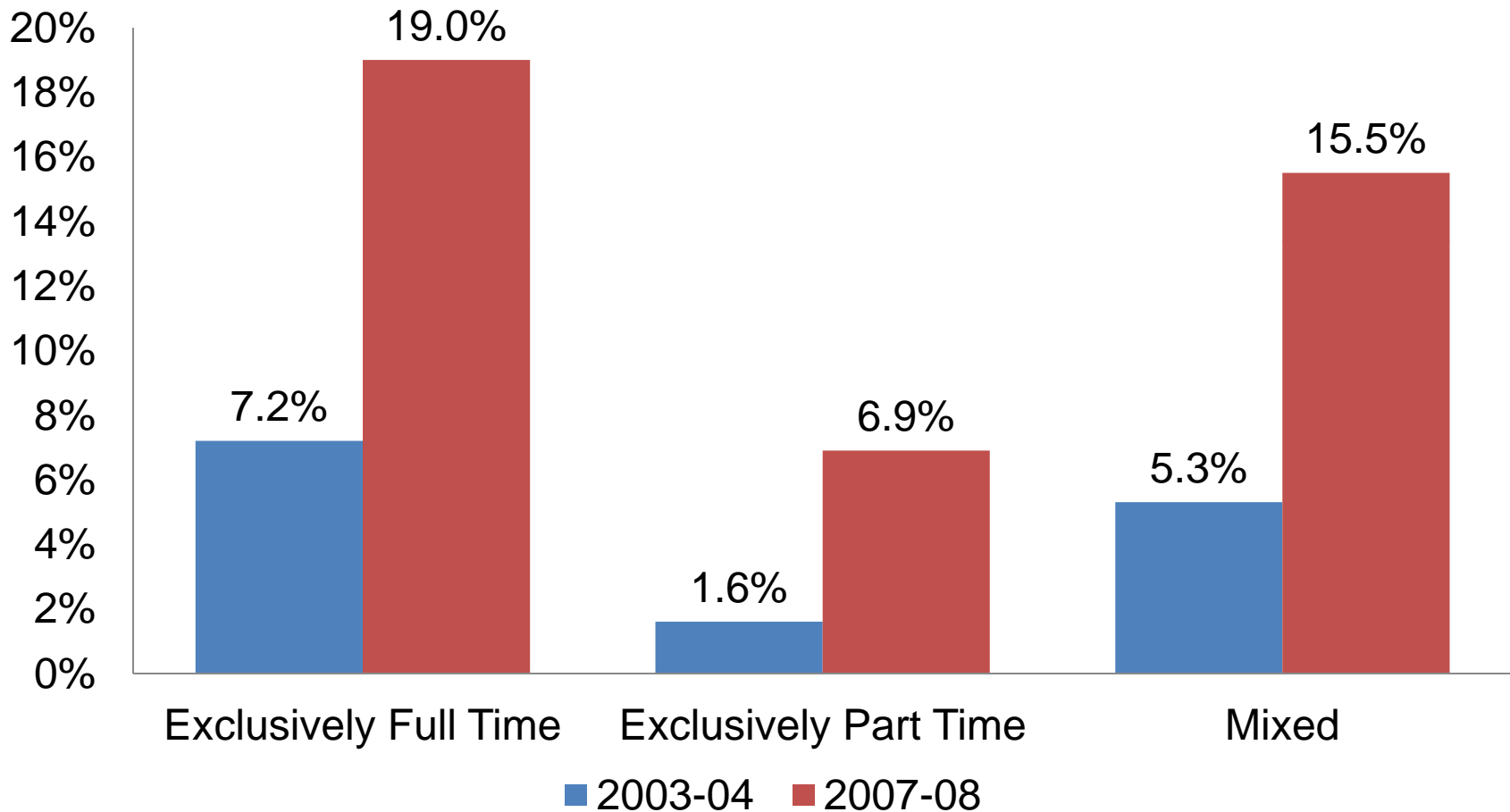
Percent of 4-year undergraduates with one or more PSLs, by school type



Source: CFPB PSL Rpt, National Post Secondary Student Aid Study 2004 & 2008

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Percent of 4-year undergraduates with one or more PSLs, by attendance status



