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# Bridging the Gap? Government Subsidized Lending and Access to Capital 

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The consequences of providing public funds to financial institutions remain controversial. We examine the Community Development Financial Institution (CDFI) Fund's impact on credit union activity, using hitherto little studied U.S. Treasury data. The CDFI Fund grants increase lending at credit unions by 3\%. For every dollar awarded, 45 additional cents are loaned out to borrowers in the first year, and up to an additional $\$ 1.60$ is loaned out within three years. Delinquent loan rates also increase slightly. Our panel results are supported by a broadband regression discontinuity analysis. Politics does not seem to play a role in allocating funding.
Keywords: CDFI, credit supply, loan demand, loan growth, loan loss, political connection.

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## 1 Introduction

Financial institutions play a large and well-documented role in the growth and development of economies. When the private sector does not meet, or is perceived not to meet, the demand for capital, governments often try to bridge the gap. But whether governments can create or enhance existing financial intermediaries in order to improve economic prospects remains intensely controversial. ${ }^{1}$

On the one hand, financial economists widely agree that firms at times may not extend credit to socially desirable, value-creating projects. Adverse selection problems may lead banks to ration credit or charge high interest rates (Broecker, 1990, and Marquez, 2002). In settings where markets are highly competitive, Petersen and Rajan (1995) find that banks cannot develop strong relationships with individual borrowers, which leads to a decrease in availability of funds. In theory, public efforts which enable (and indeed require) financial institutions to extend credit to underserved portions of the population may ease some of these constraints.

On the other hand, public efforts to provide financing to financial institutions (and firms more generally) have been widely understood to be prone to capture problems since the pioneering work of Stigler (1971) and Peltzman (1976). Public programs may direct subsidized funds to connected parties in a way that proves privately beneficial but does

[^0]little to address capital constraints. For instance, Sapienza (1994) shows that lending by state-owned banks at subsidized rates is affected by political connections.

One of the U.S. government initiatives to this end is the Community Development Financial Institution (CDFI) Fund. The CDFI Fund's mission is to expand the capacity of financial institutions to provide credit, capital, and financial services to underserved populations and communities in the United States. Established in 1994, the U.S. Treasury awards money each year to CDFIs in the form of grants and loans. There is virtually no academic evaluation of the program to date.

By studying this specific government program, we add to the literature about how federal assistance to financial intermediation can help stimulate growth. We examine the overall performance of institutions backed by these programs. We also examine whether there is evidence of political influence in the award process. By studying the CDFI Fund, we shed light on how governments can optimally address capital constraints.

Certain attributes of the CDFI Fund make it particularly conducive to such a study. First, the CDFI Fund has operated since 1994 and lent over a billion dollars since its inception. This gives us a relatively long sample period: by way of contrast, many government programs are created to address specific crises and are short-lived, such as the Troubled Asset Relief Program (TARP) during the 2008-09 financial crisis. Second, the CDFI Fund's core program, awarding Financial Assistance (FA) and Technical Assistance (TA) grants, has followed clear-cut, well-documented procedures from its inception.

We focus our analysis on CDFI interactions with credit unions because they make up a
large and relatively homogeneous part of the CDFI industry. In order to be in our analysis, a credit union must have applied for CDFI funding between 2000 and 2009. Our dataset includes all CDFI applicant credit unions. Thus, we can directly see if a credit union's application was accepted or rejected. We also have the scoring data for the years 2005-09. This allows us to use a regression discontinuity approach to identify credit unions near the cut-off of the acceptance decision to address possible endogeneity. We are then able to support our results from the panel regressions using the regression discontinuity design.

In our first analysis, we examine the criteria behind the selection of awardees and find that previous loan growth matters most in the award decision. We use a probit to model the award decision process and include credit union characteristics, political factors and macroeconomic factors. The most significant factor is whether the credit union's loan portfolio grew in the year previous to the award. This suggests that the CDFI Fund is interested in awarding grants to CDFIs that have already demonstrated a strong inclination to loan to low-income borrowers. There does not seem to be any obvious political influence in receiving capital. Positive median income growth in the region increases the probability a credit union will receive funding. Local poverty and unemployment rates are either insignificant, or negative.

We then study the effects the CDFI award has on loan growth. We find that credit union loan growth increases $3 \%$ in the first year after a credit union receives an award. We are also interested to see if these awards stimulate additional lending by the credit union. For each dollar awarded, 45 additional cents are lent out in the first year, $\$ 1.10$ after two
years and $\$ 1.60$ three years after the award. These results seem to show that CDFI grant money does in fact increase lending but it takes some time to ramp up.

These results are encouraging and also surprising considering the large literature that discusses the potential misappropriation of funds and political capture of government subsidy programs. ${ }^{2}$ Other research also details that politically connected firms have a higher probability of receiving government funds. ${ }^{3}$ On one hand the subsidy may be too small to make a difference but on the other hand it may be enough money to pose a threat for possible corruption. The key result is that $\$ 1$ of CDFI funding gets turned into $\$ 1.60$ over the three-year horizon. In order to understand this effect further we study deposit rates and find a statistically significant increase in deposits at credit unions that receive CDFI funding.

In addition to directly lending the capital, money also goes toward re-capitalization of credit unions. According to credit union law, a credit union must have a net worth ratio above $7 \%$ to expand its loan portfolio. ${ }^{4}$ We find that net worth growth increases by roughly $1.5 \%$ at credit unions that receive funding. For every dollar received, 17 cents goes toward net worth growth.

Because the increase in lending is only likely to be socially beneficial if the borrowers

[^1]do not default, we look at the success rate of all the loans made after receiving an award. We calculate the delinquent loan growth rate and find that by the third year, the portion of delinquent loans rises as well. For each dollar awarded, 12 cents become delinquent over three years. The results show that the subsidized loans experience higher default rates than credit unions that do not receive grants.

The CDFI Fund chooses which credit unions will receive funding. This creates an unobserved heterogeneity endogeneity problem. It could be that the CDFI Fund is choosing credit unions that will subsequently lend more, which weakens the causal relationship between the funding and the actual increase in lending. We are able to address this endogeneity using a "broadband" regression discontinuity design. Our data includes the application score for CDFI applicants in some years of the sample. Due to the size of the sample we use a broad bandwidth around the cut-off. We look at credit unions halfway above and below the award cut-off and argue that these credit unions would have similar unobserved characteristics, so we can attribute changes in lending behavior directly to the award. ${ }^{5} 6$

We find in a probit analysis that a higher score leads to a higher probability of receiving an award. We then look at the loan growth rates for the sub-sample of credit unions near the cut-off. We support our previous results that loan growth is positive and increases over time. We no longer find any effect on the net worth ratio. We also confirm that

[^2]delinquent loan growth increases over time.

While this is a modest sized program by the standards of typical government initiatives, the results suggest the CDFI Funds effects on recipients have been economically significant. As we discuss in the conclusion, however, the program's relatively small size may have insulated it from political pressures that other government programs have faced.

We describe the theory behind the role of government subsidized lending and the CDFI application and award process in section 2. We then describe our data, empirical methodology and results in section 3 . Section 4 concludes with some thoughts on future research opportunities.

## 2 CDFI Fund Background and Application Process

The CDFI Fund was established by the Riegle Community Development and Regulatory Improvement Act of 1994. The CDFI Fund was created for the purpose of promoting economic revitalization and community development through investment in and assistance to community development financial institutions (CDFIs). The CDFI Fund achieves its goals by directly investing in, supporting and training CDFIs that provide loans, investments, financial services and technical assistance to underserved populations and communities. In order to be eligible to receive funding, $60 \%$ of an institution's lending must be aimed at a low-income target market. CDFIs on average serve the bottom three-fifths of the income distribution. The governing board of the institution must also be representative
of community development lending. Eligible financial institutions apply for certification by the CDFI Fund which entitles those institutions to apply for grant money which they can use to improve their ability to service low income target populations.

There are four types of CDFIs: banks, credit unions, venture capital firms and loan funds. Loan funds are non-depository lending institutions and as such are not regulated. An example of a loan fund is Boston Community Capital, a CDFI headquartered in Massachusetts, which has developed a new Stabilizing Urban Neighborhoods initiative, where the CDFI partners with other organizations to buy foreclosed properties and sell them back to the original owners with a reduced mortgage payment, preventing displacement. A credit union is a cooperative financial institution that is owned and controlled by its members and operated for the purpose of promoting savings, providing credit at reasonable rates, and providing other financial services to its members, and is the focus of our study.

Credit unions make up the largest portion of the regulated financial institutions. There are 362 credit union applications verse 70 bank applications. ${ }^{7}$ Credit unions have received twice the amount of grants over the last decade than banks. Some of the most prominent CDFIs are credit unions, such as the Latino Community Credit Union in North Carolina which has over one hundred thousand dollars in assets and over fifty thousand members.

Due to its success, many more credit unions are pursuing funding.

