Does Tax Enforcement Affect Financial Service Quality? Evidence from CFPB Complaints

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Abstract: I examine the relation between tax enforcement and financial service quality. Although prior studies indicate that tax enforcement can have both positive and negative unintended consequences, the existing literature provides limited insights into the spillover effects of tax enforcement on firm behavior under the jurisdiction of non-tax regulators and whether frictions arising from these regulators can impact firms' responses to tax enforcement. Using banks' exposure to the IRS and consumer complaints to the Consumer Financial Protection Bureau (CFPB), I find that tax enforcement targeting banks is associated with lower financial service quality. I further observe that the complaints consumers file with the CFPB align with potential responses of banks to the increased tax burden from tax enforcement. I find that the CFPB's enforcement actions mitigate the negative spillover effect of tax enforcement on the quality of financial services. Overall, the results of this study suggest that while the enforcement activities of the IRS can have negative implications for financial service quality, regulators responsible for ensuring consumer financial protection, and, by extension, financial service quality, help mitigate these adverse effects.

Keywords: Tax enforcement; IRS exposure; financial service quality; consumer complaints; Consumer Financial Protection Bureau

INTRODUCTION

I examine whether and to what extent tax enforcement is associated with the quality of financial services experienced by bank customers. The appropriate level of tax enforcement remains a recurring public policy debate as governments address tax avoidance. While tax enforcement can reduce tax avoidance and increase government revenue, concerns persist regarding its spillover effects on businesses, corporate stakeholders, and society (Lester and Olbert 2025). Furthermore, a key consideration in policy decisions is the potential for spillover effects, in which the actions of one regulator influence firm behavior under another regulator's supervision (Barrios, Gallemore, and Lin 2024). Although prior studies suggest that firms subject to tax enforcement are more likely to receive sanctions from non-tax regulatory authorities for non-financial misconduct (Ferguson, Hills, and Krupa 2024), there is limited evidence linking tax enforcement to firm activities under these regulators' purview or on whether these regulatory actions influence the spillover effects of tax enforcement on firm behavior. The issue of financial service quality, a core regulatory objective of the Consumer Financial Protection Bureau (CFPB), is particularly salient given the persistent increase in consumer complaints about banking products and services to the CFPB, as well as the CFPB's financial and operational constraints.[1]

Examining the relationship between tax enforcement and financial service quality is essential for designing tax policies that benefit the government, banks, and consumers, or at least balance tax enforcement goals with the needs of banks and consumers. Additionally, this context allows for examining whether frictions imposed by non-tax regulatory authorities, through

[1] Financial service quality is broadly defined as deviations from the service expectations of bank customers (Parasuraman, Zeithaml, and Berry 1985). Thus, bank customers file complaints with the CFPB when the services banks deliver do not meet their expectations.

supervision and sanctions, prevent firms from passing the costs of tax enforcement to consumers, despite firms' potential inclination to do so. The potential for banks to share the costs of tax enforcement with their customers is high, given banks' market power and the inelasticity of demand for financial products and services (Bar-Gill and Warren 2008; Campbell, Jackson, Madrian, and Tufano 2011; Drechsler, Savov, and Schnabl 2017, 2021). Conversely, banking regulators, particularly the CFPB, aim to ensure that banks deliver high-quality financial services, and since the global financial crisis, there has been increased emphasis on the fair treatment of customers. The threat of potential penalties or the costs of actual penalties may deter banks from sharing the burden associated with tax enforcement with consumers. Finally, this context enables the assessment of whether tax enforcement complements or compromises the efforts of non-tax regulators. For example, if tax examiners restrict the deductibility of loan losses, banks may respond by limiting lending to higher-risk customers or by intensifying debt collection efforts.

Ex ante, the association between tax enforcement and financial service quality is ambiguous. On the one hand, there may be a negative association between tax enforcement and financial service quality. First, tax enforcement may result in additional tax payments, interest, penalties, or even increase compliance costs, negatively affecting banks' performance and cash flows (Hoopes, Mescall, and Pittman 2012; Gupta and Lynch 2016). In response, banks may raise customer fees or adopt aggressive banking practices to offset these higher costs, as they have significant market power and can easily pass on the costs of tax enforcement to consumers. Second, tax enforcement may limit banks' investments in personnel, branches, or products, all of which are critical to delivering better financial services (Gallemore and Jacob 2025; Kim 2024; Hall and Jorgenson 1967). Additionally, resources and managerial attention may be diverted

from core banking activities to address tax audits or compliance requirements. These may reduce the quality of financial services that banks provide their customers.

However, the anticipated negative association between tax enforcement and financial service quality may not materialize if the threat or cost of penalties deters banks from passing tax enforcement costs on to consumers. Since its establishment in 2011, the CFPB has levied approximately $25 billion in penalties against banks for violations of consumer financial protection rules. These substantial penalties may discourage banks from reducing the quality of their financial services in response to tax enforcement pressures.

Furthermore, there may be a positive association between tax enforcement and financial service quality. Tax enforcement may enhance governance and oversight within banks (Desai, Dyck, and Zingales 2007; Yost and Shu 2022). Banks' external stakeholders that supply banks with funds may view the improvements in governance and oversight positively, lowering the costs of banks' funding and improving the delivery of financial services of banks through lower fees and less aggressive consumer banking practices (El Ghoul, Guedhami, and Pittman 2011; Guedhami and Pittman 2008; Gallemore and Jacob 2020).[2]

To assess the relation between tax enforcement and the quality of financial services, I utilize a sample of large banks with consumer complaints in the CFPB database from 2012 to 2019. I measure financial service quality at the bank-year level as the number of complaints against a bank. I employ the tax enforcement proxy of Armstrong, Glaeser, and Hoopes (2025), which is a bank-specific, time-varying measure of banks' exposure to the IRS.[3] I utilize a

[2] The market costs of poor financial service quality may deter banks from reducing the quality of their services. Market forces, such as investors and depositors, respond negatively to lower financial service quality (Dou and Roh 2023; Dou, Hung, She, and Wang 2024). Also, the personnel of the tax function of banks might have little to no interaction with the provision of financial services. Hence, the interaction of tax authorities with the tax departments of banks may have no bearing on the delivery of financial services.

[3] It is measured as the number of sentences referring to IRS enforcement activities scaled by the total number of sentences in the 10K of firms.

Poisson regression model for my analyses because my outcome variable is a count variable (Cohn, Liu, and Wardlaw 2022). I include year fixed effects to control for economy-wide trends, such as increased regulatory pressure, and bank fixed effects to absorb bank heterogeneity, including banks' aggressive tendencies or culture that could drive aggressive tax and bank behavior. My specification estimates within each bank whether increases in tax enforcement are associated with the quality of financial services. My results suggest that tax enforcement is negatively associated with financial services quality, as indicated by a higher number of complaints from customers of banks with high exposure to the IRS.[4]

Next, I examine whether the issues customers complain about align with potential actions banks may take in response to tax enforcement, utilizing CFPB's classification of consumer complaints. Banks' responses to increased tax burdens from enforcement may include raising rates or fees on products, lowering interest rates on deposits, engaging in aggressive debt collection practices, employing deceptive marketing tactics, and refusing to refund unauthorized transaction fees. Additionally, banks may reduce hiring, branch expansion, and investments in operations (Gallemore and Jacob 2025), which could adversely affect the quality of financial services. I document that tax enforcement explains the cross-sectional variation in complaints about fee increases, aggressive debt collection, deceptive marketing, customer service issues, and refusal to refund unauthorized transactions across banks.[5]

I further assess the heterogeneity in the relation between tax enforcement and financial service quality. It investigates whether the results differ across expected tax enforcement costs,

[4] Analyses of the relation between tax enforcement and financial service quality at the bank-county level show similar results. Further analyses show that tax enforcement is associated with both severe and less severe complaints.

[5] In untabulated analyses, I observe that tax enforcement is associated with a lower number of employees and deposit rates, as well as higher fees on deposit accounts.

bank performance, and available resources. The negative association between tax enforcement and financial service quality is likely to be more pronounced among banks with higher tax enforcement costs or poor performance, as these institutions may have stronger incentives to offset tax costs or improve performance. Additionally, the negative relationship is likely to be stronger among banks with fewer resources, as these banks may be more constrained in their ability to manage tax enforcement.[6] The results indicate that the negative association is most evident among banks with higher anticipated tax enforcement costs, lower performance, and fewer resources. These findings suggest that banks facing higher costs, poor performance, or limited resources are more likely to transfer the burden of tax enforcement to customers by providing lower-quality financial services.

Additionally, I assess whether the CFPB's enforcement actions affect the association between tax enforcement and financial service quality. The preceding results indicate that frictions resulting from sanction threats and bank regulator supervision do not limit banks' incentives to pass on tax enforcement costs to consumers. This analysis examines whether actual enforcement actions and the costs imposed by bank regulators reduce banks' propensity to pass tax enforcement costs to consumers. The findings demonstrate that CFPB enforcement actions mitigate the negative association between tax enforcement and financial service quality.

Finally, I conduct multiple analyses to assess the robustness of my results. First, I assess whether tax enforcement is associated with future and past consumer complaints. I document that tax enforcement is associated with future consumer complaints, but not past consumer complaints, limiting concerns about reverse causality. Second, I use UTB settlements with tax authorities as a proxy for tax enforcement and observe that UTB settlements are negatively

[6] This effect also relates to tax enforcement's impact on investments, which are necessary for delivering high-quality financial services.

associated with the quality of financial services. This finding suggests that cash outflows resulting from tax enforcement are associated with lower-quality financial services. Third, I assess whether there are differences in the number of complaints filed against credit unions and commercial banks, and whether the presence of credit unions in a county explains variation in the number of complaints across counties. Credit unions are tax-exempt financial institutions that offer services similar to those provided by commercial banks. However, their operating profits are not subject to taxation, so they do not file income tax returns or undergo IRS audits. I document a statistically significant difference in the number of complaints between credit unions and commercial banks with IRS exposure, while no difference is observed between credit unions and commercial banks with zero IRS exposure. Finally, in a staggered DID, I observe that the closure of credit unions in a county is associated with a decrease in financial service quality in that county.

This study makes several significant contributions to the literature. First, it extends research on the spillover effects of tax enforcement. Prior studies have examined the impact of tax enforcement on corporate governance, financial reporting, the cost of capital, going concern, investments, employment, and regulatory sanctions (Goldman, Lampenius, Radhakrishnan, Stenzel, and de Almeida 2024; Gallemore and Jacob 2025; Cowx 2025; Yost and Shu 2022; De Simone, Stomberg, and Williams 2023; Mason and Williams 2022; Belnap, Hoopes, Maydew, and Turk 2024; Ferguson et al. 2024; Hanlon, Hoopes, and Shroff 2014). However, existing literature provides limited insight into the spillover effects of tax enforcement on firm behavior when non-tax regulators are involved and when these authorities may constrain firms' responses to tax enforcement. Using the banking sector and consumer complaints to the CFPB as a context, the findings indicate that supervision and the threat of enforcement by non-tax regulatory

authorities do not constrain firms' responses to tax enforcement. In contrast, actual enforcement actions by non-tax regulators do constrain firms' responses to tax enforcement.

Second, it extends the existing literature on taxation and banking, addressing the call for research on the impact of taxation on financial institutions (Andries, Gallemore, and Jacob 2017; Kang, Li, and Lin 2021; Hanlon and Heitzman 2010). While prior studies have examined how taxation affects banks' financial reporting and prices of bank loans, this study shows that tax policies, such as enforcement, can affect banks' operational performance and the quality of the financial services they provide. This suggests that the regulatory burden of taxation extends beyond banks' financial outcomes and significantly affects how banks serve their clients.

