



TAXPAYERS

**CREDIT
UNIONS**

**DO THEY KNOW
THEY'RE TAX EXEMPT?**
October 2019

Do They Know They're Tax Exempt?

AN ECONOMIC ANALYSIS OF CREDIT UNIONS' TAX EXEMPTION

Executive Summary

Credit unions have fallen short in fulfilling the terms of their original mandate, which once warranted a lucrative tax subsidy. This sentiment is felt by many individuals and organizations across the financial services industry but has failed to reach Washington policymakers in the form of equitable policy resolutions that persuade credit unions to return to their governing principles. Credit unions were not intended to act as an alternative to banks but to complement their activities through offering safe and subsidized financial services to a specific clientele of financially underserved individuals. Instead, credit unions have deviated from this mandate by competing for the same customers as regular for-profit banks at the expense of these vulnerable communities while engaging in high-risk operating practices that have etched away at their once distinctive niche in the world of financial services. If credit unions cannot abide by their original mandate deserving of a tax subsidy, then taxpayers are financing an unequal playing field that leaves behind the financially underserved, cheats federal and state tax authorities, and unfairly disadvantages legitimate for-profit institutions like community banks.

This white paper employs objective quantitative analyses to evaluate arguments on both sides of this issue. Specifically, it examines the extent to which credit unions have deviated from the terms of their original mandate, the amount and distribution of their tax subsidy, and its dispersal to credit union members in the form of financial benefits. It reaches the following conclusions:

- Credit unions do not primarily serve individuals of modest means, nor do they restrict their activities to the specific communities that they are mandated to serve. Less than 10 percent of credit unions are physically located in an economically distressed community because 80 percent of their common bond applications have expanded services across industries, communities, and even states. Low-income individuals are more likely to receive services from a for-profit community bank over a credit union in 28 states, and banks have also performed better in 65 percent of fair lending indicators. Furthermore, credit unions have engaged in risky financial practices, often by an over-accumulation of certain assets such as taxi medallions, student loans, and even member

business loans (MBLs), the latter of which accounted for more than 10 percent of total credit union failures from 2008 to 2018.

- Taxpayers provided credit unions with an estimated \$2.1 billion average annual tax subsidy from 2000 to 2018, an estimate which is on par with high-level numbers published by the Department of the Treasury, Joint Committee on Taxation, and the Tax Foundation. This subsidy amounted to just over 3 percent of total asset accumulation per year, which would be a modest restraint on credit unions' overall growth if credit unions paid taxes. Almost every peer group of credit unions saw their share of the tax subsidy decline between 34 and 95 percent during the time period studied, whereas credit unions over \$1 billion in assets—just 311 individual institutions as of 2018—increased their share by 260 percent. Not only does this tax subsidy benefit a select few institutions, it is concentrated among already-thriving states including California and New York. Even credit unions themselves agree there would be little temptation to remain a credit union absent their current tax subsidy.
- For every dollar of the tax subsidy afforded to credit unions, this white paper found credit unions withhold 21 to 33 cents. In 2018, this amounted to between \$500 and \$900 million annually of taxpayer dollars which was not directed toward activities directly benefitting credit union members. Credit unions are supposed to be inefficient because they offer discounted financial services for limited communities comprising individuals of modest means, but their inefficiency is supposed to ultimately benefit the credit union member. Aggressive lobbying from the credit union sector has resulted in the weakening of credit union oversight that has enabled them to misdirect funds toward inappropriate expenditures such as outsized labor costs for executives, extravagant offices, naming rights of stadiums that rival the largest banks and third-party investors. Independent analyses have estimated this inefficiency to be higher, around 40 percent, which contradicts credit unions' assertion that their tax subsidy is fully passed on to membership via financial benefits. This means certain unknown and unintended parties benefit from this externality, costing both taxpayers as well as federal and state tax authorities.

These conclusions support the need for a change to the status quo: legislators must either ensure credit unions return to operating by the principles of their original mandate in service of the communities they have seemingly abandoned, or remove their lucrative tax subsidy, which has not been directed toward its intended purpose. These corrective measures will not only level the playing field for credit unions and community banks but will also safeguard the receipt of taxpayer dollars by the financially underserved communities that depend on them the most, fostering a more vibrant economy for all.

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Introduction

Credit unions are not-for-profit, member-owned financial cooperatives. Community banks are for-profit and often are locally owned and controlled by their stockholders or members (in the case of mutual banks). The definitions, and related structural differences, are much less pronounced than their operational commonalities: credit unions and community banks provide similar financial products, compete for the same customers, and report to parallel federal regulatory agencies—the National Credit Union Administration (NCUA) in the case of credit unions and the Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC) and the Board of Governors of the Federal Reserve System in the case of community banks. Bank deposits are insured by the FDIC, while credit union deposits are insured by the NCUA, both of which are backed by the full faith and credit of the U.S. government. In addition, credit unions and community banks have varying sizes, localities, and customer bases. While these entities share commonalities, their predominant point of contention is the income tax exemption afforded to credit unions despite their high degree of financial success from activities that parallel the behavior of community banks.

A tax exemption favoring one of two otherwise economic complements distorts the free market for financial services by advantaging a subset of the supply market at the expense of competitors, tax authorities, and taxpayers. Community banks contend that credit unions have maximized this benefit by channeling their income toward aggressive expansion campaigns via mergers and acquisition (M&A) activity and extravagant advertising¹ (such as expensive stadium naming rights) as well as increased high-risk, high-reward lending, such as commercial real estate lending, student loans² and taxi medallions.³ Credit unions maintain this tax exemption is warranted given their not-for-profit organizational structure, claiming that while this could provide an edge against community banks and other financial institutions, all profits are returned to their members in the form of higher interest rates on deposits, lower interest rates on loans, and lower service fees. Additionally, credit unions assert that such tax exemptions provide an effective bulwark against exorbitant premiums on financial products, forcing community banks and other market players to keep their prices competitive.⁴ There are many

1 Ely, Bert, and Kenneth J. Kies. *Tax Exemption for Credit Unions: An Unjustifiable \$10 Billion Tax Expenditure*. American Bankers Association, 2013, *Tax Exemption for Credit Unions: An Unjustifiable \$10 Billion Tax Expenditure*, www.aba.com/Advocacy/Issues/Documents/Kies-Ely%20Credit%20Union%20Paper.pdf.

2 United States Bankruptcy Court Southern District of Indiana Indianapolis Division. *ITT Educational Services, Inc., Et Al*. 5 May 2019, predatorystudentlending.org/wp-content/uploads/2019/05/CUSO-settlement-Approval-Motion-Notice.pdf.

3 United States, Congress, Office of the Inspector General, and James W. Hagen. "Material Loss Review of Melrose Credit Union, LOMTO Credit Union, and Bay Ridge Federal Credit Union." *Material Loss Review of Melrose Credit Union, LOMTO Credit Union, and Bay Ridge Federal Credit Union*, National Credit Union Administration, 29 Mar. 2019. www.ncua.gov/files/audit-reports/oig-material-loss-review-march-2019.pdf.

4 *Credit Union Not-For-Profit Tax Status: History, Benefits, and Public Policy Considerations*. Credit Union National Association,

nuances to this debate, yet most arguments fall into one of two categories: whether credit unions operate according to the legislative intentions for a tax exemption and who are the actual beneficiaries of this policy.

Community banks maintain credit unions have outgrown the original mandate underlying their tax exemption, suggesting lawmakers should either ensure they operate in a manner consistent with the mission for which they were originally conceived, or concede their tax subsidy altogether. Credit unions were specifically created to provide alternative financial means to the unbanked and underbanked. This mission warranted a tax exemption because serving these communities required potential financial institutions to operate below an optimal, profit-maximizing level.⁵ If credit unions still adhered to their original mandate, they would not operate in a manner with such striking parallels to community banks. Credit unions counter by highlighting their fundamentally different operating structure as nonprofit cooperatives, arguing their member-oriented organizational structure negates any potential profits, which are distributed to members in the form of financial products with lower costs and higher payoffs. According to credit unions and their allies, a tax exemption provides additional capital by which to compete against well-financed, profit-maximizing competitors within the financial services landscape.⁶ Furthermore, credit unions argue that any such parallels between themselves and community banks are simply the result of changing times, in which financial institutions have learned to operate more effectively while still adhering to their individual core mission.

However, credit unions' main assertion—that their members are the sole beneficiaries of equitably distributed gains from a tax exemption—has also received much scrutiny from bankers, academics, and policymakers. There is plenty of anecdotal evidence that shows credit unions operate in the financial interests of their executives and senior leadership, who are in a unique position to gain the most during periods of financial growth and sometimes remain relatively unscathed during adverse times.⁷ This has been confirmed by several academic studies, which have shown credit unions do not pass on the tax exemption in its entirety to their members. Rather, a portion of the subsidy is absorbed within the credit union due to various operational costs.⁸ Furthermore, some policymakers have questioned why, if credit unions operate according to the same market principles as not-for-profit institutions,

2018, *Credit Union Not-For-Profit Tax Status: History, Benefits, and Public Policy Considerations*, [www.cuna.org/uploadedFiles/Global/About_Credit_Unions/CUTaxStatusWhitePaper_JULY18_FINAL\(2\).pdf](http://www.cuna.org/uploadedFiles/Global/About_Credit_Unions/CUTaxStatusWhitePaper_JULY18_FINAL(2).pdf).

5 Reosti, John. *Do Credit Unions Still Warrant A Tax Exemption?* American Banker, 24 Apr. 2018, www.americanbanker.com/news/do-credit-unions-still-warrant-a-tax-exemption.

6 Baumann, David. "The CU Tax Exemption Battle Persists." *Credit Union Times*, 20 July 2018, www.cutimes.com/2018/07/20/the-cu-tax-exemption-battle-persists/.

7 Kelly Jr., William A. *An Economic Policy Analysis of the Tax Subsidy for Credit Unions*. Herbert V. Prochnow Educational Foundation, 2009, *An Economic Policy Analysis of the Tax Subsidy for Credit Unions*, www.gsb.org/student-alumni-center/PDFS/Economic_Policy_Analysis_Report_of_the_Tax_Subsidy_for_Credit_Unions.pdf.

8 Scott Frame, W., Gordon V. Karels, and Christine A. McClatchey. "Do credit unions use their tax advantage to benefit members? Evidence from a cost function." *Review of Financial Economics* 12.1 (2003): 35-47.

even with their member-owned cooperative status, should they not pay taxes and contribute toward the economic growth of the communities that they serve?⁹ To these points, credit unions respond by arguing a repeal of their income tax exemption would have a marginal difference in terms of the revenue received by state and federal tax authorities while forcing them to charge rates similar to banks, which would have a more detrimental economic impact.¹⁰ In other words, the costs outweigh the benefits that credit unions claim.