[^3]We determine which applicants are accepted, and if there are factors that affect the decision beyond what is advertised by the CDFI Fund (such as political connections). The CDFI Fund stresses what they call the "Comprehensive Business Plan" that is suppose to illustrate how the grant money will be used. We cannot measure this directly but we use other credit union characteristics to proxy for the current economic health and the past loan history of the credit union.

Each year there is a Notice of Funding Available (NOFA), which announces the application deadlines to the CDFI program. After the deadline passes the CDFI Fund reviews the applications from the applying firms and then there is a Notice of Award (NOA), which is when the institutions are notified of their award amount. Since all of the award amounts are announced at the same time, and no institution knows how much funding they will receive prior to the announcement, we are able to analyze the lending behavior before and after receiving an award.

There are two types of funding, Financial Assistance (FA) and Technical Assistance (TA). The CDFI Fund makes awards of up to $\$ 2$ million to certified CDFIs under the FA component of the CDFI Program. Over the history of the program, FA awards have been in the form of equity investments, loans, deposits, or grants. The CDFI are also required to match its FA award dollar-for-dollar with non-federal funds of the same type as the award itself. Since 2008 the FA awards are only in the form of grants. Additionally, over the span of time from 2000 to 2008 , over $90 \%$ of the money awarded are grants so moving forward we will analyze the aspects of the program with the understanding that the award
is a capital infusion. ${ }^{8}$ This requirement enables CDFIs to leverage private capital to meet the demand for affordable financial products and services in economically distressed communities. A CDFI may use the award for financing capital, loan loss reserves, capital reserves, or operations.

TA grants allow certified CDFIs and established entities seeking to become certified to build their capacity to provide affordable financial products and services to low-income communities and families. The CDFI Fund makes awards of up to $\$ 100,000$ under the TA component of the CDFI Program. Grants may be used for a wide range of purposes. For example, awardees can use TA funds to purchase equipment, materials, or supplies; for consulting or contracting services; to pay the salaries and benefits of certain personnel; and/or to train staff or board members.

## 3 Data, Methodology and Results

### 3.1 CDFI Data

The CDFI Fund records which CDFIs apply for grants, as well as the amount requested and the amount subsequently awarded. We have access to this database for years 2000-09. If a CDFI did not receive any funding, then its application is considered "rejected" and is used as our control group. We are able to see all CDFIs that apply for funds so we are able to identify all of those that received funding as well as all of those that were rejected.

[^4]As mentioned previously, there are four types of CDFIs. Loan funds make up the largest portion of CDFIs, but are not regulated. We focus our analysis on credit unions because they make up the second largest portion of CDFIs and due to regulation, have call report data. Moreover, their members are more homogeneous and credit unions are owned by their members so we would expect there would be less moral hazard with receiving the grants from the CDFI Fund. Figure 1 shows the breakdown of the four types of financial institutions as well as the acceptance rates for the four types of CDFIs. Of the 362 applications, 155 received funding.

The CDFI Fund data includes the name, address and yearly data on applicants and awards. In order to match the credit union correctly with the call report data we identify the credit union's unique charter number. Often credit unions have very unique names; based on the group they represent, and have only one address. There is very little ambiguity in matching the credit unions in the CDFI Fund award database. In total, there are 168 unique credit unions that have applied for funding at least once in our 2000-09 sample. On average, a credit union applies for funding twice in our sample. This translates to 362 applications over the 10 years. We define the treatment group as those that received funding and the control group as those that applied but were rejected. Again, since we are able to see everyone that applies, our control and treatment groups are cleanly identified.

We employ both an indicator variable that is equal to one if a credit union received funding in year $t$, and a continuous variable that is the amount of the funding that the credit union received in year $t$ scaled by the credit union's total assets. We can then
compare firm specific characteristics across the groups that received funding and those that did not. In the case of the continuous variable, we scale it by the credit union's total amount of assets in that year in order to give us a meaningful measure of award size. This allows us to measure changes in dependent variables for one dollar of funding. The indicator and continuous measurements serve as our independent variables throughout our analysis.

For the purpose of our analysis, we aggregate the amount received, whether FA or TA awards per year to a credit union. We also run our analysis breaking apart the TA and FA award money, since TA grants are smaller we expected that loan growth would be smaller in magnitude. The tests support, however, that our results are not statistically different from each other. In the past the matching requirement for the FA awards meant that smaller institutions applied for TA grants but in 2009, the CDFI Fund relaxed the requirement that CDFIs needed to match FA awards.

Along with the database that details who applies and receives funding, we also have access to the FA application scores for the years 2005-09 and the TA application scores for years 2007-09. We first include the scores in our analysis to determine if they do in fact capture the award decision, and then we are able to use the scores to evaluate the behavior of credit unions near the cut-off in order to alleviate a possible endogeneity issue.

### 3.2 NCUA Data

The National Credit Union Administration (NCUA) is an independent federal agency that charters and supervises federal credit unions. Credit unions file 5300 Call Report data quarterly to the NCUA. Call Report data consist of financial and identification information for credit unions and is available since March 1994. ${ }^{9}$ We then use call report data to measure credit union specific characteristics. The Notice of Award takes place at the end of the calendar year, ranging from August to October. We use second quarter call report data to measure the variables of interest.

Call report data include various schedules. Unless otherwise noted, the data we use come from schedule FS220. The total amount of loans and leases is defined as the total amount of loans outstanding, excluding loans to other credit unions. Loans to other credit unions are considered investments. Total loan growth is the difference between the amount of loans lent in year $t+1$ and year $t$, scaled by the total assets in year $t$. Total assets is the sum of all assets and must be equal to the sum of liabilities, shares and equity. We also measure the cumulative loan growth, measuring loan growth two and three years after the award. It is important to measure the loan growth over an extended horizon because CDFI Fund award money can be used as a capital infusion: the improved health of the credit union can translate to increased lending in the future.

Lending by CDFIs may have increased for two reasons. First, the CDFI may not have had the capital necessary to make the loans to meet the demand of their community prior to

[^5]receiving a grant. If the CDFI was capitally constrained then it could not increase its loan portfolio even if it desired to extend additional loans to qualified borrowers. Conversely, CDFIs had the capital but they did not want to make the loans because they considered the borrowers unqualified in the sense that there was a high probability of default. With government funds to support the loans, CDFIs may have made loans they would otherwise not have made. We measure delinquent loan growth to check if the increase in lending is to unqualified borrowers. The delinquent loan rate is the total amount of delinquent loans or leases (payments are overdue two months or more) scaled by the total amount of loans and leases. Secondly, delinquent loan growth is the difference in the total amount of delinquent loans or leases (two months of more past due) in year $t+1$ and year $t-1$, scaled by the total assets in year $\mathrm{t}-1$.

CDFIs can use grants to improve their balance sheet. Credit Union law requires that Credit Unions have a net worth ratio of at least $7 \%$ in order to be considered capitalized. Undercapitalized credit unions cannot expand their loan portfolio. The net worth ratio is the total net worth scaled by total assets. Net worth is found in schedule FS220A of call report data and is defined as the sum of undivided earnings, regular reserves, appropriation for non-conforming investments, other reserves, uninsured secondary capital, and net income.

Table 1 reports summary statistics and details the total assets and net worth ratio of all U.S. credit unions, credit unions that apply and receive an award and those that apply and are rejected. The number of total U.S. credit unions falls over our sample years
of 2000-09. However, the median total assets of the remaining credit unions increases. Net worth ratios are around $12 \%$, which is well above the $7 \%$ capitalization requirement. When we look at the sample of credit unions that apply and receive awards (Yes Award), the total assets is usually smaller than the median U.S. credit union, and the net worth ratio hovers around $9 \%$. This illustrates that CDFI credit unions are on average smaller than typical credit unions, and are less capitalized. The credit unions that apply and are rejected (No Award), are smaller still according to assets, yet, the net worth ratio varies more and is as low as $6.9 \%$ and as high as $11.4 \%$. From these statistics it is interesting to see that the sample of credit unions that applies is different from the typical credit union yet there is a lot of variation within who receives an award. When a credit union does receive an award, the total award scaled by total assets is around $2 \%$. This demonstrates that receiving an award can make a notable difference for a credit union.

### 3.3 Economic and Political Data

Apart from credit union micro data, we use macroeconomic data as controls in our analysis. The purpose of CDFIs is to provide affordable credit to underserved populations of the economy. Often this includes working in impoverished areas of the country. To proxy for this, we use median income, unemployment and poverty rates. Median income is measured at the county level in the year that the CDFI applies for an award. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year t . Unemployment rate and poverty rate data are also measured at the county level
in the year the CDFI applies for an award. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rates are from the Bureau of Labor local area unemployment statistics.