Finally, this study contributes to the literature on the determinants of financial service quality and, by extension, consumer financial protection (Dou and Roh 2023; Hayes, Jiang, and Pan 2021; Begley and Purnanandam 2021; Sedunov 2020; Mazur 2022; Shi, Duy Nguyen, and Wang 2023). Prior research identifies banks' financial reporting incentives, bank regulators' activities, and customer demographic characteristics as key determinants of financial service quality. Although understanding these factors is important for policymaking related to consumer financial protection, there remains a significant gap in empirical research on the influence of non-bank regulatory authorities. The present study demonstrates that enforcement activities by non-bank regulators, such as the IRS, can negatively impact consumer financial protection.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Tax Enforcement

Tax enforcement remains a central issue in policy debates and academic research because of its potential to reduce tax avoidance and increase government revenue. The existing literature

demonstrates that tax enforcement by authorities enhances tax collection (Hoopes, Mescall, and Pittman 2012; Gupta and Lynch 2016). However, prior studies indicate that the costs of tax enforcement extend beyond direct tax expenses, such as additional tax payments, penalties, interest, and compliance costs. These costs also include spillover effects on investment, innovation, business survival, and employment (Belnap et al. 2024; Cowx 2025; Goldman et al. 2024; Gallemore and Jacob 2025). For instance, Cowx (2025) finds that tax enforcement is associated with reduced research and development investment. Goldman et al. (2024) report that the threat of tax enforcement is associated with lower innovation. Belnap et al. (2024) document a negative association between tax enforcement and business survival.

Prior studies also suggest that tax enforcement may have positive externalities for firms and their stakeholders beyond costs. These benefits or positive externalities arise from improved governance and oversight, which limit managerial diversion and enhance firms' information environments (Desai et al. 2007; Desai and Dharmapala 2006). Prior studies document that tax enforcement improves financial reporting transparency, restricts managerial hoarding of information, lowers the cost of capital, and increases access to capital (Gallemore and Jacob 2020; Hanlon et al. 2014; Mason and Williams 2022; El Ghoul et al. 2011; Guedhami and Pittman 2008).

Though prior studies indicate that one regulator’s actions may impact firm behavior subject to the supervision of another regulator, limited evidence exists on the spillover effects of tax authorities’ enforcement activities on firm behavior under the purview of non-tax regulators. A study by Ferguson et al. (2024) indicates that firms subject to IRS enforcement are more likely to receive sanctions from non-tax regulators for non-financial misconduct. However, there is limited evidence linking tax enforcement to firm activities under these regulators' purview, or on

whether these regulatory actions influence the spillover effects of tax enforcement on firm behavior.

Examining the association between tax enforcement and financial service quality shall provide insight into whether tax authorities' enforcement activities undermine or complement the objectives of other regulators. This analysis also addresses whether frictions introduced by non-tax regulators, through the threat of penalties or actual enforcement actions, influence the spillover effects of tax enforcement on firm behavior. Understanding this relationship is essential for designing policies that increase tax revenues while mitigating potential unintended consequences.

Tax Enforcement and the Banking Sector

Gallemore and Jacob (2020) investigate banks' perspectives on tax enforcement directed at non-financial firms. Their findings indicate that banks view such enforcement positively, attributing this to potential enhancements in firms' information environments and corporate governance. Consequently, banks tend to increase lending to firms experiencing heightened tax enforcement. However, empirical evidence regarding the effects of tax enforcement specifically targeting banks remains limited. Prior research suggests that banks may engage in higher levels of tax avoidance than non-financial firms, potentially leading to increased tax enforcement actions against them (Donohoe 2015; Dyreng, Hanlon, and Maydew 2008).

The distinctive characteristics of banks' operations have led the IRS to implement specialized tax enforcement and compliance rules for the banking sector. For example, provisions for loan losses, which represent a significant expense for banks, are not tax-deductible (Kang et al. 2021). Instead, banks may deduct loan charge-offs as bad debt expenses on their tax returns. The regulations governing these deductions are both restrictive and uncertain,

particularly when banks fail to meet all the criteria for claiming charge-offs (Thornton 2024). The rule governing banks' loan-loss deductions is called the bad-debt conformity election. To utilize this election, the IRS mandates that bank examiners verify four specific requirements: a valid conformity election on Form 3115, an express determination letter from the bank's regulator confirming adherence to prudential regulations, confirmation of loan charge-offs in regulatory reports, and classification of the loans as loss assets. Banks argue that these tax enforcement and compliance requirements are burdensome and in need of reform (ABA 2021, 2013). Compliance costs are likely to become especially significant during IRS audits, given the restrictive nature of the rules and the detailed instructions provided to bank tax examiners.

CFPB and Financial Service Quality

Financial service quality came to the fore of regulation and media attention with the enactment of the Dodd-Frank Act of 2010 after the 2008 financial crisis. The Dodd-Frank Act established the CFPB, which began operations in July 2011. The CFPB oversees depository institutions with assets exceeding $10 billion and non-depository institutions, enforcing federal consumer financial laws to ensure transparency, fairness, and competition in consumer financial markets. Prior to the establishment of the CFPB, consumer financial issues were overseen by a dozen organizations, resulting in inefficient and inconsistent regulation of consumer financial issues. The CFPB engages in several critical functions to protect consumers in the financial sector. These include rooting out unfair, deceptive, or abusive acts or practices by creating rules, supervising companies, and enforcing the law. The CFPB enforces laws that prohibit discrimination in consumer finance and actively takes consumer complaints to address issues faced by individuals. Additionally, the bureau works to enhance financial education and

consumers' experiences with financial products. Lastly, it monitors financial markets to identify and mitigate new risks that may affect consumers.

As part of its mandate, the CFPB collects and publishes consumer complaints about financial products and services. This complaint system enables consumers to share their grievances and experiences with a regulator, seeking redress. After receiving complaints, the CFPB forwards them to the respective companies and publishes them either when the company responds or after 15 days, whichever occurs first. Most complaints filed with the CFPB are resolved through explanations provided by the banks. However, banks occasionally resolve complaints with relief, monetary or otherwise, to customers. Academic interest in the quality of financial services grew alongside these developments, particularly following the public disclosure of the consumer complaints database by the CFPB.

The existing literature on the factors influencing financial service quality (FSQ) suggests that both demographic characteristics and the transparency of information regarding the quality of financial services play a crucial role in the quality of financial services provided by banks (Hayes et al. 2021; Hayes, Jiang, Pan, and Tang 2025; Mazur 2022; Begley and Purnanandam 2021; Sedunov 2020). Specifically, Hayes et al. (2021) document that communities with high levels of trust are more likely to make complaints against banks to the CFPB, and they receive higher financial service quality following the disclosure of the complaints database. Mazur (2022) also observes that banks increased their mortgage lending to underserved areas following the disclosure of the complaints database. Sedunov (2020) finds that communities with a higher number of smaller banks experience better banking outcomes. On the other hand, Begley and Purnanandam (2021) document that regulations intended to enhance the availability of financial services for minority populations result in lower-quality financial services.

Recent studies also explore the consequences of having lower financial service quality or receiving many complaints. Dou and Roh (2023) document that banks with a high volume of mortgage complaints experienced a decline in demand for their mortgage products following the disclosure of the complaints by the CFPB. Similarly, Jou, Kleymenova, Passalacqua, Sándor, and Vijayaraghavan (2024) also document that banks with more complaints experience a reduced demand for their deposit products. Dou et al. (2024) further observe that banks with more complaints faced increased competition after the disclosure of the complaints. Finally, banks with lower financial services quality experience a negative market return and high stock trading volatility after the disclosure of the complaints (Dou and Roh 2023; Jou et al. 2024).

Overall, the nascent literature in this area suggests that lower financial service quality is costly. Therefore, it is imperative to examine and understand the factors that influence the quality of financial services in order to enhance the experiences of bank customers and consumer financial well-being. So far, the literature has explored how demographic factors, financial access regulations, local banking features, banks' financial reporting incentives, and the disclosure of consumer complaints affect the quality of financial services. However, the extent to which the costs imposed on banks by non-bank regulators affect the quality of financial services remains underexplored. To extend this literature stream, I examine whether and how enforcement by tax authorities, which imposes a significant burden through higher tax payments and compliance costs on firms, impacts the quality of financial services.

Hypothesis Development

Ex ante, the association between tax enforcement and financial service quality is ambiguous, as three mechanisms may influence its direction. The first mechanism posits that banks may transfer tax enforcement costs to their customers (Jacob, Müller, and Wulff 2023),

thereby reducing the quality of financial services. Tax enforcement costs are not limited to additional tax payments, penalties, interest, and compliance costs, which can reduce banks' after-tax cash flows. They also include the diversion of managerial attention from core operations and reduced investment in personnel, branches, and technology, all of which are essential for delivering high-quality financial services. Higher direct tax enforcement costs are likely to impair banks' performance and increase incentives to reduce service quality. Limited investments in personnel, branches, and technology, driven by tax disincentives, may further contribute to lower financial service quality.

In their model, Dyreng, Jacob, Jiang, and Müller (2022) demonstrate that tax enforcement reduces firms' ability to minimize tax payments, thereby increasing the share of tax costs borne by consumers. Jacob et al. (2023) provide empirical evidence that firms pass tax costs to customers when tax enforcement is stronger. Consumers often lack the resources or expertise to understand complex banking products and services, which grants banks significant power over their customers (Campbell et al. 2011; Bar-Gill and Warren 2008; Drechsler et al. 2017, 2021). As tax enforcement increases banks' costs and reduces after-tax performance, banks are more likely to transfer these costs to customers through aggressive practices. Such practices may include unexpected fee increases, unauthorized account deductions, opening accounts without customer consent, targeting vulnerable groups, and refusing to refund payments for fraud. Therefore, the first mechanism suggests that tax enforcement is negatively associated with financial service quality.

The second mechanism posits that frictions imposed by banking regulators may limit banks' incentives and opportunities to transfer tax enforcement costs to customers, resulting in no effect on financial service quality. While prices are typically unregulated, the delivery of

financial services is subject to regulation and oversight by banking authorities. As an extension of the model by Dyreng et al. (2022), the regulation of financial service quality may serve as an additional constraint that could prevent banks from passing on increased tax costs to customers. The threat or imposition of enforcement actions by banking regulators may deter banks from shifting the tax enforcement burden to consumers. These regulatory frictions may increase the cost of transferring tax enforcement costs to customers. Since the Consumer Financial Protection Bureau (CFPB) began operations in 2011, banks have paid approximately $25 billion to the CFPB and to consumers for violations of consumer financial laws or for delivering lower-quality financial services.

The third mechanism suggests that tax enforcement may benefit banks and their customers. Banks rely on funds from depositors, bondholders, and equity holders, who may perceive tax enforcement as an additional monitoring mechanism that enhances governance and oversight (Desai et al. 2007; Desai and Dharmapala 2006). Improved governance and oversight could lead to lower deposit interest rates or lower costs for other funding sources (El Ghoul et al. 2011; Guedhami and Pittman 2008). As interest expenses on deposits are a high cost for banks, reducing them may improve the quality of financial services. Hence, to the extent that tax enforcement enhances monitoring and oversight and reduces banks' financing costs, it may be positively associated with financial service quality.

Given these conflicting predictions regarding the association between tax enforcement and financial service quality, I state my hypothesis in the null form.

H1: Tax enforcement is not associated with financial service quality.

METHODOLOGY

Data and Sample Selection

I gather data from various sources for my analyses. I obtain data on financial service quality from the CFPB Consumer Complaints database. I utilize the tax enforcement data from Armstrong et al. (2025), which is available on Daphne Armstrong's website, and manually collect bank UTB data from SEC Edgar. Bank financial information and branch data are from the FDIC Statistics on Depository Institutions (SDI) and Summary of Deposit (SOD) databases. Credit union information is sourced from the National Credit Union Administration (NCUA), and county demographic data is obtained from the American Community Survey (ACS).

Table 1 provides a summary of my sample selection procedure. I begin my sample with daily complaints against CFPB-supervised banks – banks with assets greater than $10 million – for the years 2012 to 2019. My sample begins in 2012, the first complete year of data collection by the CFPB, and ends in 2019, the last year for which tax enforcement data from Armstrong et al. (2025) is available. Aggregating the daily complaints data to the bank year level resulted in 720 bank year observations. I lose 150 bank year observations after merging the complaints dataset with the bank name-gvkey-cert linking table. I drop an additional 124 bank year observations that do not have tax enforcement variables and control variables, resulting in a final sample of 446 bank year observations.

