

# **Quantitative Analysis of the Impact of The Economic Growth, Regulatory Relief, and Consumer Protection Act of 2018 on the Cost of Regulatory Burden on Community Banks**

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*Following the financial crisis of 2007-2008 Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank”) was enacted. Community bankers protested that they did not contribute to the crisis but had been penalized more than the large banks because they (large banks) had the compliance personnel and resources to respond effectively to Dodd-Frank. After seven years, Congress passed the Economic Growth, Regulatory Relief, and Consumer Protection Act (the Relief Act) to relieve the regulatory burden on community banks. This study examines whether the Relief Act had the intended effect of reducing the regulatory burden on community banks. I find that the Relief Act did indeed reduce the cost of the regulatory burden on community banks, contrary to community bankers’ survey responses. This study benefits regulators, bankers, and legislators.*

*Keywords: Dodd-Frank, Relief Act, banks, regulatory burden, regulation*

## **INTRODUCTION**

The financial crisis of 2007-2008 was attributed mainly to the failure of large banks and regulators to effectively manage risk and protect consumers, the Federal Deposit Insurance Corporation, and the global economy. Dodd-Frank was enacted in response to this crisis. Following the enactment of Dodd-Frank, community bankers complained often and loudly that they were not to blame for the crisis but had been penalized more than the large banks because they had the compliance personnel and resources to respond effectively to Dodd-Frank. In contrast, community bankers had to hire additional employees, purchase new and more expensive software, send employees to training, and hire outside consultants to effectively manage the challenges of Dodd-Frank (Peirce et al., 2014).

Using the RegData database, I calculated a 79% increase in the number of restrictions included in *CFR: Title 12 Banks and Banking* between 2010 (the year Dodd-Frank was enacted) and 2018 (the year the Relief Act was enacted) (*QuantGov*, n.d.). Academic researchers have found that Dodd-Frank resulted in an increase in noninterest expenses of more than \$50 billion per year (Hogan & Burns, 2019). Congress responded to community bankers’ complaints and evidence provided by researchers and popular press by enacting the Relief Act in 2018 to reduce the regulatory burden on community banks while retaining the restrictions that prevent too big to fail. This study attempts to quantitatively evaluate whether the Relief Act had the desired effect of reducing the cost of regulatory burdens on community banks.

## BACKGROUND

### Community Banks

The definition of community banks is somewhat ambiguous, but they are often identified based on size and community focus (Hanauer et al., 2021). Throughout this paper, I use the Federal Reserve definition—community banks are generally deposit-taking institutions with less than \$10 billion in assets (*Federal Reserve Board - Community & Regional Financial Institutions*, 2021). Some of the papers that I cite may use other definitions.

Community banks rely on a substantially different business model than their larger competitors using soft information gathered through personal knowledge of customers and the community rather than hard data and complex analytics to make lending decisions, i.e., the relationship model (Hanauer et al., 2021; Kress & Turk, 2019; Lux & Greene, 2015; Tarullo, 2014). The familiarity and history with customers and a willingness to provide customized products that meet customers' needs often provide community banks a competitive advantage over larger competitors. Because of this model, many small businesses, agricultural lenders, and families rely on the customized products produced by the community banks (Lux & Greene, 2015). The Consumer Financial Protection Bureau (CFPB) states, "They can be a lifeline to hard-working families paying for education, unexpected medical bills, and homes (*Community Banks and Credit Unions*, n.d.)." While the relationship model of banking is effective for communities, small businesses, working families, agricultural borrowers, and others, it is often problematic in a regulatory system built for big bank practices (Lux & Greene, 2015; Tarullo, 2014). The theme of standardized financial products in Dodd-Frank runs counter to the relationship model used by most community banks (Marsh & Norman, 2013).