The CDFI Fund is an independent part of the U.S. Treasury, but is still affected by the political climate. The Office of Management and Budget (OMB) is responsible for allocating money to the CDFI Fund. We tested if any political persuasion found its way into the award making process. We use Congressional House member data to identify if the Representative of the Congressional district in which the Credit Union operates has any bearing on the award decision. ${ }^{10}$ We create an indicator variable equal to one if the Congressional Representative is a member of the Democrat Party. We also create an indicator variable equal to one if the congressional representative is a member of the presiding President's party. Lastly, we create an indicator variable equal to one if the election was close. We define an election to be close if the respective representative either beat an incumbent or won a race in which the incumbent did not seek reelection.

### 3.4 Empirical Methodology

We begin our analysis using a probit model to determine which factors matter in awarding the grant to the CDFI. In the probit analysis, the dependent variable is receiving an award

[^6]and we test the nature of credit union, economic and political factors. ${ }^{11}$ We run OLS regressions using an unbalanced panel that includes only credit unions that applied for a CDFI Fund award from 2000-09. The credit unions only appear in the sample the year that they apply for the award. Credit unions can apply multiple times (during our sample the average credit union is in the sample twice.)

We are comparing credit unions that applied and were accepted to those that applied and were rejected. Our key independent variable is an indicator variable equal to one if the credit union received an award. The regression model is as follows:

$$
\left.\begin{array}{rl}
\left(\text { Total Loans }_{i, t+1}-\right. & \text { Total Loans } \\
i, t \tag{1}
\end{array}\right) / \text { Total } \text { Assets }_{i, t}=\beta{\text { Award } \text { Flag }_{i, t}}+\text { Credit Union \& Economic Controls }_{i, t}+\alpha_{i}+\varepsilon_{i, t} \text { then }
$$

In which the Award Flag is an indicator variable equal to one if the credit union receives an award in year $t$. We extend the analysis to include a continuous independent variable that allows us to measure the effect of each dollar of award funding. That regression model is as follows:
$\left(\right.$ Total $^{\operatorname{Loans}_{i, t+1}}-$ Total $\left.\operatorname{Loans}_{i, t}\right) /$ Total Assets $i_{i, t}=\beta$ Award Amount $_{i, t} /$ Total Assets $_{i, t}$ + Credit Union \& Economic Controls ${ }_{i, t}+\alpha_{i}+\varepsilon_{i, t}$
${ }^{11}$ In our analysis we cluster standard errors at the county level unless otherwise noted.

Of the 362 applications, there are 317 individual instances of award decisions in our sample (including both accepted and rejected applications). Missing data may result from a credit union becoming inactive and thus no longer reporting data to the NCUA. We pool the sample of technical assistance and financial assistance applications, but, in separate tests, we run the analysis on each sample differently and find similar results (not reported). ${ }^{12}$

In order to study the effects of the awards over time, we extend the horizon. The dependent variable in our OLS regressions is now defined as:

$$
\begin{array}{r}
\left(\text { Total Loans }{ }_{i, t}+2,3-\text { Total Loans }_{i, t}\right) / \text { Total } \text { Assets }_{i, t}=\beta \text { Award }_{i, t} \\
+ \text { Credit Union \& Economic Controls }_{i, t}+\alpha_{i}+\varepsilon_{i, t} \tag{3}
\end{array}
$$

In which the award variable is first tested as the indicator variable for receiving an award and then tested using the continuous variable of the amount of award received scaled by the credit union's assets in the year of the receipt. To measure the riskiness of the portfolio after an award, the dependent variable is delinquent loan growth measured over one, two and three years. The model for the regressions follows the same pattern as before, using

[^7]both the indicator and continuous measures as independent variables:
$\left(\right.$ Total Delinquent Loans $_{i, t+1,2,3}-$ Total Delinquent Loans $\left.{ }_{i, t-1}\right) /$ Total $^{\text {Assets }}{ }_{i, t-1}=$
$$
\beta \text { Award }_{i, t}+\text { Credit Union \& Economic Controls }_{i, t}+\alpha_{i}+\varepsilon_{i, t}
$$

The sampling framework remains the same, but the number of observations naturally drops because we are unable to include the 2009 data in regressions forward looking two years, nor the 2008 data for regressions that are forward looking three years. We also test the growth rate of deposits, return on assets, return on equity and the number of members at the credit union. This additional analysis explores the economic value of the CDFI Fund grants.

The CDFI Fund grant money can be used for various purposes, including as financial capital, loan loss reserves, capital reserves and operations. Since the credit union can use the grant to stabilize its loan loss reserves, for example, we may see that the grant money affects the net worth ratio more than loan growth. We regress net worth growth on our award variables and controls with the following model:

$$
\begin{array}{r}
\left(\text { Net Worth }_{i, t+1}-\text { Net Worth }_{i, t}\right) / \text { Total Assets }_{i, t}=\beta \text { Award }_{i, t} \\
+ \text { Credit Union \& Economic Controls }  \tag{5}\\
i, t
\end{array}+\alpha_{i}+\varepsilon_{i, t} .
$$

We argue that if a credit union will use the grant money to improve its net worth ratio, it
will do so immediately, and the results will be seen within one year of receiving the award.

### 3.5 Results

In Table 2 we document our probit findings and show that past loan growth positively affects receiving an award. This supports the CDFI Fund's agenda of supporting CDFIs that are trying to make an impact on their respective communities and are making loans to their target borrowers. We thus control for past asset loan growth in our regressions so that we can study the deviations from the past trend. ${ }^{13}$ The delinquent loan rate is negative and the magnitude suggests that the CDFI Fund is less likely to award grants to credit unions whose borrowers have a previous history of high default rates. Other credit union characteristics such as size and net worth ratio do not seem to affect receiving a loan. The unemployment rate is also negative and significant. This demonstrates the difficulty in trying to access welfare gains from this program because the size of the program is too small to adjust aggregated macroeconomic variables. The CDFI Fund was established in 1994 under the Clinton administration. We test if having a Democrat Congressional Representative affects the award decision and find that it does not. ${ }^{14}$

We also test if being in the same political party as the presiding President can affect the award decision. Again, we do not find that having a congress member with the same political affiliation as the political party in power has an effect. We test the seniority of

[^8]the Congress member and whether the member sits on different financial committees and still do not find an effect (not reported). Additionally, we test if there is an effect for funding credit unions in areas where there is a close election. Table 2 also reports these results. We define an election to be close if the respective representative either beat an incumbent or won a race in which the incumbent did not seek reelection. Again we find no effect and interpret these findings as evidence that politics does not seem to play a role in funding. Perhaps since the purpose of the program is to target underserved portions of the population, or because of the small size of the program, political connections do not play a large role in the application process.

Figure 2 charts the total loan growth in the year subsequent to receiving an award. The trend is clear that during the period 2000-2007, credit unions that receive awards lend more substantially than those that applied and were rejected. Overall the trend is that credit unions are lending less and this matches the overall trend of U.S. credit unions during the sample. ${ }^{15}$ This descriptive chart motivates our deeper analysis to measure how much of an effect the award has on lending.

Table 3 shows the loan growth rate in the first year after receiving an award. We find that just receiving an award leads to $3 \%$ higher loan growth as a percent of total assets. We include total loan growth in $\mathrm{t}-1$ as a control. We check that receiving an award increases loan growth above the current trend at the credit union. We also include delinquent loan rate and the net worth ratio to proxy for the health of the credit union and their loan

[^9]portfolio. Economic factors such as income, unemployment and poverty measurements capture the market characteristics. ${ }^{16}$

We define undercapitalization flag to be equal to one if the credit union has a net worth ratio below $7 \%$. We interact the undercapitalization flag with our award flag to test if the results differ for capitally constrained credit unions and do not find an effect. Total loan growth remains $3 \%$ when we include the undercapitalization and interaction variables. According to the continuous variable, award per assets, for each dollar awarded the credit union loans out 45 cents within the first year. We include the same control variables for both the dummy and continuous measures. We interact the undercapitalization flag with the award per asset variable as well and still do not find an effect for the undercapitalized credit unions.

In Table 4 we document the results of cumulative loan growth over two and three year horizons. If a credit union receives an award, loan growth increases to $6 \%$ after two years and returns to $3 \%$ after three years (although no longer statistically significant). According to the continuous measure, two years after the award, for every dollar received, $\$ 1.10$ is loaned to borrowers. This increases to $\$ 1.60$ in year three. If these results hold for other financial institutions, the $\$ 1.1$ billion lent by the CDFI fund in the last fifteen years would translate to $\$ 1.76$ billion in loan creation.

We turn our attention to delinquent loan growth in Table 5. Government funding

[^10]could cause credit unions to extend loans to less desirable borrowers since the loan is now subsidized by the government grant. We find that delinquent loan growth is positive and significant two, and three years, after the award. As previously mentioned, it is important to extend the horizon of the analysis for delinquent loan growth, because borrowers take time to default. We find that for every dollar awarded, there is an increase of 12 cents of delinquent loan growth in three years. A 12 cent increase in delinquent loan growth is roughly $8 \%$ of the $\$ 1.60$ total loan growth. The average delinquent loan rate at the credit unions in our sample, regardless of receiving an award is half that at roughly $4 \%$. Unfortunately we cannot measure the marginal default rate of the new loans since we are unable to observe borrower characteristics.