Research Design

To examine the association between tax enforcement and quality of financial services, I estimate Equation 1 using a Poisson regression. A Poisson regression is appropriate for my analysis because the outcome variable, the number of complaints against a bank, is a count variable (Cohn et al. 2022; Wooldridge 2023; Hoang and Wooldridge 2024). According to Cohn

et al. (2022), a Poisson regression has several features that make it suitable for estimating a count outcome, such as the number of complaints against a bank. First, the restrictive assumptions of a Poisson model, such as the equality of the mean and variance, do not bias the estimates; instead, they only reduce efficiency. Second, it fits an exponential model to relationships that are likely to be approximately exponential, rather than forcing the data to fit a linear model. Third, unlike log-linear regressions, heteroskedasticity does not result in a biased estimate. Finally, it allows for separable fixed effects and yields estimates with straightforward interpretations.

$$NumComplaints_{it} = TaxEnf_{it} + Controls + BankFE + YearFE + \varepsilon_{it} \quad (1)$$

$NumComplaints$ represents my proxy for financial service quality, which is measured as the number of complaints against a bank in a year. The complaints reported to the CFPB reflect the direct experiences of customers (Jou et al. 2024) and serve as a valuable indicator of the quality of financial services for several reasons. First, the CFPB confirms the commercial relationship between the consumer and financial service provider before forwarding the complaints to the financial institutions for redress. The CFPB does not publish complaints that are determined to be frivolous or substantially similar to a previous complaint from the same consumer. Second, the association between CFPB complaints and consumer behavior is consistent with the notion that CFPB complaints reflect the quality of financial services (Jou et al. 2024; Dou and Roh 2023). For example, the complaints are associated with a decrease in demand for banks' mortgage and deposit products, suggesting low satisfaction with these banks' products. Third, the complaints are associated with the enforcement actions of the CFPB.

My measure for tax enforcement is $TaxEnf$, which refers to the exposure of banks to the IRS. The IRS exposure measure is a validated scale of tax enforcement by the IRS (Armstrong et al. 2025; Ferguson et al. 2024). It is derived from the 10-Ks of public firms and measured as the number of sentences referencing the enforcement of the IRS divided by the total number of sentences in the 10-K.[7] Armstrong et al. (2025) demonstrate that the IRS exposure is associated with IRS downloads of financial statements, and a reduction in the IRS budget significantly influences this scale. This measure not only captures IRS audits but also encompasses the rule-making authority of the IRS, representing all the pressures banks face from the IRS. The broad nature of this measure is appropriate in my setting because the impact of the IRS on banks is likely not solely a result of tax audits and their outcomes. In additional analyses, I use UTB settlement with tax authorities as a proxy for the effect of extra cash payments following an IRS audit.

I account for several factors that affect the quality of financial services and tax enforcement in my model. I control for the pressure from prudential bank regulators. As the primary regulators of banks, this pressure may lead to lower financial service quality, as banks prioritize compliance with prudential issues over consumer needs. However, prudential regulators could also deter banks from lowering the quality of financial services. I also include enforcement actions from the CFPB in my analysis. This factor addresses both the pressure exerted by the CFPB and the likelihood that a bank may be a bad actor within the consumer finance space.

[7] A government agency exposure sentence in a 10K is a sentence that comprises both a federal agency name and an agency action word, such as "regulat, jurisdiction, investigat, inspec, enforce, authorit, comply, complie, compliance, voilat, examin, approv, and ruling." Examples of exposure sentences can be found in Appendix B of Armstrong et al. (2025).

Additionally, I account for time-varying bank characteristics that may impact financial service quality, as well as tax enforcement. These include bank size($Ln(TotalAsset)$), performance ($ROA; Capital$), exposure to customers ($Ln(TotalDeposit)$; $Ln(TotalLoans)$; $Ln(NumBranches)$), and tax avoidance (ETR) in my model. I have provided detailed definitions of these variables in the Appendix. These factors can influence a bank's propensity to be audited by the IRS and receive complaints from its customers. For example, anecdotal evidence suggests that large banks are more likely to receive complaints because they serve a large number of clients. At the same time, they are more likely to be audited by the IRS (Bozanic, Hoopes, Thornock, and Williams 2017). Controlling for bank performance is essential because banks can behave aggressively – tax avoidance and financial service provision – to improve their financial performance, which would attract the attention of the IRS and make them susceptible to more customer complaints at the same time.

I include year fixed effects to control for general trends, such as IRS enforcement across all banks, and bank fixed effects to absorb bank heterogeneity, including banks' aggressive tendencies or culture that could drive aggressive tax and banking practices.[8] My specification estimates within each bank whether tax enforcement is associated with the number of complaints that their customers file with the CFPB. I cluster standard errors at the bank level.

RESULTS

Descriptives

Table 2 shows the descriptive statistics (Panel A) of the variables in my analyses and the correlation (Panel B) between the variables in my primary analyses. The mean tax enforcement

[8] Bozanic et al. (2017) document that firm and year fixed effects explain about 64% of the variation in IRS attention.

sentence ($TaxEnf$) of the banks in my sample is 0.061%, which is similar to the average tax enforcement sentence of all firms (0.063%) reported in Armstrong et al. (2025). Figure 1 shows that tax enforcement among banks started declining from 2013 to 2016 and then began rising from 2017. The amount of uncertain tax positions settled with tax authorities ($UTBSettle$) is 0.016% of total assets, is 0.016% of total assets, while the amount of uncertain tax positions that expire without IRS audit ($UTBLapse$) is 0.004% of total assets. The distribution of the number of complaints against banks is highly skewed to the right. The average of the annual complaints ($NumComplaints$) against banks in my sample is 889. This is greater than the number of complaints at the 75th percentile. This underscores the importance of using a Poisson regression in my analyses as it "fits models that assume skewed outcomes" (Cohn et al. 2022, 536). Also, the average number of complaints against banks remained relatively constant from 2012 to 2014, but began declining from 2015 (Figure 2). The products for which banks received the most complaints about were mortgage (269), deposit accounts (230), and debit and credit cards (228). Additionally, customers commonly complain about issues related to managing their deposit accounts, loan payments, and debt collection. Finally, the majority of the complaints are resolved with an explanation (658) from the banks.

The correlation between tax enforcement and the number of complaints is positive but insignificant at the 5% level. While pressure from bank regulators is negatively correlated with the number of complaints, banks that have received an enforcement action from the CFPB tend to have a higher number of complaints. Total assets, deposits, loans, and the number of branches are all positively correlated with the number of complaints, suggesting that banks serving more customers through deposits, loans, and extensive branch networks receive the most complaints. Return on assets and bank capitalization are positively correlated with tax enforcement,

suggesting that banks with better performance and capitalization experience higher tax enforcement. Finally, the correlation between total assets, total deposits, and total loans is strongly positive (above 0.9). This aligns with the existing banking literature, which shows that deposits fund a greater percentage of banks' total assets, of which loans are a significant component.[9]

Primary Results

Table 3 presents the results of the regression analysis of the number of complaints on tax enforcement, using a Poisson model. Column 1 presents the results of estimating Equation 1 without bank and year fixed effects, showing the variation in complaints across banks. Column 2 reports the within-bank effect of tax enforcement on the quality of financial services. A positive coefficient on my variables represents a lower financial service quality. The results in Column 1 show that customers of banks with more tax enforcement file more complaints to the CFPB ($coeff = 4.006, p < 0.01$). It also shows that bank size and total loans are positively associated with consumer complaints against banks, indicating a lower financial service quality. Total deposits and higher tax avoidance are negatively associated with consumer complaints, indicating a higher financial service quality.[10] The number of bank branches does not explain the cross-bank variation in consumer complaints.

The result in Column 2, which presents the within-bank variation of consumer complaints, shows that tax enforcement is associated with lower financial service quality. The coefficient on TaxEnf is positive and significant ($coeff = 0.790, p < 0.01$). Practically, a one percent increase in tax enforcement is associated with a 120% increase in the number of

[9] These are univariate relations; hence these results do not represent broad conclusions on the relation between these variables.

[10] In untabulated analyses, I observe a similar qualitative result when I limit my sample to only banks with non-zero IRS exposure.

complaints, suggesting a non-trivial effect of tax enforcement on the quality of financial services.[11] After including bank and year fixed effects, bank size, total deposit, total loans, tax avoidance, return on assets, and capitalization do not explain the within-bank variation in the number of complaints against banks over time. However, consistent with the univariate results in Table 2 (Panel B), banks that receive CFPB enforcement actions for violating consumer finance laws receive more complaints ($coeff = 0.032, p = 0.013$),. Also, the number of bank branches is negatively associated with consumer complaints ($coeff = -0.908, p < 0.01$), suggesting that banks with extensive branch networks tend to provide higher financial service quality.

Identification through IRS Budget Cuts

To address endogeneity concerns and improve identification, I follow prior studies by utilizing the 2013 IRS budget cuts in a difference-in-differences design to examine the effect of tax enforcement on the quality of financial services. The reduction of the IRS budget is exogenous to bank behaviors that affect consumer complaints and bank exposure to the IRS. Several studies and anecdotes have shown that IRS enforcement activities have decreased significantly since 2013 due to budget cuts. I categorize treated banks as those with high (above-median) exposure to the IRS prior to the budget cuts. My analyses cover the years 2012 to 2014, with 2013 and 2014 serving as the treatment period. This test examines whether banks with significant exposure to the IRS before the budget cuts experienced a decrease in complaints as a result of the reduction in tax enforcement from the budget cuts. The identification strategy of the DID relies on the assumption that banks with high exposure to the IRS prior to the budget cuts experienced a non-trivial reduction in tax enforcement after the budget cuts, whereas banks with

[11] Practical significance is computed as $e^{0.790} - 1 = 1.2$

little to no exposure to the IRS prior to the budget cuts did not.[12] The IRS budget cuts coincided with increased regulatory pressure on large banks from prudential regulators following the 2008 financial crisis (Kalmenovitz 2023; Armstrong et al. 2025). I, therefore, use bank exposure to prudential regulators in a falsification test relying on the assumption that banks with high exposure to prudential regulators continued to face significant pressure from their regulators during the period of IRS budget cuts.

Table 4 presents the results of my analyses in Column 1 along with the falsification test in Column 2. The results show that treated banks, i.e., those with above-median tax enforcement prior to the budget cuts, experienced a reduction in the number of complaints after the budget cuts ($coeff = -0.124, p < 0.01$). This suggests that lower tax enforcement resulting from the IRS budget cuts is associated with a reduction in the negative impact of tax enforcement on the quality of financial services. In contrast, banks with above median exposure to prudential regulators prior to the IRS budget cuts did not experience a reduction in the number of complaints. They instead experienced an increase in the number of complaints during the period of IRS budget cuts ($coeff = 0.206, p < 0.01$). This result aligns with increased prudential regulatory pressure on large banks after the 2008 financial crisis. Together, the results in Tables 3 and 4 suggest that tax enforcement is associated with a decline in the quality of financial services provided by banks.

[12] Armstrong, Glaeser, and Hoopes (2025) document that firms increased their tax planning after the IRS budget cuts. Also, Ferguson, Hills, and Krupa (2024) document that firms engaged in less regulatory violations during this period.

CROSS-SECTIONAL ANALYSES

I assess the heterogeneity in the extent to which tax enforcement is associated with the quality of financial services provided by banks.

Tax Uncertainty

I examine whether the level of uncertainty in banks' tax positions influences the association between tax enforcement and financial service quality. Firms with uncertain tax positions tend to hold more precautionary cash due to the potential for additional taxes, penalties, and interest if those positions are audited by the IRS. Tax uncertainty is also associated with lower investment levels. I posit that the negative relationship between tax enforcement and financial service quality is more pronounced among banks with high levels of tax uncertainty, as their tax costs are likely to increase following an IRS audit. I measure banks' tax uncertainty as the ending balance of uncertain tax positions (UTBs), scaled by the lagged value of total assets. I split banks at the median of UTBs.

I present the results of this test in Column 1 of Table 5. The findings indicate that the negative association between tax enforcement and financial service quality is greater among banks with high uncertain tax positions ($coeff = 1.861, p = 0.053$). This suggests that the ex-ante cost of tax enforcement, which is the possibility of making additional payments after an IRS audit, influences the relation between tax enforcement and financial service quality. In additional analyses presented below, I provide evidence on whether actual cash outflows from UTBs are associated with financial service quality.

