

Shareholder Reactions to Behaviors of Banks Approaching the “Large Institution”

Regulation Threshold of the Dodd-Frank Act

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The 2010 Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) was a landmark piece of financial legislation that changed the United States’ economic regulatory landscape following the Great Recession. It implemented changes in every part of the financial system, from strengthening disclosure laws for investment firms to cracking down on bank lending practices.

Dodd-Frank forced a paradigm shift in the field of banking regulation. Large American banks no longer had the backing of ultra-optimistic market sentiment and now faced a tougher regulatory environment. Dodd-Frank’s regulations penalized larger banks by forcing them to submit to additional scrutiny. Banks were placed into categories based on their assets and faced additional scrutiny at ascending asset thresholds.

One of the most significant thresholds comes when banks grow past \$10 billion in assets. This threshold introduces several types of regulation, including limits on debit card transaction fees, being barred from investing the bank’s assets into riskier investment vehicles such as hedge funds, and increased liquidity requirements (Dolar & Dale, 2020). Together known as compliance costs, these regulations cost banks tens of millions of dollars every year (Dolar & Dale, 2020).

Due to the large amounts of compliance costs past the \$10 billion threshold, banks often attempt to stave off crossing the threshold for as long as possible, usually by either slowing asset growth or by attempting to acquire other banks to pass the threshold by a greater margin while also growing their revenue streams (Bouwman & Johnson, 2018; Bindal et al., 2020). Even though the bank may be slowing growth or making acquisitions to stave off increased regulation, and therefore costs, there may be negative short and long-term implications to those strategies.

This study analyzes stock market reactions to the behaviors of banks approaching the \$10 billion threshold regarding the strategy they undertake to manage the increased costs imposed by Dodd-Frank. The stock performance of the banks that undertake each strategy are analyzed to determine which strategy best mitigates the negative impact of the increased compliance costs on profitability. This study contributes to the existing literature by detailing how two previously discovered behaviors, the slowing of asset growth, and increased acquisitiveness, impact a bank's stock price by comparing both methods with banks who choose to continue growing without either of those strategies. This analysis can help banks approaching the threshold make more informed decisions about which strategy to implement to optimize market performance.

Literature Review

History of Dodd-Frank and related legislation

The Introduction of Dodd-Frank

Dodd-Frank was passed in 2010 in the aftermath of the Great Recession. It included a raft of measures meant to limit the financial industry's exposure to market volatility and reduce the risk-taking behavior that had induced the recession. This increased regulation had an overall positive effect on the safety and soundness of the financial system.

Baily et al. (2017) find that overall, Dodd-Frank's regulations have solved most of the problems present in large banks during the Great Recession, and it is unlikely that a recession of similar magnitude will be triggered in the same fashion. Acharya et al. (2018) find that stress tests, imposed by Dodd-Frank, help promote positive lending behaviors. The study shows that by using stress testing, banks are more likely to take an approach in line with the risk management hypothesis: banks will decrease their exposure to risky debt. Balasubramnian and Cyree (2014) find that post-Dodd-Frank, the bond market now priced in the solvency of the institution, rather than simply believing that the government would allow it to continue operating, showing that the market's assessment of Dodd-Frank was that it would fulfill its charter and

increase governmental scrutiny of the financial system. Gao et al. (2018) similarly find that shareholders believed Dodd-Frank would curb risk-taking behavior in banks, which led to a decrease in bank stock prices as the markets priced in the losses likely to come from the increased regulation.

The Economic Growth, Regulatory Relief, and Consumer Protection Act

During the Trump administration, Congress passed the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), which lifted some of the regulations Dodd-Frank had imposed, leading to the opposite reaction in the market. Erkens and Gan (2022) find that directly following the passage of the EGRRCPA, the small bank market experienced an overall increase in stock price due to the lessening of regulation. Large banks, however, did not see the same market reaction, which they concluded meant that the large banks had already paid the price of increased regulation, whereas smaller banks had not, because banks that had not yet crossed the threshold had not experienced the higher compliance costs and would be spared some of them due to this regulation. Dancer and Powell (2022) find that while in the short-term, markets believed the EGRRCPA would decrease compliance costs across the banking sector, long term, bank around the \$10 billion threshold have not experienced the significant decrease in compliance costs predicted.

Threshold Impact

Small banks continue to experience huge compliance costs due to Dodd-Frank's regulation, despite the deregulation offered by the EGRRCPA. Because of this, small banks work to stave off that regulation for as long as possible.

Liu (2023) finds that the impact of Dodd-Frank on small banks past the threshold is mostly negative due to high capital and liquidity requirements and increased compliance costs. It also examines the impact regulations have had on the number of new banks entering the market, which it finds to be lower due to the stringent requirements, and an unwillingness to deal with them. Liu also finds that the increased costs from the capital and liquidity requirements

exacerbate risk-taking behaviors among banks, which undermines the regulation's intended purpose. Dolar and Dale (2020) find that while large banks bear much of the regulatory burden, with larger capital and liquidity requirements, stress tests, and audits at an increased frequency, banks just above the threshold come out behind due to their inability to pay the proportionally higher compliance costs. Bahaj and Malherbe (2017) find a correlation between those increased capital requirements and lending behavior. It finds that typically, banks that experience an increase in capital requirements follow that with a decrease in lending, due to the increased costs of retaining excess capital. Decreasing lending lowers the amount of risk the bank is exposed to and increases its capital liquidity, thus mitigating the impact of the regulations.

