

Why Does the FDIC Sue?

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Abstract

Cases the Federal Deposit Insurance Corporation (FDIC) pursues against the directors and officers of failed commercial banks for (gross) negligence are important for the corporate governance of U.S. commercial banks. These cases shape the kernel of bank corporate governance, as they guide expectations of bankers and regulators in defining the limits of acceptable behavior under financial distress. We examine the differences in behavior of all 408 U.S. commercial banks that were taken into receivership between 2007–2012. Sued banks had different balance sheet dynamics in the three years prior to failure. These banks were generally larger, faster growing, obtained riskier funding and were more “optimistic”. We find evidence that the behavior of bank boards adjusts in an out-of-sample set of banks. Our results suggest the FDIC does not only pursue “deep pockets”, but sets corporate governance standards for all banks by suing negligent directors and officers.

Keywords: Financial Stability, Corporate Governance, Bank Failures, Financial Ratios

JEL Codes: G21, G28, G33, G34

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1 Corporate Governance and Shareholder Litigation

We contribute to the empirical corporate governance literature on commercial banks by focusing on an important mechanism for disciplining directors: the threat of legal action. Corporate governance is concerned with the actions of the board of directors and their alignment with the interests of the shareholders. The institutional framework of corporate governance extends as far as shareholder litigation against directors and officers. Over 465 US commercial banks fail during and after the Global Financial Crisis and just over a third of them see FDIC litigation against directors and officers, a far higher percentage than during the last major period of failures of federally guaranteed institutions, the S&L Crisis of 24%.

We empirically investigate the litigation strategy of the regulator (FDIC) when pursuing the bank directors and officers of failed U.S. commercial banks. If the FDIC is primarily interested in recovering losses it will likely only pursue “deep pockets”. If, on the other hand, the FDIC also sees value in improving banks’ governance, it will pursue directors in a systematic fashion reflecting poor governance. We find evidence that the directors and officers of US commercial banks who are pursued for “negligence” are those who have statistically engaged in risky behaviour. We find regardless of the recovery potential, that is there is no “too-small-to-get-sued”.

In order for litigation to serve as a deterrent to poor corporate governance, it must be possible ex ante for directors and officers, and especially directors, to be aware of potential financial distress. Therefore, we focus on a list of financial indicators, the “director’s dozen” (see Table 1) from the Federal Deposit Insurance Corporation’s (FDIC) guide for new directors, for evidence that the FDIC sues directors and officers for negligence that could be foreseen.

We contribute to two different literatures. The first is the use of shareholder lawsuits to influence corporate governance. The second is the corporate governance of banks literature, specifically after the Global Financial Crisis. Our paper is the first to show a link between shareholder litigation and changes in the corporate governance of other banks. The actions of the FDIC as a receiver are at an interesting nexus given its dual role as one of the three U.S. bank’s regulators and receiver, thus acting on behalf of shareholders.

The literature on shareholder lawsuits is primarily, but not limited to, legal literature: Coffee (1986), Romano (1991), Hertz and Smith (1993). The role of shareholder litigation in the disciplining of directors is far more heterogeneous for non-bank firms since board decisions

cannot so readily be linked to explicitly measurable indicators of competence. It is thus difficult to tie the threat of shareholder suits to directors' decisions and thus corporate governance. However, it is possible to show that litigation leads to shifts in corporate governance. Ferris et al. (2007) examine the effects of derivative shareholder suits on corporate governance and find evidence that the suits lead to significant improvements in the board of directors.

A growing literature shows the effect boards have on the performance of firms. De Andres and Vallelado (2008) show that larger and not excessively independent boards might prove more efficient in monitoring and advising functions, and create more value for commercial banks. Xie, Davidson, and DaDalt (2003) highlight the importance of the board and the audit committee in preventing earnings management. The board of the bank only represents the views of shareholders and not other stakeholders, see for example Easterbrook and Fischel (1983).

In the realm of corporate governance literature on banking, many papers tackle the financial crisis. Erkens, Hung, and Matos (2012) find in an international sample that firms with more independent boards experienced worse stock returns due to the raising of equity capital during the crisis and that firms with higher institutional ownership took more risk prior to the crisis. Firms' risk management policies have a significant impact on the effect of the crisis on firms (Brunnermeier, 2009), and cost-benefit trade-offs made by shareholders and boards determined the risk management policies (Kashyap, Rajan, and Stein, 2008). This suggests that corporate governance affects banks' performance.

The corporate governance of banks is complicated by the unique status of banking as noted by Mehran, Morrison, and Shapiro (2011). Not only are banks highly leveraged¹ and complex, more importantly, banks have multiple stakeholders such as depositors, creditors, and the government itself – on the one hand, in its explicit role as the backstop for deposit guarantees and, on the other hand, in a more implicit role involving idiosyncratic or aggregate risk-transfers, because of the potential for a dysfunctional banking and financial system to cause large economic contractions.

At the nexus between bank regulators and corporate governance of banks, Macey and O'Hara (2003) argue for explicitly forcing directors of banks to take cognizance of the effect of decisions on the safety and solvency of the bank. Historically, bank boards have a duty of care

¹The average financial firm has 90% debt, and investment banks 95% debt (Bolton, Mehran, and Shapiro, 2015).

and a duty of loyalty to the corporation. The U.S. case law on the duty of care of directors can be taken back to *Briggs vs. Spaulding*, a 19th century case hinging on the lack of oversight of a corrupt bank CEO. The court held that the “directors must exercise ordinary care and prudence in the administration of the affairs of a bank ... something more than officiating as figure-heads.” Directors of depository institutions must exercise “ordinary care” in conducting the affairs of a bank. This has become a Federal common law standard for the duty of care. The duty of care requires that directors exercise reasonable care, prudence, and diligence in the management of the corporation. Director liability for a breach of the duty of care may arise from negligence in decision making. But historically courts have chosen to limit the possibility that directors may be pursued for “honest, but mistaken judgment calls” (McCoy, 1996), the courts have chosen to try to avoid judging decisions retrospectively. This is known as the Business Judgment Rule.

The Business Judgment Rule means that courts will find in favor of directors if they acted in good faith, on an informed basis and in the honest belief that it was taken in the best interest of the company. Courts take a generous view of the Business Judgment Rule, with the presumption in favour of the directors if the decision making process is deemed to be of the “appropriate” standard. Macey and O’Hara (2003) note that the willingness of the regulators and the courts to respect the Business Judgment Rule follows a cyclical pattern. During or immediately after a major crisis courts raise the standard of care required of bank directors. They point to the 1940 case of *Litwin vs. Allen* as an example of a higher duty of care levied on bank directors. Then in the 1950s and 1960s, the Business Judgment Rule was found to justify “delinquent loan renewals, nonexistent underwriting standards, and absent internal controls” (McCoy, 1996).

