OPENING DOORS TO ECONOMIC OPPORTUNITY

Intermediate Small Banks:

The Forgotten but Significant Resource for Affordable Housing and Community Development

October 2017

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About NCRC

NCRC and its grassroots member organizations create opportunities for people to build wealth. We work with community leaders, policymakers and financial institutions to champion fairness in banking, housing and business development.

Our members include community reinvestment organizations, community development corporations, local and state government agencies, faith-based institutions, community organizing and civil rights groups, minority and women-owned business associations, and social service providers from across the nation.

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Executive Summary

The intermediate small bank (ISB bank) category is often overlooked as a source of community development loans and investments for affordable housing or economic development. However, NCRC's analysis found that ISB banks (assets ranging from $307 million to $1.226 billion) with Community Reinvestment Act (CRA) exams conducted in 2016 produced over $9.3 billion of community development (CD) loans, investments (excluding those carried over from previous exam periods), and grants (combined hereafter referred to as CD finance). NCRC examined the varying levels of CD finance by banks with different CD test ratings, concluding that there is a significantly larger level of CD finance by banks with "Outstanding" ratings than banks with ratings of "Satisfactory" and "Needs to Improve."

NCRC analyzed what percentage of CD financing was attributable to CRA regulations. Three scenarios of weakened CRA regulation were developed. Under these scenarios there was an estimated 19%, 60%, and 73% loss in total CD financed activity. In other words if CRA was weakened, a loss of 50 percent of CD finance, which is conservatively less than the middle estimate, is likely. This would mean that instead of $9.3 billion in financing, the amount could be reduced to $4.6 billion over a time period of approximately three years. Before significant changes are contemplated to ISB bank exams, stakeholders need to weigh carefully the billions of dollars that could be at stake for community building and revitalization activities. ISB banks by themselves finance community building to a similar or a greater extent than major Department of Housing and Urban Development programs such as the Community Development Block Grant (CDBG) program.

ISB banks have an interest in retaining the CD test since our research finds that they earn higher ratings on the CD test than the lending test, the second part of their CRA exam. In other words, the CD test boosts ISB overall CRA ratings.

To evaluate the effectiveness of current CRA examination procedures and rigor, a series of statistical tests were completed. A logistic regression analysis showed significant differences between institutions scoring "Satisfactory" and "Outstanding" ratings in CRA exams. A portion of this difference is attributable to CD finance activities, however much of the difference in ratings were attributable to unidentified factors not included in our model. As discussed below, important qualitative factors driving ratings are unable to be modeled at this point. Our recommendations include suggestions to the regulatory agencies for improving upon the reporting of qualitative factors so these can be better assessed for their consistency and reasonableness. In other words, ratings reflect differences in the levels of CD finance but ratings could more accurately reflect differences in CD finance if the ratings methodology was improved.

Another analysis, an ordinary least squares regression analysis of the factors driving CD finance demonstrates that institution asset size and geographic coverage are associated with greater amounts of CD finance. Nevertheless, ISB banks across the range of ISB asset size had sizable CD loan and investment amounts that examiners judged to be innovative and responsive to needs.

Introduction

Community Reinvestment Act (CRA) regulations define different examination criteria for different types of banks according to their asset size. Exams have been developed for small, intermediate small, large, and wholesale/limited purpose banks. This paper focuses on ISB banks and their levels of community development (CD) financing because proposals have emerged to streamline their CRA exams. Current guidelines define ISB banks as depository institutions with assets ranging from $307 million to $1.226 billion.[1] The asset ranges used to define bank size categories are adjusted annually to account for inflation. ISB bank CRA exams consist of a lending test and a community development test. The lending test analyzes the distribution of home loans and/or small business loans to low- and moderate-income (LMI) borrowers and communities. The CD test analyzes the number and dollar amount of CD loans and investments for affordable housing, economic development, and community facilities. The CD test also looks at CD services like financial counseling to assist LMI customers in gaining access to financial services. NCRC believes that it is important to examine the levels of ISB CD financing since proposals have been made to either streamline or eliminate the CD test. Before further streamlining, stakeholders need to assess whether the CD test meaningfully promotes a significant amount of CD financing.