Source: CFPB PSL Rpt, National Post Secondary Student Aid Study 2004 & 2008

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2005 Bankruptcy Law Change

- The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (BAPCPA)
- Signed into law by President Bush on April 20, 2005
- Affects bankruptcy cases filed after October 17, 2005
- Gave PSLs the same protection as other student loans:
 - Presumptive non-dischargeability
 - Debtor has to prove “undue hardship”

CFPB PSL Lender Dataset

- 9 largest PSL lenders
 - RBS Citizens N.A., Discover Financial Services, The First Marblehead Corporation, JPMorgan Chase Bank, N.A., PNC Bank, N.A., Sallie Mae, Inc., SunTrust Banks, Inc., U.S. Bank National Association, and Wells Fargo Bank, N.A.
- Lenders and borrowers de-identified
- Loan level observations for all PSL originations between 2005Q1-2011Q4
- Restricted analysis to undergraduates in 4-year programs in 2005Q1 and 2006Q1
- Results presented include full-time and part-time students

Department of Education

School Level Datasets

- Post-secondary Education Participants System (PEPs)
 - School characteristics
 - Cohort default rates
 - Eligibility status
- Integrated Post-secondary Education System (IPEDS)
 - Enrollments
 - Program completions
 - Tuition and fees
 - Student financial aid
 - Graduation rates

Research Question

How and to what extent did the change to make private student loans (effectively) non-dischargeable in bankruptcy affect underwriting, pricing, and availability?

Predictions from a Stiglitz-Weiss Model

1. Lenders should be willing to lend to borrowers with lower credit quality than they were willing to lend to before the law change.
2. Loan pricing should remain the same for originations after the law change.
3. Overall loan volumes should increase.

Summary Statistics

	2005 Q1*		2006 Q1*	
	Mean	Median	Mean	Median
Has a Co-Borrower	0.80	1	0.82	1
Maximum FICO Score	720	718	715	700
Borrower's FICO Score	651	662	649	660
Year in School	2.62	3	2.54	3
Original Balance (\$)	8,614	6,271	10,015	7,650
Deferral Term (Months)	28.67	28	28.67	29
Tuition and Fees (\$)	11,485	7,229	11,868	7,795
Observations		4,960		15,318

* Restricted to loans to undergraduates at 4-year institutions for which a borrower's or co-borrower's FICO score was reported.

** Maximum FICO score is the maximum of the borrower and all co-borrower scores.

Outcomes

- FICO score (maximum credit score among borrower and co-borrower)
- Margin (loan pricing)
- Original balance (loan size)
- Total loan volume (at the school level)

Empirical Strategy

- OLS
- Blinder-Oaxaca Decomposition
- Propensity Score Matching

OLS

- $$y_i = \beta_{post} post_i + \beta_X X_i + \varepsilon_i$$
- $post_i$: dummy for after BAPCPA (2006Q1)
- X_i : vector of characteristics

Blinder-Oaxaca Decomposition

- Method to decompose changes due to characteristics and changes due to difference in policies (coefficients)

- Model for pre group

$$y_i^{pre} = \beta_X^{pre} X_i^{pre} + \varepsilon_i^{pre}$$

- Model for post-group

$$y_i^{post} = \beta_X^{post} X_i^{post} + \varepsilon_i^{post}$$

- Decomposition

$$\bar{y}^{pre} - \bar{y}^{post} = \beta_X^{pre} (\bar{X}_i^{pre} - \bar{X}_i^{post}) + (\beta_X^{pre} - \beta_X^{post}) \bar{X}_i^{post}$$

Propensity Score Matching

- Effects on individuals who would have received loans before BAPCPA
- Strong ignorability assumption