### Dodd-Frank

The financial crisis of 2007-2008 (the "crisis") resulted in the failure of Lehman Brothers, Washington Mutual, and Wachovia, the bailout of Bear Stearns and American Insurance Group, and the government takeover of Fannie Mae and Freddie Mac (Acharya & Richardson, 2012; Akhigbe et al., 2016). In response to the crisis, to protect consumers, promote transparency in financial markets, and stabilize the U.S. financial system, Congress enacted and President Obama signed into law the most extensive financial regulation since the 1930's—The Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") in July 2010 (Acharya & Richardson, 2012; Akhigbe et al., 2016; Marsh & Norman, 2013; McLaughlin & Sherouse, 2015; *The Dodd-Frank Act: Reforming Wall Street and Protecting Main Street*, 2017). The Dodd-Frank Act is far-reaching, including 845 pages, 16 titles, and 225 new rules across 11 agencies (Acharya & Richardson, 2012). According to McLaughlin and Sherouse (2015), it resulted in more than 28,000 new restrictions and accounted for more restrictions than all other laws passed during the Obama administration. Using the RegData database, I calculated a 79% increase in the number of restrictions included in *CFR: Title 12 Banks and Banking* between 2010 and 2018 (*QuantGov*, n.d.).

The regulatory burden of these restrictions on U.S. commercial banks, especially community banks, has been central to much of the debate surrounding the efficacy of Dodd-Frank (Anderson, 2016; Sweeney et al., 2010). A study by the St. Louis Federal Reserve Bank concluded that scale matters which is consistent with the heterogeneous firm model of the regulation (Bartel & Thomas, 1985, 1987; Buchanan & Tullock, 1975). Smaller banks incur relatively higher compliance costs than larger banks suggesting that larger banks have the ability to distribute compliance costs over a larger base, and as a result, regulations are less of a burden for larger banks than smaller banks (Dahl et al., 2016; Dolar & Dale, 2020; Dolar & Shughart, 2012; Elliehausen, 1998; Schroeder, 1985). Feldman et al. (2013) attempted to quantify the effect of additional compliance costs by modeling the impact of hiring additional staff on profitability. Their findings suggest that the regulatory burden disproportionately impacts smaller community banks' profitability. Given the increase in restrictions following Dodd-Frank and the application of the heterogeneous firm model of regulation to the banking industry, it seems plausible that Dodd-Frank was more burdensome for community banks than non-community banks. A limited number of studies have attempted to identify the impact of Dodd-Frank on community banks; relevant results from those studies follow.

A survey of 200 small banks by the Mercatus Center suggests that Dodd-Frank had a significant effect on small banks, creating a regulatory burden including hiring compliance personnel, engaging outside experts, allocation of additional resources to compliance, and more time spent on compliance by non-compliance personnel (Peirce et al., 2014). Using six possible indicators of regulatory burden, Cyree (2016) examined the impact of FDICIA, PATRIOT Act, and Dodd-Frank on bank costs profitability and concluded that following Dodd-Frank, five of the six indicators are consistent with an increased regulatory burden for community banks. Hogan and Burns (2019) examined the effect of Dodd-Frank on bank expenses, concluding that noninterest expenses increased more than \$50 billion per year following Dodd-Frank compared to before Dodd-Frank. Additionally, anecdotal evidence from community bankers also suggests that the regulatory burden increased following Dodd-Frank. Rapoport (2014) quotes a small North Carolina lender – “When they created too big to fail, they also created too small to succeed.”

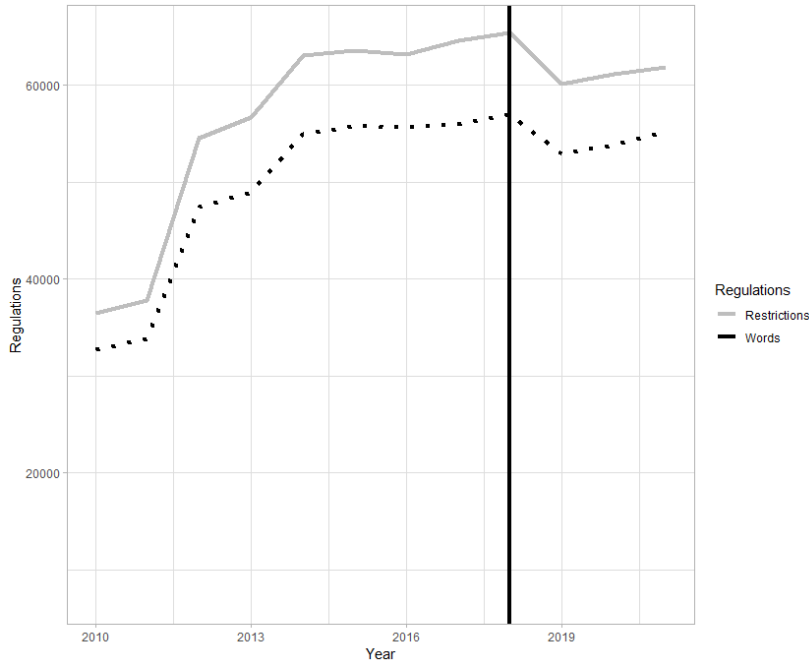
After years of hearings by regulators and Congress regarding the unintended consequences of Dodd-Frank (e.g., unnecessary compliance burden, needless legal requirements, and high compliance costs for community banks), they concluded that community banks posed a minimal systemic risk to the economic system, and policymakers agreed that community banks needed relief from Dodd-Frank to remain competitive (Heitkamp, 2017; Kress & Turk, 2019; Lux & Greene, 2016; Marsh & Norman, 2013). As a result, leaders from both major political parties came together and passed the Relief Act to reduce the regulatory burden on community banks (Klein, 2018; Kress & Turk, 2019).