Previous studies have attempted to determine the level of lending due to the CRA regulation. Ding and Nakamura (2017) concluded that loss of CRA eligibility status in a neighborhood (due to changes in metropolitan area boundaries and income levels) leads to a decrease of about 10 to 20 percent in the volume of purchase mortgage originations by CRA-regulated lenders.[2] Ringo (2017) found that giving just one additional bank CRA incentives to lend in a given tract increased mortgage lending to LMI borrowers in that tract by 2 to 4 percent[3]. Bostic and Lee (2017) found that during economic booms, CRA-eligible census tracts net $300,000-500,000 per year in additional small business loans than CRA-ineligible, all else being equal.[4] A substantial

1 Joint Press Release, Agencies release annual CRA asset-size threshold adjustments for small and intermediate small institutions, December 29, 2016, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20161229a.htm

2 Lie Ding and Leonard Nakamura, Federal Reserve Bank of Philadelphia, *Working Paper NO. 17-15 "Don't Know What You Got Till It's Gone" — The Effects of the Community Reinvestment Act (CRA) On Mortgage Lending in the Philadelphia Market*, June 19, 2017, https://philadelphiafed.org/-/media/research-and-data/publications/working-papers/2017/wp17-15.pdf?la=en

3 Daniel Ringo, Federal Reserve Board, *Mortgage Lending, Default, and the Community Reinvestment Act*, June 15, 2017,https://webcache.googleusercontent.com/search?q=cache:UQsuTOdvj0gJ:https://www.clevelandfed.org/~/media/content/events/2017/ps/presentations/b2/ps%252020170622%2520paper%2520ringo.pdf%3Fla%3Den+&cd=1&hl=en&ct=clnk&gl=us

4 Raphael W. Bostic, University of Southern California and Hyojung Lee, Joint Center for Housing Studies of Harvard University, *Small Business Lending Under the Community Reinvestment Act*, in Symposium: The CRA Turns 40, Volume 19, Number 2, 2017, Cityscape, Department of Housing and Urban Development, https://www.huduser.gov/portal/periodicals/cityscpe/vol19num2/article6.html

body of research supports the hypothesis that the CRA promotes more lending in low- and moderate-income communities, but that research has focused on large banks or the aggregate of all CRA-regulated banks, instead of targeting ISB banks, which this paper examines.

This analysis considered the CRA exams of all the ISB banks with exams dated in 2016, the most recent full year of CRA exams. The analysis consisted of exams of 399 ISBs conducted during 2016 from 47 states[5]. The objective was to document the level of CD lending and qualified investments in a quantitative manner. The analysis below also highlights responsive and innovative examples of CD lending, investment, and services. Moreover, the analysis tests whether CRA community development ratings reflect different levels of CD lending and investment and assesses which factors impacted the level of CD financing. Finally, the analysis develops scenarios suggesting various levels of lost CD financing should the CD test for ISB banks be eliminated.

Descriptive Data Analysis

Of the 399 ISB banks considered, 30 received an overall "Outstanding" rating, 366 received a rating of "Satisfactory", and 3 received a "Needs Improvement" rating. Two of the three banks receiving an overall "Needs Improvement" rating did so because they were found to be in violation of fair lending laws. In terms of CD test grades, 95 banks received an "Outstanding" rating, 302 received a "Satisfactory" rating, and 2 received a "Needs to Improve" rating. The following is the distributions of ratings by exam category:

RATING	OVERALL		LENDING TEST		CD TEST	
	NUMBER	%	NUMBER	%	NUMBER	%
Outstanding	30	7.50	26	6.52	95	23.80
Satisfactory	366	91.70	373	93.48	302	75.69
Needs to Improve	3	0.80	0	0.00	2	0.50

Interestingly, the percentage of "Outstanding" ratings was considerably higher on the CD test than the lending test. No ISB bank failed its lending test but two of them failed their CD test. Overall, however, the CD test boosted rather than lowered the overall ratings for the vast majority of banks. In terms of overall ratings, it would be in the interest of ISB banks to maintain the CD test.