Bank Behaviors

Due to the increased regulation, banks have been shown to adopt differential behaviors as they approach the threshold. Bindal et al. (2020) analyze merger and acquisition (M&A) behavior for banks approaching the threshold. They find that banks nearing the threshold increase their M&A activity to grow past the threshold by a larger amount, looking to offset the increased compliance costs of crossing the threshold with the additional revenue and assets that come from an acquisition. It hypothesizes that banks near the threshold fall into one of three asset bands: untreated (UT) (4-7 billion in assets), indirectly treated (IT) (7-10 billion in assets), and treated (T) (10-13 billion in assets), with treatment referring to the impact of Dodd-Frank's regulation on banks. Bouwman and Johnson (2018) use the Bindal et al. framework of treatment categories to analyze how Dodd-Frank affects banks' behavior as they approach the threshold, finding that banks approaching the threshold, the ones in the IT band, tend to try to slow their growth due to the increased regulations that come into force at the threshold. This was measured by comparing the growth of "total assets, risk-weighted assets, and total loans" between banks of different sizes around the threshold both before and after the passage of Dodd-Frank. They found that banks in the indirectly treated band grow much slower than ones in the untreated band. Swanstrom (2022) builds on the framework established by

Bindal et al. (2020) to describe corporate governance's impact on banks' decision of whether or not to cross the threshold. It also analyzes the market's reaction to crossing and not crossing the threshold. It finds that publicly traded banks are more likely to cross the threshold and do it sooner than privately held ones and that the market punishes banks that cross the threshold. The study implicates the increased compliance costs associated with crossing the threshold in reducing the number of banks that grow past it.

Essentially, Bouwman and Johnson (2018) show that banks slow their growth as they approach the threshold to mitigate the increased compliance costs, Bindal et al. (2020) show that banks increase their acquisitiveness as they approach the threshold, and Swanstrom (2022) shows that banks approach the threshold slowly overall with publicly held banks crossing faster than privately held ones.

Strategy Impacts

Acquisition Impact

Madura and Wiant (1994) prove that bank acquisitions have a negative impact on the stock return of the acquiring bank. They calculate that in the 36-month period following an acquisition, the acquiring bank suffers a negative, abnormal return of around -27.06%. This lends credence to the idea that banks that acquire other banks, attempting to dodge some of the increased compliance costs of Dodd-Frank, may actually be doing themselves more harm than good.

Stagnant Growth Impact

Yuan et al. (2022) find that the factors with the highest impact on bank profitability are those associated with asset ratios. Specifically, they find that debt-to-asset ratio and deposit-to-asset ratio are two of the most correlated variables to bank profitability using Random Effects Estimation. This shows that banks that lack asset growth will lose profitability and thus suffer in the market.

The Gap

This study will analyze the strategy that publicly held banks use to mitigate the compliance costs of the threshold and the impact the strategy they choose has on their stock price, to determine which strategy has the most positive effect on the banks' return. I hypothesize that banks who undertake acquisitions to cross the threshold will fare worse than banks who choose another strategy due to the evidence that acquisitions produce an outsized negative abnormal return. I also hypothesize that banks that display deferential behaviors will also experience a negative return, albeit more positive than those who make acquisitions, as their declining asset growth will drag down their profitability, and thus their stock price per Yuan et al. (2022).

Method

Method of Gathering Data

This study looks at every publicly traded bank that traversed the IT band between the passage of Dodd-Frank in July of 2010, and the most recently available asset information, which was released in September of 2023. This study aims to find which strategy for mitigating the effects of Dodd-Frank's regulations has the most positive stock market reaction. The study focuses on banks traded on traditional stock exchanges, as over-the-counter (OTC) markets lack the trading volume to draw proper analysis. The number of quarters it took for each bank to cross the IT band, along with the value of total assets were collected using the bank holding company financial reports issued quarterly by the Federal Financial Institutions Examination Council (FFIEC). The stock performance of each bank was collected from Yahoo! Finance. Acquisition data was collected from either the 8-K or S-4 SEC filing announcing the acquisition or the bank's investor relations page. All data was collected at the highest level of ownership possible, meaning that any bank substantially owned (51% or more) by another bank or a bank holding company (BHC) was listed under the other bank or BHC respectively for this study. All calculations and charts use Microsoft Excel.