The Savings and Loans (S&L) crisis of the 1980s brought new legislation and litigation. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) set a Federal standard of care. The U.S. Supreme Court in 1997 settled the competing Federal and State laws and the common law standards in *Atherton vs. FDIC*, holding that the higher standard of *Briggs* was superceded by FIRREA, which set the “floor” of litigation in the form of the gross negligence standard and that it was possible for states to set higher standards such as mere negligence.²

²Note that Federal law already holds that directors and officers of the bank owe a duty of care to depositors as well as shareholders. By itself this does not mean that directors and officers owe a duty of care to the regulator

If, during the most recent financial crisis, the FDIC has engaged in cases against directors on the basis that in a period prior to the takeover by the FDIC the board could have predicted financial distress, we would de facto be close to the standard of care that is suggested by Macey and O'Hara (2003).

How do FDIC suits for negligence affect corporate governance? Legal action against board directors acts in two ways. Firstly, it affects compensation of directors, as they may be financially liable for some or all of the damages and the costs of the legal action. Secondly, it has a negative reputational impact, which reduces directors' future opportunities to become directors and their earnings. The role of compensation in motivating agents is well established, see Hölmstrom (1979), Shavell (1979) and Grossman and Hart (1983). Reputational concerns can be found in Fama (1980) and are tested empirically in Gilson (1990) and Kaplan and Reishus (1990), who find that poorly performing CEOs are less likely to receive external directorships. Fich and Shivdasani (2007) examine the effect on directors' reputations if they sit on the boards of firms that are the subject of shareholder lawsuits alleging financial fraud, they find that such directors are more likely to lose their other board seats.

Given the extensive nature of the D&O insurance is it fair to assume that bank directors do not suffer financial penalties for poor governance decisions?³ Firstly, in several cases the FDIC has successfully forced directors to contribute to the settlement.⁴ Secondly, the threat of personal liability is taken seriously by bank directors; a recent survey by the American Association of Bank Directors (2014) found that 19 out of 80 banks surveyed had directors who had resigned due to a fear of personal liability or had a person refuse to become a director for fear of personal liability.

Anecdotal evidence suggests that directors do worry about their personal wealth and their reputation, as well as questioning whether the FDIC is overreaching by litigating with the

or to consider the safety and solvency of the financial institution, but allows depositors to sue in the event that they suffer an injury uncommon to other depositors. See Zajac (1992) note 32 and note 34.

³A substantial literature addresses the availability of D&O liability insurance and corporate governance. We do not address this literature directly, although it is possible that the FDIC chooses to go after "deep pockets" of banks with more D&O insurance. Baker and Griffith (2007) find that D&O insurers do not monitor the risks taken by firms and the corporate governance of firms. This means that the directors, knowing that they are protected by D&O insurance, do not engage in active corporate governance. This contrasts with Holderness (1990) who posited the role of insurers as monitors.

⁴In the Downey Savings failure, Maurice McAlister, the former chairman, agreed to make a contribution of \$1.93 million, and other directors agreed to contribute a further US\$1.7 million. This was small relative to the D&O insurance contribution of \$28.4 million. See https://www.fdic.gov/about/freedom/plsa/ca_downeymcalisterrosenthalgatzke.pdf

benefit of hindsight – ignoring the Business Judgment Rule: Engen (2012) quotes Michael Perry, former Chairman and Chief executive of Indymac: “On his blog, nottoobigtotofail.org, he charges that the FDIC is ‘inappropriately seeking to blame banking executives like me for [its] own failures,’ while also lamenting how the suit is damaging his reputation, finances and career...’Even if you accept all of the FDIC’s factual allegations against me as true ... I am protected by the business judgment rule, which prohibits imposing personal liability on directors and officers for ordinary negligence”.

An alternate view of why the FDIC sues directors and officers can be found in the popular and trade press. Sclafane (2011) writes “one former banking regulator said the existence of D&O insurance is the starting point for FDIC officials when they evaluate whether or not to file the suits ... “All the banking agencies are going to be bringing actions against deep pockets””. Howard (2010) notes “[n]ow, the FDIC may again be looking at D&O insurance as a resource for replenishing at least a portion of the government’s losses resulting from the recent spate of bank failures.” The Towers Watson “Directors’ and Officers’ liability survey 2010 summary of results” for 2009 shows financial services - excluding insurance, have median coverage of \$30 million and mean coverage of \$81.7 million, the 25th percentile is \$20 million and 75th percentile is \$100 million.

To summarize, there are competing theories about why the FDIC may choose to litigate: to prevent gambling for resurrection (Macey and O’Hara, 2003) or to go after the “deep pockets” of the insurers.

The subsequent section 2 describes the underlying bank level data used in our examination. The next section 3 discusses our empirical methods. After that we present our empirical results in section 4 and a range of robustness checks in section 5. Finally, we conclude in section 6.

2 U.S. Bank Level and FDIC Law Suits Data

Our empirical analysis combines publically available litigation data released by the FDIC as well as panel data of regulatory filings on U.S. commercial banks. There are 161 cases out of 408 failures. The cases are compiled from the FDIC's professional liability lawsuit list⁵ of Directors and Officers (D&O) cases and professional liability settlement agreements⁶ (where there is a D&O participation in the settlement) to create a list of banks subject to litigation.⁷ We limit our analysis to banks that failed prior to June 2012. This is because the FDIC faces, in general, a three year window in which to file cases.⁸ Our analysis focuses on FDIC tort claims against directors and officers, avoiding other claims such as contractual claims or claims against third parties.⁹ These legal actions are important because they are part of the corporate governance of the firm and are *not* criminal charges or administrative penalties.¹⁰

The financial factors are based on the quarterly Federal Financial Institutions Examination Council reports on condition and income ("Call Reports"), Forms FFIEC 031 or 041 depending on whether they have foreign offices. It is a requirement that in addition to the CFO of the bank signing the report, at least two members of the board should co-sign, if the bank is a state non-member bank, three directors have to co-sign for all other types of banks. The Call Reports are required to be filed within 30 days of the quarter end. The Call Reports are thus a reasonable basis on which to consider whether the board of directors should have been aware of potential financial distress – as members of the board are required to attest to the correctness of the report and that they had examined the report.

We adjust for the likelihood that a bank will be subject to litigation based on the level of negligence that the FDIC must prove for their litigation. Some states have clear simple negligence standards, whilst others hew to the gross negligence (or de facto follow this standard based on the use of the Business Judgment Rule).¹¹

Table 2 shows the number of bank failures and the number of banks sued over time. It

⁵<https://www.fdic.gov/bank/individual/failed/pls/>

⁶<https://www.fdic.gov/about/freedom/plsa/index.html>

⁷We do not remove cases where the case has come to trial and the defendants have won since our interest is in what cases the FDIC chooses to bring.

⁸Lawsuits can be filed after three years if a "tolling" agreement is in place that allows the regulator to delay the decision on litigation.

⁹See Bernstein, Oller, and Matelis (2009) for further discussion of financial institution litigation.

¹⁰For the criminal charges and the administrative penalties available to the Office of the Comptroller of the Currency, see OCC (2012) pages 88-105.

¹¹Based on Stevens and Nielson (1994), updated with Stevens (2011).

also shows the number of “tolling agreements” that allow banks to extend the 3 year statute of limitation on tort cases. The mean length of time before a suit is filed is just under 2 years and 4 months (18 months excluding the tolling cases). There are 25 tolling agreements, the mean length of these cases is 3 years and 10 months, with the maximum being 5 years and 3 months.