Over their CRA exam time periods, the 399 banks had a total of over $9.35 billion dollars of CD finance, including $7.74 billion in CD loans, $1.56 billion in CD investments, and $51.4 million in

5 Every state except for Rhode Island, Alaska, and Hawaii (and none in the District of Columbia)

CD grants and donations. This averages to $2.95 billion of CD finance per year (although the CRA exams were conducted in 2016, the exams included a multi-year time period of review, with a median time period of 38 months).

Median figures are shown in the table below (with dollar amounts in thousands), including PAATC (percent of assets annually towards community development:

RATING	NUMBER	CD CATEGORY ($ in 1000s)			CD TOTALS ($ in 1000s)		
		LOANS	INVESTMENTS	GRANTS	ANNUAL	PAATC	TOTAL
Outstanding	95	20,500	2,544	74.80	9,174	1.69%	25,080
Satisfactory	302	9,228	1,157	50.20	3,811	0.74%	11,669
Needs to Improve	2	58	100	330	187	0.04%	488

Dividing the banks into categories based on their CD test rating demonstrates a stark divide between the three categories. "Outstanding" banks outpaced "Satisfactory" banks, which outpaced "Needs to Improve" banks on virtually every metric. For example, the median amount of total CD over the exam time period was $25 million for banks with "Outstanding" CD ratings, $11.6 million for banks with "Satisfactory" CD ratings, and only $488,000 for banks with "Needs to Improve" CD ratings. Likewise, the PAATC was 1.69% for "Outstanding" rated banks, .74% for "Satisfactory" rated banks, and .04% for "Needs to Improve" rated banks. The sole exception is CD grants, where "Needs to Improve" rated banks exceeded the other two categories, seemingly attempting to compensate for their lack of CD loans and investments. They can do this with grants because grants have a reduced timeline to initiate and award than loans or other investments, which require a lengthier and more difficult process.

Appendix C below also shows the state totals. Over the CRA exam time periods, the CD dollar amounts ranged from $1.3 billion in California, $1 billion in Texas, $576 million in New Jersey, $341 million in Louisiana, to $57 million in Montana, $3 million in Oregon, and $2 million in Vermont.

Limitations on Statistical Analyses

The below statistical analyses in this report have limitations that should be noted.

First, the analysis is limited by the restricted timeframe. Data from 2016 was chosen due to its relevance to recent policy discussions and as an indication of current CRA examination processes. Second, since a limited set of variables are available, the analysis may not sufficiently account for exogenous factors in the national economy, or endogenous issues in local markets, which ISB banks may be more susceptible to because of their limited market areas. It is important to keep in mind these limitations when reading the analyses that follow. Overall, the data met the conditions necessary for an ordinary least squares analysis, with no indication of heteroskedasticity in a scatterplot of the residuals or multicollinearity among the variables.

Conclusions Derived from CD Finance-Based Regression Models

Two regression models were run as a part of our analysis to determine:

1) What sort of activities influenced the CRA examination ratings?

2) What factors contributed to higher CD finance activity?

In the first case, a logistic regression model was run with the dichotomous dependent variable being the CRA examination rating of "Outstanding" (coded 1) versus "Satisfactory" (coded 0). Banks with a "Needs to improve" rating were eliminated from the analysis because of their small number of ratings (n=3). Several independent variables having to do with the institution size, types and volumes of community development financing, and the socioeconomic status of the areas where banks operated were tested to determine whether they were significantly associated the ratings outcomes. Overall, the logistic regression analysis found significant differences in examination outcomes. Review of the analysis showed that total CD finance was the only variable which significantly contributed to the logistic regression model. In other words, a higher level of CD finance was associated with the higher "Outstanding" rating, than with the "Satisfactory" rating. However, the coefficient was close to zero, indicating that this had a small impact. This is confirmed by other statistical tests, like Nagelkerke's R^2 which evaluates the level-of-fit of the model, or how well the variables in the model explain the outcome. Consequently, the model using CD finance has low explanatory capability, and most of the differences in outcomes is explained by other variables, or factors which are not accounted for in our model.

