

# The impact of payday alternative loans on credit union performance and loan quality

## Online Appendix

Cullen F. Goenner, PhD  
Professor and Clow Fellow  
Department of Economics and Finance  
Nistler College of Business and Public Administration  
University of North Dakota  
3125 University Ave Stop 8369  
Grand Forks, ND 58202  
cullen.goenner@UND.edu

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**Table A1: Description of variables constructed using NCUA call report data**

Variable	Description
Operating expenses / Gross Income (%)	The sum of non-interest expense and provisions for loan and lease losses divided by gross income. [(acct_671 + acct_300) / (acct_115 + acct_131 + acct_659) * 100]
Interest income / Total Assets (%)	Interest income divided by total assets. [acct_110 / acct_010 * 100]
Return on Assets (%)	Net income before stabilization income and expense divided by total assets. [acct_661a / (acct_010) * 100] if year < 2009 [(acct_660a - acct_440a) / (acct_010) * 100] if year >= 2009
Consumer Loan Charge-offs (%)	Charge-offs on consumer loans (non real estate) divided by total consumer loans (non real estate) [(acct_550 - acct_551 - acct_548 + acct_607 - acct_549 + acct_608) / (acct_025b - acct_703 - acct_386) * 100]
Loan Delinquency (%)	Delinquent loans divided by total loans. [acct_041b / acct_025b * 100]
Member loan Bankruptcy (%)	Total of member loan balances subject to bankruptcy divided by total loans. [acct_971 / acct_025b * 100]
Sav. Dep./ Total dep. & Borrowing (%)	Saving deposits divided by total deposits and borrowing. [acct_657 / (acct_018 + acct_860c - acct_781) * 100]
Loans / Deposits (%)	Loans divided by deposits. [acct_025b / acct_018 * 100]
Cash and S.T. Investments/ Total Assets (%)	Cash and securities divided by total assets. [(acct_730a + acct_799a) / acct_010 * 100] if year < 2006 [(acct_730a + acct_730b + acct_730c + acct_799a1) / acct_010 * 100] if year >= 2006
Net worth / Total Assets (%)	Net worth divided by total assets. [acct_997 / acct_010 * 100]
Credit Card Loan Share (%)	Concentration of loans in credit cards. [acct_396 / acct_025b * 100]
Real Estate Loan Share (%)	Concentration of loans in real estate. [(acct_703 + acct_386) / acct_025b * 100]
Auto Loan Share (%)	Concentration of loans in new and used vehicles. [(acct_385 + acct_370) / acct_025b * 100]
Size	Natural logarithm of total assets in thousands of dollars. [ln(acct_010)]
Urban market	Equal to 1 if located in a MSA and 0 otherwise.
Limited Income Membership Designation	To receive this designation from the NCUA, at least half of a credit union's members must earn less than 80 percent of the median household income of the community.
Faith based Field of Membership	Equal to 1 if the membership has a bond based on their faith (Type of Membership Code 1 or 54) and 0 otherwise

Military Field of Membership	Equal to 1 if the membership has a bond based on the military (Type of Membership Code 5 or 35) and 0 otherwise
Branch in a minority neighborhood	Equal to 1 if a credit union has a branch located in a census tract with a minority population of more than 50% and 0 otherwise
Headquartered in a Minority Neighborhood	Equal to 1 if a credit union has its headquarters located in a census tract with a minority population of more than 50% and 0 otherwise
Majority-minority Board of Directors	Equal to 1 if a majority of directors on the board are racial minorities and 0 otherwise
Majority of Members are Minorities	Equal to 1 if a majority of credit union members are racial minorities and 0 otherwise.

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**Table A2: Description of market conditions variables**

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Variable	Description
Unemployment Rate (%)	The unemployment rate of the MSA where the credit union is headquartered. County-level data is used if not located within an MSA. Source data: Bureau of Labor Statistics
Bank Deposit Concentration	The Herfindahl-Hirshman Index of bank deposit concentration for the MSA where the credit union is headquartered. County-level data is used if not located within an MSA. Source data: FDIC survey of deposits.
Change in housing price index (%)	The change in housing prices for the MSA where the credit union is headquartered. County-level data is used if not located within an MSA. Source data: FHFA data

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**Table B1. Comparison of earnings pre-treatment trends**