Method of Analyzing Data

All banks that traversed the IT band over the selected time period, July 2010 to September 2023, were collected from the FFIEC data distribution page and placed into Excel. They were then separated into three cohorts based on their strategy as they approached the threshold. The three major strategies were to make acquisitions, grow slowly under the threshold, or to continue growing organically. The requirements for a bank to be included in each cohort were as follows. Banks that made acquisitions of greater than \$1 billion while in the IT band were placed in the acquisition cohort (A cohort). Banks that grew to the \$10 billion threshold and then “bounced” back below it and stayed there were placed in the bounce cohort (B cohort), and banks that had no major (greater than \$1 billion) acquisitions in the IT band, and continued growing past the threshold were placed in the continued growth cohort (C cohort). Each bank’s stock’s percentage change in monthly return (PCIMR) was then collected from Yahoo! Finance and compared to the others. This was done by averaging all studied banks’ monthly percentage change during the period of interest (POI) to yield the average percent change in monthly return (APCIMR) of all banks. The period of interest is defined as one quarter before a bank reaches \$7 billion in assets to the fourth quarter above \$10 billion in assets. This period is used because, on the lower end, it catches acquisitions that place a bank into the IT band, and, on the upper end, accounts for the fact that the threshold’s additional regulations do not take effect until after four quarters above \$10 billion in assets. The difference between the APCIMR of all banks and each individual bank’s PCIMR was then calculated to yield each bank’s abnormal monthly return (AMR), the difference between the PCIMR and the APCIMR. Each bank’s abnormal monthly return was then totaled, to yield the total abnormal return (TAR) and averaged with all other banks in its cohort to yield the cohort’s abnormal return (CAR). Here is a example bank to illustrate how these values were calculated.

Figure 1

Example Bank Sample

RSSD ID	1885307		PCIMR	APCIMR	TAR			
Bank Name	ORIGIN BANCORP, INC.							
Stock Ticker	OBK: NY							
Attribute 1								
Attribute 2						3.40%		
Date	Total Assets	Stock Price	% Change	% Change	% Change	Assets Added by acq (if over 1b total)		
9/30/2023	9733303	28.88	-6.14%	-4.15%	-1.99%	1.8	1	
8/31/2023		30.77	-5.56%	-9.36%	3.80%			
7/31/2023		32.58	11.19%	13.96%	-2.77%			
6/30/2023	10165163	29.3	2.99%	3.59%	-0.60%			
5/31/2023		28.45	-3.33%	-4.79%	1.46%			
4/30/2023		29.43	-8.46%	-7.25%	-1.22%			
3/31/2023	10358516	32.15	-15.19%	-14.46%	-0.73%			
2/28/2023		37.91	1.09%	3.71%	-2.62%			
1/31/2023		37.5	2.18%	-0.21%	2.39%			
12/31/2022	9686066	36.7	-10.31%	-8.28%	-2.03%			
11/30/2022		40.92	-0.99%	3.47%	-4.46%			
10/31/2022		41.33	7.43%	11.31%	-3.88%			
9/30/2022	9462639	38.47	-5.83%	-6.34%	0.51%			
8/31/2022		40.85	-5.15%	-1.77%	-3.38%			
7/31/2022		43.07	11.01%	7.17%	3.84%			
6/30/2022	8111523	38.8	-0.72%	-4.46%	3.74%			
5/31/2022		39.08	3.72%	6.68%	-2.96%			
4/30/2022		37.68	-10.90%	-8.78%	-2.12%			
3/31/2022	8112295	42.29	-8.42%	-4.59%	-3.83%			
2/28/2022		46.18	8.10%	1.15%	6.96%			
1/31/2022		42.72	-0.47%	0.72%	-1.19%			
12/31/2021	7861286	42.92	1.73%	4.77%	-3.04%			
11/30/2021		42.19	-5.40%	-3.19%	-2.21%			
10/31/2021		44.6	5.31%	5.17%	0.14%			
9/30/2021	7471355	42.35	2.92%	5.56%	-2.64%			
8/31/2021		41.15	1.16%	2.45%	-1.29%			
7/31/2021		40.68	-4.19%	-3.63%	-0.56%			
6/30/2021	7268877	42.46	-3.83%	-6.91%	3.08%			
5/31/2021		44.15	0.96%	2.50%	-1.54%			
4/30/2021		43.73	3.11%	0.20%	2.91%			
3/31/2021	7564491	42.41	23.79%	11.30%	12.49%			
2/28/2021		34.26	8.45%	14.36%	-5.91%			
1/31/2021		31.59	13.76%	2.43%	11.33%			
12/31/2020	7628504	27.77	8.01%	9.41%	-1.40%			
11/30/2020		25.71	14.93%	14.48%	0.45%			
10/31/2020		22.37	4.73%	11.29%	-6.56%			
9/30/2020	7101670	21.36	-9.80%	-6.84%	-2.96%			
8/31/2020		23.68	-0.25%	1.65%	-1.90%			
7/31/2020		23.74	7.91%	-3.42%	11.33%			
6/30/2020	6644717	22	5.47%	2.71%	2.76%			

The top 5 rows list information about the bank itself, including its RSSD ID, name, stock ticker, and which cohort it is in, illustrated as red for cohort A, green for cohort B, and yellow for cohort C. Below that is the asset and stock data. The left column tracks the date, counting up by month. Asset information is included from the bank's entrance into the UT band, until either they've spent four quarters in the T band, or until September of 2023. The green bar signals the start of the POI, and the pink bar signals the end. To the right of the assets, the stock price, and the bank's PCIMR is listed. To the right of the PCIMR is the APCIMR. The complete APCIMR calculations can be found in Appendix A. To the right of the APCIMR is the AMR. This is

calculated as the difference between the two previous columns. Above that is the TAR, which is the sum of the AMR's listed below.