The income tax exemption afforded to credit unions is a complex and multidimensional issue that has significant economic implications for credit unions themselves, community banks, and the financial services industry at large. This white paper will determine whether credit unions still merit a tax exemption by utilizing economic data to ascertain the validity of arguments on either side of this issue. Specifically, it will address three critical questions:

- First, do credit unions still operate within the core purpose for which they were first granted a tax exemption?
- Second, what is the opportunity cost to both state and federal governments in lost tax revenue from credit unions?
- Third, who are the beneficiaries to the opportunity cost of credit unions' tax exemption?

This paper will utilize different quantitative techniques to objectively answer these three questions, which will enable a comprehensive assessment on the merits of the status quo. This paper will conclude by offering policy recommendations that, based on its assessments, enable legislators and regulators to maintain an equitable playing field between credit unions and community banks. The conclusions from this study would also serve as a resource for both members of the financial services community and academics to gain a better understanding of this issue and solutions for the future.

⁹ Hatch, Orrin. "Credit Unions' Tax Exemption." Received by J. Mark McWatters, *United States Senate Finance Committee*, United States Senate, 31 Jan. 2018, www.finance.senate.gov/imo/media/doc/1.31%20Credit%20union%20letter.pdf.

¹⁰ Feinberg, Robert M., and Douglas Meade. *Economic Benefits of the Credit Union Tax Exemption to Consumers, Businesses, and the U.S. Economy*. National Association of Federally-Insured Credit Unions, 2017, *Economic Benefits of the Credit Union Tax Exemption to Consumers, Businesses, and the U.S. Economy*, www.nafcu.org/data-tools/credit-union-federal-tax-exemption-study.

Part I: Analyzing the Credit Union Mandate

This portion of the white paper will determine whether the present performance of credit unions fits within the mandate and rationale behind the tax exemption established by policymakers. Credit unions first arose in 1909 to provide basic financial services to immigrants, low-skilled workers, and other specific disadvantaged communities. These credit unions were responsible for paying federal and state income taxes until 1917, when an administrative ruling by the U.S. attorney general exempted all credit unions from federal taxation.¹¹ The decision was based on credit unions' resemblance to domestic savings and loan associations, which were also structured as mutual cooperatives that confined their services to specific communities, and were exempt from federal income taxes. Then in 1934, credit unions began receiving a federal charter designation under the Federal Credit Union Act but were not exempt from state taxation until the act was amended in 1937. Since 1937, federal- and state-chartered credit unions have been exempted from federal income taxation, while federally chartered institutions have been exempted from state taxation as well.¹² Because states have generally followed federal taxation policy, state-chartered credit unions are also exempt from state taxation except in select states: California, Indiana, Iowa, Oklahoma, and Oregon.¹³ In 1951, under the Revenue Act, Congress revoked the federal tax exemption for savings and loan associations, arguing these institutions operated in a manner akin to profit-seeking corporations.¹⁴

Credit unions' tax exemption has remained untouched, though experts have questioned whether credit unions are at the precipice that savings and loan associations surpassed when their tax exemption was repealed.¹⁵ A working paper authored by the Internal Revenue Service (IRS) provides some context on why Congress chose to keep credit unions exempt from federal income taxes. Specifically, it noted that credit unions: 1) provide important financial services to the unbanked and underbanked, 2) restrict their membership to individuals of a common bond, and 3) avoid high-risk, high-return investments. These assertions have reappeared in litigation and promotional materials utilized by credit unions¹⁶ and their allies,¹⁷ who argue credit unions

11 Tatom, John. "Competitive advantage: a study of the federal tax exemption for credit unions." *Tax Foundation* (2005).

12 Ibid.

13 York, Erica. "Reviewing the Credit Union Tax Exemption." Tax Foundation, Tax Foundation, 30 Jan. 2018, taxfoundation.org/reviewing-credit-union-tax-exemption/.

14 Tatom, John. "Competitive advantage: a study of the federal tax exemption for credit unions." *Tax Foundation* (2005).

15 United States, Congress, "M. State Chartered Credit Unions Under 501(c)(14)(A)." *M. State Chartered Credit Unions Under 501(c)(14)(A)*, United States Department of the Treasury, 1979. www.irs.gov/pub/irs-tege/eotopicm79.pdf.

16 *Why Credit Unions Are Tax Exempt*. GCS Credit Union, 2019, *Why Credit Unions Are Tax Exempt*, www.mygcsu.com/_/kcms-doc/1086/22909/why_credit_unions_are_tax_exempt.pdf.

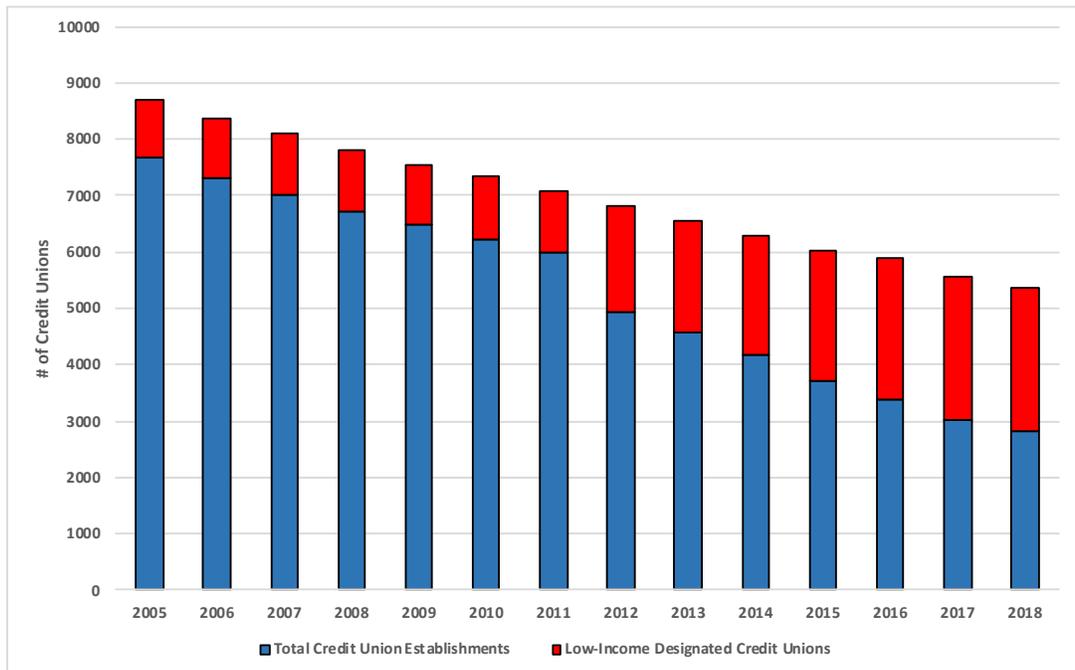
17 "Tax Exemption Background." *Credit Union Tax Exemption*, National Association of Federally-Insured Credit Unions, www.nafcu.org.

still closely follow these principles and deserve to keep their federal tax exemption. This white paper shall determine whether credit unions adhere to their original mandate as defined by the aforementioned IRS principles or *significantly* deviate from them.

Services to Persons of Modest Means

The first principle from the IRS working paper—that credit unions provide financial services to the unbanked and underbanked—is vital to the mission statement of credit unions themselves. According to the Federal Credit Union Act, federally insured credit unions should meet the needs of all consumers, *especially* persons of modest means. There are many interpretations to the term “modest means,” with the colloquially accepted definition to mean low income. To gauge credit unions’ service to low-income individuals, this white paper examined the percentage of credit unions with a low-income designation. This is a special NCUA designation awarded to credit unions whose membership is majority low-income, defined as 51 percent or more of members whose income is 80 percent or less of their locality’s median family income.¹⁸ Per Figure 1, most credit unions do not have such a designation, failing to meet one of the standards of their tax exemption.

Figure 1: Low-Income Credit Union Designations v. Total Credit Unions



org/cutaxexemption/background.

¹⁸ United States, Congress, Office of Small Credit Union Initiatives. “Low-Income Designation Fact Sheet.” *Low-Income Designation Fact Sheet*, National Credit Union Administration, June 2013. www.ncua.gov/files/publications/resources-expansion/LowIncomeDesignationFactSheet.pdf.

While more than 1,500 credit unions have received Low-Income designations since 2005, which might seem to indicate that credit unions are doing a better job serving their intended constituencies of modest means, this picture is incomplete. Prolific M&A activity among credit unions and within the financial services industry has resulted in more than 3,000 individual institutions absorbed or liquidated, 38 percent of which had a low-income designation.¹⁹ Therefore, an alternative measure is required to determine whether credit unions have genuinely focused their efforts toward low-income individuals, or if the rise in designations is the byproduct of M&A activity that has enabled a few large credit unions to diversify their membership by absorbing smaller credit unions and the low-income communities they serve.

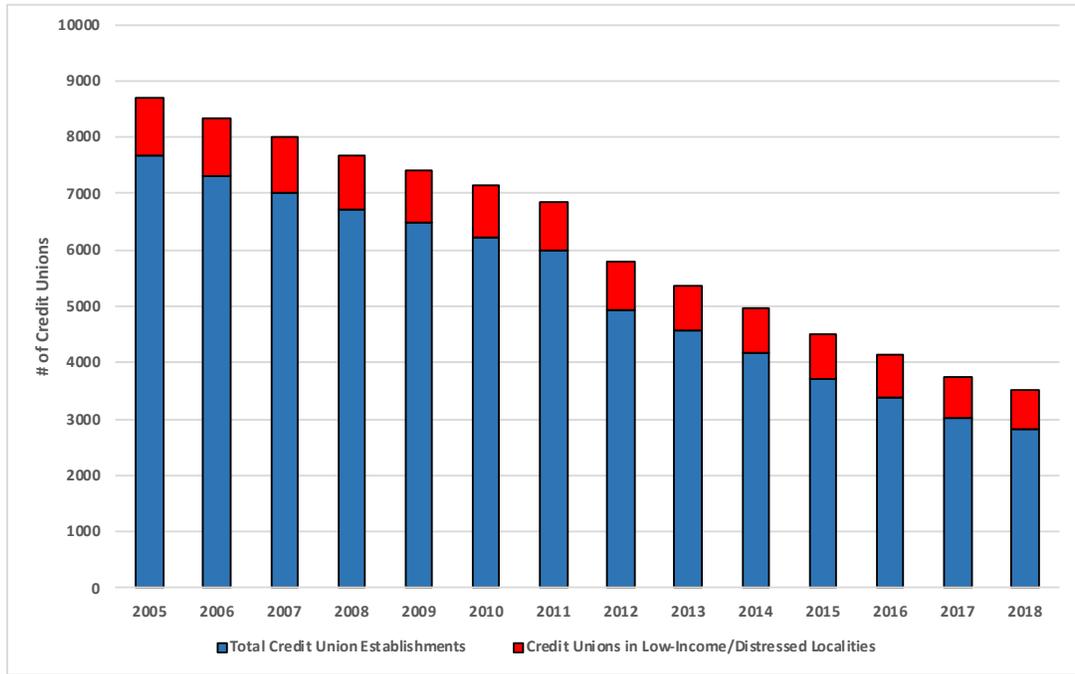
According to annual estimates by the FDIC, the vast majority of individuals classified as “unbanked” or “underbanked” do not have sufficient income to access financial services at a bank or other traditional financial institution. Therefore, another avenue by which to ascertain credit unions’ service of low-income, modest-means individuals would be looking at how many credit unions are located in low-income areas. Figure 2 compares the number of credit unions with 50 percent or more of their branches in low-income or distressed communities to total credit unions, as designated by the Federal Financial Institutions Examination Council (FFIEC).²⁰ While more credit unions are receiving a Low-Income designation, their presence in low-income communities has remained unchanged despite M&A activity. In fact, banks have proven to outpace credit unions in service to these particular communities. In 2018, community banks had more of a physical presence in low- and moderate-income areas than credit unions across 28 states. Furthermore, a National Community Reinvestment Coalition (NCRC) study found that banks outperformed credit unions on 65 percent of fair lending indicators in home purchase, refinance, and home improvement lending to LMI areas. It also indicated that credit union members have higher incomes than those of a typical financially disadvantaged borrower.²¹

19 United States, Congress, Division of Depositor and Consumer Protection. “Executive Summary.” *Executive Summary*, Federal Deposit Insurance Corporation, 22 Oct. 2018. www.fdic.gov/householdsurvey/2017/2017execsumm.pdf.