	Operating Expense	Interest Income	ROA
Pre-treatment trend 2009	6.905 (7.909)	-0.032 (0.036)	-0.011 (0.090)
Pre-treatment trend 2008	0.651 (1.118)	-0.001 (0.030)	-0.067 (0.069)
Pre-treatment trend 2007	0.681 (1.018)	-0.010 (0.025)	0.039 (0.056)
Pre-treatment trend 2006	0.149 (1.151)	-0.020 (0.024)	0.083 (0.053)
Pre-treatment trend 2005	-1.048 (1.060)	-0.015 (0.022)	0.070 (0.049)
Cash and S.T. Investments/ Total Assets (%)	0.499 (0.381)	-0.003 (0.002)	-0.005*** (0.002)
Sav. Dep./ Total dep. & Borrowing (%)	0.200 (0.194)	-0.003*** (0.001)	0.001 (0.002)
Loans / Deposits (%)	0.834 (0.773)	0.037*** (0.005)	-0.013** (0.006)
Credit Card Loan Share (%)	0.188 (0.174)	0.002 (0.004)	0.013 (0.017)
Real Estate Loan Share (%)	-0.277 (0.242)	-0.007*** (0.002)	0.014** (0.006)
Car Loan Share (%)	-0.138 (0.153)	-0.006*** (0.001)	0.005 (0.004)
Net worth / Total Assets (%)	-3.302*** (0.572)	-0.030*** (0.005)	0.505*** (0.138)
Size	-47.098*** (12.870)	-0.248** (0.098)	4.879*** (1.246)
Bank Deposit Concentration	2.551 (3.409)	-0.044 (0.076)	0.097 (0.214)
Unemployment (%)	0.394* (0.205)	0.017*** (0.005)	-0.020 (0.021)
Home price appreciation (%)	-27.763*** (8.596)	-0.737*** (0.220)	2.035*** (0.570)
Constant	839.175*** (273.055)	6.742*** (1.933)	-88.342*** (22.846)
Observations	25058	25058	25058
F-test on pre-treatment trend (p-value)	0.12	0.54	0.12

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This table reports OLS estimates of the pre-treatment trends in the earnings of federal credit unions that offer PAL loans after the change in policy, relative to those that do not, for the period prior to the change in policy (2004-2009). Similarity in trends is evaluated using an F-test on whether these yearly trends are jointly equal to zero. The specification includes fixed effects for time and each credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table B2: Comparison of loan-quality pre-treatment trends**

	Consumer loan Charge-offs	Loan Delinquency	Member loan Bankruptcy
Pre-treatment trend 2009	-0.0465 (0.1006)	-0.1203 (0.1861)	0.0808 (0.0515)
Pre-treatment trend 2008	-0.0589 (0.1045)	-0.1119 (0.1807)	0.0815 (0.0507)
Pre-treatment trend 2007	0.0283 (0.0930)	-0.2434 (0.1858)	0.0524 (0.0468)
Pre-treatment trend 2006	-0.2081 (0.1481)	-0.1792 (0.2090)	0.0465 (0.0436)
Pre-treatment trend 2005	-0.1598 (0.1512)	-0.3075 (0.1962)	0.0961 (0.0687)
Sav. Dep./ Total dep. & Borrowing (%)	0.0007 (0.0032)	0.0024 (0.0085)	-0.0011 (0.0011)
Loans / Deposits (%)	-0.0091** (0.0046)	0.0131 (0.0141)	0.0015 (0.0014)
Cash and S.T. Investments/ Total Assets (%)	0.0110*** (0.0038)	0.0137* (0.0079)	0.0018 (0.0014)
Net worth / Total Assets (%)	-0.2334*** (0.0827)	-0.1005** (0.0483)	-0.0100* (0.0054)
Credit Card Loan Share (%)	0.0089 (0.0110)	0.0014 (0.0183)	0.0080** (0.0033)
Real Estate Loan Share (%)	0.0184*** (0.0059)	-0.0444** (0.0204)	0.0011 (0.0026)
Car Loan Share (%)	-0.0016 (0.0056)	-0.0305** (0.0126)	-0.0006 (0.0017)
Size	-2.8190*** (0.7514)	-0.7470 (0.5741)	0.0248 (0.1154)
Bank Deposit Concentration	-0.3921 (0.3060)	-0.1710 (0.4895)	-0.4520*** (0.1342)
Unemployment (%)	0.0327 (0.0318)	0.2192*** (0.0346)	0.0767*** (0.0114)
Home price appreciation (%)	-2.6212** (1.1099)	-3.7707** (1.8515)	-0.5149 (0.4181)
Constant	51.5817*** (13.7522)	16.0866 (10.7529)	-0.2646 (2.0126)
Observations	25054	25058	25058
F-test on pre-treatment trend (p-value)	0.46	0.56	0.54