Method of Controlling Data

Confounding variables were removed in the following ways. Banks with no banks to compare to during their POI were removed as some months would not generate an abnormal return as there was nothing to compare them to. Banks that displayed traits of multiple strategies were counted in each applicable category to not skew the results by only counting outliers in one category or another. Abnormal returns were used as they control for the broader stock environment, as banks are not being compared to other banks directly, but rather, their differences from the average of the other sampled banks during the same time period.

Results

Between the passage of Dodd-Frank and Q3 2023, 67 publicly traded banks traversed the IT band, of which this study includes 50. Due to difficulty with acquisition information for banks that are not operational anymore, this study only includes banks that are still in operation as of Q3 2023. The complete list of publicly traded banks that traversed the IT band between the passage of Dodd-Frank and Q3 2023 can be found in Appendix B. The population of the 17 removed banks comprised, 3 because they did not remain above \$10B for 4 quarters, 9 because they were no longer in operation as of Q3 2023, 2 because they were not publicly traded for the entirety of the POI, 2 because they were not primarily banks, and were instead insurance or investment companies who happen to be subject to supervision by the FFIEC and are thus included in the quarterly BHC reports, and 1 because it was not traded on a major exchange. The remaining 50 were distributed as shown in Table 1.

Table 1

The cohort of each sampled bank.

Bank name	Cohort
AMERIS BANCORP	A
AXOS FINANCIAL, INC.<BOFI HOLDING, INC.	C
BANC OF CALIFORNIA, INC.	C
BANCFIRST CORPORATION	B
BANK OF THE OZARKS INC	A
BANNER CORPORATION	A, B
BERKSHIRE HILLS BANCORP, INC	A
COLUMBIA BANK MHC	A, C
COLUMBIA BANKING SYSTEM, INC.	A
COMMUNITY BANK SYSTEM, INC.	A
CUSTOMERS BANCORP, INC	B
CVB FINANCIAL CORP.	A
EAGLE BANCORP, INC.	C
ENTERPRISE FINANCIAL SERVICES CORP	A
FB FINANCIAL CORPORATION	A
FIRST BANCORP	A
FIRST BUSEY CORPORATION	A
FIRST FINANCIAL BANKSHARES, INC.	A
FIRST FOUNDATION INC.	A
FIRST MERCHANTS CORPORATION	A
GLACIER BANCORP, INC.	A
HEARTLAND FINANCIAL USA, INC.	A
HILLTOP HOLDINGS, INC.<PLAINSCAPITAL CORPORATION<PLAINS CAPITAL CORPORATION	A
HOME BANCSHARES, INC.	A
INDEPENDENT BANK CORP.	A
INDEPENDENT BANK GROUP, INC.	A, B
LAKELAND BANCORP, INC.	A
MERCHANTS BANCORP	B, C
NBT BANCORP INC.	A, C
OCEANFIRST FINANCIAL CORP.	A
OFG BANCORP	B
ORIGIN BANCORP, INC.	A, B
PACIFIC PREMIER BANCORP, INC.	A
PARK NATIONAL CORPORATION	A, B
PINNACLE FINANCIAL PARTNERS, INC.	A
PROVIDENT FINANCIAL SERVICES, INC.	A
RENASANT CORPORATION	A
SANDY SPRING BANCORP, INC.	A
SEACOAST BANKING CORPORATION OF FLORIDA	A
SERVISFIRST BANCSHARES, INC.	C
SIMMONS FIRST NATIONAL CORPORATION	A
SOUTH STATE CORPORATION<FIRST FINANCIAL HOLDINGS INC.<SCBT FINANCIAL CORPORATION	A
STELLAR BANCORP INC.<CBTX, INC.	A
TEXAS CAPITAL BANCSHARES, INC.	C
TRICO BANCSHARES	A, B
UNITED COMMUNITY BANKS, INC.	A
VERITEX HOLDINGS, INC.<GREEN BANCORP, INC.	A, C
WESBANCO, INC.	A
WESTERN ALLIANCE BANCORPORATION	C
WSFS FINANCIAL CORPORATION	A

Note. The (<) symbol represents a name change or successor company. The most current name is closest to the left.

The vast majority of banks fall into the acquisition or A cohort; it is the largest with 40 banks. The next largest cohort was the continued growth or C cohort with 10 banks, and then the bounce or B cohort with 9 banks. Each bank's abnormal return was then calculated, along with the average abnormal return of each cohort. Once this process was completed for all banks, the TAR's were placed into a table.

Table 2

The cohort and total abnormal return of each sampled bank.