Only 35% of failed banks have been sued, although this includes the past three years (57 bank failures) where it is still possible that cases will be filed, this dramatically outstrips the percent share of failed institutions that the FDIC (and the RTC) chose to sue the directors and officers in the aftermath of the S&L crisis between 1985 and 1992.¹² Tolling agreements only make up 16% of all sued banks. It is clear that the rate of sued banks declines from mid-2010, and given the mean time to the decision to file and the relatively low proportion of tolling agreements, it seems unlikely that this number will change too much for the 153 failures between Q2 2010 and Q2 2012.

Table 3 shows a summary of the failed and sued banks relative to the wider population of banks and their regulators. FDIC regulates banks which are state chartered, but not part of the Federal Reserve System, the OCC regulates federally chartered banks and the Federal Reserve regulates state chartered banks that are part of the Federal Reserve System. It would appear that smaller state chartered banks that are not part of the Federal Reserve System are disproportionately more likely to fail and to be sued, but there does not appear to be a pattern in the breakdown by regulator for the failed and sued banks.

Table 4 shows financial data on the wider universe of banks in Q1 2007 and Q1 2015 and for failed and sued banks. It shows some substantial differences between the failed and sued banks such as capital ratios (better for sued than failed), cash ratio (better for failed than for sued).

¹²<https://www.fdic.gov/bank/individual/failed/pls/>

3 Empirical Methods

The FDIC is the most likely litigant against directors and officers. The standard of proof required by FIRREA is of gross negligence. From the experience of civil cases against S&Ls, the FDIC set out the following criteria: “No claim is pursued by the FDIC unless it meets both requirements of a two part test. First, the claim must be sound on its merits, and the receiver must be more than likely to succeed in any litigation necessary to collect on the claim. Second, it must be cost effective, considering liability insurance coverage and personal assets held by the defendant.”¹³

What is meant by “likely to succeed”? Essentially, that the agents must breach a duty of care. Outside directors are not meant to be second guessed by the regulator ex post and the *Business Judgment Rule* applies: “Directors and officers are generally protected from liability if they have acted in good faith and with due care, and if they have made fully informed business decisions within the scope of their authority and without personal interest or self-dealing.”¹⁴

Our hypothesis is that the FDIC pursues gamblers for resurrection and not merely “deep pockets”. It is thus imposing a retrospective duty of care to deposit holders and a requirement that the directors and officers focus on the safety and stability of the financial institution. The null hypothesis is that of no difference, other than bank size or the FDIC loss, between cases where directors and officers are sued and where they were not.

To investigate this hypothesis we conduct a series of tests. First, we compare balance sheet ratio means in the run-up of the failure between banks subject to litigation and failed banks whose directors and officers did not get sued. Second, we estimate a logistic model among the population of all failed banks to seek characteristics that, conditional on failing, would predict whether or not the FDIC pursues litigation against directors and officers. Third, we estimate a Cox proportional hazard model on the population of U.S. commercial banks to test whether failure and litigation by the FDIC are unconditionally predictable. For all three tests, we employ a subset of the “director’s dozen” of monitoring tools given by the FDIC.¹⁵

The first test consists of indexing the calendar time balance sheet dynamics relative to

¹³FDIC (1998) Managing the crisis.

¹⁴FDIC (1998) p. 275 and FDIC Financial Institution Letter (FIL-87-92) note 5.

¹⁵FDIC “New Director Guidance” presentation from NY FDIC Director’s college. Slide 19. Downloaded from <https://www.fdic.gov/regulations/resources/director/college/ny/materials/2012-New-Directors.pdf>. These are more detailed measures based on the Pocket Guide for Directors found at: <https://www.fdic.gov/regulations/resources/director/pocket/index.html>

failure time ($t = 0$) and statistically testing differences in the run-up dynamics of important balance sheet ratios prior to failure. We visualize moments of those ratios and statistically test for difference in the means of the banks that (failed and) were sued against those that (merely) failed, but did not become subject to litigation.

Second, an important disadvantage of the failure-time indexed mean comparisons is that they are univariate. Thus, we employ a multivariate nonlinear logistic regression to simultaneously control for multiple balance sheet characteristics as well as other factors such as time and the different U.S. state-level standards for litigation. We explicitly include the (log of) bank total assets as well as FDIC loss to ensure that the “deep pockets only” hypothesis is nested. Using the same time horizon as in the univariate failure-time indexed mean comparisons, we estimate the logistic model in the twelve quarters prior to the failure of a bank.

Third and finally, the previous two tests confined themselves to the universe of failed commercial banks, thus all estimates were *conditional* on failing. In our final test, we estimate a Cox proportional hazard model with the bank level characteristics normalized by the mean and standard deviation of the respective quarter. So in each quarter, the expected value is zero to circumvent the problem of macroeconomic environment-induced simultaneous changes in balance sheets of all banks and focus on the within quarter – “peer group” – variation.

Our methods build on an extensive literature on bank failure prediction. Desai, Rajgopal, and Yu (2013) specifically ask whether financial statement indicators predict failure during the financial crisis. They find that many traditional measures that predict failure continue to be informative. They build on the work of the FDIC (1997), which focuses on the loan-to-asset ratio, Liu and Ryan (1995), the non-performing loans to total loans (NPL) and the composition of the loan portfolio. Flannery and James (1984) and Avery and Berger (1991) capture interest rate risk using the short term maturity mismatch of banks’ assets and liabilities. González-Hermosillo (1999) uses the ratio of large certificates of deposit (\$100,000 or more) to total deposits to capture liquidity risk.

4 What Predicts Litigation?

All three tests discussed in section 3 find evidence that the FDIC has pursued gamblers for resurrection. We find a material difference between the banks whose directors and officers are sued and the ones that are not. We find evidence that the banks subject to FDIC litigation are the ones that were more optimistic, underprovisioning for losses, and more aggressively pursuing asset growth with riskier funding sources. In terms of timing, gambling appears to have commenced approximately two to three years prior to failure.

Univariate Mean Difference

Figures 1 – 10 illustrate the dynamics of important “directors’ dozen” measures in the three years (twelve quarters) preceding failure. Distinct patterns for failed and sued commercial banks emerge.

Figures 1 – 3 demonstrate differences in risk-taking behavior. Figure 1 shows net non-core funding rises for sued banks and those banks that relied substantially more on non-deposit funding (commercial paper and borrowing minus short term investments). The bottom panel of the figure illustrates this difference becoming statistically significant from the eighth quarter prior to failure. This extra funding helps to finance asset growth in Figure 2. Note that for the final eight quarters the asset growth rate of sued banks is statistically significantly different from that of failed, but not sued banks. Figure 3 shows short term liquidity (bank deposits and cash equivalents), and we see an inversion between failed and sued banks in ten quarters prior to failure and a statistically significant difference from eight quarters prior to failure.

Figure 4 and 5 show the results of this risk-taking behavior. The expansion is followed by a gradual deterioration in the performance of the banks that are sued. Figure 4 illustrates that their net interest income ratio (interest income – interest expense) inverts with sued banks seeing their income fall dramatically four quarters prior to failure. Sued banks, having previously had net interest income above that of failed banks have statistically significantly lower interest income ratios three quarters prior to failure. This is reflected in the deterioration of the return on assets (net profits divided by total assets, ROA in the following) – Figure 5 – for sued banks, which having been higher than that of failed banks, deteriorates from four to five quarters before failure, becoming statistically indistinguishable two quarters prior to failure.