The pre-treatment trend indicated measures the loan-quality difference between FCU that offer PAL loans after the change in policy relative to other FCU that do not. Similarity in trends is evaluated using an F-test on the whether these yearly trends are jointly equal to zero. The



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specification includes fixed effects for time and each credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table C1: Pre-policy (2009) comparison of PAL loan originators and matched SCU**

	FCU PAL Originator	Matched SCU	Normalized difference
Cash and S.T. Investments/ Total Assets (%)	27.729 (15.369)	27.520 (16.270)	0.009
Sav. Dep./ Total dep. & Borrowing (%)	49.191 (25.439)	48.422 (29.327)	0.020
Loans / Deposits (%)	67.097 (29.781)	67.969 (21.710)	-0.024
Credit Card Loan Share (%)	4.163 (5.282)	4.340 (6.067)	-0.022
Real Estate Loan Share (%)	25.848 (21.695)	25.816 (22.645)	0.001
Car Loan Share (%)	45.910 (20.804)	45.786 (22.552)	0.004
Net worth / Total Assets (%)	13.342 (6.636)	13.475 (6.574)	-0.014
Size	17.064 (1.877)	17.171 (2.120)	-0.038
Bank Deposit Concentration	0.184 (0.104)	0.189 (0.123)	-0.031
Unemployment (%)	8.813 (2.284)	8.870 (2.432)	-0.017
Home price appreciation (%)	-0.010 (0.013)	-0.010 (0.013)	-0.026
Observations	709	709	

This table reports summary statistics of the mean and standard deviation in parentheses, stratified by federal credit unions that participate in the PAL program and a matched sample of state-chartered credit unions not eligible for the program, for the year prior to the change in policy (2009). The difference in mean covariates by treatment status (PAL program participation), normalized by the standard deviations is also reported.

**Table C2: Comparison of performance pre-treatment trends with matched SCU**

	Operating Expense	Interest Income	ROA
Pre-treatment trend 2009	8.772 (10.441)	-0.037 (0.047)	-0.036 (0.071)
Pre-treatment trend 2008	3.553 (4.218)	-0.033 (0.042)	-0.013 (0.068)
Pre-treatment trend 2007	1.203 (3.715)	-0.054 (0.039)	0.113 (0.070)
Pre-treatment trend 2006	1.653 (5.297)	-0.066** (0.033)	0.097 (0.061)
Pre-treatment trend 2005	-9.340 (8.872)	0.011 (0.025)	0.086 (0.054)
Cash and S.T. Investments/ Total Assets (%)	1.141 (1.245)	-0.011* (0.007)	-0.006 (0.004)
Sav. Dep./ Total dep. & Borrowing (%)	0.488 (0.506)	-0.005** (0.002)	-0.002 (0.003)
Loans / Deposits (%)	2.611 (1.997)	0.027** (0.011)	-0.007 (0.006)
Credit Card Loan Share (%)	-0.383 (1.051)	0.003 (0.005)	-0.017 (0.011)
Real Estate Loan Share (%)	0.619 (1.144)	0.000 (0.003)	0.001 (0.005)
Car Loan Share (%)	-0.156 (0.429)	0.002 (0.003)	-0.003 (0.005)
Net worth / Total Assets (%)	-14.584 (9.268)	-0.030** (0.011)	0.268*** (0.028)
Size	-392.244 (310.441)	-0.328 (0.207)	1.770*** (0.413)
Bank Deposit Concentration	47.291 (34.261)	-0.026 (0.132)	-0.577 (0.561)
Unemployment (%)	-2.159 (2.792)	0.023*** (0.009)	-0.046*** (0.016)
Home price appreciation (%)	-64.960 (58.383)	-0.704 (0.504)	3.440*** (0.968)
Constant	6716.409 (5412.037)	8.645** (4.167)	-31.839*** (7.253)
Observations	8286	8286	8286
F-test on pre-treatment trend (p-value)	0.62	0.10	0.19

This table reports OLS estimates of the pre-treatment trends in the earnings of federal credit unions that offer PAL loans after the change in policy, relative to a matched sample of state-chartered credit unions, for the period prior to the change in policy (2004-2009). Similarity in trends is evaluated using an F-test on whether these yearly trends are jointly equal to zero. The specification includes fixed effects for time and each credit union, which are not reported for

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brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table C3: Comparison of loan-quality pre-treatment trends with matched SCU**