$$y_i^{pre} \perp\!\!\!\perp S | X = x, \forall x$$

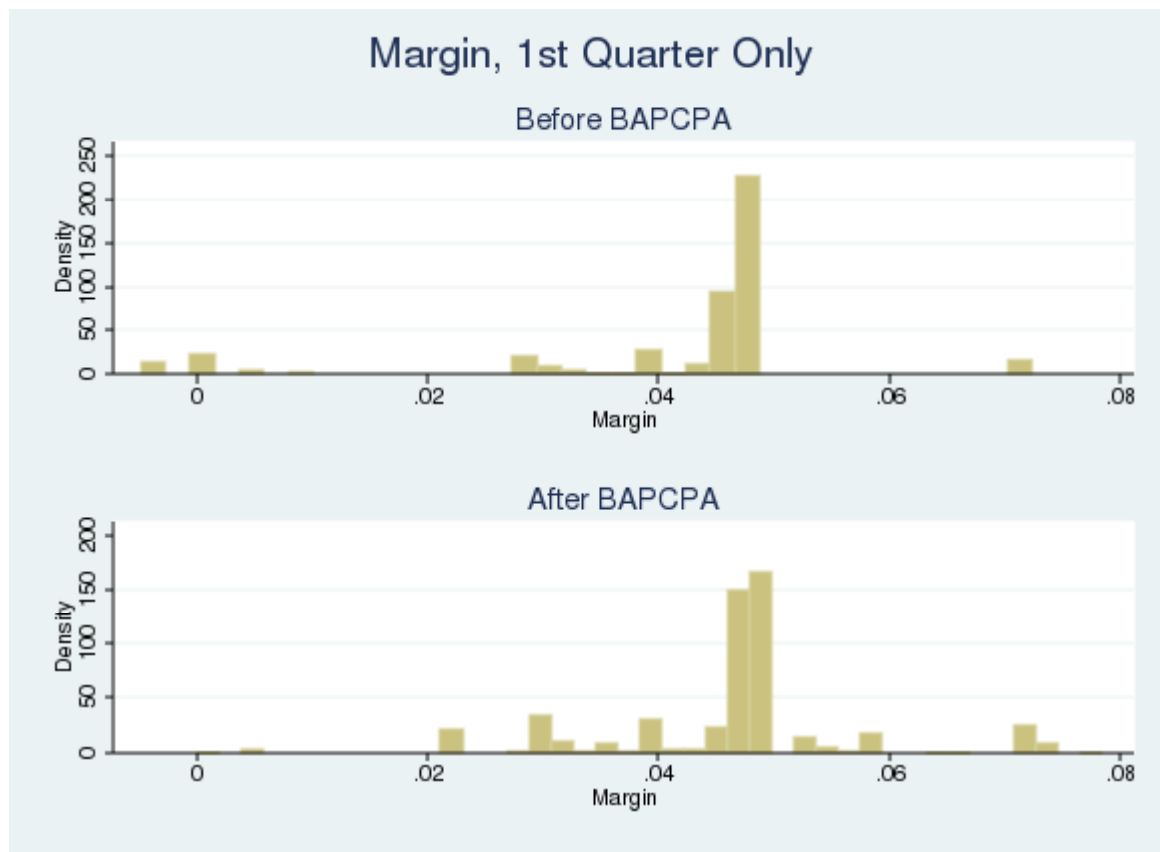
- satisfied because of the use of automated underwriting
 - Treatment-on-the-treated effect
- $$\tau = E[y_i^{post} | p(x), S = 1] - E[y_i^{pre} | p(x), S = 0]$$
- Nearest-neighbor matching

Results



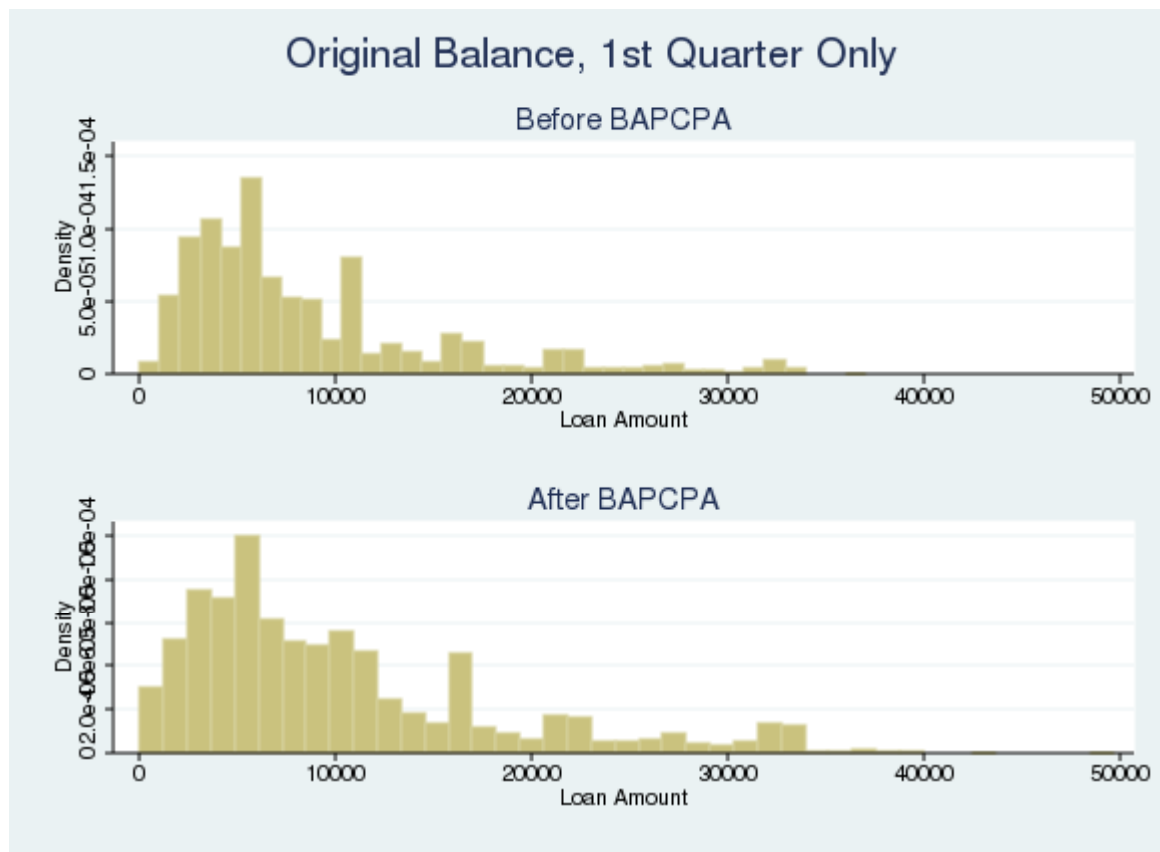
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Results