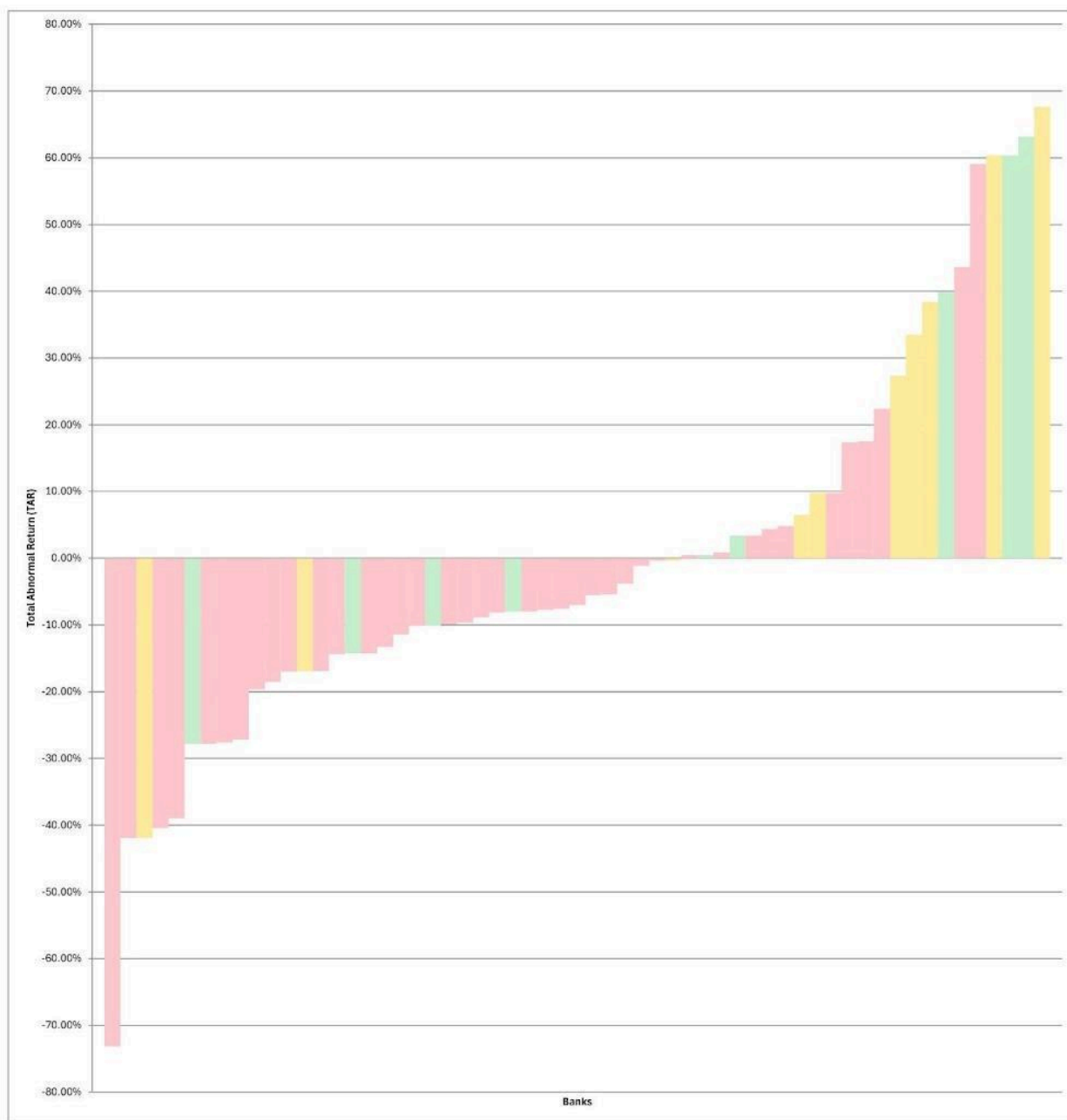
Bank name	Cohort	TAR
PROVIDENT FINANCIAL SERVICES, INC.	A	-73.14%
NBT BANCORP INC.	A	-41.88%
NBT BANCORP INC.	C	-41.88%
COMMUNITY BANK SYSTEM, INC.	A	-40.42%
FIRST BUSEY CORPORATION	A	-38.95%
PARK NATIONAL CORPORATION	A	-27.78%
PARK NATIONAL CORPORATION	B	-27.78%
OCEANFIRST FINANCIAL CORP.	A	-27.60%
FIRST FOUNDATION INC.	A	-27.15%
SOUTH STATE CORPORATION<FIRST FINANCIAL HOLDINGS INC.<SCBT FINANCIAL CORPORATION	A	-19.66%
ENTERPRISE FINANCIAL SERVICES CORP	A	-18.53%
WESBANCO, INC.	A	-16.98%
EAGLE BANCORP, INC.	C	-16.93%
AMERIS BANCORP	A	-16.93%
RENASANT CORPORATION	A	-14.36%
TRICO BANCSHARES	A	-14.25%
TRICO BANCSHARES	B	-14.25%
LAKELAND BANCORP, INC.	A	-13.29%
PACIFIC PREMIER BANCORP, INC.	A	-11.42%
INDEPENDENT BANK GROUP, INC.	A	-10.10%
INDEPENDENT BANK GROUP, INC.	B	-10.10%
FB FINANCIAL CORPORATION	A	-9.90%
STELLAR BANCORP INC.<CBTX, INC.	A	-9.68%
COLUMBIA BANKING SYSTEM, INC.	A	-8.89%
WSFS FINANCIAL CORPORATION	A	-8.15%
CUSTOMERS BANCORP, INC	B	-8.02%
SIMMONS FIRST NATIONAL CORPORATION	A	-7.99%
PINNACLE FINANCIAL PARTNERS, INC.	A	-7.73%
CVB FINANCIAL CORP.	A	-7.56%
HOME BANCSHARES, INC.	A	-7.03%
FIRST BANCORP	A	-5.55%
BERKSHIRE HILLS BANCORP, INC	A	-5.41%
SANDY SPRING BANCORP, INC.	A	-3.80%
BANK OF THE OZARKS INC	A	-1.15%
COLUMBIA BANK MHC	A	-0.35%
COLUMBIA BANK MHC	C	-0.35%
BANNER CORPORATION	A	0.50%
BANNER CORPORATION	B	0.50%
HEARTLAND FINANCIAL USA, INC.	A	0.87%
ORIGIN BANCORP, INC.	A	3.40%
ORIGIN BANCORP, INC.	B	3.40%
HILLTOP HOLDINGS, INC<PLAINSCAPITAL CORPORATION<PLAINS CAPITAL CORPORATION	A	4.37%
SEACOAST BANKING CORPORATION OF FLORIDA	A	4.86%
TEXAS CAPITAL BANCSHARES, INC.	C	6.51%
VERITEX HOLDINGS, INC.<GREEN BANCORP, INC.	A	9.80%
VERITEX HOLDINGS, INC.<GREEN BANCORP, INC.	C	9.80%
GLACIER BANCORP, INC.	A	17.35%
FIRST MERCHANTS CORPORATION	A	17.48%
UNITED COMMUNITY BANKS, INC.	A	22.40%
BANC OF CALIFORNIA, INC.	C	27.35%
SERVISFIRST BANCSHARES, INC.	C	33.48%
AXOS FINANCIAL, INC.<BOFI HOLDING, INC.	C	38.44%
OFG BANCORP	B	39.86%
INDEPENDENT BANK CORP.	A	43.64%
FIRST FINANCIAL BANKSHARES, INC.	A	59.09%
MERCHANTS BANCORP	B	60.37%
MERCHANTS BANCORP	C	60.37%
BANCFIRST CORPORATION	B	63.15%
WESTERN ALLIANCE BANCORPORATION	C	67.66%