### **Relief Act**

The Relief Act relieves community banks from regulatory measures intended for the largest banks (those considered too large to fail), providing relief through reduced capital requirements, more time between examinations, fewer reporting requirements, and made it easier for small holding companies to finance acquisitions (Hudson & Silvia, 2018; Joo, 2018). Regulatory relief is generally available to banks with less than \$10 billion of assets; however, some provisions of the Relief Act are only available to smaller banks (Hudson & Silvia, 2018). Community banks welcomed the relief suggesting that it would free up capital, reduce expenses, and free bank personnel from the restrictions imposed following Dodd-Frank (Hudson & Silvia, 2018). However, community bankers responded to a survey by Dancer and Powell (2022) that the Relief Act did not result in significant changes to their daily activities, suggesting that the Relief Act did not provide the relief from regulatory burdens that many community bankers had expected or anticipated. In apparent contradiction to the bankers’ survey responses, restrictions and total words included in CFR Title 12, Banks and Banking decreased following the enactment of the Relief Act, see Figure 1. While a reduction in restrictions and volume of CFR Title 12 does not guarantee regulatory relief, a reduction in restrictions and volume indicates the possibility of relief from regulatory burden.

Restrictions and word count were downloaded from [www.QuantGov.org](http://www.QuantGov.org)’s RegData database. The RegData database is compiled using custom text analysis and machine-learning algorithms. RegData captures the restrictiveness of regulations by counting words and phrases that indicate prohibited or required activities (McLaughlin et al., 2022). Examples of words and phrases identified as restrictions include: shall, must, may not, prohibited, and required (Al-Ubaydli & McLaughlin, 2017; McLaughlin et al., 2022). In addition to counting restrictions, RegData includes a count of the total number of words in each CFR Title, chapter, subchapter, and part, as a measure of regulation volume.

**FIGURE 1  
CFR, TITLE 12 REGULATIONS**



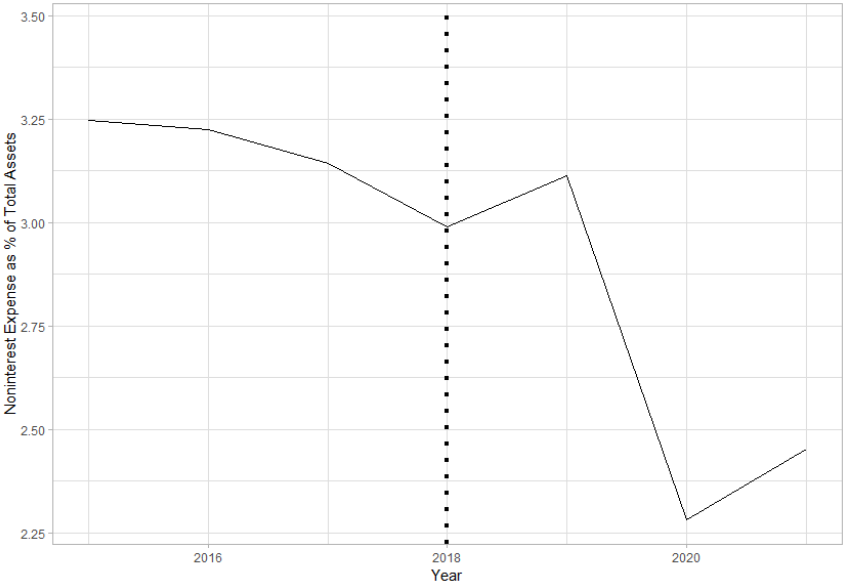
Banks are not required to measure or report the cost of regulatory burden. Prior studies have attempted to measure the cost of regulatory burden using noninterest expenses, compensation expenses, and other noninterest expenses (Cyree, 2016; Dolar & Dale, 2020; Hogan & Burns, 2019). Using data from Bank Holding Company FR Y-9C reports, I compared these measures for community bank holding companies (bank holding companies with less than \$10 billion of assets) during the three years prior to the relief act (2015 through 2016) and the three years following the Relief Act (2019 through 2021).