It is not surprising that the level of fit is low because our analysis cannot account for all the factors examiners use to produce a rating for the community development test. Specifically, our models account for just two of the criteria on the CD test: 1) the number and amount of CD loans, and 2) the number and amount of qualified investments. However, our model does not capture the criterion of a bank's responsiveness to CD loan, investment, and service needs. Exam narrative regarding this criterion tends to be cursory with no consistent reporting format or method. Below, we recommend ways in which this criterion could be reported more consistently and quantified for analysis. In addition, our model did not attempt to capture performance in community development services, which also significantly impacts the CD test rating.

After determining that CD finance was the only significant factor which could be identified in determining exam scores, we constructed two ordinary least squares regression models. Total CD finance over the entire ratings period and annual CD finance were used as dependent variables (See Appendix A below). This step was taken to determine which variables were associated with increased CD financing. The independent variables included median household income of the banks' headquarter cities, and also the counties and states containing the CRA assessment areas, and the percentage of LMI and middle-to-upper income (MUI) census tracts in the assessment area.

In terms of the variables, asset size was the strongest determinant of CD finance. For every million dollars in assets, a bank provided $38,375 more of CD finance when controlling for other variables. Location variables also had strong impacts. The percentage of tracts in a bank's assessment area that qualified as LMI, as well as those which were MUI, had statistically significant impacts on the level of CD finance. It would make sense a larger geographic footprint provides more opportunities for CD finance. The finding that MUI tracts also had positive impacts on the amount of CD finance suggests that some affordable housing and economic development projects benefiting LMI populations could be occurring in MUI tracts. More information and data, preferably on a census tract level, on CD loans and investments would inform research about the extent to which CD financing could be promoting integration.

How Much of This Activity is CRA-Caused

Methods of Determination

While there are limitations on determining the exact amount of CD finance that is attributable to CRA, NCRC was able to estimate the potential losses without CRA or without the CD test in the CRA exams for ISB banks under three possible scenarios.

The lower estimate was developed under the scenario of all "Outstanding" banks regressing to allocate as much money towards community development as the average "Satisfactory" bank. This was done by calculating the difference between the average "Outstanding" bank's CD finance and the average "Satisfactory" bank's CD finance, then determining how much CD finance would be lost if each "Outstanding" bank only allocated as much financing as the average "Satisfactory" bank (see Appendix B below).

The middle estimate was developed by calculating the losses in CD finance by assuming each bank with a passing rating moves down one rating, so a bank that finances at "Outstanding" levels moves down to a "Satisfactory" level of CD finance, and a bank that finances at a "Satisfactory" level moves down to a "Needs to Improve" level of CD finance.

The upper estimate calculated the losses in CD finance assuming all banks that receive passing ratings ("Satisfactory" or "Outstanding") instead perform at the level of CD finance of banks that received "Needs to Improve" ratings. Because only two ISB banks received "Needs to Improve" ratings in 2016 for reasons other than fair lending violations, data of "Needs to Improve" rated banks was also pulled from 2015 through 2017.

The following is an overview of the CD activity over the exam periods categories for the ten banks with "Needs to Improve" ratings from 2015 through 2017:

RATING	NUMBER	CD CATEGORY (median $ in 1,000s)			CD TOTALS ($ in 1,000s)		
		LOANS	INVESTMENTS	GRANTS	ANNUAL	PAATC	TOTAL
Needs Improvement	10	1,182	454	65	1,027	0.29	3,347

Results of Scenarios Estimating Potential Loss of CRA Dollars

- The first scenario estimated losses of $561 million per year in CD finance without the CRA, which is 19 percent of the current annual total.
- The second scenario and middle estimate predicts losses of $1.773 billion per year, which is 60.1 percent of the current annual total
- The third scenario and upper bound capped potential annual losses at $2.15 billion, which is 72.8 percent of the current annual total.