20 United States, Congress, Horowitz, Ben. “Defining ‘Low- and Moderate-Income’ and ‘Assessment Area’: A Deeper Look at Two of the Community Reinvestment Act’s Key Terms.” *Defining “Low- and Moderate-Income” and “Assessment Area”: A Deeper Look at Two of the Community Reinvestment Act’s Key Terms*, Federal Reserve Bank of Minneapolis, 8 Mar. 2018. www.minneapolisfed.org/publications/community-dividend/defining-low--and-moderate-income-and-assessment-areas.

21 Credit Unions: True To Their Mission? The National Community Reinvestment Coalition, 2009, Credit Unions: True To Their Mission?

Figure 2: Credit Unions in Low-Income/Distressed Communities v. Total Credit Unions



Adherence to Restricted, Limited Membership

The next principle by which to evaluate credit unions' adherence to their original mandate is their maintenance of restricted membership limited to individuals of a common bond. There are three primary common bond categories from which credit unions can determine their fields of membership. The earliest type of common bond is the *single occupational* or *single associational bond*, which limits membership to employees of one firm or a single occupational class of employees spanning multiple firms.²² The associational bond can also be applied to individuals of a particular social or civic group who share common loyalties, mutual interests, and frequent activities. Originally, most credit unions maintained either a single occupational or single associational bond until the 1980s, when failing credit unions blamed their limited membership structure as the culprit for accumulating high concentrations of risky assets, which led to the creation of a *multiple bond* category, enabling groups of different occupational or associational bonds to join together under the banner of one credit union.²³ The third and most recent type of common bond is a *community bond*, which enables members of the same community under defined geographic boundaries to receive benefits from a credit union.²⁴ Of these three types of common bonds, single occupational or associational bonds are the most restrictive and require basic regulatory oversight, whereas multiple

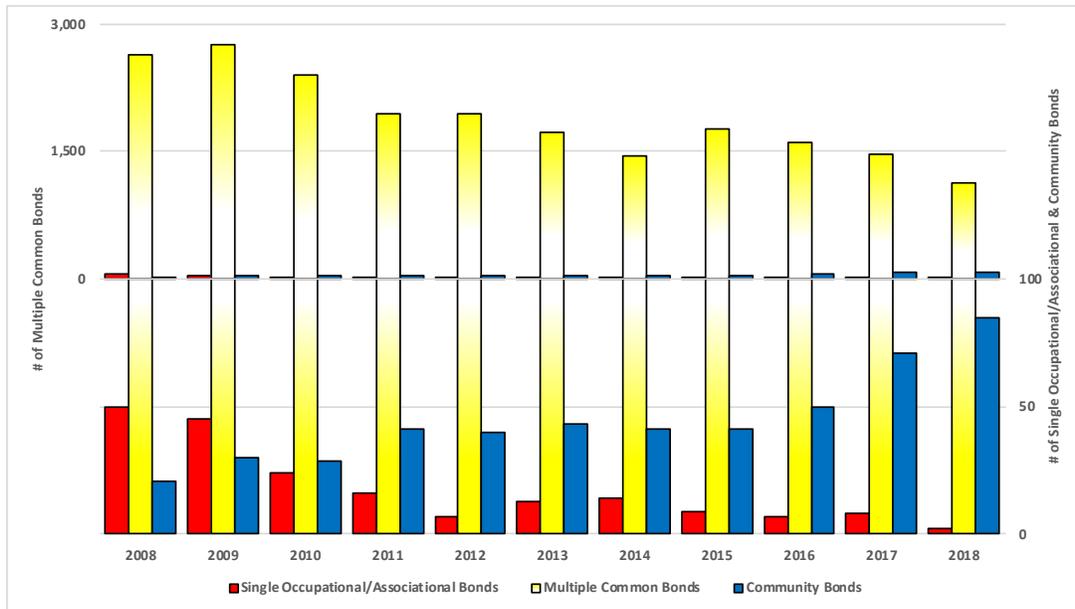
22 Flannery, Mark J. *An Economic Evaluation of Credit Unions in the United States*. No. 54. Federal Reserve Bank of Boston, 1974.

23 Tatom, John. "Competitive advantage: a study of the federal tax exemption for credit unions." *Tax Foundation* (2005).

24 Flannery, 1974.

or community bonds test the limits of credit unions' inherent mission with greater ambiguity.²⁵ Figure 3 shows common bond applications to the NCUA by type within a 10-year period.

Figure 3: Annual Common Bond Applications to the NCUA by Type

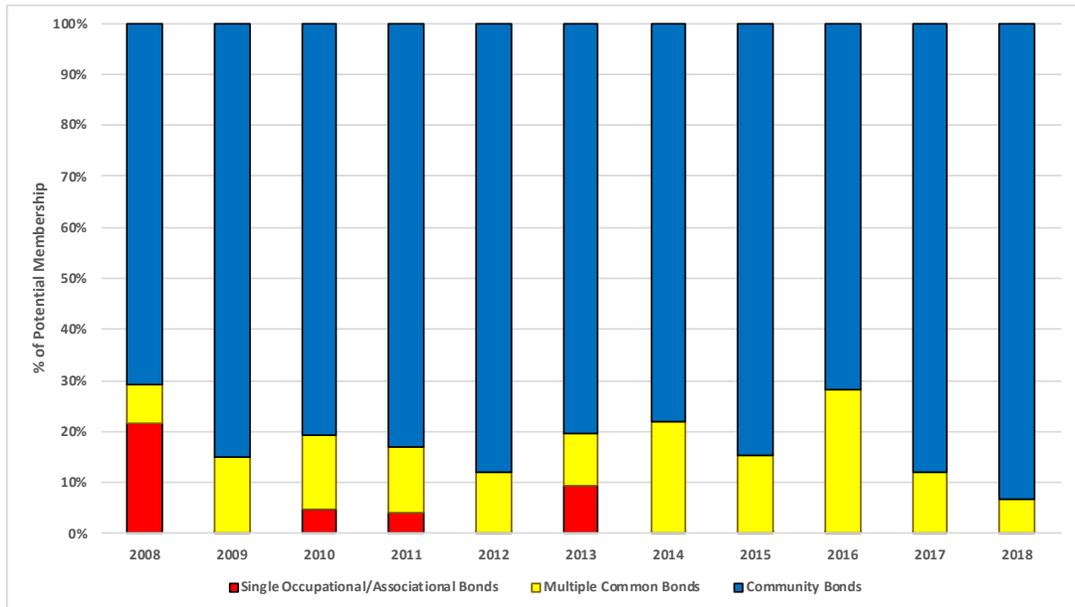


The greatest amount of variation occurs within single occupational or associational bonds, which posted steady declines from 50 applications per year to fewer than 10, translating to a 96 percent decrease over the past decade. Multiple-bond applications also declined within this timeframe by nearly 60 percent; however, the volume of applications still overshadowed that of single occupational or associational bonds as well as community bonds, numbering well over 1,000 per year. Community bonds were the sole bond type that posted any growth over the past decade, rising 300 percent, which indicates their increasing popularity among both prospective credit unions, seeking broad initial access to potential members, as well as existing credit unions, looking to scale their activities to a higher or broader level. Together, these trends demonstrate a general evolution in common bonds available to credit unions that are increasingly ambiguous and unenforceable from a regulatory standpoint. Furthermore, they show a predictable shift among credit unions themselves, which are gravitating toward open-ended structural options that test the limits of their original mandate. The next step is to determine whether these nuances in regulatory oversight and credit unions' composition translate to operational differences from their original mandate. Therefore, Figure 4 examines the proportion of potential membership attributed to each of these three common bond types.

25 Leggett, Keith J., and Yvonne H. Stewart. "Multiple common bond credit unions and the allocation of benefits." *Journal of Economics and Finance* 23.3 (1999): 235-245.

While potential membership is not indicative of actual membership, it provides a valuable metric for estimating the contributions of each bond type to total member growth among all credit unions. It does this by setting an upper limit to which membership can reach, such as the total number of employees in a firm affiliated with a credit union or the last census estimate of a community that a credit union is looking to serve. As expected, single occupational and associational bonds did not have a significant impact on the potential membership of credit unions during the past decade and had exactly zero effect during the past five years. While multiple-bond applications outpaced all other bond types in Figure 3, their contributions to potential membership were also marginal at best. Community bonds had the largest effect on potential membership because they expand membership by the widest margin possible—enabling association by geographic area. This is no different from community banks, whose entire business model explicitly involves local outreach to attract demand for their services. As noted in Figure 4, by gravitating toward community bond memberships, credit unions not only push the structural limitations governing their original mandate and rationale for a tax exemption but operate in a manner that is indistinguishable from other financial institutions.