While we have documented the increase in lending, the question remains as to how this program affects the productivity of the credit unions. To examine this we look at deposit growth and other productivity measures such as return on assets, return on equity and the number of members at the credit union. Table 6 describes the results for the deposit growth rates and shows that the coefficients are positive and significant. For every dollar of funding received the credit union receives roughly $\$ 1.40$ in deposits within three years of the award. As in the case with lending, it takes some time to ramp up the increase in deposits but the coefficient on the indicator variable is positive and significant immediately and stays strong over the three year horizon. The CDFI funding improves the credit union's ability to lend by helping to improve the health of the credit union itself.

In addition to the increase in deposits, the return on equity and membership enroll-
ment increase as well. Table 7 reports gauges of overall productivity of the credit union, including growth rates of the return on assets (ROA), return on equity (ROE) and the credit union's number of members. Results are stronger for the continuous independent variable, award per assets, which is the amount of the award scaled by the total assets of the receiving institution. Overall, the coefficients are positive.

A natural question is whether the growth in lending after CDFI Fund financing is driven by bad loans to problematic borrowers. Table 8 addresses this concern by examining the growth rates of "Good" loans. We define "Good" loans as the difference between total loans and the amount of delinquent loans in any given year. CDFIs target riskier borrowers compared to traditional lending institutions so studying the growth rates of "Good" loans can help understand if CFDI funding creates economic value. We find that it does. "Good" loan growth rates are positive and significant for both of our explanatory variables for the first two years. In the third year the coefficient for the indicator variable, award flag, is still positive but no longer statistically significant. According to the results $\$ 1$ dollar of funding translates to roughly $\$ 1.50$ of "Good" loans in year three. Since we cannot directly identify the loans made with CDFI award funding from the general pool of loans, it is useful to show that for the overall loan portfolio, a statistically significant larger portion of loans are in fact repaid.

Table 9 reports results for net worth ratio growth regressions. We find that net worth grows $1.5 \%$ if the credit union received funding. For every dollar awarded, net worth grows by 17 cents. Since not all credit unions would need to use the grant funding to improve
their net worth, the finding show that the flexibility of the award usage can be beneficial to certain credit unions.

## 3.6 "Broadband" Regression Discontinuity

When CDFIs apply for an award from the CDFI Fund, their application receives a score, which determines the likelihood of grant funding. A higher score increases the probability of funding. The CDFI Fund uses an anonymous review process in order to score the applications. We have these scores for FA awards from 2005-09, and for TA awards from 2007-09. The scoring process is unknown to the CDFIs and because those institutions cannot precisely identify the cut-off, we are able to use a regression discontinuity (RD) approach to improve our identification. In RD, such randomized variation is a consequence of agents inability to precisely control the assignment variable near the known cut-off (Lee and Lemieux, 2009). We have a sharp RD design because the probability of receiving an award is one if a score is above the cut-off. Since the CDFI Fund chooses which credit unions receive the funding we have a unobserved heterogeneity problem. The CDFI Fund may be selecting the institutions that will lend more regardless of the award. We use the RD approach to address this endogeneity issue. However, due to the small sample size we use a broad bandwidth around the discontinuity and refer to this as a "broadband" RD.

CDFI Fund reviewers individually score each application and then their scores are summed up as the application's "summed score". If the CDFI has any outstanding compliance issues, such as not providing requested data after a previous award, points can
be deducted from the summed score to create the "final score". The final scores are then ordered from highest to lowest and money is awarded starting at the top of the list. Money is paid out until the funding is depleted. Any CDFI below the point at which there is no longer any funding available is rejected. This creates different cut-off points every year, which strengthens the argument that individual CDFIs cannot manipulate the scoring procedure in order to receive a loan. We continue our analysis using a sub-sample that includes CDFIs that are within the $50 \%$ border around the cut-off. This cuts our sample by half and we have 82 observations in our RD sub-sample. ${ }^{17}$

Figure 3 graphs the Total Loan Growth rates for the credit unions around the discontinuity. The cut-off changes annually so we use the ratio of the application score to the cut-off in the year of the award. The graph indicates what we find in subsequent analysis: credit unions which receive funding lend more in the year of the award.

Using the "broadband" RD approach, in Table 10 we find that credit union loan growth increases $3 \%$. The result for our indicator measure, however, is no longer significant. Due to the sample size, the fact that the magnitude is similar to our previous results is promising and we interpret the results as supportive of the main results from the panel regressions. The results for our continuous variable are similar to those for the whole sample. For every dollar of funding, loan growth increases by 41 cents in the first year, and is 84 cents in the second year. We show that even at the cut-off, loan growth increases for credit unions

[^11]that receive award funding and the trend is to increase lending overtime. This supports the causal effect of the grant on lending since institutions near the cut-off are quite similar to each other. ${ }^{18}$

In Table 11, we use the "broadband" RD sub-sample to test the delinquent loan growth results and continue to find that delinquent loan growth is positive and statistically significant for the award flag in the third year. Since we are able to support our previous results at the cut-off of the award decision we believe there is a causal link between receiving an award and subsequent loan growth. When we apply the "broadband" RD analysis to net worth growth, we cannot support our previous findings (not reported). This highlights the importance of using the "broadband" RD sub-sample to study the CDFI Fund awards and determine their consequences. Near the cut-off, the grants still support an increase in lending, and a portion of those loans does subsequently default. Receiving a CDFI Fund grant increases lending and this includes to risky borrowers are well. This may be in accordance with the CDFI Fund's agenda to provide equal access to capital overall.

## 4 Conclusion

Financial institutions are often hypothesized to be limited in their ability to finance positive net present value projects. If financial institutions cannot observe a borrower's probability of default, interest rates may be used to screen possible candidates and not everyone

[^12]who applies for credit will receive a loan (Stiglitz and Weiss, 1981). Governments may intervene when markets fail to clear by subsidizing activities that are perceived to be undersupplied, i.e., by supplying credit to low-income but otherwise high-quality borrowers.

We test the effectiveness of a government program aimed at increasing access to capital in underserved economies. Instead of making loans directly, the U.S. government relies on the CDFI Fund to grant awards to financial institutions that target certain borrowers. We show that total loan growth increases by $3 \%$ of assets at credit unions that receive CDFI Fund grants. After three years, one dollar of funding translates into $\$ 1.60$ of total loan growth. Delinquent loan growth is also positive in the third year; but it is a small portion of the additional generated loans. Political connections do not seem to affect the award decision.

It is typically difficult to measure the effectiveness of government programs because the economic outcome without the program is unobservable. We are able to measure the consequences of the program directly by comparing similar institutions that differ simply in whether they receive funding from the government. We use a "broadband" regression discontinuity approach to identify the causal relationship and support our results for loan growth and losses. By looking at the sub-sample of credit unions near the cut-off of the award decision, we can better identify the effects of the awards themselves.

It is worth highlighting that this program has several features which may limit the extent of political capture problems that have been documented in other public efforts to fund and own financial institutions. The first is the detailed application process. Applicants
must carefully detail the intended use of these funds and the fact that target borrowers are low-income but nevertheless quality borrowers who would have difficulty receiving a loan from a traditional bank. Second, and perhaps more importantly, this program is quite modestly sized. The small scale of the program (as opposed to, for instance, the TARP or the Obama Administrations stimulus initiative) may have allowed the CDFI Fund to effectively provide subsidies while avoiding political capture. Better understanding of how public programs that aid financial institutions can avoid such distortions is an important topic for future research.

Future research should also include studying the real effects of this and similar programs on the economy. We study the effects of the awards on the credit unions themselves, but much remains to be done in understanding the consequences for borrowers and communities. Due to the relatively modest size of the program and many of the funded credit unions, it may be challenging to identify these effects with the current data. But given that the CDFI industry is growing, in part because of interest on the part of private financiers, it may be possible to study those effects in the future.

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## A Definition of variables

## CDFI Variables

- Award Flag $_{t}=$ Indicator variable equal to 1 if Credit Union receives an award from the CDFI Fund in year t .
- Award Per Assets $_{t}=\left(\right.$ Total Amount Awarded $\left.{ }_{t}\right) /\left(\right.$ Total Assets $\left._{t}\right)$.