Yet, sued banks give the appearance of being more financially robust, with Figure 6 showing that sued banks have significantly higher Tier 1 capital ratios and Figure 7 showing lower non-current loans ratios. It is especially noticeable in the period between quarters eight and two prior to bankruptcy when the sued banks Tier 1 capital appears to be statistically significantly higher than that of failed banks. It seems likely that the aggressive expansion of failed, sued banks documented in Figure 2 might have delayed recognition of the problem.

In addition over-optimism might have played a part. Figures 8, 9, and 10 show the sudden deterioration of sued banks just in the last year prior to failure. Figure 8 shows provisions for loan losses rising dramatically for sued banks, with an inversion between sued and failed banks four quarters prior to bankruptcy. Allowances for loan losses converge between sued and failed banks the 3rd quarter prior to failure. Net charge-offs in Figure 10 show an inversion in the period between one and two quarters prior to bankruptcy.

These univariate results suggest the FDIC is indeed pursuing the “right” directors and officers insofar as the banks being sued likely have been following a riskier strategy.

Logistic Regression

How robust are the univariate failure-indexed mean comparisons? The multivariate logistic regression in Table 5 confirms the results of the univariate mean comparisons. Furthermore, while it yields evidence of the FDIC going after the “deep pockets” of the insurers, the table shows that the FDIC is aiming specifically at directors who should have been able to determine that their institution was running significant risks at least a year or two prior to failure.

The logistic estimation includes time, regulator and U.S. state negligence standard fixed effects. The time fixed effects remove the effect of calendar time from the analysis. Relative to other banks that fail, but are not sued, we continue to find evidence that directors engaged in riskier strategies – delaying recognition of poor quality assets and relying more on non-core funding. We learn that the FDIC also goes after “deep pockets”, because – as the last two rows of Table 5 show (log of) bank total assets and the size of the estimated FDIC loss positively impact the probability of getting sued.¹⁶ While both the size of the bank in terms of the log of total assets and the FDIC loss are statistically significant at the 1% level, they are not the only variables that attain significance. There does not appear to be a “too-small-to-get-sued”

¹⁶Note that, unlike the other co-variates, estimated FDIC loss is not time-varying.

pattern.

In line with many of the univariate failure-indexed mean comparisons, we find that banks whose directors and officers are sued appear to have better ROA and Tier 1 capital than banks that are not subject to litigation. The ROA ceases to be statistically significant two quarters prior to failure. We also see a gradual rise in the predictive power of allowances for loan losses amongst banks subject to litigation five quarters prior to failure. One difference with the univariate analysis is that the asset growth rate is no longer consistently statistically significant, although it remains positive and is significant in some quarters. The increased riskiness of funding sources remains consistent with the univariate analysis, with net non-core funding dependence remaining statistically significant at the 1% level for nine quarters prior to failure for banks subject to litigation.

Cox Proportional Hazard Model

Are the logistic regression results useful guides for bank directors' behaviour? Some of the statistically significant results from the logistic regression "directors' dozen" are not practical for directors worried about litigation. Both a higher Tier 1 capital and ROA are associated with a greater probability of being sued. Yet, healthy banks will also have high Tier 1 capital and ROA. Therefore, these indicators are not helpful in and of themselves. This highlights the limitation of the multivariate regression restricted to the population of failed banks. Thus as a robustness check, we estimate a Cox proportional hazard model on the population of all banks, failed and surviving, to investigate whether directors can rely on the "directors' dozen" to guide their decisions.

We summarize the estimation results from the Cox proportional hazard model in Table 6. Within the wider universe of all banks, banks that fail are more likely to do so with lower Tier 1 capital ratios (row 1). This is true for both banks that fail and whose directors and officers are sued and those that merely fail. However, those banks seeing litigation have a lower coefficient on this factor. Thus the risk of litigation relative to the wider universe of banks rises with a fall in Tier 1 capital. As with the univariate means tests we find that asset growth (row 2) is associated with the likelihood of litigation, albeit at the 10% level. The net interest income ratio (row 9) and the net non-core funding dependence (row 10) are also associated with a greater likelihood of litigation at the 1% level, although both measures are also associated with an

increased likelihood of bank failure without litigation.

We again find evidence that banks whose directors and officers are subject to litigation are more optimistic than those banks not subject to litigation. A low ROA (row 8) is associated with banks that fail, but are not sued, whereas this factor is not statistically significant for banks subject to litigation. A higher non-current loan ratio (row 4) is associated with banks that fail, but are not sued, and we find that the second moment is statistically significant for banks that are subject to litigation, which is consonant with the shifts seen in final year in the logistic regression.

All three statistical models, univariate failure-indexed mean comparisons, logistic litigation prediction conditional on failure as well as the proportional Cox hazard model, concur. The FDIC appears to be pursuing directors and officers who should have been aware that they were pursuing a risky and potentially negligent strategy: specifically, banks tending to be underprovisioned, more reliant on net non-core funding, and posting faster asset growth.

5 Robustness

The results presented in the previous section 4 imply the FDIC litigates against agents that gamble for resurrection. If such suits alter behavior, this should be apparent in the data. As a robustness check, we consider looting as an alternative hypothesis to the gambling for resurrection.

If our findings are correct, we expect that FDIC litigation affects the behavior of directors and officers of banks in response. Table 2 shows a slowing in the rate at which banks are sued amongst the banks that fail with a dramatic fall after 2010 Q3. This may reflect time specific shifts in banks' patterns of behavior. Therefore, we statistically compare the out of sample banks that failed after 2012 Q2 for evidence of a shift in behavior. Table 7 contains the results of this comparison. In general, banks failing after 2012 Q2 hold more cash and are financed more through deposits. This is in marked contrast with the riskier financing (net non-core dependency) of the banks that are sued.

One alternative hypothesis that would also explain the litigation against directors and officers is the possibility of looting, along the lines of Akerlof and Romer (1993). Looters find ways to extract cash from the banks in the knowledge that regulators and prosecutors will not

take action. It is difficult to distinguish between looting and gambling for resurrection, since along many dimensions banks gambling for resurrection and looted banks are observationally equivalent.

To test for looting we examine at the correlation of measures of potential cash extraction in the financial reports. We identify the following measures that allow managers, directors and shareholders to extract cash from the bank: dividend payments, directors fees, extensions of credit to directors, and the ratio of interest and fee income on loans and leases to total loans. Desai, Rajgopal, and Yu (2013) use the ratio of interest and fee income on loans and leases to total loans to look for evidence of Akerlof and Romer (1993) looting.

Akerlof and Romer (1993) suggest that looters are difficult to detect, but if their hypothesis is correct, it is likely that looters would have extracted cash through all the above methods. Thus, we expect the correlation between these cash extraction methods to be high for banks whose directors and officers are sued. We do not find evidence of statistically significant correlation in these measures. Table 8 shows the correlation between different financial indicators as well as our looting proxies – dividend payments, directors fees, extensions of credit to directors, and the ratio of interest and fee income on loans and leases to total loans – four quarters prior to failure. While Table 8 merely displays the correlations for four quarters prior to failure, we find no evidence up to 12 quarters prior to failure of a positive correlation in the cash exactive measures. Also, the apparent change in behaviour of banks post 2012 Q2 suggests that banks had previously been gambling for resurrection rather than being looted.