Figure 4: Percentage of Potential Membership by Common Bond Application Type



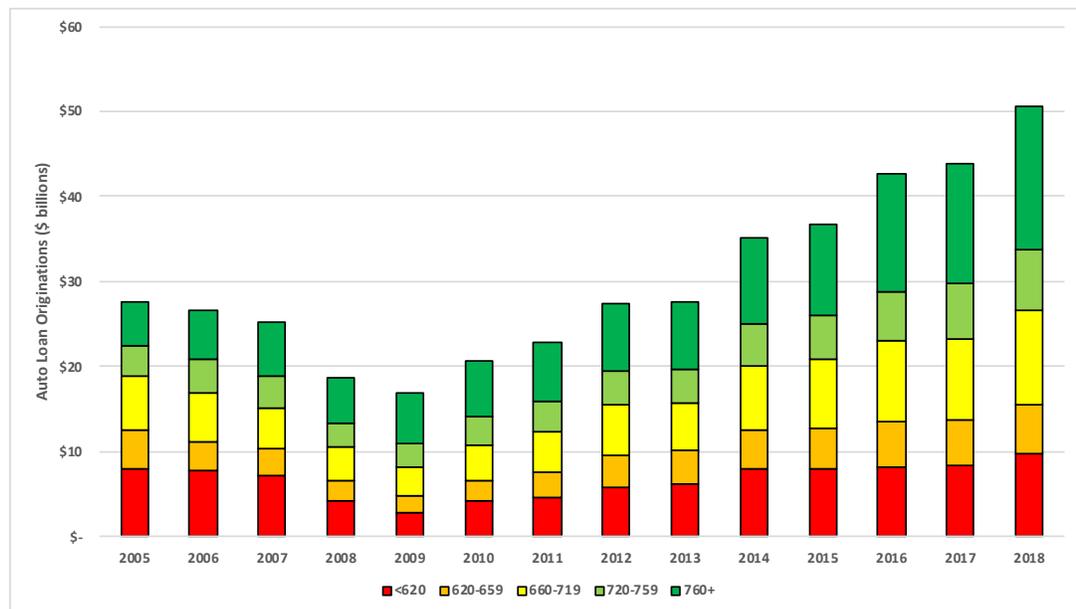
Appetite for Risky Activities

The third and final principle governing credit unions' original mandate is their avoidance of high-risk, high-return investments. This is a critical element of their mission statement because it enables credit unions to distinguish themselves from all other financial institutions, whose for-profit structure requires assuming higher risk to engender higher returns that attract additional business. If credit unions maintained stringent membership

standards primarily serving individuals of modest means, this principle would be redundant given lower pools of available capital resulting in a risk-averse investment appetite.

Because credit unions have continued to deviate from the first two principles underlying their tax exemption, their risk appetite has grown. One area where credit unions have aggressively expanded their lending activity is subprime auto loans, which have increased 82 percent since 2010 to become the second-largest category of consumer debt behind student loans, according to the Federal Reserve Bank of New York.²⁶ Figure 5 examines auto loan originations by credit unions according to borrower credit score, defining subprime auto loans as loans to individuals with a credit score of 660 or below.²⁷ On average, banks outpaced credit unions in subprime auto lending by \$2 billion, which steadily decreased to \$0.4 billion in 2017 due to aggressive lending activity by credit unions. Subprime loans comprised 30 percent of total auto lending among credit unions, indicating a higher risk appetite.²⁸ This shows that credit unions do not always restrict their investment activities to low-risk, low-yield products.

Figure 5: Auto Loan Originations by Credit Score



There are many other examples of credit unions’ progression into the high-risk, high-return niche of the financial services market. Another high-risk product that has attracted more scrutiny over credit unions’ lending practices

26 Haughwout, Andrew, et al. “Auto Loans in High Gear.” *Liberty Street Economics*, The Federal Reserve Bank of New York, 12 Feb. 2019, libertystreeteconomics.newyorkfed.org/2019/02/just-released-auto-loans-in-high-gear.html.

27 Canova, Robert. “Looking under the Hood: Current Conditions in Auto Lending.” *Economy Matters*, Federal Reserve Bank of Atlanta, 4 May 2017, www.frbatlanta.org/economy-matters/banking-and-finance/viewpoint/2017/05/04/looking-under-the-hood-current-conditions-in-auto-lending.

28 These statistics were calculated utilizing market share estimates from Experian Consumer Credit Trends in conjunction with estimated auto loans originated by borrower credit score from the Federal Reserve Bank of New York.

is student loans. In 2015, experts at the Center for American Progress warned NCUA regulators about federal- and state-chartered credit unions engaging in deceptive trade practices that threatened credit unions' safety and soundness by posing serious credit and compliance risks.²⁹ In 2019, 10 credit unions were sued by their members for absorbing massive losses connected to profligatory lending practices to students of the for-profit ITT Technical Institute.³⁰ Credit unions have also attracted concerns from regulators and market watchdogs over their predatory taxi medallion lending, which in 2018 caused half of all credit union failures and more than \$765.5 million in losses to the NCUA Share Insurance Fund.³¹ While credit union failures attracted the most media attention, many other credit unions with large quantities of taxi medallion loans within their portfolios were severely undercapitalized, requiring additional oversight measures from the NCUA. Credit unions even engaged in the same subprime residential mortgage lending activities that consumed every major financial services provider prior to the Great Recession in 2008, after which they accumulated \$30 billion in losses.³² These examples show credit union lending is indistinguishable from their for-profit counterparts.

The question of credit unions' high-risk, high-return financial activity is part of a larger issue: Are credit unions less risky than banks? The federal government already supervises, regulates, and insures both credit unions and banks. Therefore, for the former to effectively distinguish themselves as a less risky alternative, they would need to operate in a manner conducive to this reputation. Unfortunately, the evidence suggests credit unions are as likely to engage in risky, profit-maximizing activities as revenue-driven financial institutions. Studies examining failures since 1970 have shown that credit unions have a higher failure rate than banks.³³ They also showed credit unions fail for similar reasons as banks, such as higher noninterest expenses or lower returns on assets (ROAs), but also for markedly different reasons, such as organizational mismanagement or overaccumulation of particular financial products such as member business loans (MBLs).

Credit unions have aggressively pushed for additional legal authority to expand their services in the field of MBLs in spite of ample proof that such activity is not only inherently risky, but that the NCUA has neither the

29 "Deceptive Practices by Credit Unions." Received by Debbie Matz, *Generation Progress*, Center for American Progress, 30 July 2017.

30 United States Bankruptcy Court Southern District of Indiana Indianapolis Division. *ITT Educational Services, Inc., Et Al.* 5 May 2019, predatorystudentlending.org/wp-content/uploads/2019/05/CUSO-settlement-Approval-Motion-Notice.pdf.

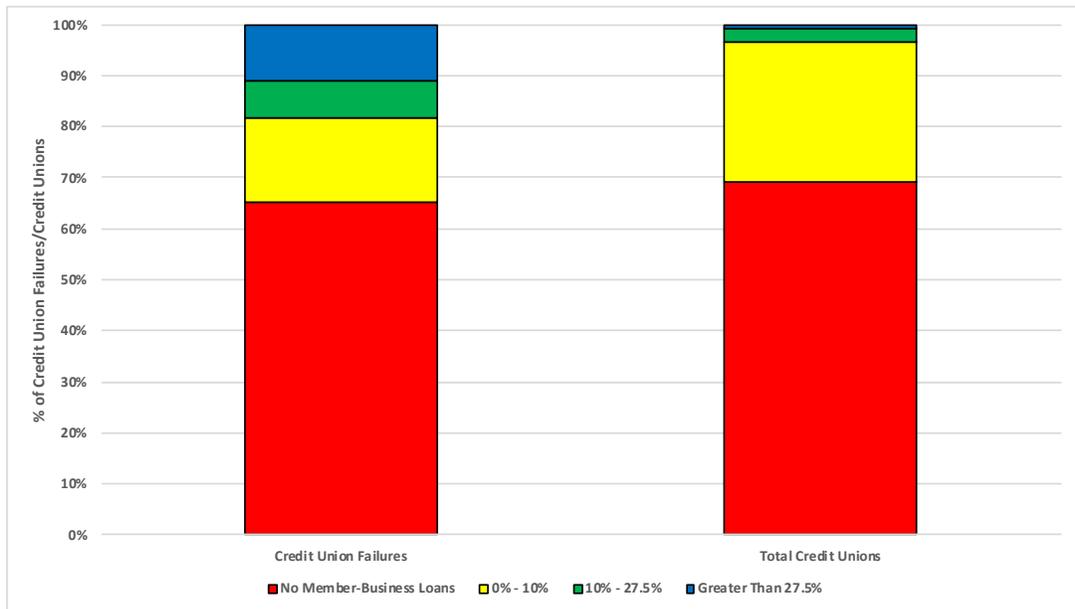
31 United States, Congress, Office of the Inspector General, and James W. Hagen. "Material Loss Review of Melrose Credit Union, LOMTO Credit Union, and Bay Ridge Federal Credit Union." *Material Loss Review of Melrose Credit Union, LOMTO Credit Union, and Bay Ridge Federal Credit Union*, National Credit Union Administration, 29 Mar. 2019. www.ncua.gov/files/audit-reports/oig-material-loss-review-march-2019.pdf.

32 Maremont, Mark, and Victoria McGrane. "Credit Unions Bailed Out." *The Wall Street Journal*, Dow Jones & Company, 25 Sept. 2010, www.wsj.com/articles/SB10001424052748703499604575512254063682236.

33 Dopico, Luis G., and James A. Wilcox. "Determinants of Failures of Credit Unions and Commercial Banks: Similarities and Differences." (2017).

expertise nor commitment to supervise credit unions engaged in MBLs. Between 2005 and 2018, total credit union MBLs increased by 337 percent at an average annual rate of \$4.1 billion per year. Figure 6 below compares the percentage of total credit unions by their different MBL-to-asset ratios in dark colors to the corresponding institutional failure rate in light colors. While credit unions with an MBL-to-asset ratio size greater than 27.5 comprised less than 1 percent of all credit unions, they accounted for 11 percent of the overall failure rate. Similarly, while 70 percent of all credit unions did not engage in any MBLs, they accounted for less than two-thirds of total institutional failures. These opposing dynamics indicate a credit union’s likelihood of failure increases as its ratio of MBLs to total assets increases, and that credit unions with a higher MBL ratio will be overrepresented among failed institutions as such activities increase.³⁴

Figure 6: Credit Union Failures v. Total Credit Unions by MBL Ratio



34 Brannon, Ike. *An Analysis Of The Impact Of Expanding The Ability Of Credit Unions To Increase Commercial Loans*. Capital Policy Analytics Group, 2012. *An Analysis Of The Impact Of Expanding The Ability Of Credit Unions To Increase Commercial Loans*, libn.com/files/2012/11/mbL_analysis_-_ike_brannon5.pdf.

Part II: Approximating the Opportunity Cost of the Tax Subsidy

The evidence shows credit unions have significantly deviated from their original mandate: failing to keep their services centered around individuals of modest means, expanding their field of membership requirements, and engaging in high-risk, high-return investments. While credit unions' nonprofit, cooperative structure remains intact, their behavior bears striking parallels to for-profit banks, which do pay federal and state income taxes. Therefore, the next portion of this white paper will examine the opportunity cost of credit unions' continued tax exemption by estimating their potential tax obligation. Theoretically, credit unions' tax obligation would follow similar dynamics as that of the community banks they emulate or any other for-profit business that pays taxes. According to the FDIC, 5,415 banks paid \$61.1 billion in income taxes during 2018, though this figure encompasses banks ranging in size from less than \$10 million in assets to international conglomerates.³⁵ Of those 5,415 total banks, 99 percent were community banks, which paid \$14.6 billion in income taxes due to their relative market share.³⁶ If credit unions' tax exemption were revoked, their tax obligation would be similarly distributed based on institutional size and growth.

