Empirical Appendix to "How Do Regulators Influence Mortgage Risk? Evidence from an Emerging Market"

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Table A1: Regulatory Impact on 90 Day Delinquency - Variations on Table 5 Specification [B]

In specification [B1], we interact the slope affected by regulation with a measure of competition (bank share of home mortgage credit, scaled to a mean of zero and variance one) as a robustness check for the impact of time-variation in the impact of PSL regulation. Under specification [B2] the impact of strategically allocated "black money" is assumed to affect only loans between 70 and 100% of the PSL threshold, which means that the affect of regulation should be concentrated in this 70 to 100% range. Therefore, our measures of regulatory impact are only interacted with the slope in this intermediate segment. Coefficients that are statistically significant at a 5% or 10% two-sided level are in bold and italicized type respectively. All coefficients and standard errors are multiplied by 100 for readability. R-squared is calculated as the average of the variance of fitted values to variance of dependent variable in each cross-section.

	[B]		**[B1]**		**[B2]**	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Loan Size Based (PSL) Regulation:						
Slope Above PSL Threshold	0.074	*0.086*	0.069	*0.085*	0.064	*0.085*
Slope Below PSL Threshold	**-0.853**	*0.080*	**-0.837**	*0.080*		
Unqualified Lending Share X Slope Below PSL Threshold	**-0.136**	*0.047*	-0.104	*0.078*		
Sub-Branch Unqualified Lending Share	**-0.322**	*0.027*	**-0.312**	*0.026*	**-0.410**	*0.028*
Cohort De-meaned Sub-Branch Unqualified Lending Share X Slope Below PSL Threshold	**-0.063**	*0.022*	**-0.063**	*0.021*		
Competition X Slope Below PSL Threshold			-0.041	*0.050*		
Cohort De-meaned Sub-Branch Unqualified Lending Share X Unqualified Lending Share X Slope Below PSL Threshold	**-0.060**	*0.018*	**-0.060**	*0.016*		
Slope Below 70% of PSL Threshold					**-0.769**	*0.105*
Intermediate Slope (Between 70 and 100% of PSL Threshold)					**-0.721**	*0.157*
Unqualified Lending Share X Intermediate Slope					*-0.393*	*0.229*
Cohort De-meaned Sub-Branch Unqualified Lending Share X Intermediate Slope					**-0.446**	*0.094*
Cohort De-meaned Sub-Branch Unqualified Lending Share X Unqualified Lending Share X Intermediate Slope					**-0.210**	*0.064*
Loan Leverage Based Regulation:						
Loan-Cost Ratio, Slope Below 65%	**2.929**	*0.247*	**2.848**	*0.227*	**2.905**	*0.245*
Loan-Cost Ratio, Slope Between 65 and 85%	**3.545**	*0.361*	**3.367**	*0.995*	**3.553**	*0.366*
Difference in Cohort Risk Weights on Loans Above vs Below 75% LTV X Slope Between Loan-Cost Ratio of 65 and 85%	-1.415	*1.607*	-0.946	*3.367*	-1.606	*1.602*
Competition X Slope Between Loan-Cost Ratio of 65 and 85%			-0.059	*0.684*		
Loan-Cost Ratio, Slope Above 85%	**-1.986**	*0.680*	**-2.011**	*0.659*	**-1.952**	*0.667*
Borrower Characteristics	Yes		Yes		Yes	
Loan Characteristics	Yes		Yes		Yes	
Cohort Fixed Effects	Yes		Yes		Yes	
Annual Macroeconomic Effects (Separate for Fixed, Variable Rate Mortgages)	Yes		Yes		Yes	
21 Branch Dummies	Yes		Yes		Yes	
R-squared	0.0157		0.0157		0.0157	