When scenarios are developed, the lowest and upper estimates are ends of a possible range. The middle estimate suggests a 60 percent loss of funding. It would be reasonable to suggest that a loss of slightly less than the middle estimate or a loss of 50 percent of funding is likely.

The Standouts: Examples of Innovative and Responsive Community Development Activities

A description of some commendable CD lending and investments helps to demonstrate the value of CD financing in responding to credit needs. The projects range from affordable housing, small business development, to social service facilities. ISB banks along the entire ISB asset range had significant dollar amounts of CD finance that examiners judged to be innovative and responsive.

One "Outstanding" CD-rated bank that stood out was Carver Federal Savings Bank (CFSB)[6], with $672 million in assets and located in New York City. Not only did it receive an "Outstanding" rating on its CD test, but also on its lending test and its overall rating as well. CFSB had a PAATC of 3.19 percent. Most notably, this included a large portion[7] of its $52 million in CD loans that were originated under CFSB's Metropolitan Transportation Authority (MTA) Program.

6 OCC: https://www.occ.gov/static/cra/craeval/may16/705273.pdf

7 The exact portion was unspecified on the CRA exam

As CFSB's CRA exam describes the program, "The program aims to increase access to loans and capital for New York's small businesses and provide mentoring services to them with the goal of expanding the pool of companies that can compete for MTA construction contracts. Certain qualified small businesses in the construction industry are eligible to receive working capital loans and an array of complementary services including training, general business, organizational and professional skills development, construction expertise, experience working with MTA construction projects, and fast-track payments. CFSB provides these loans exclusively to minority- and women-owned business enterprises and disadvantaged firms." Additionally, CFSB had over $13 million in qualified investments, geared towards housing and economic development in LMI areas.

Redding Bank of Commerce (RBC)[8], of Redding, CA, also stood out as a bank striving to receive an "Outstanding" rating. RBC allocated 3.69% of its assets annually toward community development, including $22.9 million in loans to small businesses that created or retained jobs for LMI individuals. Additionally, it loaned $3 million to a health center for LMI individuals; $1.5 million to non-profit organizations serving the homeless, at-risk youths, people with disabilities, and survivors of domestic violence; $885,000 to a non-profit providing safe, decent, and affordable housing to LMI persons and families; and $4.1 million to fund the conversion of a warehouse into retail/office space located in a low-income area. RBC invested in bonds to help rehabilitate four properties and provide 330 units for low-income families, seniors, and homeless or former homeless households, as well as in a bond to assist with repairs and improvements of a local school for low-income students, including the implementation of solar power generation. It also donated over $270,000 during the evaluation period, far above the median for "Outstanding" banks.

There were also responsive "Satisfactory" CD-rated banks. For example, First Credit Bank (FCB)[9], with $417 million in assets and located in Los Angeles, CA, had the highest level of CD finance of any bank, regardless of rating, at over $268 million. This came out to a whopping 20.8 percent of assets annually towards CD (the second highest value was 6.32 percent). Its loans were primarily toward economic development in moderate-income tracts. FCB's CD investments consisted of $850,000 for minority-owned financial institutions that provide Latino residents access to capital and $750,000 towards a CRA qualified investment fund serving needs of the bank's area. Additionally, $100,000 was donated to organizations that provided affordable housing and education to LMI individuals.