The opportunity cost of credit unions' tax exemption is already estimated by the Joint Committee on Taxation (JCT) on an annual basis. Between 2008 and 2018, the JCT estimated the opportunity cost of credit unions' tax exemption to be \$19.4 billion, with an average of \$1.9 billion per year.³⁷ This estimate is on par with other available estimates conducted by federal agencies. The Congressional Budget Office (CBO) valued the tax exemption to be \$21.1 billion between 2009 and 2019, while the Treasury Department projected the tax exemption to be worth \$19 billion.³⁸ By contrast, the Tax Foundation estimated credit unions' tax obligation over 10 years to be \$31.3 billion,³⁹ and a study commissioned by the American Bankers Association (ABA) found the annual tax obligation would be \$2.3 billion, or \$23 billion over 10 years.⁴⁰ One explanation for the incongruity between federal and private estimates is that government sources do not account for firms that have no earnings or have negative net income and would pay no income tax. This is not presently an issue; in 2018 only 11 percent

35 United States, Congress, Division of Insurance and Research. "FDIC Quarterly." *FDIC Quarterly*, Federal Deposit Insurance Corporation, 2019. www.fdic.gov/bank/analytical/quarterly/2019-vol13-1/fdic-v13n1-4q2018.pdf.

36 Ibid.

37 *Estimates Of Federal Tax Expenditures For Fiscal Years 2018-2022*. The Joint Committee on Taxes, 2018, *Estimates Of Federal Tax Expenditures For Fiscal Years 2018-2022*, www.jct.gov/publications.html?func=select&id=5.

38 Brannon, Ike. *An Analysis Of The Impact Of Expanding The Ability Of Credit Unions To Increase Commercial Loans*. Capital Policy Analytics Group, 2012, *An Analysis Of The Impact Of Expanding The Ability Of Credit Unions To Increase Commercial Loans*, libn.com/files/2012/11/mbl_analysis_-_ike_brannon5.pdf.

39 Ibid.

40 Tatom, John. "Competitive advantage: a study of the federal tax exemption for credit unions." *Tax Foundation* (2005).

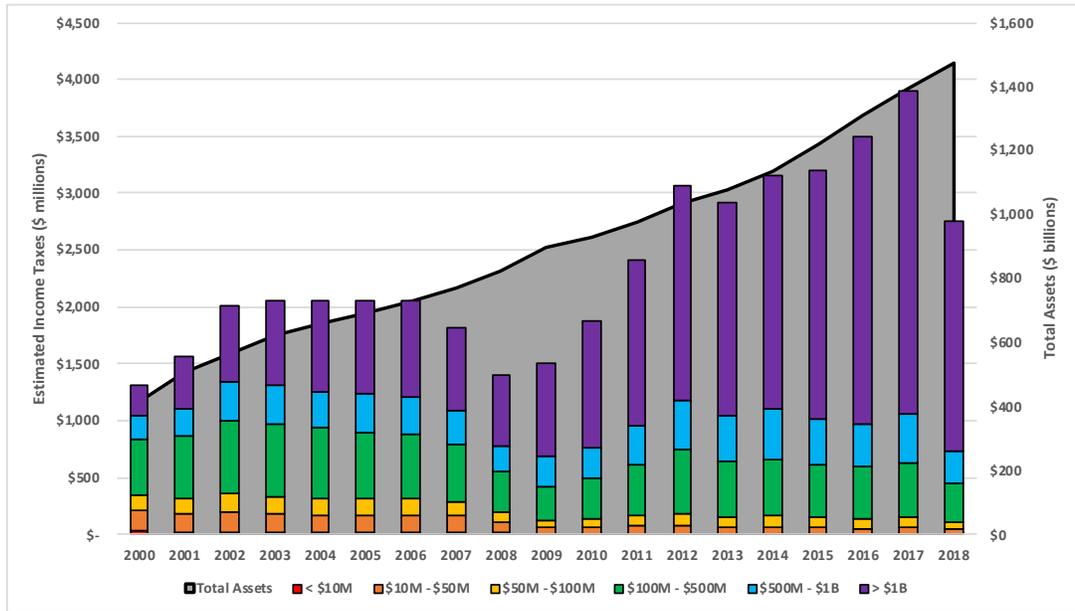
of credit unions reported such earnings. However, the results among five- or 10-year estimates might be skewed because they cover years during the Great Recession, when between 20 and 40 percent of credit unions had no earnings or negative net income. Additionally, these estimates do not account for credit unions' ability to reduce taxable income if their tax exemption were revoked. For example, credit unions facing income taxes may be inclined to utilize provisions against bad debt to reduce income and boost their capital reserves to cut their taxable income, just like banks.

The estimated opportunity cost of credit unions' tax exemption in this paper was calculated utilizing a modified methodology based on previous studies by Conerly⁴¹ and Tatom.⁴² Credit union statistics from 2000 to 2018 were pulled from the NCUA's call reports, and federal and state income information was retrieved from the Tax Foundation in conjunction with the Statistics of Income program at the IRS. M&A information was found via S&P Market Intelligence. Following adjustments for the charter type and locality, annual federal and state tax brackets were applied to credit unions' net income, defined by this white paper as net interest income after provisions for loan and lease losses plus the difference between non-interest income and non-interest expenses. Each credit union's individual contribution to the overall opportunity cost of the tax exemption was calculated utilizing the appropriate federal and state tax structures, with losses carried forward in years of negative earnings. In cases of mergers or acquisitions, the acquiring institution was assumed to have benefited from the target's tax losses. These considerations ensured a fair assessment of credit unions' profitability given fluctuating economic conditions, while providing a parallel tax treatment akin to that of community banks and other for-profit financial institutions. Figure 7 shows the results of this analysis with the opportunity cost of credit unions' tax exemption summarized by their asset size and compared to total asset accumulation.

41 Conerly, William B. *Revenue Potential from Taxation of Credit Unions*. Conerly Consulting, LLC., 2013, *Revenue Potential from Taxation of Credit Unions*, www.oregonbankers.com/uploads/5/1/5/1/51510679/conerly-report_final-normal.pdf.

42 Tatom, 2005.

Figure 7: Estimated Revenue Lost from Credit Unions' Tax Exemption



Credit unions' total asset accumulation was included as a measure of collective profitability and growth, shown to move relatively linear to their estimated tax obligation. These two variables noticeably diverged between 2007 and 2013, yet this can be explained by declining profitability and stagnant asset growth, which were both consequences of the Great Recession. There is also a considerable drop in their estimated tax obligation after 2017 due to the Tax Cuts and Jobs Act (TCJA), which was first fully implemented in 2018. Hypothetical taxes paid by credit unions averaged 3 percent of total asset accumulation, between \$2 billion and \$3 billion depending on the year, which proves if credit unions were taxed like community banks and other for-profit financial institutions, their tax obligation would be a modest restraint on their overall growth. Additionally, these calculations prove any tax obligation would only affect a select few credit unions, namely those over \$1 billion in assets. Between 2000 and 2018, every peer group of credit unions except those over \$1 billion decreased between 34 percent and 95 percent in their contribution to credit unions' overall tax obligation. Credit unions over \$1 billion saw their share of the estimated tax obligation increase by 260 percent, which shows that such a policy would be sensitive to the individual institution's growth compared to its peers. As of 2018, there were 311 credit unions over \$1 billion, equivalent to 6 percent of the total credit union population. These credit unions would bear 74 percent of the overall credit union tax obligation. Figure 8 below examines the linearity of each peer group's tax obligation between 2000 and 2018, confirming the above conclusions as well.

Figure 8: Estimated Income Tax Trend for Credit Unions by Peer Group

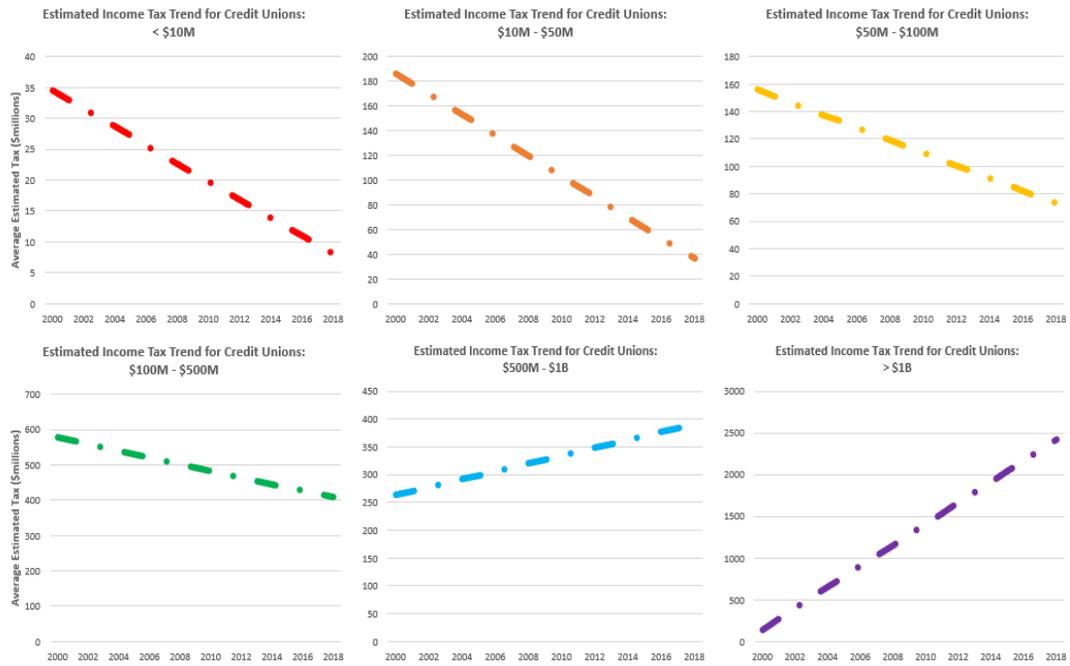
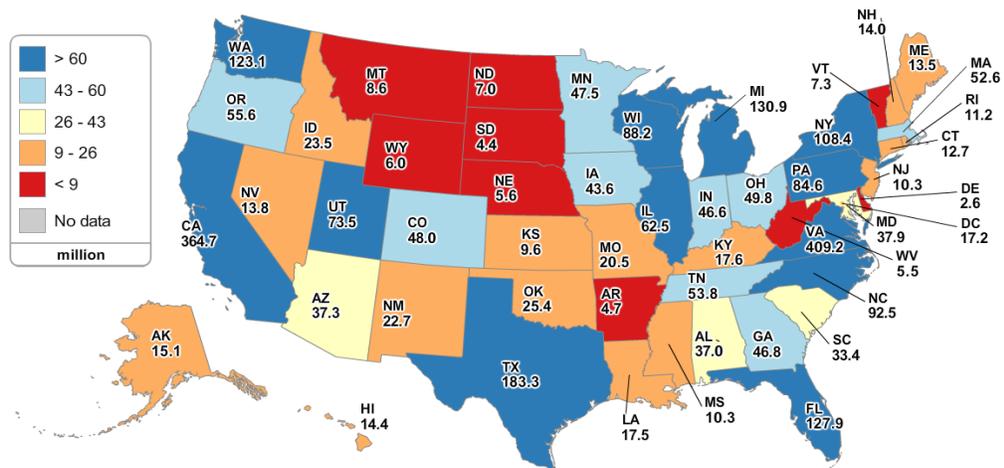


Figure 8 demonstrates an increased hypothetical tax obligation mostly shouldered by credit unions with more than \$1 billion in assets. However, it is also indicative of future trends in credit unions' tax obligation, which are driven by organizational growth and continual M&A activity. Between 2000 and 2018, the number of credit unions within the first two peer groups under \$50 million in assets decreased 77 percent and 42 percent, respectively. During the same time period, credit unions in peer groups between \$50 million and \$500 million in assets posted comparatively modest gains of 1 percent and 48 percent, respectively. The highest growth came from credit unions in peer groups over \$500 million and \$1 billion, increasing by 183 percent and 764 percent, respectively. With the credit union industry experiencing equally prolific M&A activity as banks, it is reasonable to assume future linearity among each peer group's contribution to the tax obligation. In other words, if aggregate credit union growth remains constant, larger credit unions would outnumber smaller credit unions. This would have two effects: first, larger credit unions would continue paying more of the tax obligation proportional to smaller credit unions; and second, higher revenues accumulated via growth would mean a higher overall tax obligation paid by the credit union industry. Considering the trends highlighted within the first section of this white paper, with credit unions' broad expansion of membership requirements straying away from communities of modest means, it is reasonable to assume their growth will remain unabated and, thus, yield a larger opportunity cost borne by tax authorities and the public at large.