6 Conclusion and Policy Implications

We ask why does the FDIC sue some directors and officers and not others? The FDIC pursues directors and officers for gross negligence. We show empirically that whether or not directors and officers of failed U.S. commercial banks are subject to litigation *ex post* is partly *ex ante* predictable from a subset of the “director’s dozen” indicators. Our paper is the first to statistically analyze the FDIC’s motivation for and initial effects of its litigation strategy. Our analysis suggest some degree of over-optimism in sued banks’ directors about the state of their assets as well as signs of gambling for resurrection by accelerating asset growth reliant on riskier funding sourcess.

A secondary question that we ask is whether the FDIC's litigation functions as a good corporate governance tool. Our results suggest that the FDIC's litigation strategy does incentivise directors and officers to reduce risky behaviour. From a policy viewpoint, the "directors' dozen" tools appear to be useful, but could probably be made more useful still. In order to make them more informative for directors, it might be helpful if each bank's board of directors was to receive a report showing how their institution compared to similar institutions based on spatial proximity and size. While the worries of the American Association of Bank Directors (2014) about the possibility that bank directors are being put off by personal liability are important, more details about why bank directors and officers are being sued – and the relevant statistics being provided – might improve corporate governance further.

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Tables

Table 1: FDIC List of Directors' Dozen

Name	
1	Tier 1 Capital / Total Assets
2	Asset Growth Rate
3	ALLL/ Total Assets
4	Non-Current Loans / Total Assets
5	Net Charge-Offs / Total Assets
6	Provision ALLL / Total Assets
7	Earnings Coverage of Net Loss
8	Net Income / Total Assets (ROA)
9	Net Interest income / Earning Assets (NIM)
10	Net Non-Core Funding Dependence
11	Short Term Investments / Total Assets
12	Net Long-Term Position / Total Assets

Table 2: Failed and Sued Banks by Time Period

	Failed	Sued	Sued as percentage of failed	Tolling agreements	Tolling as percentage of sued
2007 Q1	1	0	0%	0	0%
2007 Q2	1	0	0%	0	0%
2007 Q3	0	0	0%	0	0%
2007 Q4	3	0	0%	0	0%
2008 Q1	2	1	50%	0	0%
2008 Q2	7	5	71%	0	0%
2008 Q3	10	6	60%	3	50%
2008 Q4	19	12	63%	0	0%
2009 Q1	21	13	62%	1	8%
2009 Q2	42	22	52%	4	18%
2009 Q3	37	15	41%	8	53%
2009 Q4	37	24	65%	2	8%
2010 Q1	43	21	49%	5	24%
2010 Q2	32	14	44%	1	7%
2010 Q3	27	6	22%	0	0%
2010 Q4	24	5	21%	1	20%
2011 Q1	19	2	11%	0	0%
2011 Q2	25	7	28%	0	0%
2011 Q3	18	4	22%	0	0%
2011 Q4	13	3	23%	0	0%
2012 Q1	15	1	7%	0	0%
2012 Q2	12	0	0%	0	0%
2012 Q3	8	0	0%	0	0%
2012 Q4	4	0	0%	0	0%
2013 Q1	12	0	0%	0	0%
2013 Q2	6	0	0%	0	0%
2013 Q3	2	0	0%	0	0%
2013 Q4	6	0	0%	0	0%
2014 Q1	6	0	0%	0	0%
2014 Q2	2	0	0%	0	0%
2014 Q3	5	0	0%	0	0%
2014 Q4	4	0	0%	0	0%
2015 Q1	2	0	0%	0	0%
Total	465	161	35%	25	16%

Source: FDIC

Notes: Failed banks are those that are taken into FDIC receivership as of July 31st, 2015. Sued banks are banks whose directors and officers are subject to professional liability suits or who settle professional liability suits. Tolling agreements are agreements that extend the three year limit on tort cases, these are derived from cases that are filed after three years. Shaded area within the three year statute of limitations for cases to be filed.

Table 3: Number of institutions by regulator and total number of failed and sued banks

	FDIC	OCC	Federal Reserve	Total
2007 Q1 All banks	4,782	1,704	977	7,896
Percentage	61%	22%	12%	
2015 Q1 All banks	3,670	1,316	913	6,480
Percentage	57%	20%	14%	
Failed	311	84	53	465
Percentage	67%	18%	11%	
Sued	113	24	23	162
Percentage	70%	15%	14%	

Notes: Failed banks are those that are taken into FDIC receivership as of July 31st, 2015. Sued banks are banks whose directors and officers are subject to professional liability suits or who settle professional liability suits. FDIC is Federal Deposit Insurance Corporation, OCC is Office of the Comptroller of Currency.

Table 4: Summary of Bank Level Statistics

	2007 Q1	2015 Q1	Failed	Sued
Capital ratio	13	12.6	1.5	8.1
Cash ratio	4.4	10.4	10.3	4.5
Security ratio	20.8	22.7	9.9	12.1
Deposit ratio	80.5	82.7	91.8	82.7
Directors' fees	8.6	19.7	5.6	14.1
Legal fees	11.6	87.6	231.9	142.2
Accounting fees	.	34.5	52.3	66.7
Extensions of credit to executives	4,840.30	5,250.50	3,497.20	6,384.60
Level of auditing	2.6	2.5	3	1.9
Number of executives with large extensions of credit	1.5	1.4	2	2.2

Notes: Failed banks are those that are taken into FDIC receivership. Sued banks are banks whose directors and officers are subject to professional liability suits or who settle professional liability suits. Summary statistics are reported from 2007 Q1 – 2015 Q1. Ratios are reported in percentages. Fees and credits are reported in thousands. Large extensions of credit are defined as amount that equals or exceeds the lesser of \$500,000 of five percent of total capital.

Table 5: Logistic regression of failed and sued banks with fixed effects t to $t - 12$ quarters before failure