	Consumer loan Charge- offs	Loan Delinquency	Member loan Bankruptcy
Pre-treatment trend 2009	-0.190*	-0.322	0.110
	(0.112)	(0.244)	(0.111)
Pre-treatment trend 2008	0.026	-0.029	0.158
	(0.105)	(0.270)	(0.108)
Pre-treatment trend 2007	-0.006	-0.325	0.156
	(0.101)	(0.284)	(0.107)
Pre-treatment trend 2006	-0.019	-0.162	0.144
	(0.094)	(0.285)	(0.109)
Pre-treatment trend 2005	0.063	-0.349	0.218*
	(0.127)	(0.239)	(0.122)
Cash and S.T. Investments/ Total Assets (%)	0.002	0.044**	0.000
	(0.004)	(0.018)	(0.001)
Sav. Dep./ Total dep. & Borrowing (%)	-0.001	0.018	-0.004
	(0.004)	(0.019)	(0.003)
Loans / Deposits (%)	-0.000	0.052*	-0.001
	(0.004)	(0.030)	(0.002)
Credit Card Loan Share (%)	0.019*	0.029	0.006
	(0.011)	(0.023)	(0.004)
Real Estate Loan Share (%)	0.019***	-0.002	0.000
	(0.006)	(0.012)	(0.005)
Car Loan Share (%)	0.002	0.007	0.004
	(0.005)	(0.011)	(0.003)
Net worth / Total Assets (%)	-0.179***	-0.030	-0.001
	(0.038)	(0.054)	(0.011)
Size	-1.528***	0.044	-0.162
	(0.527)	(0.731)	(0.184)
Bank Deposit Concentration	-0.047	0.304	-0.360*
	(0.390)	(0.619)	(0.210)
Unemployment (%)	0.065***	0.213***	0.058***
	(0.022)	(0.049)	(0.011)
Home price appreciation (%)	-4.094***	-1.156	0.031
	(1.416)	(2.299)	(1.022)
Constant	28.482***	-5.656	3.110
	(9.212)	(14.112)	(3.337)
Observations	8286	8286	8286
F-test on pre-treatment trend (p-value)	0.21	0.21	0.40

This table reports OLS estimates of the pre-treatment trends in the loan quality of federal credit unions that offer PAL loans after the change in policy, relative to a matched sample of state-chartered credit unions, for the period prior to the change in policy (2004-2009). Similarity in trends is evaluated using an F-test on whether these yearly trends are jointly equal to zero. The

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specification includes fixed effects for time and each credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