Performance

I assess whether the relationship between tax enforcement and the quality of financial services differs across banks' financial performance. Tax enforcement affects after-tax

performance and cash flows. To maintain their desired returns, banks facing tax enforcement may resort to aggressive consumer banking practices. To that end, I posit that the negative association between tax enforcement and financial service quality is likely to be concentrated among banks with poor performance. I use banks' return on assets (ROA) and tier 1 capital ratio as the proxies for banks' performance and capital, respectively. I split banks at the median of these proxies.

I present the results of this test in Columns 2 and 3 of Table 5. Column 2 displays the results of the heterogeneity analysis for banks' return on assets, and Column 3 displays the heterogeneity results for banks' tier 1 capital ratio. The results indicate that the negative relation between tax enforcement and financial service quality is concentrated among banks with lower return on assets ($coeff = 1.108, p < 0.01$). Similarly, the negative relation between tax enforcement and financial service quality is concentrated among banks with lower capital levels ($coeff = 0.981, p < 0.01$). These results suggest that tax enforcement, which can reduce banks' after-tax performance and cash flows, affects financial service quality when banks are performing poorly.

Resources

I assess whether the level of the bank's resources moderates the association between tax enforcement and financial service quality. Tax enforcement reduces after-tax cash flows and disincentivizes firms from investing and hiring. Tax enforcement can affect banks' resources and investments that are essential to providing higher financial service quality. For example, banks may reduce hiring or branch expansion in response to heightened tax enforcement, which could affect their ability to serve their customers adequately. I posit that the negative association between tax enforcement and financial service quality is concentrated among banks with fewer

resources, proxied by the number of employees and branches, scaled by total assets. I split banks at the median of these proxies.

I present the result of this test in Columns 4 and 5 of Table 5. Column 4 displays the results of the heterogeneity analysis for the number of employees, and Column 5 displays the heterogeneity results for the number of branches. The results indicate that the negative relation between tax enforcement and financial service quality is concentrated among banks with fewer branches ($coeff = 0.920, p < 0.01$). However, the negative relationship between tax enforcement and financial service quality does not vary across banks with different numbers of employees.

Tax Enforcement, CFPB Enforcement Actions, and Financial Service Quality

The CFPB has the authority to enforce consumer financial protection regulations and to ensure fair treatment of consumers of financial products and services. The CFPB is also empowered to penalize financial institutions that violate these regulations. As of January 30, 2025, banks have paid approximately $25 billion in relief and civil penalties for violations of consumer financial regulations, indicating that providing lower-quality financial services can be costly for banks.[13] However, the findings above indicate that the CFPB's supervision and sanctioning powers have not deterred banks from transferring tax enforcement costs to their customers. In this section, I assess whether the CFPB's enforcement actions effectively discourage banks from reducing the quality of their financial services and whether these actions mitigate the adverse effects of tax enforcement on financial service quality.

Table 6 displays the results of this test. Column 1 presents the contemporaneous results, and Column 2 shows the results for complaints in year $t + 1$. The results in Column 1 show a

[13] https://www.consumerfinance.gov/enforcement/enforcement-by-the-numbers/

negative, albeit insignificant, coefficient on the interaction between tax enforcement and CFPB enforcement actions ($coeff = -0.067, p = 0.887$). The joint effect is also insignificant ($coeff = 0.726, p = 0.199$). In Column 2, the coefficient on the interaction between tax enforcement and CFPB enforcement actions is negative and significant ($coeff = -1.277, p < 0.01$). Similar to the contemporaneous results, the joint effect is insignificant ($coeff = -0.497, p = 0.270$), indicating that the CFPB's enforcement actions are effective in mitigating the adverse spillover effect of tax enforcement on the quality of financial services. The results suggest that while supervision by banking regulators and the threat of sanctions do not deter banks from sharing tax enforcement costs with their customers, actual enforcement actions curb banks' tendency to pass tax enforcement costs to their customers.

ADDITIONAL ANALYSES

Consumer Complaints and Potential Bank Responses

Next, I investigate whether the issues commonly complained about by consumers correlate with potential responses from banks to tax enforcement. When consumers file complaints with the Consumer Financial Protection Bureau (CFPB), they indicate the specific issues related to their grievances. These issues include unexpected fee increases, unauthorized deductions from accounts, aggressive debt collection practices, deceptive marketing, delays in issue resolution, refusal to refund fraudulent payments, and various customer service complaints. In response to tax enforcement, banks may take actions that lead to these complaints as they attempt to recover the costs associated with compliance. To examine whether consumer complaints align with potential bank responses, I assess whether tax enforcement is associated with cross-bank variation in these issues.

Table 7 presents the findings of this analysis. The results indicate that consumer complaints do align with the potential responses of banks to tax enforcement. I find that tax enforcement accounts for the variation in complaints related to unexpected fee increases, unauthorized deductions from accounts, aggressive debt collection practices, deceptive marketing, delays in issue resolution, refusal to refund fraudulent payments, and customer service complaints. These findings may reflect banks' tendency to engage in aggressive practices as a reaction to tax enforcement. Additional potential responses from banks, such as workforce reductions and fewer branch expansions, may also contribute to these complaints. In untabulated analyses, I investigate and find that tax enforcement is associated with a lower number of employees and deposit rates, as well as higher fees on deposit accounts.

Product Analyses

I assess the association between tax enforcement and the quality of various product classifications as reported by the CFPB.[14] This analysis enables me to determine whether the association between tax enforcement and financial service quality is concentrated among specific bank products or services. Also, banks may have little to no exposure to some of the complaints in the consumer complaints database because they are unrelated to the core activities of banks. For instance, credit reporting and debt collection issues are likely to be heavily concentrated among credit reporting and debt collection agencies, respectively, rather than commercial banks.

Table 8 presents the results of my product classification analyses. Columns 1 – 6 present the results of the association between tax enforcement and deposit, card, mortgage, credit reporting, debt collection, and consumer loan products, respectively. The result shows that tax

[14] The product classification of the CFPB comprise checking or savings account; credit card; credit reporting or other personal consumer reports; debt collection; debt or credit management; money transfer or virtual currency, mortgage; payday loan, title loan, personal loan, or advance loan; prepaid card; student loan; vehicle loan or lease.

enforcement is negatively associated with the quality of banks' deposit, card, and consumer loan products. In contrast, tax enforcement is not associated with the mortgage, credit reporting, and debt collection of banks.

Severity Analyses

I examine the association between tax enforcement and the severity of consumer complaints, using the mode in which banks resolve these complaints. While all complaints materially affect the CFPB's decisions and enforcement actions (Begley and Purnanandam 2021), the severity of each complaint may differ. Banks typically resolve complaints by providing either an explanation, monetary relief, or non-monetary relief to customers. As I indicated in Table 2, banks in my sample usually resolve the complaints by providing an explanation or non-monetary relief.

I present the results of this analysis in Table 9. The results in Column 1 show that tax enforcement is positively associated with complaints that result in relief from banks ($coeff = 1.485, p < 0.01$). However, the reliefs provided by banks are usually non-monetary. In Column 2, there is a negative, albeit insignificant, relation between tax enforcement and complaints resolved with monetary relief ($coeff = -0.545, p = 0.261$). The result in Column 3 shows a positive and significant relation between tax enforcement and non-monetary reliefs ($coeff = 2.748, p < 0.01$). Similar to non-monetary relief, the results in Column 4 show a positive and significant relation between tax enforcement and complaints resolved with an explanation from the banks ($coeff = 2.291, p < 0.01$). These results suggest that tax enforcement is associated with both severe and less severe complaints.

Lead and Lag Analyses

In my primary test, I examine the contemporaneous relation between tax enforcement and the financial service quality of banks. However, the effect of tax enforcement on the quality of financial services may last for more than a year. Additionally, since my measure of tax enforcement encompasses both past and current IRS enforcement activities (Armstrong et al. 2025), the association between tax enforcement and the quality of financial services may be observed earlier than reported. To assess these possibilities, I regress the lead $(t+1, t+2)$ and lag $(t-1, t-2)$ of financial service quality on tax enforcement at t.

Table 10 presents the results of my analyses. Columns 1 – 4 show the results of the regressions of financial service quality at $t+1, t+2, t-1$, and $t-2$, respectively. The results show that tax enforcement is associated with a lower financial service quality in the future. The association between tax enforcement and consumer complaints in years $t+1$ $(coeff = 0.706, p = 0.021)$ and $t+2$ $(coeff = 0.786, p < 0.01)$ is positive and significant. In contrast, tax enforcement is not associated with a lower financial service quality in periods $t-1$ and $t-2$. The association between tax enforcement and consumer complaints in years $t-1$ $(coeff = -1.005, p = 0.154)$ and $t-2$ $(coeff = -0.721, p = 0.295)$ is negative. This result also addresses concerns about the possibility that financial service quality may precede tax enforcement.

UTB Settlement

I utilize banks' settlement of uncertain tax positions with tax authorities as an alternative measure of tax enforcement. Finley and Stekelberg (2022) posit that UTB settlements with tax authorities represent the realization of tax enforcement, and hence, it is appropriate for examining the ex-post effect of tax enforcement. As my study focuses on whether the cost

imposed on banks by tax enforcement is associated with the quality of their financial services, this measure demonstrates how one specific cost — namely, additional tax payments following an IRS audit — impacts the quality of banks' financial services. This measure complements my main proxy and provides another perspective on how tax enforcement impacts the quality of financial services. I measure banks' settlement of uncertain tax positions as UTB settlement and net UTB settlement (UTB settlement minus UTB statute of limitation lapse) with tax authorities, scaled by the lag of total assets.

Table 11 presents the results showing the regression of consumer complaints on the settlement of uncertain tax positions with tax authorities. Column 1 shows the association between UTB settlement and financial services quality, and Column 2 shows the results relating to net UTB settlement. Columns 3 and 4 show a breakdown of the relation between net UTB settlement and financial service quality when the amount of UTB settlement exceeds the amount of UTBs that lapse due to statutes of limitations, and when the amount of UTB settlement is less than the amount of UTB lapse. The association between UTB settlement and consumer complaints is positive and statistically significant ($coeff = 0.868, p = 0.047$). Similarly, the relation between net UTB settlement and consumer complaints is positive and significant ($coeff = 0.806, p = 0.045$). The results in Column 3 indicate that net UTB settlement is negative, associated with financial service quality when the amount of UTB settlement is greater than the amount of UTB lapse. Conversely, when UTB lapses exceed UTB settlements, the results are reversed, as shown in Column 4. Overall, the results indicate that tax payments resulting from tax enforcement are associated with lower financial service quality.

County Level Analyses

Prior studies suggest that consumer complaints to the CFPB differ based on county-level demographic and banking characteristics (Hayes et al. 2021; Sedunov 2020). For instance, counties with a higher proportion of smaller banks file fewer complaints to the CFPB(Sedunov 2020), suggesting that these counties tend to experience higher financial service quality. To address concerns that banks receiving more complaints may be exposed to locations with a high propensity to file complaints with the CFPB, I examine the association between tax enforcement and financial service quality at the bank county level in Equation 2. I estimate a model with county, year, and bank fixed effects, which enable me to account for factors that influence the variation in complaints across counties, general economic trends, and bank heterogeneity. My specification at the bank-county level estimates, within each county, whether banks with high exposure to the IRS receive more complaints relative to banks with low exposure to the IRS. By assessing complaints from the same county against banks, I ensure that local factors that affect complaints do not vary among banks.

$$BankCtyComplaints_{itc} = TaxEnf_{it} + Controls + BankFE + CountyFE + YearFE + \varepsilon_{it} \quad (2)$$

Table 12 presents the results of the county-level analyses. Panels A and B present the descriptive statistics and regression results of the bank-county analyses. Similar to the distribution of complaints at the bank-year level, the distribution of complaints at the bank county level is also skewed to the right. The average number of complaints at the bank county level is 8, which is equal to the number of complaints at the third quartile. In Panel B of Table

12, Column 1 shows the cross-sectional results, while Columns 2 and 3 present the within-bank and within-county effects of tax enforcement. The results show that tax enforcement is associated with lower financial service quality at the bank county level. The association between tax enforcement and consumer complaints in the model with bank, year, and county fixed effects is positive and significant ($coeff = 1.329, p < 0.01$).