Other Innovative and/or Impressive CD Activity

Other significant loans include a $5.6 million loan to a biotechnology research park to help provide jobs and revitalize the community,[10] a $343,000 loan to Loaves & Fishes of the Rio

8 FDIC: https://www5.fdic.gov/crapes/2016/24074_160119.PDF

9 FDIC: https://www5.fdic.gov/crapes/2016/24332_160705.PDF

10 Xenith Bank – FRB: https://www.richmondfed.org/~/media/richmondfedorg/cra_pes/2016/3153288.pdf

Grande Valley Inc., a non-profit who provides meals and shelter to those in need,[11] several loans to Habitat for Humanity[12] and Meals on Wheels,[13] dozens of large farm loans to purchase farmland,[14] loans for mixed income housing,[15] and three loans by Juniata Valley Bank to finance the purchase of one bankrupt company by its employees,[16] saving 90 jobs and creating 45 new ones.

Responsive qualified investments include one to refinance the debt of a local community college,[17] one in the Senior Housing Crime Prevention Foundation,[18] investments in Small Business Investment Company (SBIC) funds[19] and Small Business Administration (SBA) pools,[20]some in disaster recovery funds,[21] investments in hospitals for LMI residents,[22] and investments in local utilities, including water and gas systems.[23]

CD grants and donations are also important because they provide critical operating support for nonprofit organizations or facilities with tight budgets serving LMI communities. One bank donated a $32,000 1-4 family residential property to a local housing organization that provides affordable housing to low-income families,[24] while another funded a $25,000 contribution for a quadraplex reserved for low-income residents with disabilities.[25] Other grants included a $216,000 in-kind donation of solar panels to Faith Refuge Shelter, a shelter and recovery center for women and children that are predominately LMI,[26] donations to homeless shelters,[27] and donations to literacy centers and family crisis centers.[28]

A special form of grant is down payment and/or closing cost assistance for homebuyers. An example is Farmers National Bank of Danville (FNB),[29]which has a program called, "The

11 First Community Bank, National Association – OCC: https://www.occ.gov/static/cra/craeval/nov16/16809.pdf

12 First Federal Savings Bank – FDIC: https://www5.fdic.gov/crapes/2016/28405_160328.PDF

13 The First NB & Trust Co. of Iron Mountain – OCC: https://www.occ.gov/static/cra/craeval/jul16/3806.pdf

14 The Bank – FDIC: https://www5.fdic.gov/crapes/2015/26522_150914.PDF

15 The Bank of Princeton – FDIC: https://www5.fdic.gov/crapes/2015/58513_150817.PDF

16 FDIC: https://www5.fdic.gov/crapes/2016/07614_160808.PDF

17 MidAmerica National Bank – OCC: https://www.occ.gov/static/cra/craeval/mar16/13838.pdf

18 Farmers Bank – FRB: https://www.richmondfed.org/~/media/richmondfedorg/cra_pes/2016/619327.pdf

19 Chesapeake Bank – FRB: https://www.richmondfed.org/~/media/richmondfedorg/cra_pes/2016/214722.pdf

20 Village Bank – FRB: https://www5.fdic.gov/crapes/2015/35111_151130.PDF

21 The First National Bank of Bellville – OCC: https://www.occ.gov/static/cra/craeval/mar17/4241.pdf

22 Midwest Bank – OCC: https://www.occ.gov/static/cra/craeval/feb17/23797.pdf

23 West Alabama Bank & Trust – FDIC: https://www5.fdic.gov/crapes/2016/16175_160718.PDF

24 Jonestown Bank – FDIC: https://www5.fdic.gov/crapes/2016/10677_160411.PDF

25 First FS & LA of Greene Co – OCC: https://www.occ.gov/static/cra/craeval/may16/702190.pdf

26 First National Bank – OCC: https://www.occ.gov/static/cra/craeval/oct16/20078.pdf

27 First State Bank – FDIC: https://www5.fdic.gov/crapes/2016/15032_160418.PDF

28 First Community Bank, National Association

29 National Bank of Danville, OCC: https://www.occ.gov/static/cra/craeval/nov16/2409.pdf

Affordable Home Loan Program." Borrowers put three percent down and pay $500 in closing costs. Grants may be used to cover down payment and closing costs up to a limit. FNB made 30 loans totaling approximately $1.8 million using $64,000 in grant funds.