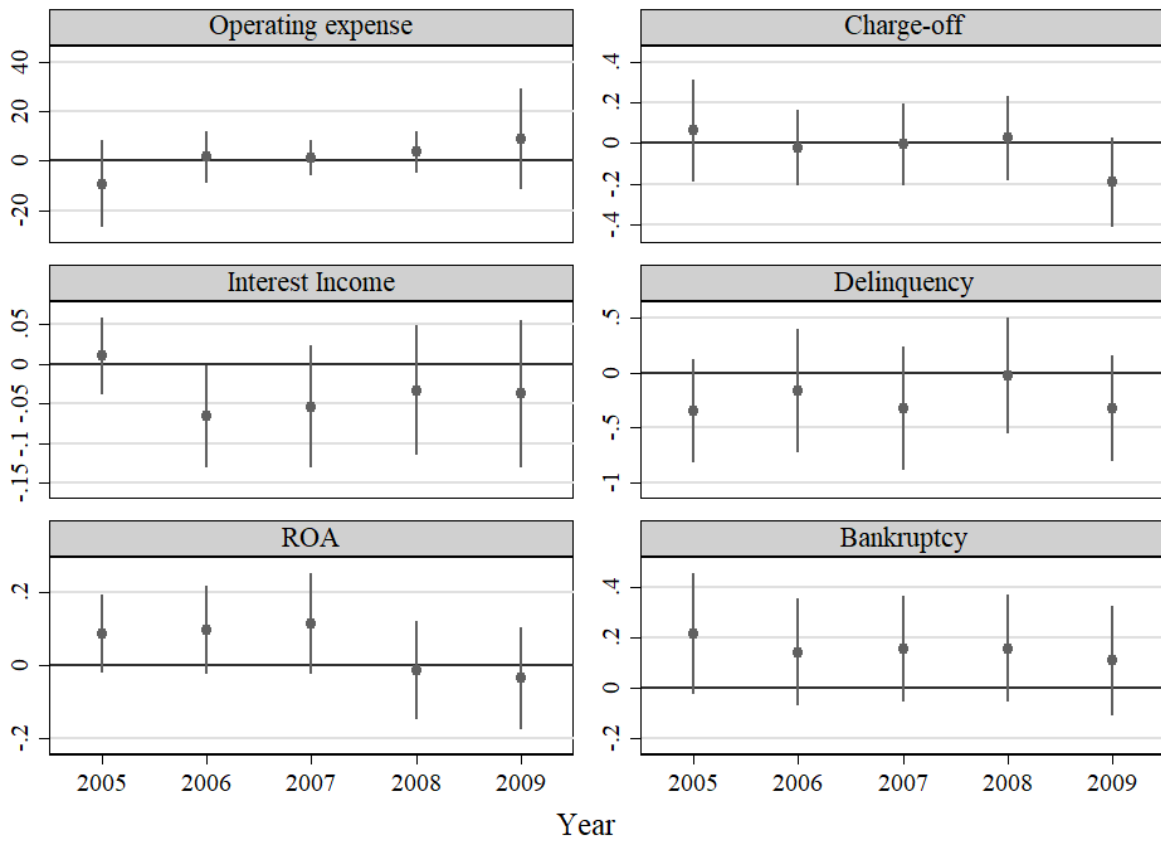


Figure C1. Comparison of pre-treatment trends with matched SCU. Point estimates and 95% confidence intervals of the difference in pre-treatment trends of earnings and loan quality prior to the change in policy between federal credit unions that offer PAL loans after the change in policy, relative to a matched sample of state-chartered credit unions. Differences are measured in percentage points.

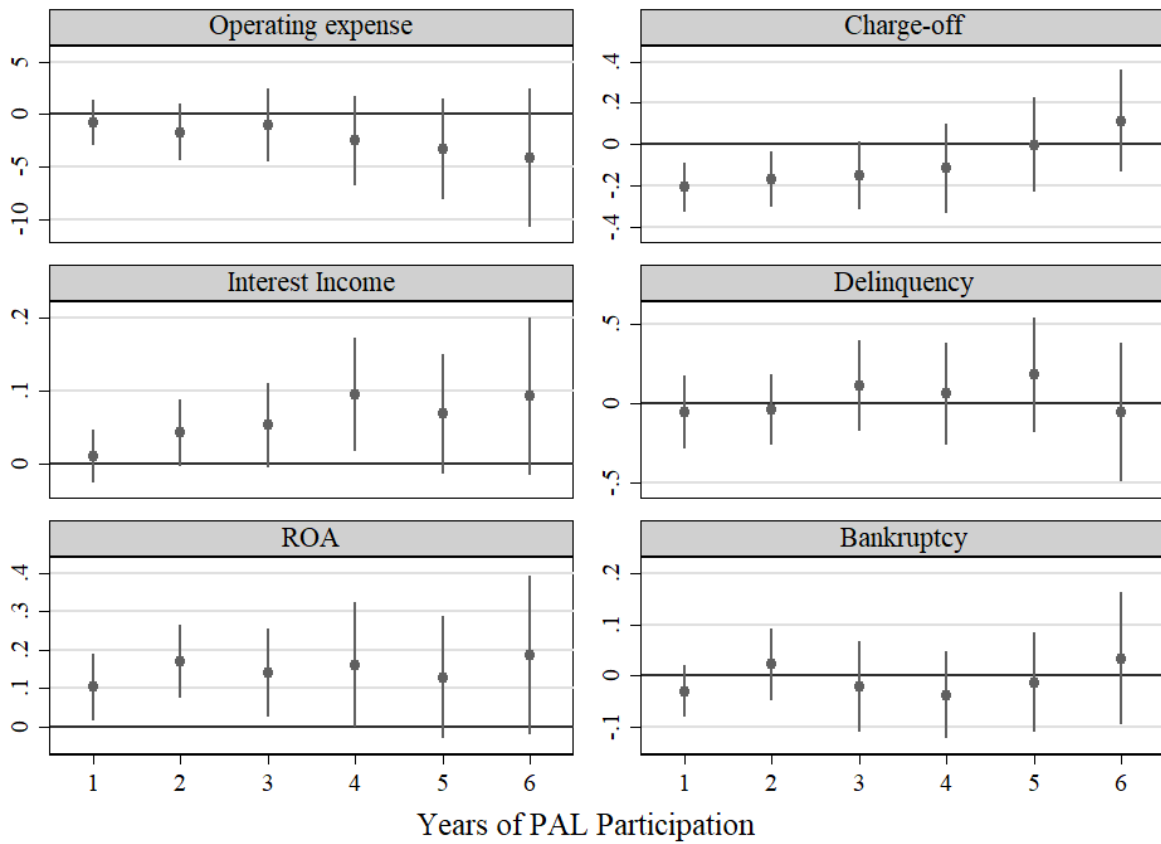


Figure C2. Comparison of policy impact of program duration with matched SCU. Point estimates and 95% confidence intervals of the policy impact on the differences in earnings and loan quality based on the duration of PAL program participation, where the control group uses a matched sample of state-chartered credit unions. Differences are measured in percentage points.