**TABLE 1  
COMPARISON OF INPUT AND OUTPUT MEASURES PRE- AND POST-RELIEF ACT**

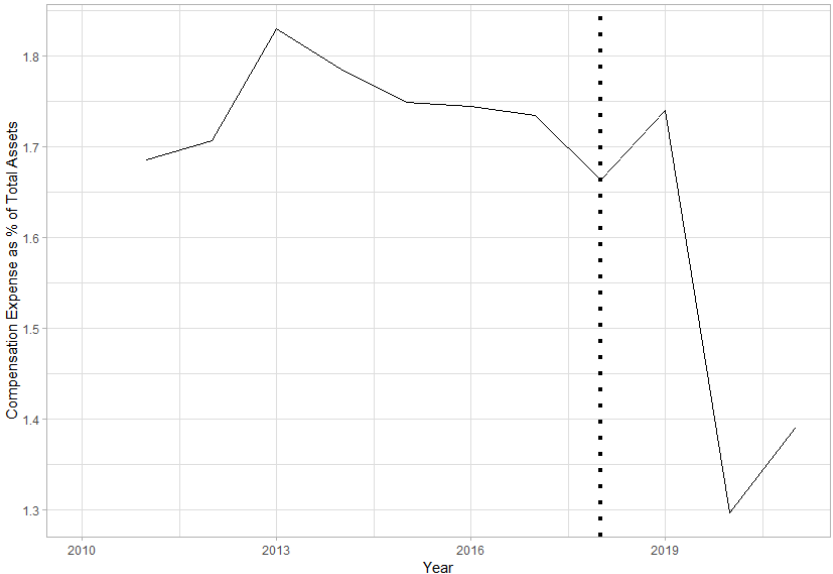
| <b>(As a % of Total Assets)</b> |                                |                                 |                          |
|---------------------------------|--------------------------------|---------------------------------|--------------------------|
|                                 | <b>Noninterest<br/>Expense</b> | <b>Compensation<br/>Expense</b> | <b>Other<br/>Expense</b> |
| Average Pre-Relief Act          | 2.85                           | 1.61                            | 1.24                     |
| Average Post – Relief Act       | 2.68                           | 1.57                            | 1.11                     |
| Increase(Decrease)              | (0.17)                         | (0.04)                          | (0.13)                   |
| % Change                        | (6.01)                         | (2.48)                          | (10.61)                  |
| Increase(Decrease)              |                                |                                 |                          |

As shown in Table 1, all three costs decreased as a percentage of total assets following the Relief Act. The average noninterest expense as a percentage of total assets decreased 17 basis points from 2.85% to 2.68%. The average compensation expense as a percentage of total assets decreased 4 basis points from 1.61% to 1.24%. The average other expense as a percentage of total assets decreased 13 basis points from 1.24% to 1.11%, see figures 2 – 4.