## NCUA Variables

- Undercapitalization Flag $_{t}=$ Indicator variable equal to 1 if Credit Union's Net Worth Ratio is less than $7 \%$.
- Loan Growth ${ }_{t}=\left({\text { Total } \text { Loans }_{t+1} \text { - Total Loans }}_{t}\right) /$ Total Assets $t$.
- Loan Growth 2 years $_{t}=\left({\left.\text { Total } \text { Loans }_{t+2}-\text { Total Loans }_{t}\right) / \text { Total Assets }_{t} .}_{\text {. }}\right.$
- Loan Growth 3 years $_{t}=\left({\text { Total } \text { Loans }_{t+3}-\text { Total }_{\text {Loans }}^{t}}\right) /$ Total Assets $_{t}$.
- Loan growth rate calculation applies to Deposit, and Good Loan growth as well.
- Good Loans ${ }_{t}=$ Total Loans $_{t}$ - Total Delinquent Loans ${ }_{t}$
- Return on Assets $_{t}($ ROA $)=$ Net Income $_{t} /{\text { Total } \text { Assets }_{t}}^{\text {( }}$
- Return on Equity $_{t}(\mathbf{R O E})=$ Net Income $_{t} /$ Equity $_{t}$
- ROA Growth ${ }_{t}=\left(\mathrm{ROA}_{t+1}-\mathrm{ROA}_{t}\right) / \mathrm{ROA}_{t}$.
- ROA growth rate calculation applies to ROE and Member Number growth as well.
- Size $_{t}=\log \left(\right.$ Total Assets $\left.{ }_{t}\right)$.
- Delinquent Loan Rate $\left.{ }_{t}=(\text { Total Delinquent Loans })_{t}\right) /\left(\right.$ Total Loans $\left._{t}\right)$.
- Net Worth Ratio $=\left(\right.$ Total Net Worth $\left._{t}\right) /\left(\right.$ Total Assets $\left._{t}\right)$.
- Net Worth Growth ${ }_{t}=\left(\right.$ Net Worth $_{t+1}$ - Net Worth $\left.t\right) /$ Total Assets $_{t}$.
- Delinquent Loan Growth $_{t}=$ (Total Delinquent Loans $_{t+1}$ - Total Delinquent Loans $_{t-1}$ ) / Total Assets $_{t-1}$.
- Delinquent Loan Growth 2 years $_{t}=\left(\right.$ Total Delinquent Loans ${ }_{t+2}$ - Total Delinquent Loans $_{t-1}$ ) / Total Assets ${ }_{t-1}$.
- Delinquent Loan Growth 3 years $_{t}=\left(\right.$ Total Delinquent Loans $_{t+3}$ - Total Delinquent Loans $_{t-1}$ ) / Total Assets ${ }_{t-1}$.


## Political Variables

- Democrat Flag $_{t}=$ Indicator variable equal to 1 if Congressional Representative is a Democrat.
- Control Party Flag $_{t}=$ Indicator variable equal to 1 if Congressional Representative is the same political party as the presiding President.
- Close Election Flag ${ }_{t}=$ Indicator variable equal to 1 if the respective representative either beat an incumbent or won in a race in which the incumbent did not seek reelection.


## Economic Variables

- Median Household Income $_{t}(\log )=$ Log of county level median household income in year t .
- Median Household Income Growth ${ }_{t}=$ (Median Household Income $_{t}$ - Median Household Income $_{t-1}$ ) / Median Household Income ${ }_{t-1}$.
- Unemployment Rate $_{t}=$ County level unemployment rate in year t .
- Poverty Rate $_{t}=$ County level poverty rate in year t .


## Figure 1: CDFI Types

This figure reports summary statistics for all types of CDFIs, as well as the application and acceptance rates. Data on CDFI applicants are from the CDFI Fund. Note that while there are four types of CDFIs, call report data is available only for banks and credit unions (CUs). Since banks make up such a small part of the sample, we focus our analysis on credit unions. Of all U.S. Credit Unions, 168 unique CUs applied for grant funding, and those that apply have a $45 \%$ acceptance rate.


## Figure 2: Total Loan Growth Chart (Medians)

This figure shows the median loan growth rates between the treatment (with award) and control (without award) groups over our sample from 2000-09. Total loan growth is the difference between the amount of loans lent in year $t+1$ and year $t$, scaled by the total assets in year $t$. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund.


Figure 3: Regression Discontinuity Cut-Off
This figure shows the Total Loan Growth of Credit Unions near the cut-off of the application score to receive CDFI Funding.


Table 1: Summary Statistics (Medians)
This table reports summary statistics for all U.S. credit unions (CU's) as well as the credit unions that make up our sample. In order to be included in our analysis, the credit union had to apply for Community Development Financial Institution (CDFI) funding between 2000 to 2009. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. The unit of observation is at the applicant level, if a credit union repeatedly applies for an award, it will be in our sample multiple times. The same credit union can receive an award one year and have an award request rejected another year in the sample. Award per Assets is calculated by dividing the credit union's award amount by the total assets of that credit union. ${ }^{* * *},{ }^{* *}$,* Difference between award and no award statistically distinct from 0 at the $1 \%, 5 \%$ and $10 \%$ levels, respectively.

|  | All |  |  |  |  |  |  |  | Net Worth |  |  | Yes | Net Worth |  |  | Award | No |  | Net Worth |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | CU's | Assets | Ratio | Award Assets | Ratio | Per Assets | Award | Assets | Ratio |  |  |  |  |  |  |  |  |  |  |  |
| 2000 | 10,606 | 7.2 | 13 | 20 | 4.2 | 8.12 | 2.2 | 10 | 3.5 | 11.4 |  |  |  |  |  |  |  |  |  |  |
| 2001 | 10,269 | 8 | 12.4 | 23 | 4.1 | 8.34 | 3.9 | 25 | 2.5 | 8.1 |  |  |  |  |  |  |  |  |  |  |
| 2002 | 9,934 | 9.3 | 11.7 | 20 | 3.9 | $9.78^{* *}$ | 4.6 | 12 | 1.8 | 6.9 |  |  |  |  |  |  |  |  |  |  |
| 2003 | 9,646 | 10.4 | 11.5 | 7 | 2.8 | 8.71 | 4.6 | 16 | 3.3 | 10 |  |  |  |  |  |  |  |  |  |  |
| 2004 | 9,324 | 11.2 | 11.7 | 21 | 6 | 8.3 | 1.5 | 12 | 3.8 | 9.4 |  |  |  |  |  |  |  |  |  |  |
| 2005 | 8,983 | 12 | 12.2 | 14 | 7.2 | 9 | 2.3 | 14 | 7.9 | 9 |  |  |  |  |  |  |  |  |  |  |
| 2006 | 8,720 | 12.7 | 12.9 | 11 | 18.6 | 9.93 | 0.8 | 14 | 10.1 | 9.4 |  |  |  |  |  |  |  |  |  |  |
| 2007 | 8,410 | 13 | 13.4 | 8 | $31.7^{*}$ | 9.82 | 1.1 | 10 | 8.6 | 10.3 |  |  |  |  |  |  |  |  |  |  |
| 2008 | 8,135 | 14.2 | 13.2 | 12 | 8 | 10.6 | 1.5 | 20 | 9.3 | 9.5 |  |  |  |  |  |  |  |  |  |  |
| 2009 | 7,847 | 15.9 | 12.4 | 12 | $30^{* * *}$ | 8.68 | 2.5 | 51 | 8 | 8.6 |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | N | Millions | $\%$ | N | Millions | $\%$ | $\%$ | N | Millions | $\%$ |  |  |  |  |  |  |  |  |  |  |

Table 2: Award Decision Process
This table reports the coefficients of a Probit model where the binary treatment variable is equal to one if a credit union applicant receives CDFI funding. The sample includes only credit unions that applied for CDFI funding between 2000-09. The score is the credit union's application score according to the CDFI Fund. Democrat flag is equal to one if the Congressional Representative is a Democrat. Close election flag is equal to one if the respective representative either beat an incumbent or won in a race in which the incumbent did not seek reelection. Controlling party flag is equal to one if the Congressional Representative is a Republican during the Bush administration or a Democrat during the Obama administration. Total loan growth is the difference between the amount of loans lent in year $t+1$ and year $t$, scaled by the total assets in year $t$. Size is the $\log$ of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