Note. The (<) symbol represents a name change or successor company. The most current name is closest to the left.

The majority of banks had overall negative abnormal returns throughout their period of interest. When the data is seen as a graph, the differences between the cohorts become more clear.

Figure 2

The TAR for each bank



Note: Banks that fall into two different cohorts are graphed twice here.

Red: A Cohort

Green: B Cohort

Yellow: C Cohort

The graph makes it clear that the majority of banks with a negative abnormal return are in the A cohort, while the banks with positive abnormal returns are mostly in the B or C cohorts.

Following the calculation of the TAR of each bank, the TAR for each cohort was averaged together to yield the CAR.

Table 3

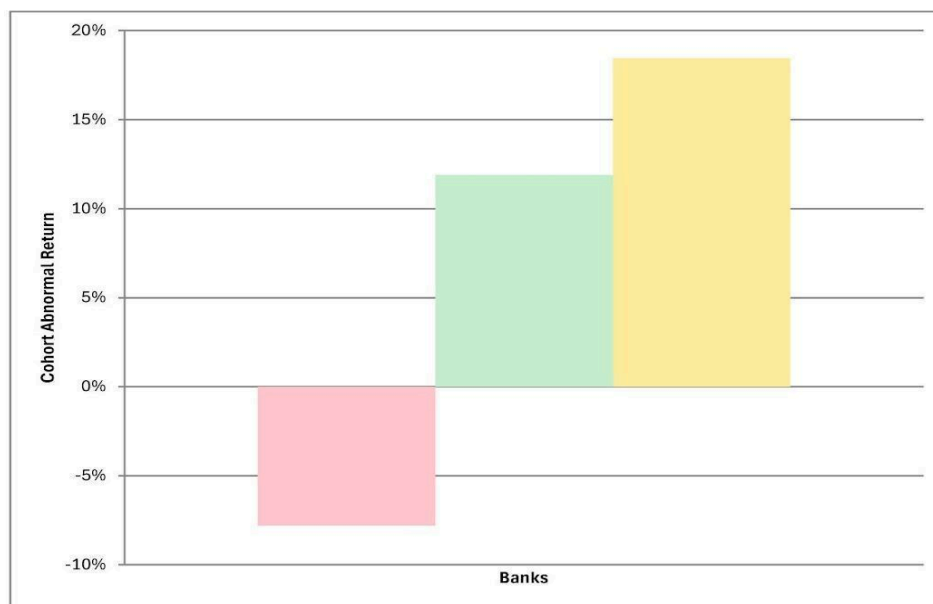
The abnormal return for each cohort.

Cohort	Abnormal Return
A	-7.80%
B	11.90%
C	18.45%

The CAR helps further show the overall negative performance of banks in the A cohort compared to the overall positive performance of banks in the B and C cohorts, with a 19.7% and 26.35% difference respectively. These findings are even more apparent seen in a graph.

Figure 3

The CAR for each cohort.