**Table D1: A placebo test of the treatment effect on credit union performance**

	Operating Expense	Interest Income	ROA
Placebo Treatment	0.924 (1.515)	0.022 (0.024)	-0.041 (0.068)
Cash and S.T. Investments/Total Assets (%)	0.322*** (0.075)	-0.004* (0.002)	-0.010*** (0.003)
Sav. Dep./ Total dep. & Borrowing (%)	0.014 (0.132)	-0.008*** (0.001)	0.004 (0.004)
Loans / Deposits (%)	-0.137 (0.219)	0.031*** (0.005)	-0.011 (0.009)
Credit Card Loan Share (%)	-0.434 (0.291)	-0.002 (0.006)	-0.003 (0.009)
Real Estate Loan Share (%)	-0.036 (0.065)	-0.006*** (0.001)	-0.000 (0.003)
Car Loan Share (%)	-0.032 (0.082)	-0.005*** (0.002)	0.003 (0.004)
Net worth / Total Assets (%)	-1.922 (1.735)	-0.035*** (0.011)	0.169*** (0.042)
Size	-68.188*** (15.025)	-0.547*** (0.100)	1.825*** (0.324)
Bank Deposit Concentration	-4.231 (5.580)	-0.001 (0.111)	0.070 (0.238)
Unemployment (%)	0.694*** (0.244)	0.001 (0.005)	-0.027*** (0.009)
Home price appreciation (%)	-70.324*** (13.816)	-0.446* (0.245)	3.187*** (0.605)
Constant	1253.532*** (255.117)	12.526*** (1.634)	-32.221*** (5.359)
Observations	27176	27178	27178

This table reports OLS estimates of a difference-in-difference model, which consists of a falsification test on earnings. FCU that do not implement the PAL program are treated as if they offer PAL loans following the change in policy (i.e. a placebo) and are compared to state-chartered credit unions not eligible for the program. All specifications include fixed effects for time and credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table D2: A placebo test of the treatment effect on credit union loan-quality**

	Consumer loan Charge-offs	Loan Delinquency	Member loan Bankruptcy
Placebo Treatment	0.081 (0.077)	0.214 (0.156)	0.012 (0.033)
Cash and S.T. Investments/Total Assets (%)	0.008** (0.004)	0.013** (0.006)	0.000 (0.001)
Sav. Dep./ Total dep. & Borrowing (%)	-0.013* (0.008)	-0.011 (0.009)	-0.002 (0.002)
Loans / Deposits (%)	0.002 (0.005)	0.010 (0.007)	-0.001 (0.001)
Credit Card Loan Share (%)	0.004 (0.016)	0.068** (0.031)	0.006 (0.004)
Real Estate Loan Share (%)	0.001 (0.012)	-0.007 (0.009)	0.000 (0.002)
Car Loan Share (%)	-0.018 (0.016)	-0.014 (0.011)	-0.002 (0.002)
Net worth / Total Assets (%)	-0.157*** (0.055)	0.048 (0.057)	-0.008* (0.005)
Size	-1.528** (0.674)	-0.495 (0.604)	-0.095 (0.090)
Bank Deposit Concentration	0.632* (0.364)	0.875 (0.583)	-0.005 (0.139)
Unemployment (%)	0.039 (0.030)	0.055** (0.025)	0.033*** (0.007)
Home price appreciation (%)	-3.489*** (1.141)	-5.699*** (1.311)	-1.430** (0.555)
Constant	29.742** (12.593)	9.552 (10.550)	2.150 (1.540)
Observations	27177	27178	27178

This table reports OLS estimates of a difference-in-difference model, which consists of a falsification test on loan quality. FCU that do not implement the PAL program are treated as if they offer PAL loans following the change in policy (i.e. a placebo) and are compared to state-chartered credit unions not eligible for the program. All specifications include fixed effects for time and credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table E1: Impact of PAL program duration and intensity on credit union performance**