## Table 3: Loan Growth Regressions

This table reports the coefficients from OLS regressions with the model: Total Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth ${ }_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Total loan growth is the difference between the amount of loans lent in year $t+1$ and year $t$, scaled by the total assets in year $t$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year $t$. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
| VARIABLES | Total Loan Growth | Total Loan Growth | Total Loan Growth | Total Loan Growth |
| Award flag | $\begin{gathered} 0.0309^{* *} \\ (0.0134) \end{gathered}$ |  | $\begin{aligned} & 0.0290^{*} \\ & (0.0159) \end{aligned}$ |  |
| Award per assets |  | $\begin{gathered} 0.456^{* * *} \\ (0.169) \end{gathered}$ |  | $\begin{gathered} 0.549^{* *} \\ (0.237) \end{gathered}$ |
| Undercapitalization flag |  |  | $\begin{aligned} & 0.00286 \\ & (0.0232) \end{aligned}$ | $\begin{aligned} & 0.00959 \\ & (0.0230) \end{aligned}$ |
| Award flag* Undercapitalization flag |  |  | $\begin{aligned} & 0.00999 \\ & (0.0462) \end{aligned}$ |  |
| Award per assets * Undercapitalization flag |  |  |  | $\begin{gathered} -0.312 \\ (0.391) \end{gathered}$ |
| Lag total loan growth | $\begin{gathered} 0.134 \\ (0.108) \end{gathered}$ | $\begin{gathered} 0.131 \\ (0.107) \end{gathered}$ | $\begin{gathered} 0.132 \\ (0.108) \end{gathered}$ | $\begin{gathered} 0.129 \\ (0.106) \end{gathered}$ |
| Size | $\begin{gathered} -0.00496 \\ (0.00543) \end{gathered}$ | $\begin{aligned} & -0.000237 \\ & (0.00552) \end{aligned}$ | $\begin{gathered} -0.00476 \\ (0.00572) \end{gathered}$ | $\begin{aligned} & -0.000423 \\ & (0.00588) \end{aligned}$ |
| Delinquent loan rate | $\begin{gathered} -0.135 \\ (0.119) \end{gathered}$ | $\begin{gathered} -0.112 \\ (0.116) \end{gathered}$ | $\begin{gathered} -0.137 \\ (0.121) \end{gathered}$ | $\begin{gathered} -0.122 \\ (0.126) \end{gathered}$ |
| Net worth ratio | $\begin{gathered} 0.187 \\ (0.228) \end{gathered}$ | $\begin{gathered} 0.184 \\ (0.236) \end{gathered}$ | $\begin{gathered} 0.224 \\ (0.226) \end{gathered}$ | $\begin{gathered} 0.182 \\ (0.236) \end{gathered}$ |
| Median income (log) | $\begin{aligned} & -0.0800^{*} \\ & (0.0464) \end{aligned}$ | $\begin{aligned} & -0.0887^{*} \\ & (0.0482) \end{aligned}$ | $\begin{aligned} & -0.0790^{*} \\ & (0.0473) \end{aligned}$ | $\begin{aligned} & -0.0896^{*} \\ & (0.0486) \end{aligned}$ |
| Median income growth | $\begin{gathered} 0.00510 \\ (0.138) \end{gathered}$ | $\begin{aligned} & 0.0273 \\ & (0.137) \end{aligned}$ | $\begin{gathered} 0.00449 \\ (0.139) \end{gathered}$ | $\begin{aligned} & 0.0279 \\ & (0.135) \end{aligned}$ |
| Lag median income growth | $\begin{gathered} -0.0659 \\ (0.134) \end{gathered}$ | $\begin{aligned} & -0.0497 \\ & (0.118) \end{aligned}$ | $\begin{aligned} & -0.0715 \\ & (0.138) \end{aligned}$ | $\begin{aligned} & -0.0175 \\ & (0.124) \end{aligned}$ |
| Unemployment rate | $\begin{gathered} 0.196 \\ (0.547) \end{gathered}$ | $\begin{gathered} 0.279 \\ (0.558) \end{gathered}$ | $\begin{gathered} 0.193 \\ (0.546) \end{gathered}$ | $\begin{gathered} 0.324 \\ (0.560) \end{gathered}$ |
| Poverty rate | $\begin{gathered} -0.00203 \\ (0.00204) \end{gathered}$ | $\begin{gathered} -0.00257 \\ (0.00217) \end{gathered}$ | $\begin{gathered} -0.00199 \\ (0.00207) \end{gathered}$ | $\begin{gathered} -0.00248 \\ (0.00219) \end{gathered}$ |
| Observations | 317 | 317 | 317 | 317 |
| R-squared | 0.0379 | 0.0677 | 0.0441 | 0.0700 |

Table 4: Cumulative Loan Growth Regressions This table reports the coefficients from OLS regressions with the model: Total Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth gr- $_{t, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Loan growth 2 years is the difference between the amount of loans lent in year $t+2$ and year $t$, scaled by the total assets in year $t$. Loan growth 3 years is the difference between the amount of loans lent in year $t+3$ and year $t$, scaled by the total assets in year $t$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year t. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
| VARIABLES | Loan growth (2 years) | Loan growth (3 years) | Loan growth (2 years) | Loan growth (3 years) |
| Award flag | 0.0594** | 0.0363 |  |  |
|  | (0.0278) | (0.0358) |  |  |
| Award per assets |  |  | $1.105^{* * *}$ | 1.580** |
|  |  |  | (0.316) | (0.787) |
| Lag total loan growth | 0.199 | 0.0905 | 0.200 | 0.0942 |
|  | (0.138) | (0.159) | (0.133) | (0.153) |
| Size | -0.00732 | -0.0119 | 0.00383 | -0.000155 |
|  | (0.0111) | (0.0185) | (0.0102) | (0.0161) |
| Net worth ratio | 0.351 | 0.408 | 0.361 | 0.471 |
|  | (0.409) | (0.616) | (0.419) | (0.617) |
| Median income (log) | $-0.262^{* * *}$ | $-0.328^{* *}$ | -0.276*** | -0.314** |
|  | $(0.0758)$ | $(0.145)$ | (0.0817) | (0.139) |
| Median income growth | -0.137 | -0.475 | -0.0979 | -0.529 |
|  | (0.285) | (0.348) | (0.274) | (0.325) |
| Lag median income growth | -0.207 | -0.147 | -0.154 | 0.0313 |
|  | (0.271) | (0.451) | (0.233) | (0.432) |
| Unemployment rate | -0.383 | -0.137 | -0.192 | 0.355 |
|  | (0.968) | (1.443) | (0.980) | (1.419) |
| Poverty rate | -0.00699** | -0.0116* | $-0.00777^{* *}$ | -0.0101 |
|  | (0.00329) | (0.00662) | (0.00371) | (0.00637) |
| Observations | 245 | 201 | 245 | 201 |
| R-squared | 0.0595 | 0.0730 | 0.118 | 0.169 |

Table 5: Delinquent Loan Growth Regressions
This table reports the coefficients from OLS regressions with the model: Delinquent Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth ${ }_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Delinquent loan growth is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+1$ and year $t-1$, scaled by the total assets in year $t-1$. Delinquent loan growth 2 years is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+2$ and year $t-1$, scaled by the total assets in year t-1. Delinquent loan growth 3 years is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+3$ and year $t-1$, scaled by the total assets in year $t-1$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year $t$. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

Table 6: Deposit Growth Regressions This table reports the coefficients from OLS regressions with the model: Deposit Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size , delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth ght $_{t-t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Deposit growth is the difference between the amount of shares and deposits in year $t+1$ and year $t$, scaled by the total assets in year $t$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year t. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of