Logit	t	$t - 1$	$t - 2$	$t - 3$	$t - 4$	$t - 5$	$t - 6$	$t - 7$	$t - 8$	$t - 9$	$t - 10$	$t - 11$	$t - 12$
Tier One Capital Ratio	0.08*** (8.25)	0.08*** (7.83)	0.09*** (8.19)	0.10*** (8.46)	0.09*** (7.75)	0.09*** (7.48)	0.09*** (7.04)	0.12*** (7.80)	0.08*** (5.61)	0.07*** (4.37)	0.07*** (3.90)	0.07*** (2.78)	0.07*** (1.98)
Asset Growth Rate	0.00 (1.59)	0.00*** (2.82)	0.00 (0.78)	0.00 (1.36)	0.00 (1.40)	0.00* (1.85)	0.00 (1.37)	0.00*** (2.65)	0.00 (1.30)	0.00 (1.08)	0.00 (0.97)	-0.00 (-1.38)	-0.00 (-1.24)
ALLL Ratio	0.13*** (5.63)	0.08*** (3.01)	0.22*** (7.54)	0.17*** (4.83)	0.14*** (3.52)	0.07 (1.37)	0.07 (1.24)	0.19*** (2.94)	0.10 (1.32)	-0.03 (-0.28)	0.25** (2.27)	-0.09 (-0.55)	0.01 (0.04)
Non-Current Loans Ratio	-0.00* (-1.88)	-0.01*** (-3.87)	-0.00 (-1.24)	-0.00 (-0.68)	-0.00 (-0.74)	-0.00 (-0.93)	-0.00 (-0.27)	0.00 (1.03)	-0.00 (-0.05)	-0.00 (-0.45)	0.00 (0.26)	-0.00 (-0.37)	0.00 (0.23)
Net Charge-Offs Ratio	0.06*** (4.09)	0.03* (1.85)	0.03 (1.50)	0.04 (1.38)	0.03 (0.92)	0.11*** (2.68)	0.05 (1.03)	-0.01 (-0.11)	0.14* (2.21)	0.14* (1.68)	-0.14 (-1.10)	-0.18 (-1.00)	-0.30 (-1.06)
PLLL Ratio	-0.02 (-0.93)	0.01 (0.22)	0.08** (2.05)	0.07 (1.48)	0.09* (1.79)	0.08 (1.24)	0.14* (1.94)	0.24*** (2.76)	-0.08 (-0.92)	-0.09 (-0.76)	0.28* (1.84)	0.52** (2.21)	0.19 (0.51)
Return on Assets	0.01 (0.71)	-0.02 (-0.95)	0.14*** (4.93)	0.12*** (3.80)	0.13*** (3.47)	0.18*** (3.90)	0.13*** (2.64)	0.14** (2.57)	0.01 (0.17)	0.07 (1.05)	0.18** (2.19)	0.20* (1.82)	0.13 (0.84)
Net Interest Income Ratio	0.03 (0.78)	0.03 (0.83)	-0.01 (-0.93)	-0.01 (-0.30)	-0.01 (-0.13)	0.01 (0.17)	0.01 (0.26)	0.11* (1.70)	0.02 (0.38)	0.04 (0.52)	0.00 (0.01)	-0.20* (-1.89)	-0.13 (-0.84)
Net Non-Core Funding Dependence	0.01*** (3.52)	0.00*** (2.67)	0.00*** (3.38)	0.01*** (3.37)	0.01*** (3.07)	0.01*** (3.18)	0.01*** (2.94)	0.01*** (2.89)	0.01*** (2.85)	0.01*** (2.81)	0.01*** (2.45)	0.01*** (2.66)	0.01*** (2.10)
Short-Term Investments Ratio	0.00 (0.46)	-0.01 (-1.08)	-0.01 (-0.93)	0.00 (0.25)	0.00 (0.22)	0.01* (1.79)	0.00 (0.46)	0.02 (1.52)	0.00 (0.36)	0.01 (1.36)	0.03** (2.27)	0.02 (1.46)	0.03 (1.21)
Log(Assets)	0.54*** (13.03)	0.53*** (12.10)	0.45*** (10.26)	0.51*** (10.61)	0.45*** (9.02)	0.52*** (9.42)	0.49*** (8.49)	0.71*** (10.96)	0.48*** (7.15)	0.43*** (5.81)	0.39*** (4.41)	0.36*** (3.29)	0.28* (1.83)
Estimated FDIC Loss	0.00** (2.33)	0.00*** (5.31)	0.00 (1.44)	0.00*** (2.59)	0.00*** (3.04)	0.00*** (2.93)	0.00*** (2.69)	-0.00 (-0.49)	0.00** (2.44)	0.00*** (2.65)	0.00* (1.93)	0.00* (1.86)	0.00* (1.66)
Time Fixed Effect (Year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regulator Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Negligence Law Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No of Banks	414	410	409	409	409	409	409	408	407	407	404	402	400
Failed and Sued Rate	38.16%	38.54%	38.63%	38.63%	38.63%	38.63%	38.63%	38.48%	38.57%	38.57%	38.37%	38.56%	38.50%
Failed and then Sued	158	158	158	158	158	158	158	157	157	157	155	155	154
Pseudo R Squared	0.20	0.17	0.19	0.20	0.20	0.19	0.20	0.17	0.19	0.19	0.17	0.19	0.20
True Positive Rates	55.66%	51.78%	56.52%	55.01%	54.58%	54.28%	55.44%	53.90%	53.86%	52.66%	53.02%	56.31%	58.44%
False Positive Rates	14.96%	12.10%	18.81%	15.18%	14.83%	15.14%	16.00%	17.41%	14.81%	14.52%	16.71%	18.66%	19.51%

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Cox Hazard Model

	(1)		(2)	
	Failed And Sued		Failed Not Sued	
	Mean	Std. Dev.	Mean	Std. Dev.
Tier 1 Ratio	-1.764*** (-4.50)	0.181*** -3.39	-2.674*** (-8.85)	0.185*** -5.41
Asset Growth (4 Quarter)	0.568* -2.22	-0.00095 (-0.59)	-0.0385 (-0.16)	-3.4E-05 (-0.11)
ALLL Ratio	0.15 -0.76	0.0203 -0.13	-0.136 (-1.30)	0.0900** -3.26
Noncurrent Loan Ratio	0.0313 -0.26	-0.0861*** (-3.36)	0.435*** -4.77	-0.0232 (-1.42)
Net Charge-Off Ratio	0.425 -1.57	-0.168 (-1.80)	0.113 -0.55	-0.167* (-2.14)
PLLL Ratio	-0.246 (-1.19)	0.492*** -4.39	-0.26 (-1.89)	0.659*** -6.42
Earnings Coverage of Net Loss	0.108 -0.69	-4.7E-05 (-0.52)	0.0788 -0.22	-0.00035 (-1.23)
ROA	-0.331 (-1.16)	-0.0498 (-1.14)	-1.647*** (-6.80)	-0.186** (-2.71)
Net Interest Income Ratio	-0.826*** (-3.44)	0.211 -1.27	-0.396* (-2.24)	0.0178 -0.12
Net Noncore Funding Ratio	12.01*** -6.1	-0.0177 (-1.40)	8.742*** -5.17	-0.0158 (-1.83)
Short-Term Investment Ratio	-0.357 (-1.49)	0.0179 -0.38	-0.675*** (-3.42)	0.108** -3.17
Long-Term Debt Ratio	-0.667*** (-5.18)	-0.0631* (-2.12)	-0.994*** (-9.37)	-0.0269 (-1.26)
Observations	7733		7733	

Notes: t-statistics in parentheses * p<0.05, ** p<0.01, *** p<0.001

Table 7: Summary Statistics – Failed, Failed and Sued Banks, and Post-2012 Q2 Failed Banks