Impact on State Tax Revenue

The next part of this analysis will allocate the opportunity cost of credit unions' tax exemption by state for a more granular analysis. Figure 9 shows credit unions' hypothetical tax burden in 2018, the first year following implementation of the TCJA. These estimates were conducted utilizing state income tax estimates from the Tax Foundation that combine federal and state corporate income tax rates less deductions for federal liabilities and weighted by the state population. States colored in blue would receive a larger sum of corporate income tax revenue from credit unions than states colored in red. In 2018, states lost \$1.8 billion in corporate income tax revenue from credit unions. The largest beneficiaries from a repeal of credit unions' tax exemption would be states that have large concentrations of credit unions and large economies, such as California, Texas, Florida, New York, and Illinois. All of these states consecutively rank the highest in terms of per-capita gross domestic product (GDP), wage growth, and employment.⁴³ Conversely, states that would receive less from credit unions' hypothetical tax burden ranked lower in number of credit unions and many of these economic metrics. States clustered within the northwest United States, excluding coastal states such as Washington and California, as well as the South, less Texas, would not have gained as much if credit unions paid their fair share of taxes. In sum, states that attract more credit unions based on their economic potential had the most to gain from a repeal of credit unions' tax exemption.

Figure 9: Distribution of 2018 Estimated Income Tax Burden by State



Because the evidence shows a significant opportunity cost attached to credit unions' tax exemption, what would be the consequences if it were repealed? First, credit unions and their allies believe their rampant growth would be

43 Gross Domestic Product by State, Fourth Quarter and Annual 2018. Bureau of Economic Analysis, 2018, *Gross Domestic Product by State, Fourth Quarter and Annual 2018*, www.bea.gov/system/files/2019-04/qgdpsstate0519_4.pdf.

curbed.⁴⁴ If credit unions above a particular asset threshold were required to pay taxes, smaller credit unions would be shielded from the tax burden, while the larger institutions would conceivably be able to absorb these additional costs while maintaining their long-term performance. Additionally, there would be increased charter conversions stemming from smaller credit unions seeking better operating leniency through a mutual bank structure.⁴⁵ Credit unions must abide by membership restrictions, business lending constraints, guidelines for raising capital, and other regulatory hurdles that might prompt some credit unions to change their structure if the title “credit union” becomes more of a regulatory hindrance than a financial benefit.⁴⁶ This activity might also hurt the NCUA via decreased contributions to the Share Insurance Fund.

44 Wack, Kevin. *Imagining a World in Which Credit Unions Pay Income Taxes* *American Banker*, 25 Apr. 2018, <https://www.americanbanker.com/news/imagining-a-world-in-which-credit-unions-pay-income-taxes>.

45 Ibid.

46 Ibid.

Part III: Ascertaining the Membership Benefits

The final portion of this white paper will identify the beneficiaries of credit unions' tax exemption to test the assertion that the subsidy is completely transferred to credit union members in the form of financial incentives, such as below-market interest rates and above-market deposit rates. There is plenty of evidence to suggest credit unions' tax exemption is misallocated to the advantage of some third-party stakeholders and is thereby only transferred in part to their membership. The mutual-ownership structure that is central to credit unions' niche within the financial services industry is vulnerable to inefficiencies stemming from members' equal control rights. Because these rights are widely disbursed among members irrespective of factors such as account size or member history, there is little incentive for membership to meaningfully engage within institutional governance. Additionally, because members' control cannot be proxied or sold, there is a market lacking for corporate control that can provide effective oversight of credit unions' management. These issues are further compounded by lax regulatory oversight by the NCUA, which has been criticized on several occasions for employing a reactionary posture to questionable credit union operating practices. Credit unions and their allies often insist that their tax subsidy is transferred entirely to members with the exception of capital requirements and occasional regulatory expenditures. Therefore, to identify the beneficiaries of credit unions' tax exemption, this white paper will answer two questions. First, what percentage of this subsidy is delineated to credit unions' membership? And second, if there is a significant difference between the subsidy and the benefits received by members, who are the third parties that stand to gain from this externality?

"I promise you I can run a zero-balance every year."

Jim Blaine, State Employees Credit Union CEO⁴⁷

To investigate these questions, a measure of institutional inefficiency must be constructed and then compared against credit unions' tax subsidy. Institutional inefficiency, defined as the misallocation of resources resulting in productivity below an optimal level, can be divided into two components: mandated inefficiency and optional inefficiency.⁴⁸ Mandated inefficiency refers to credit unions' expected performance below the profit-maximizing level of their peers, thereby warranting a tax exemption. If credit unions charged lower interest rates to borrowers, they would be revenue-

⁴⁷ Wack, Kevin. *Imagining a World in Which Credit Unions Pay Income Taxes*. American Banker, 25 Apr. 2018, <https://www.americanbanker.com/news/imagining-a-world-in-which-credit-unions-pay-income-taxes>.

⁴⁸ Jensen, Michael C., and William H. Meckling. "Theory of the firm: Managerial behavior, agency costs and ownership structure." *Journal of financial economics* 3.4 (1976): 305-360.

inefficient by generating less profit via interest income than their institutional counterparts.⁴⁹ Similarly, if credit unions remunerated higher interest rates on deposit accounts, they would be cost-inefficient by incurring relatively higher net interest expenses. By contrast, optional inefficiency refers to credit unions' performance below a profit-maximizing level that is adjusted for mandated inefficiency.⁵⁰ Downsizing operations, extravagant expenditures, overinvestment or high-risk investment, and self-enrichment are examples of optional inefficiencies that would not be intended by a tax subsidy but could still occur through weak oversight and governance. The ideal level of institutional inefficiency for a credit union would comprise zero optional inefficiency and would be equal to the tax subsidy. If a credit union were inefficient, its institutional inefficiency would equal its tax subsidy but comprise a non-zero level of optional inefficiency; therefore, any increase in optional inefficiency would have to be offset by an equal reduction in mandated inefficiency.

This white paper assumes the following hypothesis: while credit unions' institutional inefficiency is mandated by law, it comprises non-zero levels of optional inefficiency via feeble governance structures, which causes a portion of their tax subsidy to finance activities outside the realm of membership benefits and other mandated inefficiencies. To test this hypothesis, a modified structural model was employed to deconstruct credit unions' institutional inefficiency into mandated and optional inefficiency, which would then be compared against the inefficiencies of community banks. To do so, this white paper utilizes a profit efficiency approach first introduced by Berger, Hancock and Humphrey⁵¹ and modified by DeYoung, Goddard, McKillop, and Wilson.⁵² This model assumes both types of institutions fluctuate their investments into four netputs affecting overall performance: deposits, loans, securities, and labor. These investments are constrained by fixed factors such as physical assets, equity capital, non-interest income, and existing loan portfolios, which are affected by past short-run strategic decisions. These variables are discussed further within Table 1. Each institution i operates within a particular market m at a specific time t , seeking to maximize potential profits by $\pi^*_{it} = \pi(x_{it} p_{it} z_{it})$. Within this profit function, the product of each netput vector is defined as $x_{m,t} = \{x_{i,m,t} \text{ for } j = 1, \dots, n\}$, accounting for their respective price vectors, defined as $p_{m,t} = \{p_{i,m,t} \text{ for } j = 1, \dots, n\}$, and constraining fixed factors, defined as $z_{m,t} = \{z_{i,m,t} \text{ for } j = 1, \dots, n\}$.

49 Ibid.

50 Ibid.

51 Berger, Allen N., Diana Hancock, and David B. Humphrey. "Bank efficiency derived from the profit function." *Journal of Banking & Finance* 17.2-3 (1993): 317-347.

52 DeYoung, Robert, et al. *Who Consumes The Credit Union Tax Subsidy*. American Economic Association, 2016, *Who Consumes The Credit Union Tax Subsidy*, www.aeaweb.org/conference/2017/preliminary/paper/AZTdAs6.

Table 1: Regression Outline with Variable Definitions

CREDIT UNIONS		COMMUNITY BANKS
PROFITS		
Net interest income plus non-interest income less non-interest expenses	$Profits - \pi^*_{i,t}$	Net pre-tax income plus net pre-tax non-interest income
Netputs		
Member shares, non-member deposits, other borrowings	$Deposits - x^1_{i,t}$	Deposits and other borrowings
Total loans and leases	$Loans - x^2_{i,t}$	Total loans
Total investments	$Securities - x^3_{i,t}$	Total securities investments
Full-time plus part-time employees	$Labor - x^4_{i,t}$	Full-time equivalent (FTE) employees
PRICE OF NETPUTS		
Quotient of net interest income on deposits and net deposits	$price(Deposits) - p^1_{i,t}$	Quotient of net interest income on deposits and net deposits
Quotient of net interest income on loans and net loans	$price(Loans) - p^2_{i,t}$	Quotient of net interest income on loans and net loans
Quotient of net interest income on securities plus dividends on securities and net securities	$price(Securities) - p^3_{i,t}$	Quotient of net interest income on securities plus dividends on securities and net securities
Quotient of total compensation and number of employees	$price(Labor) - p^4_{i,t}$	Quotient of total compensation and number of employees
FIXED FACTORS		
Land, buildings, and all other fixed assets	$Land - z^1_{i,t}$	Premises and fixed assets
Net worth	$Equity - z^2_{i,t}$	Equity capital
Non-interest income	$Non-Interest\ Income - z^3_{i,t}$	Non-interest income
NCUA-calculated risk-weighted assets	$Risk-Weighted\ Assets - z^4_{i,t}$	FDIC-calculated risk-weighted assets
OTHER		
Total assets	$Assets\ (a)$	Total assets
Age in years	$Birthday\ (b)$	Age in years

Each variable's individual contribution to institutional profitability can be expressed utilizing a Fuss normalized quadratic function.⁵³ The resulting equation for variable contribution to profitability is shown below:

Equation 1: Variable Profitability Contribution

$$\left(\frac{\pi^*_{i,t}}{p_{n,m,t}}\right) = \sum_{j=1}^n \alpha_j \left(\frac{p_{j,m,t}}{p_{n,m,t}}\right) + \frac{1}{2} \sum_{j=1}^{n-1} \sum_{k=1}^{n-1} + \frac{1}{2} \phi_{j,k} \left(\frac{p_{j,m,t} p_{k,m,t}}{p^2_{n,m,t}}\right) + \sum_{r=1}^m \beta_r z_{r,i,t} + \frac{1}{2} \sum_{r=1}^m \sum_{q=1}^m \theta_{r,z_{r,i,t} z_{q,i,t}} + \sum_{r=1}^m \sum_{j=1}^{n-1} \gamma_{r,j} \left(\frac{p_{j,m,t}}{p_{n,m,t}}\right) z_{r,i,t}$$

53 Denny, Michael, and Melvyn Fuss. "The use of approximation analysis to test for separability and the existence of consistent aggregates." *The American Economic Review* 67.3 (1977): 404-418.