| VARIABLES |  | (2) | (3) | (4) | (5) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{rc}\text { Deposit Growth Deposit Growth Deposit Growth Deposit Growth Deposit Growth Deposit Growth } \\ (2 \text { Years }) & (3 \text { Years) } \\ (2 \text { Years }) & (3 \text { Years) }\end{array}$ |  |  |  |  |  |
| Award flag | $\begin{gathered} 0.0345^{* *} \\ (0.0137) \end{gathered}$ | $\begin{gathered} 0.0553^{* *} \\ (0.0218) \end{gathered}$ | $\begin{gathered} 0.0789^{* *} \\ (0.0386) \end{gathered}$ |  |  |  |
| Award per assets |  |  |  | $\begin{gathered} 0.156 \\ (0.198) \end{gathered}$ | $\begin{gathered} 0.656^{* *} \\ (0.318) \end{gathered}$ | $\begin{aligned} & 1.389 * * \\ & (0.689) \end{aligned}$ |
| Lag total loan growth | $\begin{gathered} 0.252^{* * *} \\ (0.0879) \end{gathered}$ | $\begin{aligned} & 0.222^{*} \\ & (0.128) \end{aligned}$ | $\begin{gathered} 0.243 \\ (0.165) \end{gathered}$ | $\begin{gathered} 0.258^{* * *} \\ (0.0886) \end{gathered}$ | $\begin{aligned} & 0.230^{*} \\ & (0.126) \end{aligned}$ | $\begin{gathered} 0.251 \\ (0.164) \end{gathered}$ |
| Size | $\begin{aligned} & -0.00630 \\ & (0.00681) \end{aligned}$ | $\begin{gathered} -0.0126 \\ (0.0120) \end{gathered}$ | $\begin{aligned} & -0.00502 \\ & (0.0218) \end{aligned}$ | $\begin{aligned} & -0.00414 \\ & (0.00739) \end{aligned}$ | $\begin{aligned} & -0.00462 \\ & (0.0129) \end{aligned}$ | $\begin{aligned} & 0.00610 \\ & (0.0216) \end{aligned}$ |
| Delinquent loan rate | $\begin{gathered} -0.260^{* *} \\ (0.110) \end{gathered}$ | $\begin{aligned} & -0.284^{*} \\ & (0.148) \end{aligned}$ | $\begin{gathered} -1.909^{* * *} \\ (0.740) \end{gathered}$ | $\begin{gathered} -0.266^{* *} \\ (0.117) \end{gathered}$ | $\begin{aligned} & -0.253^{*} \\ & (0.148) \end{aligned}$ | $\begin{gathered} -1.885^{* *} \\ (0.740) \end{gathered}$ |
| Net worth ratio | $\begin{aligned} & 0.499^{* *} \\ & (0.203) \end{aligned}$ | $\begin{aligned} & 0.671^{*} \\ & (0.391) \end{aligned}$ | $\begin{gathered} 0.730 \\ (0.692) \end{gathered}$ | $\begin{gathered} 0.494^{* *} \\ (0.209) \end{gathered}$ | $\begin{aligned} & 0.671^{*} \\ & (0.395) \end{aligned}$ | $\begin{gathered} 0.759 \\ (0.684) \end{gathered}$ |
| Median income (log) | $\begin{array}{r} -0.0670 \\ (0.0539) \end{array}$ | $\begin{aligned} & -0.195^{* *} \\ & (0.0817) \end{aligned}$ | $\begin{gathered} -0.316^{* *} \\ (0.141) \end{gathered}$ | $\begin{aligned} & -0.0724 \\ & (0.0550) \end{aligned}$ | $\begin{gathered} -0.210^{* *} \\ (0.0855) \end{gathered}$ | $\begin{gathered} -0.310^{* *} \\ (0.139) \end{gathered}$ |
| Median income growth | $\begin{gathered} -0.0565 \\ (0.171) \end{gathered}$ | $\begin{gathered} -0.0103 \\ (0.228) \end{gathered}$ | $\begin{aligned} & -0.0679 \\ & (0.455) \end{aligned}$ | $\begin{gathered} -0.0374 \\ (0.174) \end{gathered}$ | $\begin{aligned} & 0.0114 \\ & (0.229) \end{aligned}$ | $\begin{gathered} -0.121 \\ (0.444) \end{gathered}$ |
| Lag median income growth | $\begin{gathered} -0.0891 \\ (0.186) \end{gathered}$ | $\begin{aligned} & -0.0544 \\ & (0.298) \end{aligned}$ | $\begin{aligned} & -0.145 \\ & (0.492) \end{aligned}$ | $\begin{gathered} -0.0880 \\ (0.178) \end{gathered}$ | $\begin{aligned} & -0.0151 \\ & (0.275) \end{aligned}$ | $\begin{gathered} -0.00187 \\ (0.468) \end{gathered}$ |
| Unemployment rate | $\begin{gathered} 0.148 \\ (0.722) \end{gathered}$ | $\begin{gathered} 0.370 \\ (1.291) \end{gathered}$ | $\begin{gathered} 1.171 \\ (1.956) \end{gathered}$ | $\begin{gathered} 0.188 \\ (0.737) \end{gathered}$ | $\begin{gathered} 0.517 \\ (1.333) \end{gathered}$ | $\begin{gathered} 1.722 \\ (1.959) \end{gathered}$ |
| Poverty rate | $\begin{aligned} & -0.00335 \\ & (0.00254) \end{aligned}$ | $\begin{gathered} -0.00702^{* *} \\ (0.00345) \end{gathered}$ | $\begin{aligned} & -0.00989^{*} \\ & (0.00572) \end{aligned}$ | $\begin{aligned} & -0.00390 \\ & (0.00263) \end{aligned}$ | $\begin{gathered} -0.00817^{* *} \\ (0.00391) \end{gathered}$ | $\begin{gathered} -0.00997^{*} \\ (0.00585) \end{gathered}$ |
| Observations | 317 | 245 | 201 | 317 | 245 | 201 |
| R-squared | 0.116 | 0.0668 | 0.0919 | 0.0990 | 0.0704 | 0.152 |

${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$

## Table 7: Productivity Regressions

 This table reports the coefficients from OLS regressions with the model: ROA, ROE or Member Number Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth $_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth ${ }_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year $t$. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ROA | ROA | ROE | ROE | Member Number Member Number |  |
|  | Growth | Growth | Growth | Growth | Growth | Growth |
| Award flag | 0.109 |  | $\begin{gathered} 0.122 \\ (0.0965) \end{gathered}$ |  | $\begin{gathered} 0.0573^{* *} \\ (0.0292) \end{gathered}$ |  |
|  | (0.146) |  |  |  |  |  |
| Award per assets |  | $\begin{gathered} 0.392 \\ (1.148) \end{gathered}$ |  | $\begin{gathered} 1.259^{* *} \\ (0.642) \end{gathered}$ |  | $\begin{aligned} & 0.376^{*} \\ & (0.226) \end{aligned}$ |
|  |  |  |  |  |  |  |
| Lag total loan growth | 0.158 | 0.193 | 0.109 | 0.123 | 0.684** | $\begin{gathered} 0.695^{* *} \\ (0.286) \end{gathered}$ |
|  | (0.834) | (0.818) | (0.278) | (0.297) | (0.276) |  |
| Size | -0.0441 | -0.0379 | -0.0236 | -0.00944 | -0.0156** | $-0.0109$ |
|  | (0.0379) | (0.0350) | (0.0178) | (0.0194) | (0.00639) | $(0.00701)$-0.141 |
| Delinquent loan rate | -1.980 | -2.007 | 0.829 | 0.866 | -0.140 |  |
|  | (1.418) | (1.423) | (0.767) | (0.745) | (0.142) | -0.0791 |
| Net worth ratio | -1.558 | -1.557 | $-4.746^{* * *}-4.775^{* * *}$ |  | -0.0676 |  |
|  | (2.319) | (2.308) | (1.385) | (1.378) | (0.283) | (0.288) |
| Median income (log) | 0.708* | 0.699* | -0.0888 | -0.108 | 0.0306 | 0.0234 |
|  | (0.383) | (0.385) | (0.190) | (0.197) | (0.0643) | (0.0610) |
| Median income growth | -1.496 | -1.410 | -0.660 | -0.578 | -0.323 | $\begin{aligned} & -0.281 \\ & (0.301) \end{aligned}$ |
|  | (2.642) | (2.636) | (0.984) | (0.955) | (0.307) |  |
| Lag median income growth | -1.280 | -1.302 | 1.312 | 1.335 | 0.273 | 0.270 |
|  | (1.782) | (1.815) | (1.229) | (1.199) | (0.397) | (0.370) |
| Unemployment rate | -4.918 | -4.790 | -2.773 | -2.528 | -0.943 | -0.876 |
|  | (3.609) | (3.641) | (2.079) | (2.058) | (0.680) | (0.656) |
| Poverty rate | $\begin{aligned} & 0.0449^{* *} 0.0437^{* *}-0.000644 \\ & (0.0181)(0.0176)(0.00955) \end{aligned}$ |  |  | -0.00218 | 0.00119 | $\begin{aligned} & 0.000524 \\ & (0.00317) \end{aligned}$ |
|  |  |  |  | (0.0100) | (0.00311) |  |
| Observations | 317 | 317 | 317 | 317 | 317 | 317 |
| R-squared | 0.00611 | 0.00574 | 0.172 | 0.183 | 0.0247 | 0.0202 |

[^13]Table 8: Good Loan Growth Regressions
This table reports the coefficients from OLS regressions with the model: Good Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth l $_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth grt $_{t, t-2}$, unemployment rate, poverty rate) + . loans and total delinquent loans in year t. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year $t$. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.
 ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$

## Table 9: Net Worth Growth

This table reports the coefficients from OLS regressions with the model: Net Worth Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income $t$, median household income growth ${ }_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions that applied for CDFI funding between 2000-09. Net Worth Growth is the difference in total net worth in year $t+1$ and year $t$, scaled by total assets in year $t$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year $t$. Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

|  | $(1)$ | $(2)$ |
| :--- | :---: | :---: |
| VARIABLES | Net worth growth | Net worth growth |
|  | $0.0153^{* * *}$ |  |
| Award flag | $(0.00508)$ |  |
|  |  | $0.166^{* *}$ |
| Award per assets |  | $(0.0827)$ |
|  | 0.0211 | 0.0212 |
| Lag total loan growth | $(0.0174)$ | $(0.0178)$ |
|  | $-0.00268^{* *}$ | -0.00105 |
| Size | $(0.00129)$ | $(0.00131)$ |
|  | -0.0347 | -0.0305 |
| Delinquent loan rate | $(0.0380)$ | $(0.0370)$ |
|  | $-0.147^{* *}$ | $-0.159^{* *}$ |
| Net worth ratio | $(0.0664)$ | $(0.0626)$ |
|  | 0.00234 | -0.00126 |
| Median income (log) | $(0.0119)$ | $(0.0129)$ |
|  | $-0.0695^{*}$ | -0.0584 |
| Median income growth | $(0.0395)$ | $(0.0386)$ |
|  | 0.0298 | 0.0342 |
| Lag Median income growth | $(0.0567)$ | $(0.0541)$ |
|  | $-0.305^{* *}$ | $-0.273^{*}$ |
| Unemployment rate | $(0.149)$ | $(0.155)$ |
|  | $0.00107^{*}$ | 0.000826 |
| Poverty rate | $(0.000647)$ | $(0.000655)$ |
|  | 317 | 317 |
| Observations | 0.166 | 0.219 |
| R-squared |  |  |
| County clustered standard errors in parentheses |  |  |