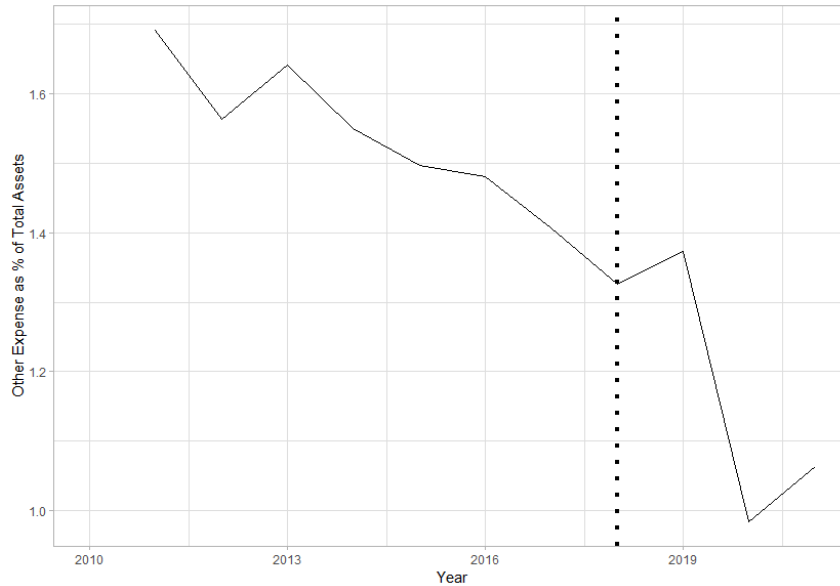
**FIGURE 2**  
**NONINTEREST EXPENSES AS A PERCENTAGE OF TOTAL ASSETS 2011–2021**



**FIGURE 3**  
**COMPENSATION EXPENSES AS A PERCENTAGE OF TOTAL ASSETS 2011–2021**



**FIGURE 4**  
**OTHER EXPENSES AS A PERCENTAGE OF TOTAL ASSETS**



Following the Relief Act, regulatory restrictions, total word count in CFR Title 12, noninterest expenses, compensation expenses, and other noninterest expenses decreased. This information appears to contradict community bankers’ survey responses. Therefore, this study seeks to quantitatively examine whether the Relief Act resulted in a reduced regulatory burden on community banks and ask the following research question – Did community banks’ regulatory burden decrease following the Relief Act?

**DATA AND EMPIRICAL METHOD**

**Data and Sample Selection**

Using data from the year-end Federal Reserve FR Y-9C reports for bank holding companies, I study the costs and effects of the Relief Act by alternatively using three dependent variables. Year-end FR Y-9C reports for all U.S. bank holding companies from 2010 through 2020 were downloaded from the Chicago Federal Reserve. FR Y-9C’s for 2021 were not available from the Chicago Federal Reserve website but were downloaded from the Federal Financial Institutions Examination Council (FFIEC) (*Financial Data Download - National Information Center*, n.d.). The datasets for each year were downloaded and imported into R (R Core Team, 2022). Economic data was downloaded from the St. Louis Federal Reserve database (FRED) using the R package fredr (Boysel & Vaughan, 2021). All datasets were downloaded, the appropriate variables were selected for each year, and the datasets were joined together. Observations (banks for a specific year) with missing or incomplete data were deleted.

Banks with \$10 billion of assets or more were removed from the dataset. Additional observations were deleted due to missing data after calculating variables such as return on average assets. Dodd-Frank was passed in 2010, and the Relief Act was passed in 2018. Both 2010 and 2018 were removed. Histograms were prepared, and basic descriptive statistics were reviewed for the remaining dependent variables and total assets to evaluate the existence of outliers. All observations with dependent variables and total assets greater than +/- three standard deviations from the mean were deleted. Afterward, histograms and basic descriptive statistics were reviewed again, and it was determined that all outliers had been removed. This process resulted in 4,657 bank years available for the regression analysis, see Table 2.

**TABLE 2**  
**SAMPLE SELECTION**

|   |          |
|---|----------|
| Total bank years 2010 – 2021  | 57,317   |
| Observations with incomplete data   | (49,026) |
| Subtotal  | 8,291    |
| Observations with assets equal to or greater than \$10 billion                  | (1,301)  |
| Subtotal  | 6,990    |
| Observations with incomplete data after calculating variables                   | (1,300)  |
| Observations after calculating variables  | 5,690    |
| Exclude 2010 and 2018   | 284      |
| Subtotal  | 5,407    |
| Outliers excluded (dependent variables and total assets +/- standard deviation) | 750      |
| Bank years included in the analysis   | 4,657    |

**Panel Regression Model Dependent Variables**

Banks do not report compliance costs separately in the FR Y-9C; however, the regulatory burden on small banks includes hiring compliance personnel, engaging outside experts, allocating additional resources to compliance, and more time spent on compliance by non-compliance personnel (Peirce et al., 2014). Such expenses are captured in noninterest expenses; therefore, the burden of regulatory compliance is expected to be reflected in noninterest expenses and their subcategories: compensation expenses and other noninterest expenses (Cyree, 2016; Dolar & Dale, 2020; Hogan & Burns, 2019).