Several services involved technical assistance or financial advice when one or more bank staff served on the board of a nonprofit organization. In addition, other CD services include direct service delivery and pro bono tax service. Banks gave presentations on identity theft and financial literacy lessons. Several banks offer free checking accounts for low-income individuals, while others helped nonprofit organizations secure grants, or even ran their own nonprofit organizations.[30]

Unique CD services included Xenith Bank's Interest on Lawyer Trust Accounts (IOLTA), providing a method of raising money for the provision of legal services for LMI individuals. Continental National Bank offered a disaster preparedness workshop, an entrepreneurship program, a youth loan education program called "Miami All Stars," and a center for financial training.[31]

Recommendations

- **Retain the Community Development Test for ISB Banks:** This paper demonstrates that the CD test generates billions of dollars for affordable housing and community development. In addition, the levels of CD loans and investments are statistically different for ISB banks that receive "Outstanding" and "Satisfactory" ratings on the CD test, suggesting that ratings both reflect differences in performance and spur improvements in performance. It is critical that the CD test be retained so that communities served by ISB banks continue to receive the benefits of CD loans and investments.

- **Develop Scales for the Qualitative Performance Measures:** This paper was unable to model all of the evaluation criteria for the CD test because the qualitative measures are not consistently reported. The agencies should explore whether they can produce scales for qualitative measures such as measuring responsiveness to needs on a 1 to 5 scale. This would increase transparency for the general public and readers of the exams. It would also better facilitate statistical analysis and program evaluation of CRA exams for ISB banks along the lines conducted by this paper.

- **Assess and Award Pro-Integrative Programs and Initiatives:** The paper found evidence that the dollar amount of CD loans and investments increased as the number

30 Xenith Bank – FRB of Richmond, https://www.richmondfed.org/~/media/richmondfedorg/cra_pes/2016/3153288.pdf

31 Continental National Bank – OCC: https://www.occ.gov/static/cra/craeval/sep16/16325.pdf

of MUI census tracts increased. This suggests that a subset of CD loans and investments such as affordable housing for LMI people are being placed in MUI tracts. This type of integrative approach to CD financing should be recognized and encouraged by CRA examiners. In addition, more detailed data on CD financing, preferably on a census tract level, will inform readers of exams where the CD financing is occurring and whether some of it is in MUI tracts.

- **Develop Measures of Performance for CD services:** The agencies should develop measures of performance including the number and dollar amount of basic bank accounts, hours of CD service delivery, and numbers of LMI customers assisted via counseling sessions. In addition, a scale from 1 to 5 reporting on the success of CD services would likewise improve the ability of researchers to evaluate CD services and CRA exams for ISB banks.
- **Agencies Should Regularly Evaluate Rigor of CRA exams:** Just like this paper, the agencies or inspector generals of the agencies should regularly evaluate the rigor of CRA exams and determine whether the ratings accurately reflect differences in performance and also effectively measure differences in lending, investment, and services.

Conclusion

The CRA exams conducted during 2016 motivated ISB banks to issue billions of dollars of CD finance, which had beneficial impacts on their communities as a result. Banks with both “Satisfactory” and “Outstanding” CD test ratings made substantial financial contributions in LMI communities, although the “Outstanding” CD-rated banks made demonstrably higher contributions. Both larger asset size and greater geographic footprint were determinants of how much CD finance a bank allocated. Furthermore, between $561 million and $2.15 billion in annual CD finance were estimated to be directly attributable to CRA compliance, indicating that the CRA examinations themselves had substantial positive impact, and were not just shedding light on already existing positive CD activity.