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Results



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Results: OLS

	(1)	(2)	(3)	(4)	(5)
Maximum FICO Score					
Post	-5.825***	-5.890***	-5.262***		
	(0.0811)	(0.0752)	(0.679)		
N	19,759	19,759	20,170		
R ²	0.013	0.083	0.192		
Margin					
Post	0.00455***	0.00455***	0.00419***	0.00364***	0.00329***
	(4.53e-05)	(4.52e-05)	(0.00022)	(0.00021)	(0.00021)
N	19,759	19,759	20,170	20,170	20,170
R ²	0.042	0.042	0.200	0.327	0.389
Controls					
Tuition and Fees	x	x			
Year In School	x	x	x	x	x
School Type	x	x			
Has a Co-Borrower		x		x	x
Maximum FICO Score				x	
Spline of Maximum FICO Score					x
School Fixed Effects			x	x	x

* p<0.1, ** p<0.05, *** p<0.01

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Results: Blinder-Oaxaca Decomposition

Panel A: Max FICO Score					
	(1)	(2)	(3)	(4)	(5)
Difference	-5.439***	-5.439***	-5.437***		
	(0.761)	(0.761)	(0.761)		
Difference Due to Characteristics	0.528***	0.0179	-0.00706		
	(0.116)	(0.286)	(0.329)		
Difference Due to Coefficients	-5.768***	-4.997***	-5.349***		
	(0.760)	(0.719)	(0.734)		
Difference Due to Interactions	-0.199*	-0.460***	-0.0812		
	(0.113)	(0.143)	(0.263)		
Controls					
Tuition and Fees	X	X	X	X	X
Has a Co-Borrower		X	X	X	X
Distribution Channel		X	X	X	X
Course of Study Dummies			X	X	X
Maximum FICO Score				X	
Max FICO Score, 10 Pt Intervals					X
School Fixed Effects	X	X	X	X	X
Year in School	X	X	X	X	X

*p<0.1, **p<0.05, ***p<0.01

Standard errors in parentheses.

Restricted to four year 1st year undergraduates in the 1st quarters of 2005 and 2006.

Based on observations at the school level from lender data, IPEDs, and PEPS.