I use the following dependent variables as proxies for compliance costs and regulatory burden: noninterest expenses (NONINT), compensation expenses (COMP), and other noninterest expenses (OTHER) (on-interest expenses minus salaries and benefits) (Cyree, 2016; Dolar & Dale, 2020; Hogan & Burns, 2019), each scaled by total assets to adjust for bank size. Each of the three dependent variables is estimated separately in the panel regression specified as

$$\begin{aligned}
 Y_{i,t} = & \alpha + \sum_{i=1}^N \alpha_j + \beta_1 RELIEF_t + \beta_2 LNASSTS_{i,t} + \beta_3 CAPRATIO_{i,t} + \beta_4 NETINTINC_{i,t} \\
 & + \beta_5 FIDINC_{i,t} + \beta_6 TRANS + \beta_7 ALLL_{i,t} + \beta_8 NPL_{i,t} + \beta_9 CPI_{i,t} + \beta_{10} INTSLP_{i,t} \\
 & + \beta_{11} INTLVL_{i,t} + \varepsilon_{i,t}
 \end{aligned}$$

where  $Y_{i,t}$  is alternatively noninterest expense, compensation and benefits expenses, other noninterest expenses, pretax ROA, and the dollar amount of loans per employee. The subscript  $i$  refers to the number of banks in a particular year, and the subscript  $t$  refers to the year. Bank fixed effects are captured by the summation term, which has a different number each year because banks enter and leave the sample in an unbalanced panel (Banks may leave the sample if they fail, are acquired, or grow assets beyond the defined asset size category through organic growth and normal expansion, or mergers and acquisitions.).

**Panel Regression Model and Control Variables**

My primary variable of interest is RELIEF. RELIEF is a dummy variable coded 0 for years 2011 through 2017 and 1 for years 2019 – 2021. Several variables were collected to control for size differences, risk of failure, differences in business models, loan performance, and the broad business cycle. The natural log of total assets (LNASSETS) is used to control for size variation. Capital ratio (CAPRATIO) is used to control for the risk of bank failure or bankruptcy. CAPRATIO is calculated by dividing total equity by total assets. Net interest income (interest income minus interest expense) (NETINTINC) and fiduciary income (FIDINC), all scaled by assets, are used to control for business model variations. Loan performance control variables include nonperforming loans (NPL) and allowance for loan and lease losses (ALLL) to total loans.

To control for the broad business cycle, the annualized growth rate of the consumer price index (CPI), interest level (INTLVL), defined as the 10-year treasury rate, and interest slope (INTSLP), defined as the difference between the 10-year treasury rate and the 3-month treasury rate. The broad business cycle control variables were downloaded from <https://fred.stlouisfed.org>. The control variables are based on prior research and include those that identify the banks' business models, economic variables that influence all banks, and bank-specific risk factors. Independent variables listed above are statistically significant in at least one model, and R<sup>2</sup> suggests strong explanatory power. Variance inflation factors (not shown) indicate no problem with multicollinearity even though many of the independent variables are correlated.

## EMPIRICAL RESULTS

This section includes a discussion of the descriptive statistics and the panel regression results to examine the effects of the Relief Act on expenses. The indicator variable (RELIEF) is the primary focus of the regression analysis. Table 3 contains descriptive statistics for the dependent variables and total assets for the sample of bank holding companies with less than \$10 billion in total assets. The means, medians, and standard deviations are listed for the dependent variables used in this study and along with assets.

**TABLE 3**  
**MEANS, MEDIANS, AND STANDARD DEVIATION OF SELECTED VARIABLES FOR BANK HOLDING COMPANIES WITH LESS THAN \$10 BILLION IN TOTAL ASSETS**

| Variable | Mean      | Median    | Standard Deviation |
|----------|-----------|-----------|--------------------|
| NONINT   | 3.05      | 2.92      | 0.85               |
| COMP     | 1.63      | 1.57      | 0.45               |
| OTHER    | 1.41      | 1.31      | 0.51               |
| PREROA   | 0.97      | 1.07      | 0.86               |
| LNSEMP   | 3,211     | 2,909     | 1,288              |
| TOTASSTS | 1,553,539 | 1,120,787 | 1,236,485          |

Note:  $N = 4,657$  bank years. NONINT, COMP, and OTHER are presented as percentages of total assets. TOTASSTS is in \$1,000's.