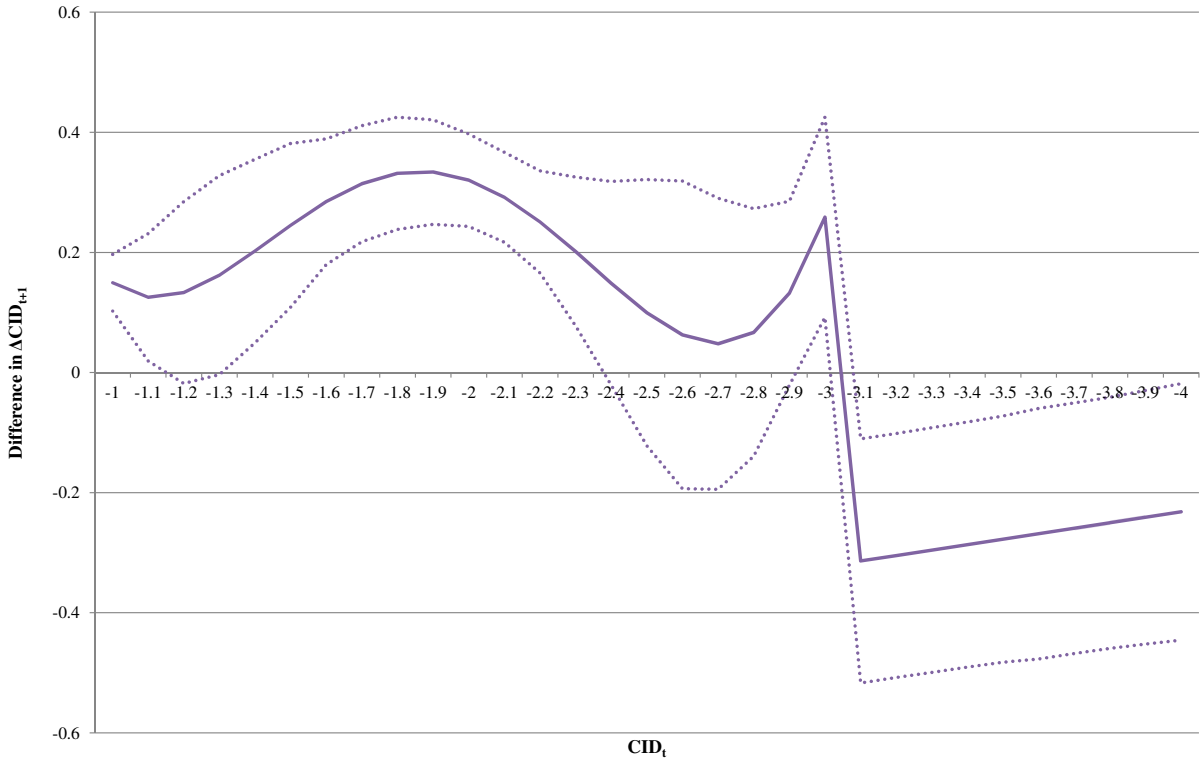
Table A2: Cumulative Installment Deficit Around Delinquencies

The top panel of this table corresponds to the series plotted in Figure 8, abnormal CID around 30 day delinquencies before and after the NPA definition change. The bottom panel replicates a variation of this analysis based on cumulative installment deficits around 90 day (instead of 30 day) delinquencies. Standard errors are given in italics and are computed by bootstrapping calendar years before and after January 1, 2004. Coefficients that are statistically significant at a 5% or 10% two-sided level are in bold and italiczed type respectively.