Red: A cohort

Green: B cohort

Yellow: C cohort

Analysis

Acquisition Cohort (A cohort)

The A cohort had by far the worst performance of the three, with the only negative abnormal return -7.8%. 29 of the 31 banks with negative abnormal returns were in this cohort. This return makes sense because, as cited in Madura and Wiant (1994), bank acquisitions have a negative impact on a bank's abnormal return, which they calculated to be -27.06% for their sampled banks. That is a significantly worse return than the one calculated here, however; that difference is explained by two factors. First, Madura and Wiant reviewed banks from January 1983 through 1990, which was a highly different market environment than the one in focus here. Second, the banks of today balance the negative impact of the acquisition costs with the positive impact of their increased ability to cope with the compliance costs imposed by the threshold. These positives, however, clearly do not outweigh the negative impact of the acquisition on stock price.

Bounce Cohort (B cohort)

The B cohort had the second-best performance of the three, with a positive abnormal return of 11.9%. This performance makes sense given the fact that the banks in this cohort do not face the same negative acquisition impacts as the A cohort, but instead face issues related to their lack of growth as they remain stagnant below the threshold. They remain in the POI for, on average, 8 months longer than the other two cohorts. This also includes banks that have not left the POI yet, so the real difference is actually greater. As stated in Yuan et al. (2022), asset growth is a key profitability metric for banks, so stagnant growth also has a negative impact on returns.

Continued Growth Cohort (C cohort)

The C cohort had the best performance of the three, with a positive abnormal return of 18.45%. This performance confirms the hypothesis that banks that continue to grow without acquisitions will have the most positive growth. This makes sense because these banks

experienced organic growth without needing to take on the additional costs of an acquisition, thereby avoiding the negative impacts faced by the other two cohorts. The banks in this cohort often grew organically in their own market segments, rather than expanding into different spaces as seen in the acquisition cohort.

For example, the top performing bank, Western Alliance Bancorporation, reinvested heavily in its core segment, small business loans, throughout its time in the IT band (WAL, 2015). Another high performing bank, ServisFirst Bancshares, continually reinforced its core product, commercial and industrial loans, while in the IT band, deriving particularly high returns from the large amounts of capital injected by the federal government through PPP loans during the Covid-19 pandemic (*SERVISFIRST BANCSHARES*, 2020). By contrast, the worst performing bank, Provident Financial Services, moved outside its core product with two multi-million dollar acquisitions, first of a bank specializing in commercial lending, and then of a bank with a large insurance division, both outside of its traditional product, wealth management (*Provident Financial Services, Inc. to*, 2013; *Provident Financial Services, Inc. and*, 2020).

This conforms to the hypothesis that banks that undertake the strategy that achieves their desired goal most expediently, in this case through acquisitions, risk their profitability and shareholder returns, whereas banks who continually invest in their own segment see more positive returns.

Limitations

This study has two primary limitations. First, this study was completed entirely without use of the COMPUSTAT database. Practically every piece of financial literature that in any respect covers stock information relies on COMPUSTAT. Without access to COMPUSTAT, this study was unable to include 9 banks that traversed the IT band due to a lack of publicly available information. This study pulled all stock information from Yahoo! Finance, which, while widely used, is less accurate than COMPUSTAT. Future research on this topic should be completed using COMPUSTAT for a complete analysis of all banks impacted by the threshold. If

all banks were included, the analysis could have been conducted on the entire population instead of just a sample. With analysis of the entire population, the findings would be more relevant and closer to proving a causal relationship. Without that, even with a fairly large sample, this study cannot definitively prove that any of the strategies analyzed here can prove a causal link between that strategy and the returns reported here. It can only serve to show a possible correlation.

Implications

The findings of this study show that approaching the Dodd-Frank threshold, the A cohort, which comprises the majority of banks that have traversed the IT band, have the lowest returns of all banks that have traversed the IT band. This study offers insight into whether this strategy is effective in promoting positive stock performance and by extension, positive performance overall. Following these findings, mid-sized banks approaching the threshold may choose to pursue different strategies, like those used by the B and C cohorts, to both manage the additional compliance costs imposed by Dodd-Frank and create a positive return for their shareholders.

These findings also reflect on the business world at large. Acquisitions are often the quickest and easiest method for growing assets quickly, both in the banking sector and business more broadly. In banking, rapid growth through acquisition can drain cash resources quickly. If leverage is involved, costs can quickly snowball, driving down revenues and stock prices. In the business world, this phenomenon is known as “overtrading,” which occurs when the rapid expansion of a business drains short-term cash, which can compromise a business's ability to pay off its short-term obligations, even if the expansion would yield enough revenue in aggregate to outweigh the short term costs (Steyn-Bruwer & Hamman, 2007). This behavior can ultimately lead to the decline or even failure of a business, even if their long term prospects were improved through expansion. This study's results as they relate to Cohort A offer an example of how facets of overtrading are present within the banking sector, with both

overtrading and the behaviors of the banks in the A cohort showing that the strategy of pursuing solutions that offer quick and easy returns may carry hidden costs that can hamper growth.

Next Steps

Future research should, as mentioned in the limitations, include analysis using COMPUSTAT for a more accurate view of the total abnormal returns for the true number of banks that have traversed the IT band. Any shift in the regulations imposed by Dodd-Frank would also warrant additional study. A more detailed analysis of the impact of different sizes of acquisitions on banks' stock prices in the IT band also introduces a promising avenue of research.