	Operating Expense	Interest Income	ROA
TE - First year X PAL concentration	0.3500 (2.9630)	0.0016 (0.0162)	0.0670 (0.0646)
TE - Second year X PAL concentration	-6.8358*** (1.9472)	0.0523** (0.0219)	0.1034* (0.0534)
TE - Third year X PAL concentration	-6.6554** (3.1767)	0.0641** (0.0275)	0.1367** (0.0533)
TE - Fourth year X PAL concentration	-5.2304*** (1.7613)	0.0997*** (0.0359)	0.0787 (0.0784)
TE - Fifth year X PAL concentration	-5.1315*** (1.9495)	0.0751** (0.0372)	0.1085* (0.0646)
TE - Sixth year X PAL concentration	-4.6821 (3.0902)	0.1096** (0.0485)	0.1689** (0.0850)
Cash and S.T. Investments/ Total Assets (%)	0.5049*** (0.1304)	-0.0039** (0.0018)	-0.0075* (0.0040)
Sav. Dep./ Total dep. & Borrowing (%)	0.0390 (0.2020)	-0.0084*** (0.0015)	0.0100** (0.0048)
Loans / Deposits (%)	0.6042 (0.6248)	0.0301*** (0.0042)	-0.0014 (0.0101)
Credit Card Loan Share (%)	0.3123 (0.6042)	0.0007 (0.0050)	0.0058 (0.0101)
Real Estate Loan Share (%)	-0.0947 (0.1161)	-0.0056*** (0.0014)	-0.0009 (0.0031)
Car Loan Share (%)	-0.1266 (0.2023)	-0.0037** (0.0016)	-0.0012 (0.0040)
Net worth / Total Assets (%)	-3.9310* (2.3352)	-0.0274** (0.0111)	0.1452*** (0.0386)
Size	-64.3509*** (15.6399)	-0.5542*** (0.0946)	1.7140*** (0.3089)
Bank Deposit Concentration	0.7854 (9.3470)	-0.0979 (0.1125)	0.1504 (0.3113)
Unemployment (%)	0.6199** (0.2806)	0.0008 (0.0046)	-0.0280*** (0.0093)
Home price appreciation (%)	-27.7915 (18.8136)	-0.2794 (0.2290)	2.2906*** (0.5403)
Constant	1165.0897*** (263.7639)	12.6022*** (1.5006)	-30.9057*** (5.0071)
Observations	27588	27590	27590
Average treatment effect	-1.8971	0.0303	0.0297
F-test on average treatment effect (p-value)	0.03	0.02	0.30

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This table reports OLS estimates of the difference-in-difference model that measures the impact in the first and subsequent years (2-6) following a federal credit union's change in their concentration of PAL loans on three measures of earnings performance - the ratio of operating expense to income, the ratio interest income to total assets, and the return on assets (ROA). All specifications include fixed effects for time and credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

**Table E2: Impact of PAL program duration and intensity on credit union loan quality**

	Consumer loan Charge- offs	Loan Delinquency	Member loan Bankruptcy
TE - First year X PAL concentration	-0.049** (0.021)	0.210 (0.138)	-0.003* (0.001)
TE - Second year X PAL concentration	-0.036 (0.053)	-0.011 (0.042)	-0.003 (0.006)
TE - Third year X PAL concentration	-0.034 (0.058)	0.171 (0.151)	0.008 (0.018)
TE - Fourth year X PAL concentration	0.043 (0.072)	0.025 (0.085)	-0.004 (0.020)
TE - Fifth year X PAL concentration	-0.073 (0.045)	0.049 (0.095)	-0.015 (0.016)
TE - Sixth year X PAL concentration	0.016** (0.008)	0.016*** (0.006)	-0.000 (0.001)
Cash and S.T. Investments/ Total Assets (%)	-0.015* (0.008)	-0.011 (0.011)	-0.003** (0.002)
Sav. Dep./ Total dep. & Borrowing (%)	0.003 (0.005)	0.027* (0.014)	-0.001 (0.001)
Loans / Deposits (%)	-0.002 (0.018)	0.057*** (0.021)	0.009** (0.004)
Credit Card Loan Share (%)	0.002 (0.012)	-0.006 (0.009)	0.001 (0.002)
Real Estate Loan Share (%)	-0.014 (0.015)	-0.011 (0.012)	-0.000 (0.001)
Car Loan Share (%)	-0.137*** (0.045)	0.020 (0.064)	-0.010** (0.005)
Net worth / Total Assets (%)	-1.444** (0.645)	-0.385 (0.614)	-0.062 (0.087)
Size	0.274 (0.311)	0.660 (0.693)	-0.029 (0.139)
Bank Deposit Concentration	0.047 (0.030)	0.054** (0.025)	0.033*** (0.007)
Unemployment (%)	-2.430** (1.039)	-3.635*** (1.238)	-1.004* (0.542)
Home price appreciation (%)	27.679** (12.008)	6.913 (10.746)	1.569 (1.469)
Constant	-0.049** (0.021)	0.210 (0.138)	-0.003* (0.001)
Observations	27589	27590	27590
Average treatment effect	-0.030	0.069	-0.005