Results: Blinder-Oaxaca Decomposition

Panel B: Margins

	(1)	(2)	(3)	(4)	(5)
Difference	0.00442***	0.00442***	0.00442***	0.00442***	0.00442***
	(0.000244)	(0.000244)	(0.000244)	(0.00024)	(0.00024)
Difference Due to Endowments	-0.00022***	0.00091***	0.00089***	0.0010***	0.0015***
	(5.65e-05)	(0.000205)	(0.000209)	(0.000211)	(0.00021)
Difference Due to Coefficients	0.0045***	0.0040***	0.0041***	0.0036***	0.0033***
	(0.000242)	(0.000189)	(0.00019)	(0.00019)	(0.00018)
Difference Due to Interactions	0.00012***	-0.00052***	-0.00067***	-0.00030**	-0.00048***
	(4.41e-05)	(0.00011)	(0.00012)	(0.00014)	(0.00013)
Controls					
Tuition and Fees	X	X	X	X	X
Has a Co-Borrower		X	X	X	X
Distribution Channel		X	X	X	X
Course of Study Dummies			X	X	X
Maximum FICO Score				X	
Max FICO Score, 10 Pt Intervals					X
School Fixed Effects	X	X	X	X	X
Year in School	X	X	X	X	X

*p<0.1, **p<0.05, ***p<0.01

Standard errors in parentheses.

Restricted to four year 1st year undergraduates in the 1st quarters of 2005 and 2006.

Based on observations at the school level from lender data, IPEDs, and PEPS.

Results: Propensity Score Matching

	(1)	(2)	(3)	(4)	(5)
Maximum FICO Score					
Unmatched	-5.439 (0.777) ^{***}	-5.439 (0.777) ^{***}	-5.189 (0.784) ^{***}		
Average Treatment on the Treated	-4.971 (1.585) ^{***}	-3.458 (1.402) ^{***}	-4.225 (1.376) ^{***}		
Margin					
Unmatched	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}
Average Treatment on the Treated	0.003 (0.001) ^{***}	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}	0.004 (0.000) ^{***}	0.003 (0.000) ^{***}
Number of Observations					
Untreated	4,828	4,828	4,838	4,838	4,838
Treated	14,931	14,931	13,634	13,634	13,634
Controls					
Tuition and Fees	x	x			
Year In School	x	x	x	x	x
School Type	x	x			
Has a Co-Borrower		x		x	x
Maximum FICO Score				x	
Spline of Maximum FICO Score					x
School Fixed Effects			x	x	x
* p<0.1, ** p<0.05, *** p<0.01					

Note: Original balances panel is in paper at Table 4

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Loan Volumes

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: OLS						
Post	0.546***	0.472***	0.472***	0.820***	1.008***	1.009***
	(0.169)	(0.174)	(0.174)	(0.108)	(0.083)	(0.081)
<i>Marginal Effect</i>	1.726	1.603	1.603	2.27	2.74	2.743
Panel B: Oaxaca Decomposition						
Difference	0.541***	0.436**	0.590***	0.744***	0.590***	0.590***
	(0.178)	(0.182)	(0.165)	(0.222)	(0.183)	(0.180)
<i>Marginal Effect</i>	1.718	1.547	1.804	2.104	1.804	1.804
Difference Due to Coefficients	0.546***	0.492***	0.873***	0.974***	1.069***	1.072***
	(0.170)	(0.184)	(0.103)	(0.154)	(0.078)	(0.075)
<i>Marginal Effect</i>	1.726	1.636	2.394	2.649	2.912	2.921
Panel C: Propensity Score Matching						
Average Treatment on the Treated	0.993***	1.016***	1.146***	1.141***	1.148***	1.148***
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
<i>Marginal Effect</i>	2.699	2.762	3.146	3.13	3.152	3.152
Controls						
Tuition and Fees	x	x	x	x	x	x
Graduation Rate		x	x	x	x	x
Carnegie Classification			x	x	x	x
ln(Full Time Equivalent Students)				x	x	x
HBCU, HSI					x	
Percent Black, Percent Hispanic						x

*p<0.1, **p<0.05, ***p<0.01

Outcome is natural log of PSL borrowers in the lender data.

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Revisiting our Predictions

1. Lenders should be willing to lend to borrowers with lower credit quality than they were willing to lend to before the law change.
 - Average FICO score decreased approximately 5 points.
2. Loan pricing should remain the same for originations after the law change.
 - Margins increased an average of 4 basis points for the population who would have gotten loans pre-BAPCPA.
3. Overall loan volumes should increase.
 - Loan volumes *tripled* in the post period, the majority of the increase was as a result of BAPCPA.

Future Work

- Distributions
 - Dinardo-Fortin-Lemieux decomposition
 - Quantile regression
- Analysis by school and borrower characteristics
 - FICO score bands
 - Distribution channel
 - Institution type
 - Full time / Part-time status
- Similar analyses for different student populations
- Other theoretical explanations?
- Implications/Policy recommendations