Tax Exempt Financial Institutions and Financial Service Quality

My results suggest that the differences in financial service quality can be explained by the enforcement activities of the IRS. In this section, I compare the complaints filed against credit unions to those filed against all commercial banks, including banks with non-zero IRS exposure and those with zero IRS exposure. Credit unions operate as tax-exempt financial institutions, offering similar services and serving a similar clientele to commercial banks. Their operating profits are not subject to taxes, meaning they do not file income tax returns or undergo IRS audits, unlike commercial banks, whose profits are taxable and potentially subject to tax enforcement. Thus, credit unions are an appropriate control in this setting (Granja, Nagel, and Weinrich 2025). By comparing complaints against credit unions and commercial banks with varying levels of tax enforcement, I can distinguish between complaints arising from tax enforcement and those resulting from unique characteristics of banks.

Additionally, I investigate whether the availability of tax-exempt financial institutions, specifically credit unions, accounts for the differences in the number of complaints originating from various counties. Using a staggered difference-in-differences analysis in Equation 3, I utilize the closure of credit unions by the National Credit Union Administration (NCUA) in a county as an indicator of reduced access to financial institutions that are not subject to IRS scrutiny. The tax-exempt status of credit unions means that they face little to no pressure from

the IRS, whose enforcement activities can impose significant costs on banks and have negative implications for their operations. The closure of credit unions potentially reduces a county's access to financial institutions that do not face IRS pressures while simultaneously increasing the county's exposure to financial institutions that interact with the IRS. Hence, I predict that the closure of credit unions in a county will result in a lower financial service quality in that county.

$$CountyComplaints_{ct} = TreatedCounty_{ct} + Controls\ + CountyFE + YearFE + \varepsilon_{it} \qquad (3)$$

$CountyComplaints$ is the response variable, representing the number of complaints originating from a county in a year. The variable of interest in Equation 3 is $TreatedCounty$. It is an indicator variable equal to one for the period and thereafter that a county experiences a credit union closure, and zero otherwise. To control for factors that may explain differences in complaints across counties, I have included variables such as the level of competition, the number of banks, the education levels of individuals, the proportion of racial minorities, and the income levels within the county. Finally, I include year and county fixed effects to account for trends and county-specific idiosyncrasies that may affect the number of complaints from a particular county.

Table 13, Panel A presents the complaints of credit unions compared to those of commercial banks using a Poisson regression. I include year fixed effects to account for trends in the complaints and factors that affect both credit unions and commercial banks. Columns 1 – 3 show the results of credit unions versus all commercial banks, credit unions versus commercial banks with IRS exposure, and credit unions versus commercial banks with zero IRS exposure.

The results show that customers of commercial banks file more complaints ($coeff = 1.642, p = 0.012$) with the CFPB than customers of credit unions. This result appears to be driven by commercial banks with IRS exposure. While commercial banks with IRS exposure have greater complaints ($coeff = 1.911, p < 0.01$) relative to credit unions, there is no significant difference between the complaints of banks with zero IRS exposure ($coeff = -0.157, p = 0.826$) and credit unions.

Panel B of Table 13 displays the descriptive statistics of the variables used for my difference-in-differences analyses, and Panel C shows the results of my analyses. As shown in Panel B, the distribution of the complaints at the county level is similar to that of the bank-year and bank-county levels. The average number of complaints per county is 23, which exceeds the number of complaints at the 75th percentile. The proportion of counties in my sample that experienced the closure of a credit union is 1.4%. The regression results in Column 1 of Panel C do not include controls and fixed effects, while the results in Column 2 include county and year fixed effects. Column 3 presents the results of the full model. Across all three specifications, the findings indicate that counties that experience a credit union closure see a significant increase in the number of complaints originating from those counties, suggesting a decrease in financial service quality. I also estimate Equation 3 using the extended two-way fixed effects (ETWFE) regression and present the results of the dynamic analysis of the effect of credit union closures on financial service quality in Figure 3.[15] The dynamic analysis depicted in Figure 3 supports the findings in Panel C of Table 13.

[15] The advantage of the ETWFE approach is that it is amenable to non-linear models. The control counties in the ETWFE method are those that did not experience a closure of credit unions during my sample period.

CONCLUSION

This study examines whether and to what extent tax enforcement is associated with the quality of financial services. Tax enforcement is a significant policy decision because it can help reduce tax avoidance and increase government revenue. While tax enforcement can improve corporate governance and financial reporting, the tax burden resulting from IRS enforcement activities can be substantial and have unintended negative consequences for firm behavior under the purview of other regulators. Despite firms' propensity to pass tax costs on to their consumers, frictions arising from supervisory oversight and the threat of enforcement actions by non-tax regulators may deter them from doing so. This study, therefore, provides an appropriate context to examine the impact of tax enforcement on equally important regulatory objectives and whether enforcement actions by non-tax regulators affect firms' incentives to share tax costs with their consumers.

Using the number of consumer complaints filed with the CFPB from 2012 to 2019 and bank exposure to the IRS, I document that tax enforcement is associated with a higher number of consumer complaints, suggesting lower financial services quality. I further observe that consumers complain about issues that represent potential responses by banks to the increased burden from tax enforcement. I also find that the negative association between tax enforcement and financial services quality is mitigated by the CFPB's enforcement actions. My results suggest that while tax enforcement activities of a non-bank regulatory authority, such as the IRS, can have a negative spillover effect on the quality of financial services, the work of bank regulators responsible for ensuring consumer financial protection can help mitigate these unintended negative consequences.

This study makes important contributions to the literature. First, it extends research on the spillover effects of tax enforcement. Prior studies have examined the impact of tax enforcement on corporate governance, financial reporting, the cost of capital, going concern, investments, employment, and regulatory sanctions. However, existing literature provides limited insight into the spillover effects of tax enforcement on firm behavior when non-tax regulators are involved and when these authorities may constrain firms' responses to tax enforcement. The results in this study suggest that tax enforcement can affect firm behavior under the purview of another regulator, but this is constrained when non-tax regulators penalize them. Also, this study contributes to the literature on the determinants of financial service quality and, by extension, consumer financial protection. Prior research identifies banks' financial reporting incentives, bank regulators' activities, and customer demographic characteristics as key determinants of financial service quality. Although understanding these factors is important for policymaking related to consumer financial protection, there remains a significant gap in empirical research on the influence of non-bank regulatory authorities. The present study demonstrates that enforcement activities by non-bank regulators, such as the IRS, can negatively impact consumer financial protection.

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Figure 1

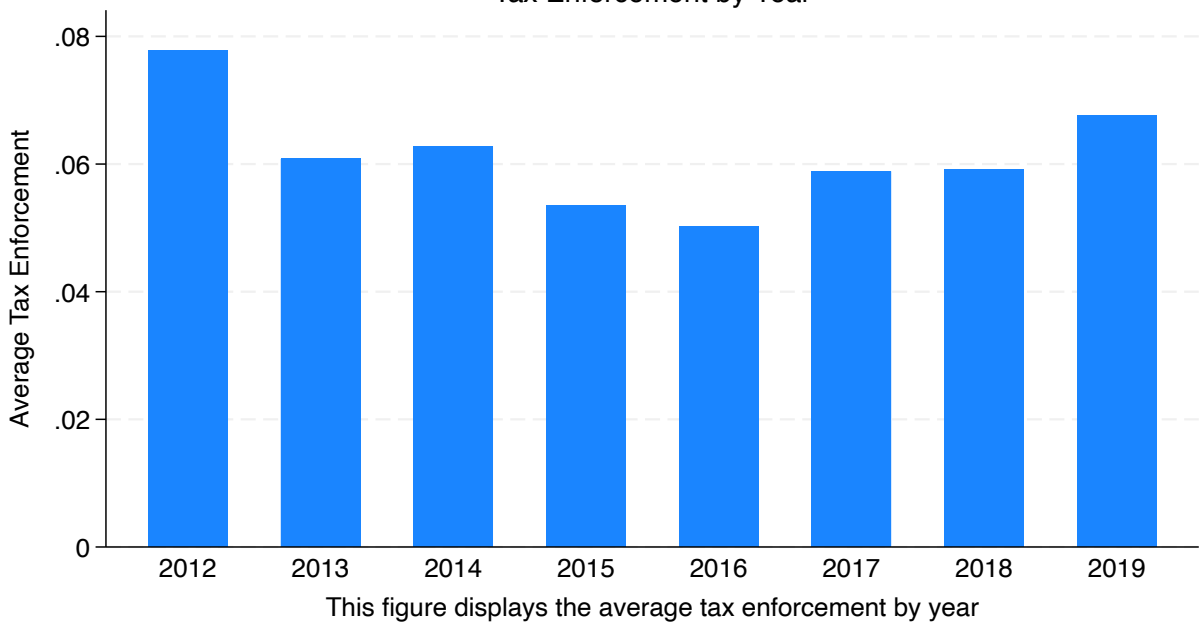


Figure 2

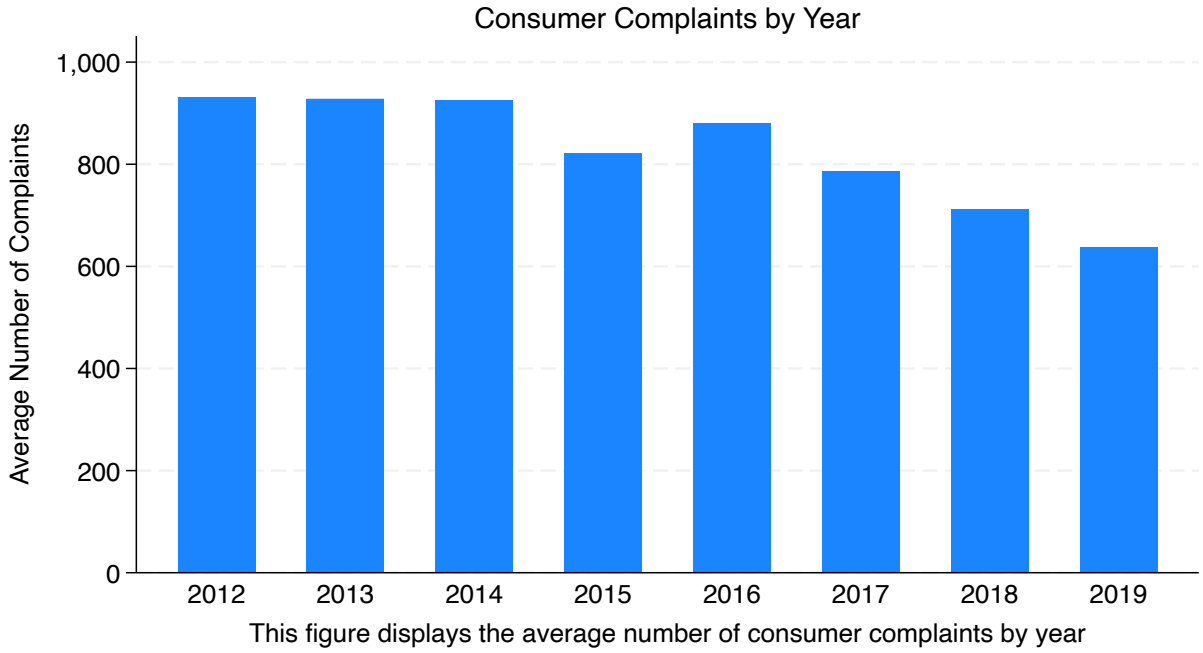
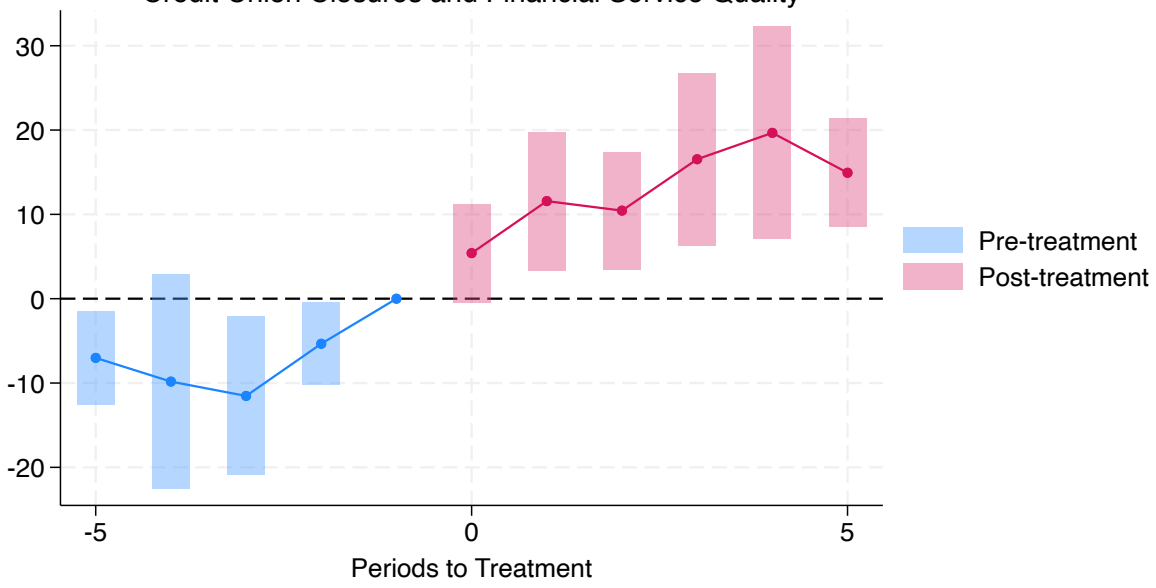