Here, linear price homogeneity is denoted by n . Utilizing Hotelling's lemma to relate the market netput supply to an individual institution's profit,⁵⁴ the optimal netput demand is shown below:

Equation 2: Optimal Netput Demand

$$x_{j,i,t}^* = \alpha_j + \sum_{k=1}^{n-1} \varphi_{j,k} \left(\frac{p_{j,m,t}}{p_{n,s,t}} \right) + \sum_{r=1}^m \gamma_{r,j} z_{r,i,t}$$

for $j = 1 \dots, j = n - 1$

$$x_{j,i,t}^* = \alpha_j - \frac{1}{2} \sum_{j=1}^{n-1} \sum_{k=1}^{n-1} \varphi_{j,k} \left(\frac{p_{j,m,t} p_{k,m,t}}{p_{n,m,t}^2} \right) + \sum_{r=1}^m \beta_r z_{r,i,t} + \frac{1}{2} \sum_{r=1}^m \sum_{q=1}^m \theta_{r,q} z_{r,i,t} z_{q,i,t}$$

for $j = n$

These optimal netput demand equations are based on the presumption that all institutions make efficient choices. When these are complicated by institutional inefficiency, actual netput choices, $x_{j,i,t}$ are the difference between optimal netput prices $x_{j,i,t}^*$ and inefficiency, such as the overutilization of inputs or the underproduction of outputs $\delta_{j,i,t}$. Otherwise, this relationship can be denoted as $x_{j,i,t} = x_{j,i,t}^* - \delta_{j,i,t}$ where $\delta_{j,i,t}$ detracts from the optimal price point yielding actual choices.⁵⁵ By adjusting the above optimal netput demand equations for institutional inefficiency, the results are shown below:

Equation 3: Optimal Netput Demand Adjusted for Institutional Inefficiency

$$x_{j,i,t} = (\alpha_j - \delta_{j,i,t}) + \sum_{k=1}^{n-1} \varphi_{j,k} \left(\frac{p_{j,m,t}}{p_{n,s,t}} \right) + \sum_{r=1}^m \gamma_{r,j} z_{r,i,t}$$

for $j = 1 \dots, j = n - 1$

$$x_{j,i,t} = (\alpha_j - \delta_{j,i,t}) - \frac{1}{2} \sum_{j=1}^{n-1} \sum_{k=1}^{n-1} \varphi_{j,k} \left(\frac{p_{j,m,t} p_{k,m,t}}{p_{n,m,t}^2} \right) + \sum_{r=1}^m \beta_r z_{r,i,t} + \frac{1}{2} \sum_{r=1}^m \sum_{q=1}^m \theta_{r,q} z_{r,i,t} z_{q,i,t}$$

for $j = n$

Therefore, if these same principles were applied to the variable profitability contribution function, the following equation would show the impact of inefficiency on each institution's profit potential:⁵⁶

54 Altunbas, Yener, Lynne Evans, and Philip Molyneux. "Bank ownership and efficiency." *Journal of money, credit and banking* (2001): 926-954.

55 DeYoung, Robert, et al. *Who Consumes The Credit Union Tax Subsidy*. American Economic Association, 2016, *Who Consumes The Credit Union Tax Subsidy*, www.aeaweb.org/conference/2017/preliminary/paper/AZTdzAs6.

56 DeYoung, Robert, et al. *Who Consumes The Credit Union Tax Subsidy*. American Economic Association, 2016, *Who Consumes The Credit Union Tax Subsidy*, www.aeaweb.org/conference/2017/preliminary/paper/AZTdzAs6.

Equation 4: Variable Profitability Contribution Adjusted for Institutional Inefficiency

$$\left(\frac{\pi^*_{i,t}}{p_{n,m,t}}\right) = \sum_{j=1}^n (\alpha_j - \delta_{j,i,t}) \left(\frac{p_{j,m,t}}{p_{n,m,t}}\right) + \frac{1}{2} \sum_{j=1}^{n-1} \sum_{k=1}^{n-1} + \frac{1}{2} \varphi_{j,k} \left(\frac{p_{j,m,t} p_{k,m,t}}{p^2_{n,m,t}}\right) + \sum_{r=1}^m \beta_r z_{r,i,t} + \frac{1}{2} \sum_{r=1}^m \sum_{q=1}^m \theta_r z_{r,i,t} z_{q,i,t} + \sum_{r=1}^m \sum_{j=1}^{n-1} \gamma_{r,j} \left(\frac{p_{j,m,t}}{p_{n,m,t}}\right) z_{r,i,t}$$

To measure the contributions of variable inefficiency to institutional profitability, actual profits that are observable will be subtracted from estimated optimal profits. Following the work of DeYoung, Goddard, McKillop, and Wilson, fitted coefficients were substituted into the optimal netput demand equations shown above. The intercept of the regression ($\alpha_j - \delta_{j,i,t}$) represents a residual between institutional profitability and estimated inefficiency, which yields optimal efficiency $x^*_{j,i,t}$. Per the work of Berger, Hancock, and Humphrey, aggregate institutional performance between credit unions and community banks is derived by the average of i at t as ($\alpha_j - \delta_{j,mean}$).⁵⁷ All data for credit unions and community banks from 2005 to 2018 was retrieved from quarterly call reports by the NCUA and FDIC, respectively; the latter was adjusted to only capture institutions with less than \$50 billion in assets. Additionally, liquidations, acquisitions, institutions with missing data that could not otherwise be reasonably estimated, and multi-bank holding companies (BHCs) were removed from the dataset as well. Table 2 shows the progression of elimination by all criteria with which this dataset was adjusted. The final dataset for comparison contained 3,650 credit unions as well as 3,475 community banks, each with a relatively diverse sample size indicative of industrial attrition. A feasible generalized least squares (FGLS) regression technique was employed based on its reputation of versatility when examining comparisons between two populations with unequal or unknown distributions.⁵⁸

Table 2: Sample Selection Methodology

CRITERIUM	# OF CREDIT UNIONS	# OF COMMUNITY BANKS
Total institutions in 2005	8,801	8,845
# of institutions < \$50 billion in assets	-	(45)
# of credit unions & community banks	8,801	8,800
# of institutions that exited the industry	(3,309)	(3,385)
# of institutions reporting positive assets	5,492	5,415

57 Berger, Allen N., Diana Hancock, and David B. Humphrey. "Bank efficiency derived from the profit function." *Journal of Banking & Finance* 17.2-3 (1993): 317-347.

58 Roch, Sebastien, and Karl Rohe. "Generalized least squares can overcome the critical threshold in respondent-driven sampling." *Proceedings of the National Academy of Sciences* 115.41 (2018): 10299-10304.

CRITERIUM	# OF CREDIT UNIONS	# OF COMMUNITY BANKS
# of institutions with pre-tax ROA between the 10th and 90th percentile of the combined distribution (credit unions & community banks)	(830)	(900)
# of institutions remaining in the combined distribution (credit unions & community banks)	4,662	4,515
# of institutions < \$1 million in assets	1,012	(16)
# of institutions > \$10 billion in assets	-	(138)
# of institutions used in the profit function	3,650	4,361
# of institutions within multi-BHCs	-	(886)
# of institutions in the regression	3,650	3,475

Utilizing the FGLS regression technique, estimated institutional inefficiency was calculated for the 3,650-member sample of credit unions and 3,475-member sample of community banks, divided among six peer groups. Mean (\bar{x}) inefficiency was significantly higher for credit unions of all asset sizes, with an average of 3.183 basis points, though this was especially true for smaller credit unions, including those below \$10 million (5.492) and those between \$10 million and \$50 million (3.321). The standard deviation (σ) also assumed a linear trajectory contrary to credit union size, meaning there was greater variation in the inefficiency of smaller credit unions than larger credit unions. These trends were also evident among community banks, which averaged 1.124 basis points lower than credit unions. Community banks also lagged behind credit unions by an average of five basis points in mean inefficiency per dollar of assets, which was also skewed in the direction of smaller institutions in both samples. These patterns are indicative of the divergent market dynamics between credit unions and community banks—whereas subpar performance usually results in liquidation or acquisition among community banks, this does not necessarily constitute an unequivocal death sentence among credit unions. This is especially true for smaller institutions, which have to minimize their inefficiencies to maintain a minimum level of overall market competitiveness. Because credit unions are much smaller and operate within a relatively more insulated economic environment, this would explain why inefficiencies among credit unions were more pronounced than banks. Table 3 below lists the mean inefficiency, standard deviation, and mean inefficiency per dollar of assets for both credit unions and community banks within all six peer groups.