County clustered standard errors in parentheses
${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$
Table 10: Total Loan Growth: Regression Discontinuity This table reports the coefficients from OLS regressions with the model: Total Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth $_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions whose scores are at the cut-off from years 2005-09. Total loan growth is the difference between the amount of loans lent in year $t+1$ and year $t$, scaled by the total assets in year $t$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year t . Unemployment rate and poverty rate data are also measured at the county level. Data on credit unions are from National Credit Union Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.

|  | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VARIABLES | Total loan growth (2 years) |  | (3 years) | Total loan growth (2 years) |  | (3 years) |
| Award flag | 0.0359 | 0.0612 | 0.107 |  |  |  |
|  | (0.0228) | (0.0398) | (0.0908) |  |  |  |
| Award per assets |  |  |  | 0.411*** | 0.836*** | 0.0309 |
|  |  |  |  | (0.146) | (0.225) | (4.922) |
| Lag total loan growth | 0.345* | 0.311 | $1.320^{* *}$ | 0.351** | 0.353 | 0.583* |
|  | (0.178) | (0.337) | (0.391) | (0.154) | (0.292) | (0.313) |
| Size | 0.00498 | -0.00140 | 0.0118 | 0.00835 | 0.00688 | 0.00350 |
|  | (0.00703) | (0.0147) | (0.0227) | (0.00706) | (0.0141) | (0.0306) |
| Delinquent loan rate | 0.000329 | 0.00920 | 0.212 | 0.0267 | 0.0502 | -0.648 |
|  | (0.0679) | (0.148) | (0.678) | (0.0599) | (0.104) | (1.008) |
| Net worth ratio | 0.603 | 1.482 | 2.040** | 0.528 | 1.045* | 2.591** |
|  | (0.452) | (0.993) | (0.946) | (0.339) | (0.578) | (1.056) |
| Median income (log) | -0.0229 | -0.496 | -0.440 | 0.0152 | -0.358 | -0.754 |
|  | (0.141) | (0.335) | (0.556) | (0.122) | (0.263) | (0.938) |
| Median income growth | -0.0113 | 0.426 | -0.563 | -0.0181 | 0.308 | 0.145 |
|  | (0.265) | (0.603) | (1.071) | (0.218) | (0.518) | (1.021) |
| Lag median income growth | 0.218 | 0.528 | 1.634 | 0.149 | 0.317 | 1.476 |
|  | (0.272) | (0.534) | (1.051) | (0.239) | (0.378) | (1.402) |
| Unemployment rate | 0.258 | 2.624 | 0.411 | -0.460 | -0.0167 | 4.265 |
|  | (1.222) | (2.585) | (2.430) | (1.103) | (2.174) | (4.818) |
| Poverty rate | -0.00138 | -0.0213 | -0.0105 | 0.000672 | -0.0124 | -0.0268 |
|  | (0.00729) | (0.0189) | (0.0245) | (0.00616) | (0.0143) | (0.0465) |
| Observations | 82 | 80 | 45 | 82 | 80 | 45 |
| R-squared | 0.0456 | 0.0909 | 0.336 | 0.0791 | 0.0780 | 0.0191 |

Table 11: Delinquent Loan Growth: Regression Discontinuity
This table reports the coefficients from OLS regressions with the model: Delinquent Loan Growth $=\alpha+\beta$ Award $+\gamma$ (total loan growth ${ }_{t-1}$, size, delinquent loan rate, net worth ratio, median household income ${ }_{t}$, median household income growth ${ }_{t-1, t-2}$, unemployment rate, poverty rate) $+\epsilon$. The sample includes only credit unions whose scores are at the cut-off from years 2005-09. Delinquent loan growth is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+1$ and year $t-1$, scaled by the total assets in year $t-1$. Delinquent loan growth 2 years is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+2$ and year $\mathrm{t}-1$, scaled by the total assets in year $\mathrm{t}-1$. Delinquent loan growth 3 years is the difference in the total amount of delinquent loans or leases (two months of more) in year $t+3$ and year $t-1$, scaled by the total assets in year $t-1$. Award flag is an indicator variable that is equal to one if the credit union received an award. Award per assets is the total amount of award received, scaled by the total assets of the credit union. Size is the log of total assets. The delinquent loan rate is the total amount of delinquent loans or leases (two months or more) scaled by the total amount of loans and leases. The net worth ratio is the total amount of net worth scaled by total assets. Median income is measured at the county level. Median income growth is the difference between median income in year $t+1$ and year $t$, scaled by median income in year
 Administration (NCUA) call report data. Data on CDFI applicants are from the CDFI Fund. Data on median income and poverty rates are from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE). Data on the unemployment rate are from the Bureau of Labor local area unemployment statistics.


| Credit Union clustered standard errors in parentheses |
| :---: |
| ${ }_{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$ |


[^0]:    ${ }^{1}$ See related literature: Cetorelli and Strahan (2006); Demirguc-Kunt and Maksimovic (1998); Ivashina and Scharfstein (2010); Jayaratne and Strahan (1996); King and Levine (1993a,b); La Porta and Lopez-deSilanes (1999); La Porta et. al (2002); Laeven (2001); Levine, Loayza and Beck (2000); Paravisini (2008); Rice and Strahan (2009) and Rajan and Zingalas (1998).

[^1]:    ${ }^{2}$ See: Cohen (1991); Dyck and Zingales (2004), Peltzman (1976); Shleifer and Vishny (2002); Stigler (1971); and Wallsten (1999).
    ${ }^{3}$ See: Claessens, Feijen, and Laeven (2008); Faccio (2006); Faccio, Masulis, and McConnell (2006); Fisman (2001); Li (2010); Roberts (1990); and Sapienza (2004).
    ${ }^{4}$ See Code of Federal Regulation, Title 12, section $702.102 \& 702.201$ : A Credit Union is considered "well capitalized" if it has a net worth ratio of seven percent ( $7 \%$ ). Credit Unions that are "adequately capitalized" or lower (less that $7 \%$ ) must increase the dollar amount of its net worth quarterly until it is well capitalized.

[^2]:    ${ }^{5}$ Imbens and Kalyanaraman (2009) describe an optimal data dependent bandwidth choice rule.
    ${ }^{6}$ Kerr, Lerner and Schoar (2010) and Rauh (2006) are examples of studies that take advantage of regression discontinuity to address endogeneity concerns, among others.

[^3]:    ${ }^{7} \mathrm{We}$ briefly examine the relationship between funding and lending for banks as well and include these results in the online appendix found at: www.sites.google.com/site/krisromerocortes/CortesLernerBridgingtheGapOnlineAppendix.pdf?attredirects=0

[^4]:    ${ }^{8}$ Further details in regards to the break-down of award funding can be found in the annual CDFI Program (FA/TA) Highlights found at: http://www.cdfifund.gov

[^5]:    ${ }^{9}$ Quarterly Call Report data can be found at: http://www.ncua.gov/DataServices/FOIA/5300CallReportData.aspx

[^6]:    ${ }^{10}$ Congressional House Member Data can by found at Professor Charles Stewart's page: http://web.mit.edu/17.251/www/data_page.html

[^7]:    ${ }^{12}$ We test whether the coefficients estimated over the TA sample of the data are equal to the coefficients estimated over the FA sample and cannot reject the null that the difference in the coefficients is equal to 0 .

[^8]:    ${ }^{13} \mathrm{We}$ also rerun the model using two years of lagged growth as well as added a square term of one year lagged growth and find robust results. These results are found in the online appendix.
    ${ }^{14}$ CDFIs are on average very local and we argue that using the Congressional Representative is the correct way to proxy for political connection because Senators would be too removed from the individual concerns of the diverse communities.

[^9]:    ${ }^{15}$ U.S. credit union statistics can be found at: http://www.cuna.org/download/longrun/us_totals.pdf

[^10]:    ${ }^{16}$ We include credit union fixed effects and the results are robust and similar. Since the panel is unbalanced and each credit union enters on average only twice we exclude the fixed effects from our main analysis.

[^11]:    ${ }^{17}$ Since our sample is smaller, we cluster at the credit union level in our regressions in order to ensure we have more than 42 clusters but we report the results for the OLS regressions clustering at the County level in the online appendix and the results are robust to either specification.

[^12]:    ${ }^{18}$ We obtain similar results when we control for the application score and report the results in the online appendix.

[^13]:    County clustered standard errors in parentheses
    $* * * \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$