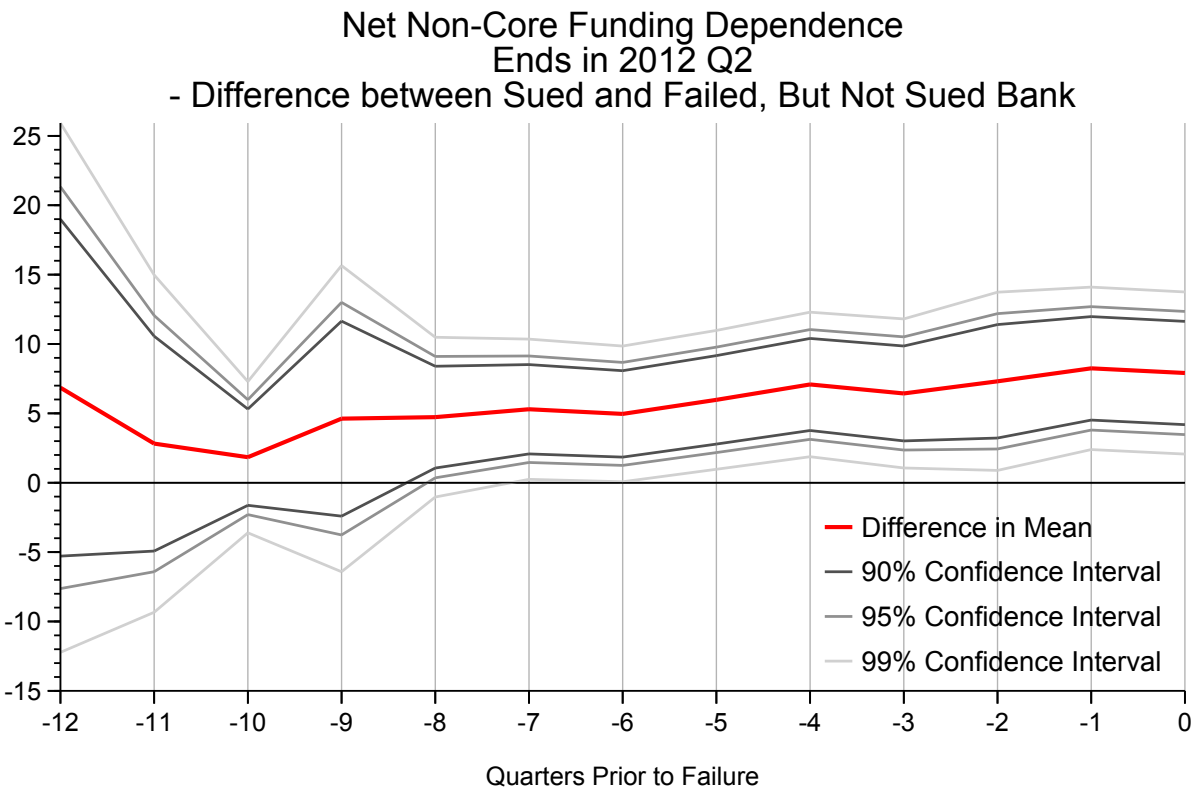
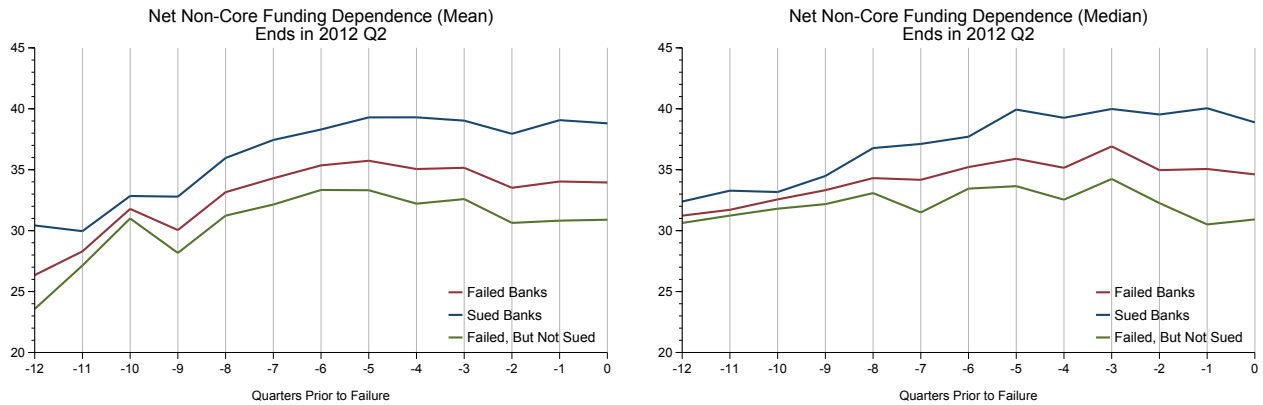
	[1] Failed and Sued Prior to 2012 Q3		[2] Failed and Not Sued Prior to 2012 Q3		[3] Failed After 2012 Q2		[1]-[3]	[2]-[3]
Capital to Assets (%)	1.5	2.2	1.8	0.4	1.8	0.4	-0.3	0.4
Cash to Assets (%)	8.7	9.0	14.4	-5.7***	14.4	-5.4***	-5.7***	-5.4***
Security to Assets (%)	10.9	10.1	12.0	-1.1	12.0	-1.9	-1.1	-1.9
Deposit to Assets (%)	90.5	90.9	93.6	-3.2***	93.6	-2.7*	-3.2***	-2.7*
Dividends to Equity (%)	0.3	0.1	0.0	0.3**	0.0	0.1	0.3**	0.1
Loan Interest and Fees to Loans (%)	1.4	1.4	1.3	0.0	1.3	0.1*	0.0	0.1*
C&I Loans to Total Loans (%)	7.4	3.1	3.8	3.6**	3.8	-0.7	3.6**	-0.7
Residential Loans to Total Loans (%)	18.5	21.6	30.2	-11.7***	30.2	-8.6***	-11.7***	-8.6***
Commercial Loans to Total Loans (%)	32.1	34.3	40.3	-8.2***	40.3	-6.0*	-8.2***	-6.0*
Construction Loans to Total Loans (%)	26.6	16.9	8.7	17.9***	8.7	8.3***	17.9***	8.3***
Consumer Loans to Total Loans (%)	1.8	3.4	2.8	-1.0	2.8	0.5	-1.0	0.5
Agriculture Loans to Total Loans (%)	1.0	4.4	1.1	3.3*	1.1	3.3*	-0.1	3.3*
Directors' Fees (Thous.)	11.5	6.4	3.3	8.2**	3.3	3.1	8.2**	3.1
Directors' Fees to Other Noninterest Expenses (%)	0.7	1.3	0.2	0.5	0.2	1.2*	0.5	1.2*
Legal Fees (Thous.)	349.3	150.7	218.6	130.7	218.6	-68.0	130.7	-68.0
Legal Fees to Other Noninterest Expenses (%)	11.2	13.4	7.7	5.7*	7.7	5.7*	3.6	5.7*
Accounting Fees (Thous.)	55.1	43.3	112.0	-56.9	112.0	-68.7	-56.9	-68.7
Accounting Fees to Other Noninterest Expenses (%)	2.3	3.3	0.6	2.7*	0.6	2.7*	1.7	2.7*
Extensions of Credit to Executives (Thous.)	4,484.1	3,408.4	1,801.3	2,682.8***	1,801.3	1,607.1	2,682.8***	1,607.1
Extensions of Credit to Executives Share of Total Salaries (%)	154.0	98.7	166.2	-67.5	166.2	-67.5	-12.2	-67.5
Number of Executives with Large Ext. of Credit	2.1	1.6	1.5	56.2*	1.5	13.5	56.2*	13.5
Losses to Total Assets of Failed Banks (%)	26.3	25.6	19.1	7.2***	19.1	6.5**	7.2***	6.5**
Total	162	52	60	-	60	-	-	-