Table 3: Institutional Inefficiency by Peer Group

CREDIT UNIONS (n=3,650)		COMMUNITY BANKS (n=3,475)
# OF INSTITUTIONS		
636	< \$10M	57
932	\$10M–\$50M	238
699	\$50M–\$100M	522
639	\$100M–\$500M	1,747

CREDIT UNIONS (n=3,650)		COMMUNITY BANKS (n=3,475)
443	\$500M-\$1B	433
301	> \$1B	478
x INEFICIENCY		
5.492	< \$10M	3.195
3.321	\$10M-\$50M	2.200
3.015	\$50M-\$100M	1.282
3.272	\$100M-\$500M	2.631
1.927	\$500M-\$1B	1.588
1.803	> \$1B	1.190
σ INEFICIENCY		
2.147	< \$10M	2.082
2.815	\$10M-\$50M	2.106
1.624	\$50M-\$100M	1.029
0.935	\$100M-\$500M	0.876
0.551	\$500M-\$1B	0.587
0.731	> \$1B	0.612
x INEFICIENCY PER DOLLAR OF ASSETS		
0.341	< \$10M	0.293
0.329	\$10M-\$50M	0.285
0.301	\$50M-\$100M	0.266
0.298	\$100M-\$500M	0.242
0.309	\$500M-\$1B	0.240
0.291	> \$1B	0.245

However, these results do not answer the main question of this analysis: What part of institutional inefficiency is mandated versus optional? The decomposition of institutional inefficiency among each variable netput is shown in Table 4, as are the adjusted differences between credit unions and community banks when these values are applied to their respective net incomes. Credit unions exhibited the highest inefficiency among deposits (0.00905), which makes sense given their mandate to operate below profit-maximizing standards to serve their constituents. However, they were also much more labor-inefficient than community banks (0.00575 > 0.00251), which provides credence to the argument that at least some of credit unions' inefficiency stems from employment and compensation-related costs that are not as evident among community banks. In fact, community banks showed the lowest inefficiency in labor (0.00251) over all other netputs and the highest amount of inefficiency in loans compared to credit unions (0.00708 > 0.00480). This shows that credit unions are a competitive alternative to community banks within the loan market, and that they are aided significantly by their tax exemption. However, these estimates capture deviations from competitive market pricing and varying loan portfolio structures between credit unions and community banks that could not be isolated or mitigated. When applying these inefficiency scores by net income, the largest

differences were in labor and deposits (32.4 and 24.4, respectively), while securities and loans were much less pronounced (19 and -22.8, respectively).

Table 4: Decomposition of Institutional Inefficiency by Netput

INSTITUTION	DEPOSITS	LOANS	SECURITIES	LABOR
Credit Unions (n = 3,650)	0.00905	0.00480	0.00521	0.00575
Community Banks (n = 3,475)	0.00661	0.00708	0.00502	0.00251
Adjusted Δ%	24.4	-22.8	19	32.4

These results are further validated via four matched-pair sample tests between credit unions and community banks at varying levels of locality. These tests revealed between 69 and 82 percent of the inefficiency disparity between credit unions and community banks can be explained by deposit netputs, which is evidence that a substantial portion of credit unions' tax exemption reaches its membership via mandated inefficiency. However, between 21 and 33 percent of the inefficiency gap can also be explained by labor inefficiencies, which, as per the regression results in Tables 3 and 4, are more predominant in credit unions than community banks. Loans and securities do not have much of an effect on the overall inefficiency disparity, but supplement opposing conclusions from these results. If mandated inefficiency comprised deposit and loan inefficiencies, the results would show that credit unions do not pass along a significant percentage of their tax subsidy to members, ranging from 21 to 33 cents per dollar. Considering that credit unions engage in risky financial activities while lacking internal controls to monitor and regulate their behavior, it is perfectly plausible to conclude credit unions do not pass along their entire tax subsidy to members. These conclusions are further exhibited in a matched-pairs analysis between credit unions and community banks at varying levels of locality. Table 5 shows inefficiency differences between both institutions; coefficients are shown with ** or *** indicating significance at the 0.05 and 0.01 level, respectively, and the corresponding z-statistics are italicized.

Table 5: Matched Pair Sample Test Results by Netput

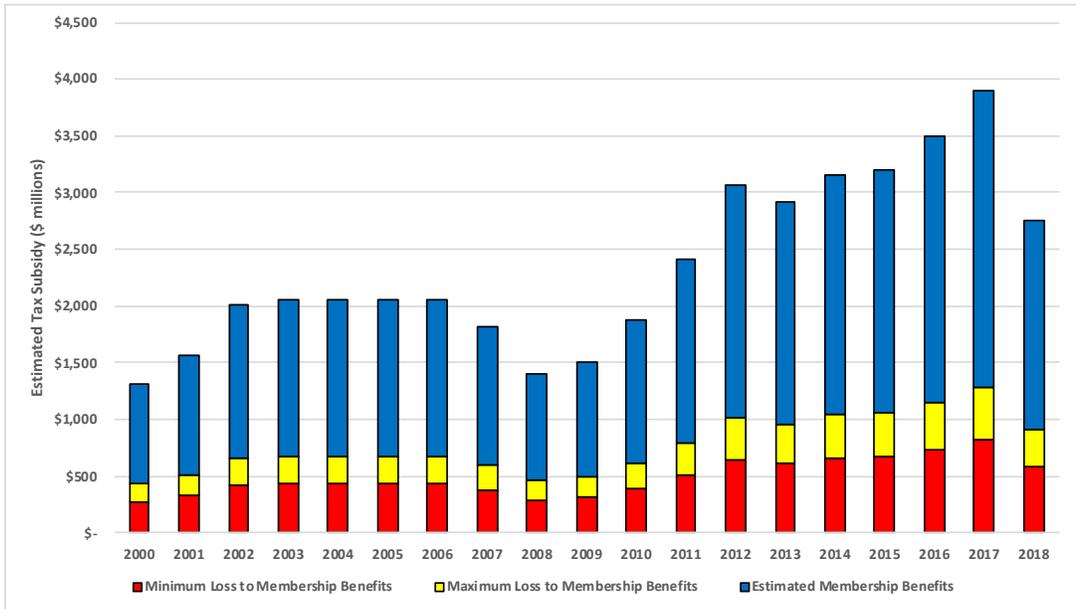
MATCHED PAIR SAMPLE	DEPOSITS	LOANS	SECURITIES	LABOR
City (n = 172)	0.00126**	-0.00005***	0.00002***	0.00031***
	-0.77	0.59	8.04	25.76
	82%	-3%	1%	20%
Congressional District (n = 338)	0.00149**	-0.00005***	0.00007***	0.00041***
	-0.65	0.62	11.75	25.52
	78%	-3%	4%	21%
State (n = 601)	0.00155**	-0.00006***	0.00007***	0.00063***
	-0.60	0.74	15.26	25.02
	71%	-3%	3%	29%

MATCHED PAIR SAMPLE	DEPOSITS	LOANS	SECURITIES	LABOR
	0.00180**	-0.00007***	0.00008***	0.00079***
Region (n = 995)	-0.46	0.87	21.91	24.51
	69%	-3%	3%	30%

Estimating the Loss to Credit Union Membership

The final step of this analysis is to put these results into some context. Credit unions' tax obligation was estimated between 2000 and 2018 in Part II of this white paper. Figure 10 shows the minimum and maximum loss to credit unions' membership by defining optional inefficiency as the sum of securities and labor inefficiencies, as well as the residual benefits to credit union' membership through mandated inefficiency. Credit unions still transfer a sizeable portion of their tax exemption to their members, but is the current proportion sufficient? In 2018 under the TCJA, between \$579 million and \$911 million was lost via optional inefficiencies that financed activities outside credit unions' mandate and benefitted a smaller subset of credit unions' stakeholders, such as management, employees, and non-member investors. Obviously, legislators and regulators would concur federal financing of extraneous hiring, lavish bonuses, and high-risk investments was neither intended by credit unions' tax exemption nor would be condoned. Yet given these statistical results, the question becomes: Are policymakers comfortable with such externalities as a byproduct of their tax policy? In 2017, credit unions lost between \$800 million and \$1.2 billion in optional inefficiencies, a substantial sum when considering the opportunity cost to public utilities such as law enforcement, infrastructure, and other necessary social services supported by tax revenues. In conjunction with the evidence shown in Part I that demonstrates credit unions are venturing outside the bounds of their original mandate, policymakers would be justified in reviewing and revising their stance on this issue in the interests of credit unions' membership, taxpayers, and the economy at large.

Figure 10: Minimum and Maximum Estimated Loss to Membership



Conclusion

Credit unions' tax exemption continues to be a contentious issue among credit unions of various sizes and community banks. On one hand, credit unions contend they were tasked to serve a unique niche in the financial services industry and require such an exemption to make inefficient choices that benefit their members while creating a competitive alternative to for-profit, market-driven institutions. On the other hand, community banks maintain credit unions have outgrown these noble ideals as the byproduct of changing market dynamics and weak regulatory oversight to become institutional equals, only with a disproportionate competitive advantage. While the debate has become charged, this white paper refocuses it around a quantitative analysis of the rationale behind the tax exemption as well as its opportunity cost to taxpayers, credit union members, financial institutions, and the federal government. By testing the validity of asseverations on both sides of this debate, the conclusions from this white paper should challenge the status quo and the notion that the estimated opportunity costs and economic implications are worth the taxpayer-funded credit union subsidy.

This white paper found sufficient quantitative evidence suggesting credit unions have deviated from the original niche-specific mission upon which their tax exemption is based. Credit unions do not concentrate their financial services toward individuals of modest means, even when accounting for consolidation within the industry, and they have aggressively expanded the boundaries governing their common bond limits through new definitions of eligibility such as multiple or community bonds. Furthermore, credit unions are just as risky as their stockholder-owned, profit-driven institutional counterparts by engaging in similar investment practices and failing at a higher rate as these activities become riskier. This white paper also estimated credit unions' tax exemption to cost federal tax authorities between \$2 billion and \$3 billion annually, which would be substantially shouldered by only 311 individual institutions with assets over \$1 billion. These opportunity costs also trickle down to the state level, affecting local and regional economies proportionate to the credit union presence in each individual state. Finally, this white paper found reasonable evidence to suggest that credit unions do not pass their entire tax subsidy onto members, which is lost in extraneous labor and securities costs that benefit third-party stakeholders such as credit union management, employees, and non-member investors. Such expenditures could include executive compensation and employee benefits, exorbitant advertising campaigns, aggressive M&A, and secondary capital accumulation. Some of these concerns are impossible to fully ascertain, such as executive compensation, because credit unions have repeatedly opposed filing IRS Form 990, which would give regulators and the public at large more

insight to their organizational compensation practices.⁵⁹ Nevertheless, this white paper estimated for every dollar subsidized by the average taxpayer, credit unions pocket between 21 and 33 cents.

In light of these findings, it is difficult to contend that some change in the current status quo is not warranted. Legislators and regulators have many options to ensure credit unions remain focused on their original mandate and complement other players within the financial services industry. First, stringent supervision by the NCUA and other regulatory authorities would help ensure credit unions are focused on the communities they were meant to serve and activities expected of them, supplemented with legislation that clarifies the boundaries of this mandate and reflects the current market environment in which credit unions must operate. Next, legislators must repeal the tax exemption starting with credit unions over \$1 billion in assets, as well as those that egregiously or repeatedly supersede the terms of their mandate. This would be an effective bulwark against credit unions receiving a disproportionate and undue advantage that is not even fully shared with their members or the communities they serve. Finally, incentivizing stronger oversight measures within credit unions themselves would prevent extraneous expenditures by prompting members to gauge the appropriateness of various activities with the organization. Any of these corrective measures would be a good start to ensuring that community banks and credit unions have a wide, individual lane in which to fulfill their niche purpose, which would return the status quo to a healthy equilibrium in which both institutions fairly coexist, serving their own unique customers to the benefit of a prosperous economy for all.

59 Nussle, Jim. "Letter to Chairman Orrin Hatch." Received by Orrin Hatch, *Removing Barriers Blog*, Credit Union National Association, 25 Apr. 2018.

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