F-test on average treatment effect (p-value)	0.35	0.33	0.52
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This table reports OLS estimates of the difference-in-difference model that measures the impact in the first and subsequent years (2-6) following a federal credit union's change in their concentration of PAL loans on three measures of loan quality – the charge-off percentage of consumer loans, the percentage of delinquent loans, and the percentage of member loans in bankruptcy. All specifications include fixed effects for time and credit union, which are not reported for brevity. Standard errors reported in parentheses are clustered by credit union. \*, \*\*, \*\*\* indicates the coefficient is statistically different from zero at the 10%, 5%, and 1% level.

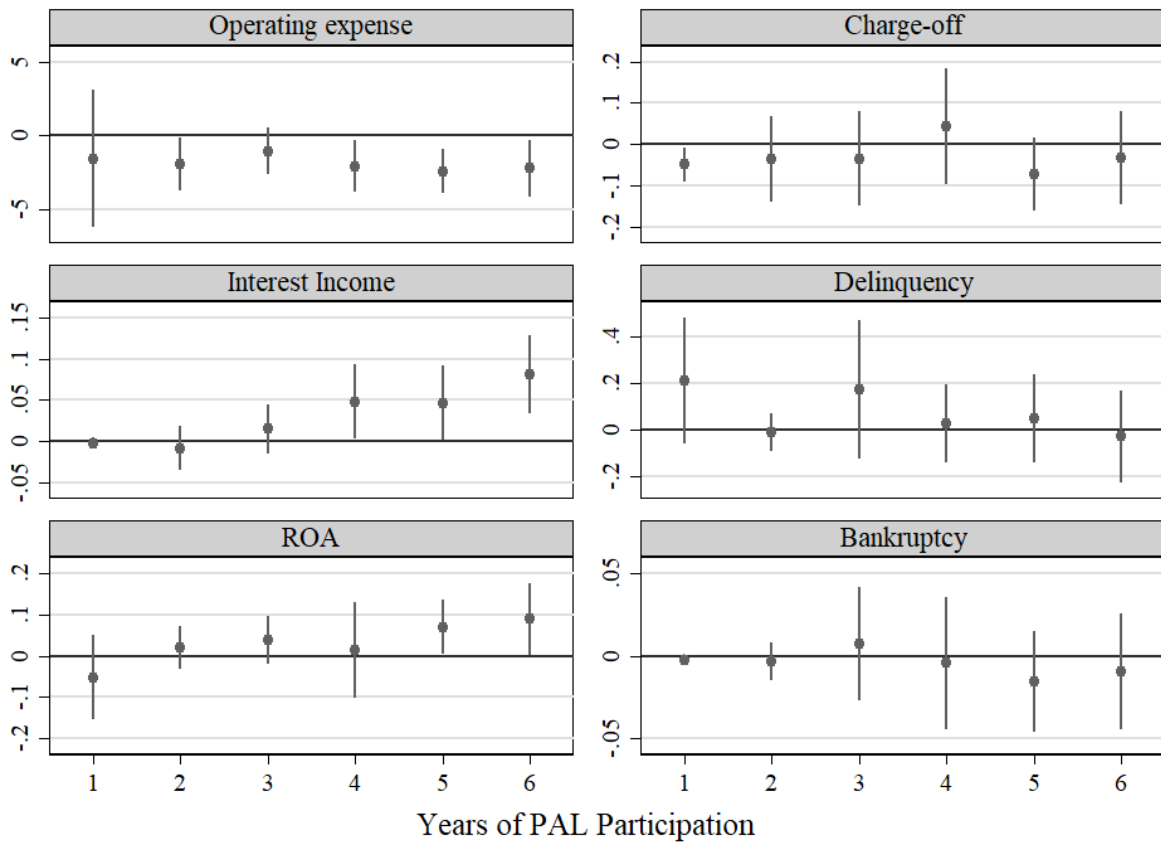


Figure E1. Comparison of policy impact of program duration and intensity. Point estimates and 95% confidence intervals of the policy impact on the differences in federal credit unions' earnings and loan quality based on the duration and intensity of PAL program participation. Differences are measured in percentage points.