Figure 3

Credit Union Closures and Financial Service Quality



This figure displays the dynamic analysis of the effect of credit union closures on consumer complaints.

Table 1

Sample Selection

Description	**Observations**
Daily complaints of all CFPB supervised banks from 2012 to 2019	463,537
Aggregate daily complaints to annual complaints for each bank	720
Less observations with missing GVKEY and FDIC certificate number	150
Less observations with missing IRS Exposure values	109
Less observations with missing control variables	15
Final Sample (Bank-Year Observations)	**446**

This table reports the sample selection procedure.

Table 2 (Panel A)

Descriptive Statistics

	N	Mean	SD	p25	Median	p75
TaxEnf	446	.061	0.065	0	.041	.091
UTBSettle	306	.016	0.044	0	0	.008
UTBLapse	306	.004	0.010	0	0	.002
NetUTBSettle	306	.013	0.042	-.001	0	.007
NumComplaints	446	888.953	2033.016	19	51	538
AccountsComplaints	446	229.87	528.981	10	24	178
CardsComplaints	446	228.267	609.740	0	2	36
MortgageComplaints	446	268.578	831.871	2	11	95
DebtCollectComplaints	446	52.713	144.623	0	1	12
CreditReportComplaints	446	38.594	149.377	0	0	5
ConsumerLoansComplaints	446	44.202	103.213	0	2	29
UnauthorizedPaymentIssues	446	38.482	111.559	0	1	6
AdvertIssues	446	15.836	41.577	0	0	3
CustomerServiceIssues	446	9.13	28.253	0	0	1
FeeIssues	446	31.186	83.753	0	0	6
DebtCollectIssues	446	63.034	159.395	0	2	17
ProblemResolveIssues	446	.202	0.842	0	0	0
AccountMgtIssues	446	205.778	465.805	8	20	175
CreditReportIssues	446	47.027	173.037	0	1	6
LoanPaymentIssues	446	234.027	717.309	2	10	114
ReliefComplaints	446	188.65	449.934	1	9	99
MonetaryReliefComplaints	446	111.946	259.228	1	7	67
NonMonetaryReliefComplaints	446	72.753	185.120	0	1	13
ExplainedComplaints	446	657.664	1533.274	15	38	421
BankRegulatorPressure	446	.84	0.495	.464	.68	1.082
EnforceActionCFPB	446	.061	0.239	0	0	0
Ln(TotalAsset)	446	17.843	1.371	16.793	17.298	18.678
Ln(TotalDeposit)	446	17.576	1.372	16.535	17.031	18.445
Ln(TotalLoans)	446	17.293	1.281	16.328	16.881	18.072
ETR	446	-.281	0.127	-.352	-.297	-.218
Ln(NumBranches)	446	5.051	2.058	4.248	5.288	6.472
ROA	446	.011	0.006	.008	.011	.013
Capital	446	.094	0.021	.081	.091	.102
LowIRSBudget	199	.774	0.419	1	1	1
HighExposureIRS	135	.533	0.501	0	1	1
HighExposurePrudReg	135	.511	0.502	0	1	1

This table reports the summary statistics of the variables used in the analyses. Appendix A provides the variable definitions.

Table 2 (Panel B)

Correlation Analyses

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) NumComplaints	1.000										
(2) TaxEnf	0.034	1.000									
(3) BankRegulatorPressure	-0.167*	0.062	1.000								
(4) EnforceActionCFPB	0.337*	-0.029	-0.001	1.000							
(5) Ln(TotalAsset)	0.776*	-0.005	-0.265*	0.289*	1.000						
(6) Ln(TotalDeposit)	0.768*	0.005	-0.285*	0.280*	0.998*	1.000					
(7) Ln(TotalLoans)	0.804*	0.017	-0.175*	0.313*	0.946*	0.938*	1.000				
(8) ETR	-0.056	0.014	-0.016	-0.110*	-0.032	-0.028	-0.026	1.000			
(9) Ln(NumBranches)	0.443*	-0.092	0.007	0.125*	0.362*	0.361*	0.492*	0.070	1.000		
(10) ROA	0.055	0.228*	-0.052	0.128*	-0.032	-0.029	0.023	0.196*	-0.281*	1.000	
(11) Capital	-0.082	0.168*	0.186*	0.137*	-0.101*	-0.128*	0.004	-0.049	-0.291*	0.309*	1.000

This table reports the correlation analyses of the variables used in the main analyses. Appendix A provides the variable definitions.

Table 3

Tax Enforcement and Complaints

	(1)	(2)
VARIABLES	NumComplaints	NumComplaints
TaxEnf	**4.006*** **	**0.790*** **
	(0.005)	**(0.000)**
BankRegulatorPressure	0.040	-0.075
	(0.707)	(0.288)
EnforceActionCFPB	0.129	0.032**
	(0.153)	(0.013)
Ln(TotalAsset)	2.291***	0.235
	(0.002)	(0.740)
Ln(TotalDeposit)	-2.690***	0.753
	(0.002)	(0.245)
Ln(TotalLoans)	1.589***	0.134
	(0.000)	(0.811)
ETR	-1.332***	-0.049
	(0.009)	(0.745)
Ln(NumBranches)	-0.063	-0.908***
	(0.267)	(0.001)
ROA	25.696	0.406
	(0.209)	(0.953)
Capital	-7.733	-1.471
	(0.154)	(0.731)
Constant	-15.646***	-7.620
	(0.000)	(0.132)
Observations	446	446
Bank FE	No	Yes
Year FE	No	Yes
Bank Cluster	Yes	Yes
Pseudo R2	0.910	0.990

This table reports the association between tax enforcement and financial service quality. Column 1 reports the cross-bank results and Column 2 reports the within-bank results. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4

Reduced IRS Budget

VARIABLES	(1) IRS NumComplaints	(2) Prudential Reg NumComplaints
HighExposure×LowIRSBudget	**-0.124*** **	**0.206*** **
	(0.001)	**(0.000)**
EnforceActionCFPB	0.081**	0.061**
	(0.020)	(0.028)
Ln(TotalAsset)	-0.980	0.131
	(0.132)	(0.811)
Ln(TotalDeposit)	-0.393	-0.433
	(0.682)	(0.604)
Ln(TotalLoans)	0.815*	0.143
	(0.082)	(0.674)
ETR	-0.103	0.037
	(0.204)	(0.616)
Ln(NumBranches)	0.975*	0.245
	(0.062)	(0.603)
ROA	9.153*	11.577**
	(0.089)	(0.017)
Capital	-9.079***	-9.858***
	(0.005)	(0.000)
Constant	13.391*	10.378
	(0.090)	(0.127)
Observations	134	134
Bank FE	Yes	Yes
Year FE	Yes	Yes
Bank Cluster	Yes	Yes
Pseudo R2	0.996	0.996

This table presents the difference-in-differences analyses of the effect IRS budget reduction on financial service quality using banks with above median IRS exposure prior to the budget cuts as the treated group and banks with below median IRS exposure before the budget cuts as the control group. Column 1 reports the results of the main test and Column 2 reports the results of a falsification test using bank exposure to prudential regulators. $NumComplaints$ refers to the total number of consumer complaints against a bank. HighExposure is an indicator variable equal to one if a bank has above median exposure to the IRS (Column 1) and prudential regulators (Column 2), and zero otherwise. $LowIRSBudget$ is an indicator variable equal to one for the periods 2013 and 2014, and equal to zero for the period 2012. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5

Cross Sectional Analyses

VARIABLES	(1) UTB NumComplaints	(2) ROA NumComplaints	(3) Capital NumComplaints	(4) Employees NumComplaints	(5) Branches NumComplaints
TaxEnf	**-0.816**	**1.108*** **	**0.981*** **	**0.770*** **	**0.920*** **
	(0.345)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
HighUTB	-0.043				
	(0.633)				
TaxEnf×HighUTB	**1.861***				
	(0.053)				
HighROA		0.150**			
		(0.010)			
TaxEnf×HighROA		**-1.314**			
		(0.133)			
HighCapRatio			0.114***		
			(0.002)		
TaxEnf×HighCapRatio			**-1.471**		
			(0.106)		
HighNumEmployees				0.011	
				(0.853)	
TaxEnf×HighNumEmployees				**0.164**	
				(0.766)	
HighNumBranches					0.478
					(0.176)
TaxEnf×HighNumBranches					**-0.985**
					(0.130)
BankRegulatorPressure	-0.091	-0.071	-0.068	-0.079	-0.068
	(0.278)	(0.348)	(0.333)	(0.276)	(0.339)
EnforceActionCFPB	0.040**	0.034***	0.022*	0.031**	0.034***
	(0.024)	(0.001)	(0.084)	(0.013)	(0.009)
Ln(TotalAsset)	1.212	0.223	0.094	0.294	0.183
	(0.136)	(0.745)	(0.896)	(0.706)	(0.794)

Ln(TotalDeposit)	0.024	0.748	0.827	0.732	0.758
	(0.976)	(0.228)	(0.191)	(0.264)	(0.241)
Ln(TotalLoans)	0.127	0.082	0.184	0.149	0.206
	(0.815)	(0.879)	(0.737)	(0.783)	(0.706)
ETR	-0.098	-0.080	-0.044	-0.051	-0.032
	(0.710)	(0.574)	(0.775)	(0.733)	(0.828)
Ln(NumBranches)	-1.092***	-0.876***	-0.890***	-0.929***	-0.927***
	(0.001)	(0.001)	(0.002)	(0.003)	(0.001)
ROA	8.434	-4.158	0.394	0.899	-0.265
	(0.425)	(0.471)	(0.952)	(0.901)	(0.968)
Capital	-1.308	-2.563	-2.106	-1.439	-1.461
	(0.774)	(0.531)	(0.635)	(0.737)	(0.732)
Constant	-11.309	-6.413	-7.291	-8.548	-8.050
	(0.118)	(0.212)	(0.163)	(0.186)	(0.111)
Joint Effect	**1.045**	**-0.206**	**-0.490**	**0.934***	**-0.065**
	(0.272)	**(0.811)**	**(0.587)**	**(0.087)**	**(0.921)**
Observations	303	446	446	446	446
Bank FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Bank Cluster	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.991	0.991	0.991	0.990	0.991