Month Relative	Through March 2004		From April 2004		Cumulative Difference Around t	
to Default	**Value**	**SE**	**Value**	**SE**	**Value**	**SE**
Panel A: 30 Day Delinquencies						
t-12	*0.02*	*0.01*	**0.04**	*0.02*	-0.06	*0.14*
t-11	0.03	*0.02*	**0.06**	*0.02*	-0.04	*0.15*
t-10	0.03	*0.02*	0.04	*0.02*	-0.06	*0.13*
t-9	0.03	*0.03*	**0.06**	*0.02*	-0.05	*0.13*
t-8	0.02	*0.03*	0.05	*0.04*	-0.05	*0.09*
t-7	0.01	*0.04*	0.06	*0.05*	-0.02	*0.08*
t-6	0.00	*0.05*	0.07	*0.05*	-0.01	*0.06*
t-5	-0.03	*0.05*	0.07	*0.06*	0.02	*0.06*
t-4	-0.08	*0.05*	0.03	*0.06*	0.03	*0.06*
t-3	**-0.13**	*0.06*	0.02	*0.06*	*0.08*	*0.05*
t-2	**-0.19**	*0.05*	-0.02	*0.07*	*0.09*	*0.05*
t-1	**-0.48**	*0.05*	**-0.35**	*0.07*	0.05	*0.04*
t	**-1.13**	*0.08*	**-1.05**	*0.07*		
t+1	**-1.27**	*0.10*	**-0.85**	*0.09*	**0.34**	*0.15*
t+2	**-1.18**	*0.10*	**-0.63**	*0.12*	**0.47**	*0.16*
t+3	**-1.14**	*0.10*	**-0.47**	*0.15*	**0.59**	*0.22*
t+4	**-1.09**	*0.10*	**-0.39**	*0.15*	**0.63**	*0.19*
t+5	**-1.06**	*0.10*	**-0.36**	*0.18*	**0.63**	*0.23*
t+6	**-1.04**	*0.12*	*-0.32*	*0.18*	**0.65**	*0.25*
t+7	**-1.05**	*0.11*	*-0.29*	*0.17*	**0.68**	*0.23*
t+8	**-1.06**	*0.12*	*-0.30*	*0.18*	**0.68**	*0.24*
t+9	**-1.04**	*0.12*	*-0.32*	*0.18*	**0.65**	*0.25*
t+10	**-1.05**	*0.12*	*-0.31*	*0.16*	**0.66**	*0.23*
t+11	**-1.13**	*0.12*	*-0.29*	*0.17*	**0.76**	*0.23*
t+12	**-1.12**	*0.13*	-0.28	*0.18*	**0.76**	*0.25*
Panel B: 90 Day Delinquencies						
t-12	0.00	*0.01*	0.00	*0.03*	**-0.59**	*0.21*
t-11	-0.01	*0.03*	0.03	*0.04*	**-0.55**	*0.18*
t-10	-0.02	*0.03*	0.04	*0.05*	**-0.53**	*0.17*
t-9	-0.04	*0.04*	0.03	*0.06*	**-0.53**	*0.15*
t-8	-0.06	*0.05*	0.05	*0.07*	**-0.48**	*0.11*
t-7	*-0.11*	*0.06*	0.03	*0.07*	**-0.45**	*0.10*
t-6	**-0.20**	*0.06*	0.00	*0.07*	**-0.40**	*0.07*
t-5	**-0.32**	*0.07*	0.00	*0.09*	**-0.27**	*0.09*
t-4	**-0.44**	*0.07*	-0.09	*0.10*	**-0.24**	*0.09*
t-3	**-0.65**	*0.08*	*-0.18*	*0.10*	-0.13	*0.11*
t-2	**-1.14**	*0.09*	**-0.61**	*0.10*	-0.07	*0.07*
t-1	**-1.80**	*0.10*	**-1.22**	*0.10*	-0.01	*0.03*
t	**-2.61**	*0.10*	**-2.01**	*0.10*		
t+1	**-2.55**	*0.13*	**-1.67**	*0.09*	**0.28**	*0.12*
t+2	**-2.15**	*0.14*	**-1.29**	*0.10*	**0.26**	*0.13*
t+3	**-2.03**	*0.13*	**-1.19**	*0.08*	**0.24**	*0.09*
t+4	**-1.95**	*0.16*	**-1.16**	*0.11*	*0.20*	*0.11*
t+5	**-1.94**	*0.12*	**-1.13**	*0.12*	**0.21**	*0.11*
t+6	**-1.90**	*0.14*	**-1.10**	*0.13*	0.20	*0.13*
t+7	**-1.93**	*0.15*	**-1.05**	*0.15*	0.29	*0.18*
t+8	**-1.88**	*0.14*	**-0.96**	*0.13*	**0.33**	*0.14*
t+9	**-1.93**	*0.13*	**-0.91**	*0.11*	**0.43**	*0.17*
t+10	**-1.95**	*0.16*	**-0.84**	*0.14*	**0.51**	*0.22*
t+11	**-2.00**	*0.16*	**-0.84**	*0.16*	**0.56**	*0.24*
t+12	**-1.97**	*0.17*	**-0.86**	*0.16*	**0.52**	*0.26*

Figure A1: Difference in Predicted ΔCID_{t+1} Following First 30 Day Delinquency, with 90% Confidence Interval

Post-NPA Definition Change ΔCID_{t+1} minus Pre-NPA Definition Change ΔCID_{t+1} (After minus Before April 2004)



The solid line represents the difference in expected debt collection rates (ΔCID) around delinquencies before and after the April 2004 redefinition of non-performing assets. The expected debt collection rates are produced from regressions of the form described in Figure 9. The dotted lines represent a 90% confidence interval for the difference constructed by bootstrapping the month of the initial 30 day delinquency.