Appendix A:

Regressions with CD Finance and Annual CD Finance

Variables in the regression equations

CD Finance Total – total amount of CD finance over the CRA exam cycle

CD Finance Annual – annual amount of CD finance

CD Loans $ - CD lending dollar amount

CD Investment $ - CD investment dollar amount

Grants $ - grants dollar amount

LMI tract% - percent of tracts that are low- and moderate-income (LMI)

MUI tract% - percent of tracts that are middle- and upper-income (MUI)

Hub MHI – Median household income of bank's headquarter city

County MHI – Median household income of county bank in which bank is headquartered

State MHI – Median household income of state

Asset size – asset size of bank in millions

Logistic Regression: CRA examination outcome as dependent variable with results of "Outstanding" or "Satisfactory"

Variable	Coefficient	Sig
Constant	-1.648	.000
CD Finance Total	.000	.000
CD Finance Annual	1.989	.158
CD Loans $	1.434	.231
CD Investments $	1.410	.235
Grants $	.260	.610
Hub MHI	1.026	.311
County MHI	1.383	.240
State MHI	.243	.622
LMI Tract %	.544	.461
MUI Tract %	.820	.365
Model Chi-Square [df]	24.154 [1] *p*<.000	
Correct Predictions %	76.3 %	
Wald	20.145 *p*<.000	
Nagelkerke's R^2	.088	
N	397	

Total CD Finance as the dependent variable (Adjusted $r^2 = .273$)

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant	-14144.43	3851.13	-3.67	.00
Asset Size $	38.38	3.68	10.44	.00
MUI Tract %	475.98	156.67	3.04	.00
LMI Tract %	665.75	255.80	2.60	.01

N=397

Annual CD Finance as the dependent variable (Adjusted $r^2 = .290$)

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Constant	-4982.72	1256.39	-3.97	.00
Asset Size $	13.32	1.20	11.10	.00
MUI Tract %	156.53	51.11	3.06	.00
LMI Tract %	196.60	83.45	2.36	.02

N=397

Appendix B: Calculations

A step-by-step description of each scenario for CD finance loss

Dollars in 000's unless otherwise noted

Method #1: The lower estimate

- The average for the 95 "Outstanding" banks is $37,602
- The average for the 302 "Satisfactory" banks is $19,134
- The difference is $37,602-$19,134 = $18,712
- If all "Outstanding" banks performed like the Satisfactory "average" bank, it would cost (95*$18,712) = $1.778 billion which is 19 percent of the total
- Divided by 3.17 (average time of CRA exams in years) equals $561 million per year

Method #2: the middle estimate

NI – Needs to Improve rating

- The average of all NI-rated banks from 2015 to 2017 is $6,403
- The average for the 302 "Satisfactory" banks from 2016 is $19,134
- ($19,134-$6,403)*302= $3.845 billion
- $3.845 billion + $1.778 billion = $5.623 billion, 60.1 percent of the total
- $1.773 billion per year

Method #3: the upper bound

- The average of all NI-rated banks from 2015 to 2017 is $6,403
- The average of the other 397 banks is $23,554
- ($23,554 - $6,403)*397 = $6.809 billion, which is 72.8% of the total
- $2.15 billion per year

Appendix C:
Total Intermediate Small Bank CD Finance by State

State	Total CD finance (in millions)
Alabama	138
Arizona	92
Arkansas	86
California	1307
Colorado	11
Connecticut	21
Delaware	14
Florida	94
Georgia	169
Idaho	93
Illinois	540
Indiana	126
Iowa	142
Kansas	331
Kentucky	325
Louisiana	341
Maine	164
Maryland	79
Massachusetts	97
Michigan	110
Minnesota	195
Mississippi	214
Missouri	219

State	Total CD finance (in millions)
Montana	57
Nebraska	124
Nevada	93
New Hampshire	32
New Jersey	576
New Mexico	221
New York	405
North Carolina	189
North Dakota	83
Ohio	39
Oklahoma	223
Oregon	3
Pennsylvania	89
South Carolina	82
South Dakota	21
Tennessee	385
Texas	1055
Utah	9
Vermont	2
Virginia	150
Washington	199
West Virginia	49
Wisconsin	348
Wyoming	6

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