This table reports the heterogeneity analyses of my baseline results. Columns 1 – 5 display the regression results of the interaction effects of tax uncertainty, return on assets, capital, number of employees, and number of branches, respectively. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. $HighUTB$ is an indicator variable equal to one for banks with above median UTBs, and zero otherwise. $HighROA$ is an indicator variable equal to one for banks with above median return on assets, and zero otherwise. $HighCapRatio$ is an indicator variable equal to one for banks with above median tier 1 capital ratio, and zero otherwise. $HighNumEmployees$ is an indicator variable equal to one for banks with above median number of employees, and zero otherwise. $HighNumBranches$ is an indicator variable equal to one for banks with above median number of branches, and zero otherwise. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6

CFPB

	(1) T	(2) T+1
VARIABLES	NumComplaints	NumComplaints
TaxEnf	**0.793*** **	**0.780*** **
	(0.000)	**(0.006)**
EnforceActionCFPB	0.035	0.063***
	(0.175)	(0.002)
TaxEnf×EnforceActionCFPB	**-0.067**	**-1.277*** **
	(0.887)	**(0.006)**
BankRegulatorPressure	-0.075	-0.215***
	(0.307)	(0.000)
Ln(TotalAsset)	0.224	0.378
	(0.766)	(0.636)
Ln(TotalDeposit)	0.758	0.245
	(0.242)	(0.691)
Ln(TotalLoans)	0.132	0.033
	(0.811)	(0.931)
ETR	-0.050	0.007
	(0.743)	(0.975)
Ln(NumBranches)	-0.905***	-0.796**
	(0.002)	(0.034)
ROA	0.559	-0.093
	(0.939)	(0.989)
Capital	-1.509	-4.459
	(0.733)	(0.172)
Constant	-7.467	1.187
	(0.208)	(0.817)
Joint Effect	**0.726**	**-0.497**
	(0.199)	**(0.270)**
Observations	446	370
Bank FE	Yes	Yes
Year FE	Yes	Yes
Bank Cluster	Yes	Yes
Pseudo R2	0.990	0.991

This table presents the regression results, demonstrating whether the enforcement actions of the CFPB impact the association between tax enforcement and financial service quality. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. $EnforceActionCFPB$ is an indicator variable equal to one for bank years in which a bank received an enforcement action from the CFPB, and zero otherwise. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 7

Issues Analyses

VARIABLES	(1) Fees NumComplaints	(2) CustomerService NumComplaints	(3) Marketing NumComplaints	(4) DepositAcct NumComplaints	(5) DebtCollection NumComplaints	(6) FraudRefund NumComplaints	(7) Resolutions NumComplaints	(8) LoanPayment NumComplaints
TaxEnf	**6.951*** **	**4.046** **	**5.515*** **	**1.910***	**6.812*** **	**5.247** **	**4.840***	**2.334** **
	(0.000)	**(0.019)**	**(0.006)**	**(0.068)**	**(0.001)**	**(0.037)**	**(0.070)**	**(0.014)**
BankRegulatorPressure	-0.033	-0.447*	0.154	0.097	0.091	0.187	0.389**	-0.062
	(0.888)	(0.068)	(0.556)	(0.181)	(0.642)	(0.411)	(0.037)	(0.831)
EnforceActionCFPB	0.297	0.422***	0.177	0.030	0.275*	0.097	-0.104	0.150
	(0.136)	(0.002)	(0.233)	(0.676)	(0.089)	(0.437)	(0.615)	(0.205)
Ln(TotalAsset)	4.258***	2.445*	4.063***	0.817	3.101**	1.834	-1.141	3.502***
	(0.005)	(0.094)	(0.001)	(0.157)	(0.022)	(0.194)	(0.502)	(0.006)
Ln(TotalDeposit)	-4.304***	-2.873*	-3.979***	-1.106*	-3.020**	-1.768	1.111	-4.611***
	(0.005)	(0.083)	(0.003)	(0.080)	(0.028)	(0.217)	(0.544)	(0.007)
Ln(TotalLoans)	1.373***	1.631***	1.248***	1.308***	1.203**	1.358***	1.623***	2.198***
	(0.004)	(0.002)	(0.007)	(0.000)	(0.013)	(0.009)	(0.009)	(0.003)
ETR	-2.150**	-4.105***	-3.259***	-0.251	-2.025***	-1.298	1.781	-1.926
	(0.014)	(0.000)	(0.000)	(0.418)	(0.005)	(0.172)	(0.281)	(0.261)
Ln(NumBranches)	-0.218**	-0.083	-0.241***	0.120**	-0.186**	-0.233**	-0.246*	0.161
	(0.025)	(0.386)	(0.004)	(0.021)	(0.039)	(0.025)	(0.051)	(0.198)
ROA	42.674	56.812**	56.017**	14.190	25.612	40.282	22.977	-11.552
	(0.184)	(0.014)	(0.019)	(0.380)	(0.460)	(0.267)	(0.452)	(0.821)
Capital	-16.413**	-8.193	-14.429	5.984	-5.125	-10.425	1.953	-13.019
	(0.025)	(0.445)	(0.162)	(0.200)	(0.646)	(0.367)	(0.898)	(0.284)
Constant	-21.204***	-21.368***	-22.498***	-15.380***	-20.423***	-22.337***	-30.058***	-15.918***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	446	446	446	446	446	446	446	446
Bank FE	No	No	No	No	No	No	No	No
Year FE	No	No	No	No	No	No	No	No
Bank Cluster	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.774	0.702	0.749	0.936	0.773	0.740	0.475	0.844

This table presents the regression results of the relation between tax enforcement and issues consumers report to the CFPB. Columns 1 – 8 display the results for complaints related to fees, customer service, marketing, deposit accounts, debt collection, refund of unauthorized payments, issue resolutions, and loan repayments, respectively. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8

Product Analyses

VARIABLES	(1) Deposit NumComplaints	(2) Cards NumComplaints	(3) Mortgage NumComplaints	(4) Debt Collection NumComplaints	(5) Credit Report NumComplaints	(6) Consumer Loans NumComplaints
TaxEnf	**0.493****	**0.956****	**0.005**	**-0.026**	**-0.774**	**1.362*****
	(0.035)	**(0.048)**	**(0.987)**	**(0.970)**	**(0.161)**	**(0.001)**
BankRegulatorPressure	-0.059	-0.067	0.067	-0.035	0.035	0.337***
	(0.217)	(0.517)	(0.502)	(0.738)	(0.600)	(0.005)
EnforceActionCFPB	0.026	0.035	0.098***	0.019	-0.019	-0.083**
	(0.618)	(0.303)	(0.000)	(0.450)	(0.733)	(0.031)
Ln(TotalAsset)	-0.342	0.384	1.422	-0.206	-2.682	-0.731
	(0.660)	(0.823)	(0.122)	(0.810)	(0.131)	(0.534)
Ln(TotalDeposit)	0.015	0.299	-0.724	0.936	1.387	1.777*
	(0.985)	(0.851)	(0.410)	(0.134)	(0.366)	(0.096)
Ln(TotalLoans)	0.835*	-0.613	-0.259	0.148	1.932***	-0.339
	(0.087)	(0.345)	(0.518)	(0.738)	(0.002)	(0.442)
ETR	-0.035	-0.300	0.073	0.814***	-0.093	0.309**
	(0.892)	(0.179)	(0.389)	(0.005)	(0.780)	(0.027)
Ln(NumBranches)	-0.442*	0.424	0.982***	-0.765***	-0.193	-0.344*
	(0.074)	(0.312)	(0.001)	(0.000)	(0.395)	(0.090)
ROA	17.739**	15.372	-6.680	-15.920**	2.096	11.100
	(0.015)	(0.182)	(0.468)	(0.019)	(0.787)	(0.138)
Capital	-0.799	-1.943	-2.649	2.898*	-6.671	0.796
	(0.824)	(0.576)	(0.659)	(0.077)	(0.370)	(0.846)
Constant	0.238	2.783	-9.497	-6.489*	-3.449	-6.687
	(0.975)	(0.570)	(0.183)	(0.062)	(0.556)	(0.593)
Observations	444	377	435	347	397	406
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank Cluster	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.981	0.988	0.987	0.978	0.982	0.956

This table reports the association between tax enforcement and financial service quality. Columns 1 – 6 present the results of the association between tax enforcement and complaints related to deposit, card, mortgage, credit reporting, debt collection, and consumer loan products, respectively. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9

Severity

VARIABLES	(1) Relief NumComplaints	(2) Monetary Relief NumComplaints	(3) NonMonetary Relief NumComplaints	(4) Explained NumComplaints
TaxEnf	**1.485*** **	**-0.545**	**2.748*** **	**2.291*** **
	(0.000)	**(0.261)**	**(0.000)**	**(0.000)**
BankRegulatorPressure	0.086	0.219**	0.007	-0.171
	(0.384)	(0.027)	(0.968)	(0.106)
EnforceActionCFPB	-0.000	0.025	-0.005	0.035*
	(0.986)	(0.618)	(0.896)	(0.051)
Ln(TotalAsset)	-0.204	-0.994	-0.243	0.146
	(0.882)	(0.497)	(0.881)	(0.864)
Ln(TotalDeposit)	0.299	0.561	0.446	1.077
	(0.852)	(0.753)	(0.785)	(0.129)
Ln(TotalLoans)	-0.038	0.132	0.295	0.172
	(0.972)	(0.906)	(0.788)	(0.750)
ETR	0.911*	0.543	1.628**	-0.312
	(0.087)	(0.366)	(0.010)	(0.204)
Ln(NumBranches)	-0.380	0.300	-1.561***	-1.020***
	(0.183)	(0.355)	(0.000)	(0.001)
ROA	-0.586	22.802*	-43.395***	-2.663
	(0.958)	(0.062)	(0.009)	(0.757)
Capital	0.666	-3.922	7.146	-0.090
	(0.936)	(0.638)	(0.439)	(0.982)
Constant	8.360	10.530	6.897	-12.704**
	(0.155)	(0.141)	(0.444)	(0.020)
Observations	432	432	371	446
Bank FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
County Cluster	Yes	Yes	Yes	Yes
Pseudo R2	0.969	0.961	0.948	0.987

This table reports the association between tax enforcement and the severity of consumer complaints. Columns 1 – 4 reports the results showing the relation between tax enforcement and number of complaints settled with a relief, monetary relief, nonmonetary relief, an explanation, respectively. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 10

Lead and Lag Analyses

	(1) T+1	(2) T+2	(3) T-1	(4) T-2
VARIABLES	NumComplaints	NumComplaints	NumComplaints	NumComplaints
TaxEnf	**0.706****	**0.786*****	**-1.005**	**-0.721**
	(0.021)	**(0.004)**	**(0.154)**	**(0.295)**
BankRegulatorPressure	-0.240***	-0.229***	-0.032	0.010
	(0.000)	(0.003)	(0.698)	(0.889)
EnforceActionCFPB	-0.001	-0.078***	-0.033*	0.044**
	(0.977)	(0.003)	(0.071)	(0.029)
Ln(TotalAsset)	0.607	0.447	-0.290	-1.211
	(0.443)	(0.603)	(0.614)	(0.108)
Ln(TotalDeposit)	0.162	-0.557	1.501**	1.924**
	(0.786)	(0.319)	(0.014)	(0.012)
Ln(TotalLoans)	0.018	0.570*	0.059	0.238
	(0.963)	(0.096)	(0.888)	(0.264)
ETR	0.027	0.094	0.056	0.053
	(0.902)	(0.710)	(0.812)	(0.709)
Ln(NumBranches)	-0.819**	-0.676*	-1.018***	-0.621***
	(0.035)	(0.055)	(0.000)	(0.001)
ROA	-4.213	-13.264*	-8.309	-2.003
	(0.531)	(0.073)	(0.322)	(0.719)
Capital	-3.484	-6.163***	2.403	2.786
	(0.287)	(0.002)	(0.569)	(0.386)
Constant	-1.340	4.737	-9.789	-6.085
	(0.782)	(0.363)	(0.103)	(0.431)
Observations	370	297	370	297
Bank FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Bank Cluster	Yes	Yes	Yes	Yes
Pseudo R2	0.990	0.991	0.992	0.993

This table reports the association between tax enforcement and lead and lag financial service quality. Columns 1 – 4 show the results of the regressions of financial service quality at $T+1, T+2, T-1$, and $T-2$, respectively. $NumComplaints$ refers to the total number of consumer complaints against a bank. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 11