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Table A1

Appendix B

Table B1

All publicly traded banks that traversed the IT band between the passage of Dodd-Frank and September 2023

Bank name	Removal status	Reason for removal (if removed)
AMERIS BANCORP	Not Removed	
AXOS FINANCIAL, INC./BOFI HOLDING, INC.	Not Removed	
BANC OF CALIFORNIA, INC.	Not Removed	
BANCFIRST CORPORATION	Not Removed	
BANK OF THE OZARKS INC	Not Removed	
BANNER CORPORATION	Not Removed	
BERKSHIRE HILLS BANCORP, INC	Not Removed	
BOSTON PRIVATE FINANCIAL HOLDINGS, INC.	Removed	No longer in operation as of Q3 2023
BROOKLINE BANCORP, INC.	Removed	Did not remain above \$10B for 4 quarters
CAPITAL BANK FINANCIAL CORP./NORTH AMERICAN FINANCIAL HOLDINGS, INC.	Removed	No longer in operation as of Q3 2023
CENTERSTATE BANK CORPORATION	Removed	No longer in operation as of Q3 2023
COLUMBIA BANK MHC	Not Removed	
COLUMBIA BANKING SYSTEM, INC.	Not Removed	
COMMUNITY BANK SYSTEM, INC.	Not Removed	
CUSTOMERS BANCORP, INC	Not Removed	
CVB FINANCIAL CORP	Not Removed	
EAGLE BANCORP, INC.	Not Removed	
EASTERN BANK CORPORATION	Removed	Not publicly traded for the entirety of the POI
ENTERPRISE FINANCIAL SERVICES CORP	Not Removed	
FB FINANCIAL CORPORATION	Not Removed	
FCB FINANCIAL HOLDINGS, INC./BOND STREET HOLDINGS, INC.	Removed	No longer in operation as of Q3 2023
FIRST AMERICAN FINANCIAL CORPORATION	Removed	Not primarily a bank (insurance company)
FIRST BANCORP	Not Removed	
FIRST BUSEY CORPORATION	Not Removed	
FIRST COMMONWEALTH FINANCIAL CORPORATION	Removed	Did not remain above \$10B for 4 quarters
FIRST FINANCIAL BANKSHARES, INC.	Not Removed	
FIRST FOUNDATION INC.	Not Removed	
FIRST INTERSTATE BANCSYSTEM, INC.	Removed	Not publicly traded for the entirety of the POI
FIRST MERCHANTS CORPORATION	Not Removed	
GLACIER BANCORP, INC.	Not Removed	
HEARTLAND FINANCIAL USA, INC.	Not Removed	
HILLTOP HOLDINGS, INC./PLAINSCAPITAL CORPORATION/PLAINS CAPITAL CORPORATION	Not Removed	
HOME BANKSHARES, INC.	Not Removed	
IBERIABANK CORPORATION	Removed	No longer in operation as of Q3 2023
INDEPENDENT BANK CORP.	Not Removed	
INDEPENDENT BANK GROUP, INC.	Not Removed	
INVESTORS BANCORP, MHC	Removed	No longer in operation as of Q3 2023
LAKELAND BANCORP, INC.	Not Removed	
LEGACYTEXAS FINANCIAL GROUP, INC./VIEWPOINT FINANCIAL GROUP, INC.	Removed	No longer in operation as of Q3 2023
LIVE OAK BANKSHARES, INC.	Removed	Did not remain above \$10B for 4 quarters
MERCHANTS BANCORP	Not Removed	
NBT BANCORP INC.	Not Removed	
OCEANFIRST FINANCIAL CORP.	Not Removed	
OFG BANCORP	Not Removed	
ORIGIN BANCORP, INC.	Not Removed	
PACIFIC PREMIER BANCORP, INC.	Not Removed	
PARK NATIONAL CORPORATION	Not Removed	
PINNACLE FINANCIAL PARTNERS, INC.	Not Removed	
PROVIDENT FINANCIAL SERVICES, INC.	Not Removed	
RENASANT CORPORATION	Not Removed	
SANDY SPRING BANCORP, INC.	Not Removed	
SEACOAST BANKING CORPORATION OF FLORIDA	Not Removed	
SERVISFIRST BANKSHARES, INC.	Not Removed	
SIMMONS FIRST NATIONAL CORPORATION	Not Removed	
SOUTH STATE CORPORATION/FIRST FINANCIAL HOLDINGS INC./SCBT FINANCIAL CORPORATION	Not Removed	
STELLAR BANCORP INC./CBTX, INC.	Not Removed	
STERLING BANCORP	Removed	No longer in operation as of Q3 2023
STIFEL FINANCIAL CORP.	Removed	Not primarily a bank (investment company)
TEXAS CAPITAL BANKSHARES, INC.	Not Removed	
TRICO BANKSHARES	Not Removed	
TRISTATE CAPITAL HOLDINGS, INC	Removed	No longer in operation as of Q3 2023
UNITED COMMUNITY BANKS, INC.	Not Removed	
VERITEX HOLDINGS, INC./GREEN BANCORP, INC.	Not Removed	
W.T.B. FINANCIAL CORPORATION	Removed	Not traded on a major exchange
WESBANCO, INC.	Not Removed	
WESTERN ALLIANCE BANCORPORATION	Not Removed	
WSFS FINANCIAL CORPORATION	Not Removed	