### Panel Regression Results and Discussion

Table 4 contains the results for the panel regressions for the noninterest expense (NONINT), compensation and benefits expense (COMP), and other noninterest expenses (OTHER). The key variable of interest is RELIEF, an indicator variable for the periods before and after the enactment of the Relief Act.

**TABLE 4**  
**PANEL REGRESSION RESULTS FOR COMMUNITY BANKS**

| Independent Variables | Dependent Variables |                     |                     |
|-----------------------|---------------------|---------------------|---------------------|
|                       | NONINT              | COMP                | OTHER               |
| RELIEF                | -0.21***<br>(0.07)  | -0.07*<br>(0.04)    | -0.15***<br>(0.05)  |
| LNASSTS               | -1.22****<br>(0.09) | -0.67****<br>(0.05) | -0.54****<br>(0.06) |
| CAPRATIO              | 0.01<br>(0.01)      | 0.02****<br>(0.00)  | 0.00<br>(0.01)      |
| NETINTINC             | 0.00***             | 0.00****            | 0.00****            |



|                |           |           |           |
|----------------|-----------|-----------|-----------|
|                | (0.00)    | (0.00)    | (0.00)    |
| FIDINC         | 0.00***   | 0.00***   | 0.00***   |
|                | (0.00)    | (0.00)    | (0.00)    |
| TRANS          | 0.00*     | 0.00****  | 0.00      |
|                | (0.00)    | (0.00)    | (0.00)    |
| ALLL2LNS       | 0.09***   | 0.00      | 0.08****  |
|                | (0.03)    | (0.01)    | (0.02)    |
| NPL2LNS        | 0.03      | 0.00      | -0.03**** |
|                | (0.05)    | 0.00      | (0.01)    |
| CPI_GROW       | -0.03**** | -0.03**** | 0.00      |
|                | (0.01)    | (0.01)    | (0.01)    |
| INTSLP         | -0.07**   | -0.08**** | 0.01      |
|                | (0.03)    | (0.02)    | (0.02)    |
| INTLVL         | 0.07**    | 0.07****  | 0.00      |
|                | (0.03)    | (0.02)    | (0.02)    |
| R <sup>2</sup> | 0.90      | 0.92      | 0.86      |

OLS regressions with bank-level fixed effects. NONINT, COMP, and OTHER are measured as percentages of total assets. Bank clustered standard errors are shown in parentheses, n = 4,657. Statistical significance is indicated by \* for .10, \*\* for .05, \*\*\* for .01, and \*\*\*\* for .001.

After controlling for size differences, risk of failure, differences in business models, loan performance, the broad business cycle, and bank-level fixed effects, the coefficients for NONINT and OTHER are negative and statistically significant at  $p < 0.01$ , and the coefficient for COMP is negative and significant at  $p < .10$ . The negative coefficients indicate that NONINT, COMP, and OTHER expenses decreased following the Relief Act. This decrease is statistically significant at traditional levels for NONINT and OTHER, while the decrease in COMP is statistically significant at  $p < .10$ . The  $R^2$  for each model indicates strong explanatory power. The  $R^2$  for NONINT, COMP, and OTHER are .90, .92, and .86, respectively.

These results are consistent with the data included in Table 1 and Figure 1; however, they are inconsistent with the community banker survey results (Dancer & Powell, 2022). It is conceivable that the Relief Act resulted in regulatory changes that reduced the regulatory burden on community banks and allowed them to decrease their reliance on consultants and decrease dependence on software, technology, and training while not impacting the compliance strain on existing personnel. If so, a less significant compensation and benefits expenses reduction make intuitive sense because banks continue to need the help of existing personnel.

It is also plausible that if banks added personnel to address the regulatory burden after Dodd-Frank, they might be reluctant to terminate employees and allow attrition and growth to address an excess number of employees, consistent with community banks' relationship models. Community bankers are reluctant to take any action that will negatively affect the community's perception of the bank; terminating several employees at once could be perceived as a sign of weakness and negatively affect banks' relationships with key customers.