UTB Settlement

VARIABLES	(1) UTB Settle NumComplaints	(2) Net UTB Settle NumComplaints	(3) Net UTB Settle > 0 NumComplaints	(4) Net UTB Settle < 0 NumComplaints
UTBSettle	**0.868****			
	(0.047)			
NetUTBSettle		**0.806****	**1.089***	**-17.221***
		(0.045)	**(0.050)**	**(0.071)**
BankRegulatorPressure	-0.070	-0.071	-0.120	0.013
	(0.278)	(0.272)	(0.125)	(0.966)
EnforceActionCFPB	0.026	0.027	0.015	0.088
	(0.166)	(0.145)	(0.517)	(0.588)
Ln(TotalAsset)	1.506*	1.472*	2.250***	-1.251
	(0.057)	(0.064)	(0.010)	(0.127)
Ln(TotalDeposit)	-0.156	-0.123	-0.810	0.108
	(0.844)	(0.878)	(0.395)	(0.881)
Ln(TotalLoans)	-0.049	-0.041	-0.120	1.781***
	(0.928)	(0.940)	(0.860)	(0.005)
ETR	-0.114	-0.112	-0.078	-0.284
	(0.611)	(0.620)	(0.849)	(0.409)
Ln(NumBranches)	-1.081***	-1.084***	-1.237***	-0.383**
	(0.000)	(0.000)	(0.000)	(0.041)
ROA	9.849	9.752	9.829	36.489***
	(0.352)	(0.357)	(0.553)	(0.000)
Capital	-2.968	-2.888	-3.999	-25.224***
	(0.531)	(0.541)	(0.468)	(0.000)
Constant	-10.200	-10.311	-9.407	0.288
	(0.158)	(0.152)	(0.404)	(0.977)
Observations	303	303	128	91
Bank FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Bank Cluster	Yes	Yes	Yes	Yes
Pseudo R2	0.991	0.991	0.990	0.991

This table reports the association between UTB settlement and financial service quality. Column 1 reports the regression of consumer complaints on UTB settlement and Column 2 reports the regression of consumer complaints on net UTB settlement. Column 3 reports the regression results of net UTB settlement when UTB settlement is greater than UTB lapse, and Column 4 reports the regression results of net UTB settlement when UTB settlement is less than UTB lapse. $NumComplaints$ refers to the total number of consumer complaints against a bank. $UTBSettle$ refers to the UTB settlement with tax authorities, scaled by the lag of total assets, and $NetUTBSettle$ refers to net UTB settlement which is measured UTB settlement with tax authorities minus UTB statute of limitation lapse, scaled by the lag of total assets. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 12 (Panel A)

Bank County Analyses

	N	Mean	SD	p25	Median	p75
NumBankCtyComplaints	17670	8.159	12.858	1	3	8
TaxEnf	17670	.058	0.057	.026	.037	.068
Competition	17670	-.173	0.094	-.195	-.145	-.117
BankRegulatorPressure	17670	.649	0.396	.382	.51	.777
EnforceActionCFPB	17670	.143	0.350	0	0	0
Ln(TotalAsset)	17670	19.904	1.443	18.696	19.938	21.248
Ln(TotalDeposit)	17670	19.633	1.439	18.473	19.691	20.943
Ln(TotalLoans)	17670	19.338	1.312	18.309	19.462	20.534
ETR	17670	-.272	0.097	-.329	-.277	-.205
TotalCountyBanks	17670	22.062	16.459	11	17	28
RacialMinorities	17670	.209	0.158	.082	.175	.296
Ln(HouseholdIncome)	17670	13.74	1.072	12.985	13.681	14.533
BachelorsDegree	17670	12.161	7.601	6.175	10.905	17.267

This table presents the summary statistics of the variables used in the bank-county analyses. Appendix A provides the variable definitions.

Table 12 (Panel B)

Bank County Complaints

	(1)	(2)	(3)
VARIABLES	NumBankCtyComplaints	NumBankCtyComplaints	NumBankCtyComplaints
TaxEnf	**1.581*** **	**1.055*** **	**1.167*** **
	(0.000)	**(0.000)**	**(0.000)**
Competition	0.070	0.006	-0.036
	(0.853)	(0.992)	(0.953)
TaxEnf×Competition			**0.716**
			(0.438)
BankRegulatorPressure	-0.082***	-0.143***	-0.143***
	(0.003)	(0.000)	(0.000)
EnforceActionCFPB	0.021*	-0.033***	-0.033***
	(0.069)	(0.000)	(0.000)
Ln(TotalAsset)	0.789***	1.284***	1.285***
	(0.009)	(0.000)	(0.000)
Ln(TotalDeposit)	-0.838**	-1.407***	-1.408***
	(0.028)	(0.000)	(0.000)
Ln(TotalLoans)	0.563***	0.166*	0.167*
	(0.000)	(0.051)	(0.050)
ETR	-0.474***	-0.122*	-0.122**
	(0.000)	(0.050)	(0.050)
TotalCountyBanks	0.025***	0.038***	0.038***
	(0.000)	(0.000)	(0.000)
RacialMinorities	1.146***	-0.052	-0.052
	(0.000)	(0.427)	(0.430)
Ln(HouseholdIncome)	0.251***	-0.012	-0.012
	(0.000)	(0.309)	(0.313)
BachelorsDegree	-0.012**	-0.004**	-0.004**
	(0.011)	(0.039)	(0.039)
Constant	-12.691***	0.438	0.431
	(0.000)	(0.838)	(0.841)
Observations	17,670	17,670	17,670
Bank FE	No	Yes	Yes
Year FE	No	Yes	Yes
County FE	No	Yes	Yes
County Cluster	Yes	Yes	Yes
Pseudo R2	0.459	0.661	0.661

This table reports the association between tax enforcement and financial service quality at the bank-county level. Column 1 reports the results with no fixed effects, Column 2 reports the results with bank and year fixed effects, and Column 3 reports the results with bank, year, and county fixed effects. $NumBkCtyComplaints$ refers to the total number of consumer complaints against a bank in a county. $TaxEnf$ refers to banks' exposure to the IRS. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 13 (Panel A)

Credit Unions

VARIABLES	(1) All Commercial Banks NumComplaints	(2) Non-Zero Exposure NumComplaints	(3) Zero Exposure NumComplaints
Commercial Banks	**1.642****	**1.911*****	**-0.157**
	(0.012)	**(0.003)**	**(0.826)**
Credit Unions	5.134***	5.134***	5.142***
	(0.000)	(0.000)	(0.000)
Observations	501	377	164
Bank FE	No	No	No
Year FE	Yes	Yes	Yes
Bank Cluster	Yes	Yes	Yes
Pseudo R2	0.0315	0.0519	0.0442

This table presents a comparison of the complaints of credit unions and commercial banks. Columns 1 – 3 show the results of credit unions versus all commercial banks, credit unions versus commercial banks with non-zero IRS exposure, and credit unions versus commercial banks with zero IRS exposure. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 13 (Panel B)

Descriptives

	N	Mean	SD	p25	Median	p75
CountyComplaints	11781	23.185	60.345	2	4	13
TreatedCounty	11781	.014	0.118	0	0	0
Competition	11781	-.261	0.163	-.311	-.214	-.153
NumberofBanks	11781	10.783	8.903	5	8	13
BachelorsDegree	11781	9.944	6.668	4.705	8.871	13.829
RacialMinorties	11781	.177	0.154	.06	.122	.253
HouseholdIncome	11781	13.247	0.934	12.697	13.216	13.786

This table presents the summary statistics of the variables used in the county analyses. Appendix A provides the variable definitions.

Table 13 (Panel C)

Credit Union Closures and Complaints

	(1)	(2)	(3)
VARIABLES	CountyComplaints	CountyComplaints	CountyComplaints
TreatedCounty	**1.939*** **	**0.156*** **	**0.152*** **
	(0.000)	**(0.000)**	**(0.000)**
Competition			-0.065
			(0.641)
NumberofBanks			0.003
			(0.395)
BachelorsDegree			-0.003
			(0.217)
RacialMinorties			0.357
			(0.437)
HouseholdIncome			-0.131
			(0.342)
Constant	3.062***	4.515***	6.269***
	(0.000)	(0.000)	(0.002)
Observations	11,781	11,781	11,781
Controls	No	No	Yes
County FE	No	Yes	Yes
Year FE	No	Yes	Yes
County Cluster	Yes	Yes	Yes
Pseudo R2	0.0641	0.932	0.932

This table reports the results of the difference-in-differences analyses showing the effect of the closure of credit unions on financial service quality. Column 1 presents regression results with no controls and fixed effects, and Column 2 displays the results with fixed effects. Column 3 shows the results of the full model. $CountyComplaints$ refers to the total number of consumer complaints from a county in a year. $TreatedCounty$ is an indicator variable equal to one for the period and thereafter that a county experiences a credit union closure, and zero otherwise. Appendix A provides the variable definitions. *, **, and *** denote two-tailed statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix A

Variable Definitions

Variable	Definition	Source
NumComplaints	Number of consumer complaints against a bank in a year	CFPB
AccountsComplaints	Number of deposit accounts related complaints	CFPB
CardsComplaints	Number of debit and credit cards related complaints	CFPB
MortgageComplaints	Number of mortgage related complaints	CFPB
DebtCollectComplaints	Number of debt collection related complaints	CFPB
CreditReportComplaints	Number of credit report related complaints	CFPB
ConsumerLoansComplaints	Number of consumer loans related complaints	CFPB
ReliefComplaints	Number of complaints resolved with a relief to consumers	CFPB
MonetaryReliefComplaints	Number of complaints resolved with a monetary relief to consumers	CFPB
NonMonetaryReliefComplaints	Number of complaints resolved with a non-monetary relief to consumers	CFPB
ExplainedComplaints	Number of complaints resolved with an explanation from banks	CFPB
BankCtyComplaints	Number of consumer complaints from a county against a bank in a year	CFPB
TaxEnf	IRS Exposure, measured as the number of IRS enforcement sentence divided by the total number of sentences in the 10K of banks. I multiply this figure by 100.	Armstrong et al. (2025)
HighIRS_Exposure	An indicator variable equal to 1 if TaxEnf is above the median in 2012, zero otherwise	Armstrong et al. (2025)
HighPrud_Exposure	An indicator variable equal to 1 if exposure to prudential regulators is above the median in 2012, zero otherwise	Armstrong et al. (2025)
LowIRSBudget	An indicator variable equal to 1 for years 2013 and 2014; zero for the year 2012.	
Ln(TotalAsset)	Natural log of total assets	FDIC SDI
Ln(TotalDeposit)	Natural log of total deposits	FDIC SDI
Ln(TotalLoans)	Natural log of total loans	FDIC SDI
ETR	Effective tax rate, measured as income tax expense divided pretax income. I multiply it by -1, so an increase in this measure represents an increase in tax avoidance.	FDIC SDI
Ln(NumBranches)	Natural log of the number of bank offices	FDIC SDI
ROA	Return on asset, defined as net income divided by total assets	FDIC SDI

Capital	Tier 1 capital ratio	FDIC SDI
UTB	UTB ending balance, scaled by the lag of total assets	SEC Edgar
UTBSettle	UTB settlement with tax authorities, scaled by the lag of total assets	SEC Edgar
NetUTBSettle	Net UTB settlement is measured as UTB settlement minus UTB statute of limitation lapse, all divided by the lag of total assets.	SEC Edgar
BankCountyBranches	Number of branches of a bank in a county	FDIC SOD
Ln(BankCountyDeposits)	Natural of log of the sum of total deposits of a bank in a county	FDIC SOD
Competition	Herfindahl-Hirschman Index, defined as the sum of the square of the share of deposits for each bank within a county.	FDIC SOD
TotalCountyBanks	Number of unique banks in a county	FDIC SOD
TotalCountyBranches	Total number bank branches in a county	FDIC SOD
BachelorsDegree	Proportion of the population with a bachelor's degree or higher in a county	ACS
RacialMinorties	The proportion of non-white individuals in a county	ACS
Ln(HouseholdIncome)	The natural log of the average income in a county	ACS