Expenses included in other noninterest expenses may be more easily adjusted than employee costs. These costs include consultants, travel, training, software, etc. Such expenses are typically invisible to bank customers and can be eliminated without public perception concerns.

### Additional Analysis

The objective of the Relief Act was to reduce the burden on community banks and continue to regulate large banks (those considered too large to fail) at a level that protects customers and the American Public.

To determine if the regulatory relief was limited to community banks or if it extended to their large counterparts, I ran the regression analysis described above for banks with assets greater than \$10 billion. The results of this analysis are shown in Table 5.

**TABLE 5**  
**PANEL REGRESSION RESULTS FOR LARGE BANKS**

| Independent Variables | Dependent Variables |                    |                     |
|-----------------------|---------------------|--------------------|---------------------|
|                       | NONINT              | COMP               | OTHER               |
| RELIEF                | -0.07<br>(0.08)     | -0.08**<br>(0.03)  | 0.01<br>(0.06)      |
| LNASSTS               | -0.66****<br>(0.19) | -0.32***<br>(0.11) | -0.34****<br>(0.10) |
| CAPRATIO              | 0.03<br>(0.02)      | 0.03****<br>(0.01) | 0.00<br>(0.02)      |
| NETINTINC             | 0.00<br>(0.00)      | 0.00***<br>(0.00)  | 0.00<br>(0.00)      |
| FIDINC                | 0.00<br>(0.01)      | 0.00<br>(0.00)     | 0.00<br>(0.00)      |
| TRANS                 | 0.00<br>(0.01)      | 0.00**<br>(0.00)   | 0.00<br>(0.00)      |
| ALLL2LNS              | 0.15***<br>(0.05)   | 0.05***<br>(0.02)  | 0.10***<br>(0.04)   |
| NPL2LNS               | 0.05<br>(0.04)      | 0.00<br>(0.01)     | 0.05<br>(0.04)      |
| CPI_GROW              | -0.03*<br>(0.02)    | 0.00<br>(0.01)     | -0.03*<br>(0.01)    |
| INTSLP                | -0.02<br>(0.04)     | -0.04***<br>(0.02) | 0.02<br>(0.03)      |
| INTLVL                | 0.09*<br>(0.05)     | 0.06**<br>(0.02)   | 0.03<br>(0.04)      |
| R <sup>2</sup>        | 0.81                | 0.89               | 0.77                |

OLS regressions with bank-level fixed effects. NONINT, COMP, and OTHER are measured as percentages of total assets. Bank clustered standard errors are shown in parentheses, n = 794. Statistical significance is indicated by \* for .10, \*\* for .05, \*\*\* for .01, and \*\*\*\* for .001.

After controlling for size differences, risk of failure, differences in business models, loan performance, the broad business cycle, and bank-level fixed effects, the coefficients for NONINT and COMP are negative, indicating that noninterest expense and compensation expenses decreased following the Relief Act. The coefficient for OTHER is positive, suggesting that noninterest expenses other than compensation expenses increased following the Relief Act. The decrease in compensation expenses is statistically significant at  $p < 0.05$ , and the R<sup>2</sup> for each model indicates strong explanatory power. The R<sup>2</sup> for NONINT, COMP, and OTHER are .81, .90, and .77, respectively.

The change in compensation expenses for large banks compared to community banks likely reflects the difference in bank models of operation. Large banks are less concerned with the public perception of reducing staff compared to community banks. The increase in other expenses (although not statistically significant) is consistent with community bank claims that the large banks had many of the systems in place prior to Dodd-Frank and were not as negatively affected by the regulatory burden created by Dodd-Frank as community banks.

## CONCLUSION AND LIMITATIONS

Contrary to community bankers' survey responses, community banks' regulatory burden decreased following the Relief Act. Noninterest expenses, compensation expenses, and other expenses decreased following the Relief Act. The impact on large banks is mixed. The decrease in compensation expenses was statistically significant, while the change in other expenses was not statistically significant. While I followed previous research and attempted to control for size differences, risk of failure, differences in business models, loan performance, the broad business cycle, and bank-level fixed effects, the changes noted in my analysis may be the result of unknown variables outside the model. In addition, I limited my analysis to noninterest expenses, which are widely discussed by bank management and regulators. These results should interest regulators, legislators, and bankers as they evaluate the impact of past legislation and regulations.

## ACKNOWLEDGMENTS

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