Table 8: Correlations of Financial Ratios and Looting Measures for Sued Commercial Banks Four Quarters Prior to Failure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Capital to Assets (%)	1.00																				
Cash to Assets (%)	-0.18**	1.00																			
Security to Assets (%)	-0.22**	0.06	1.00																		
Deposit to Assets (%)	-0.16**	0.09	-0.31**	1.00																	
Dividends to Equity (%)	0.06	-0.10*	-0.05	0.00	1.00																
Loan Interest and Fees to Loans (%)	0.31	0.24	-0.04	-0.04	0.27	1.00															
C&I Loans to Total Loans (%)	0.01	0.42	0.15	-0.13*	0.11	0.36	1.00														
Residential Loans to Total Loans (%)	-0.37**	0.12	0.06	-0.01	-0.25**	-0.07*	1.00														
Commercial Loans to Total Loans (%)	-0.11*	0.01	0.00	-0.06	-0.14*	-0.27**	-0.24**	1.00													
Land Development Loans to Total Loans (%)	0.29	-0.34**	-0.28**	0.04	0.08	0.06	-0.16*	-0.30**	1.00												
Consumer Loans to Total Loans (%)	-0.19**	0.05	0.24	-0.01	0.01	-0.00	-0.10*	0.23	-0.15*	1.00											
Agriculture Loans to Total Loans (%)	0.18	-0.00	0.04	0.04	-0.02	0.32	-0.07	-0.06	-0.17**	-0.20**	1.00										
Directors' Fees (Thous.)	0.05	-0.02	0.05	-0.14*	-0.02	0.00	0.02	0.11	0.04	-0.07	-0.04	1.00									
Legal Fees (Thous.)	0.03	0.50	0.15	-0.14*	-0.08*	0.28	0.48	0.05	-0.07*	-0.16*	0.02	-0.05	1.00								
Accounting Fees (Thous.)	-0.06	-0.04	0.04	-0.17**	-0.06	-0.14*	0.04	0.07	0.10	-0.10*	0.17	-0.04	0.28	1.00							
Extensions of Credit to Executives (Thous.)	-0.02	-0.01	-0.03	-0.06	-0.08*	-0.12*	0.06	-0.01	0.04	0.07	-0.06	-0.07	0.35	-0.09*	1.00						
Directors' Fees to Other Noninterest Expenses (%)	0.11	0.14	0.09	-0.07	0.04	0.09	-0.07	0.02	-0.01	-0.07	0.06	0.22	0.80	-0.08*	-0.04	1.00					
Legal Fees to Other Noninterest Expenses (%)	-0.13*	0.02	0.00	0.04	-0.11*	-0.08*	-0.08*	0.22	0.04	-0.03	-0.00	-0.11*	-0.00	0.24	0.05	-0.01	1.00				
Accounting Fees to Other Noninterest Expenses (%)	-0.03	-0.13*	-0.01	0.05	-0.08*	-0.12*	-0.21**	-0.01	0.23	-0.21**	0.07	-0.07	0.08	-0.08*	0.32	-0.18**	0.07	1.00			
Extensions of Credit to Executives Share of Total Salaries (%)	-0.06	0.01	-0.00	0.13	-0.11*	-0.10*	-0.19**	-0.01	0.07	0.03	-0.07	-0.01	0.01	-0.14*	0.04	0.04	0.04	0.02	1.00		
Number of Executives with Large Ext. of Credit	-0.11*	-0.09*	-0.00	0.04	-0.07*	-0.14*	-0.08*	0.03	-0.01	0.11	0.00	-0.07*	-0.02	0.09	-0.13*	0.61	-0.07	-0.04	-0.10*	0.57	1.00

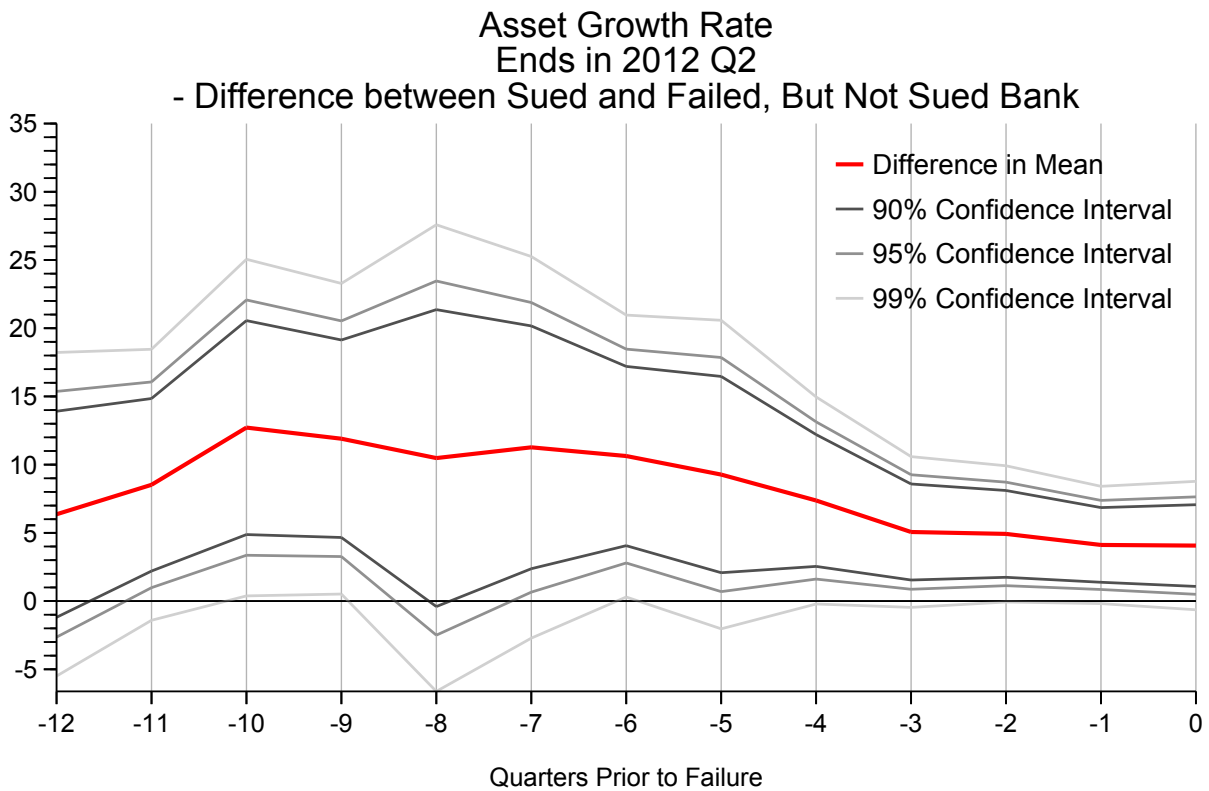
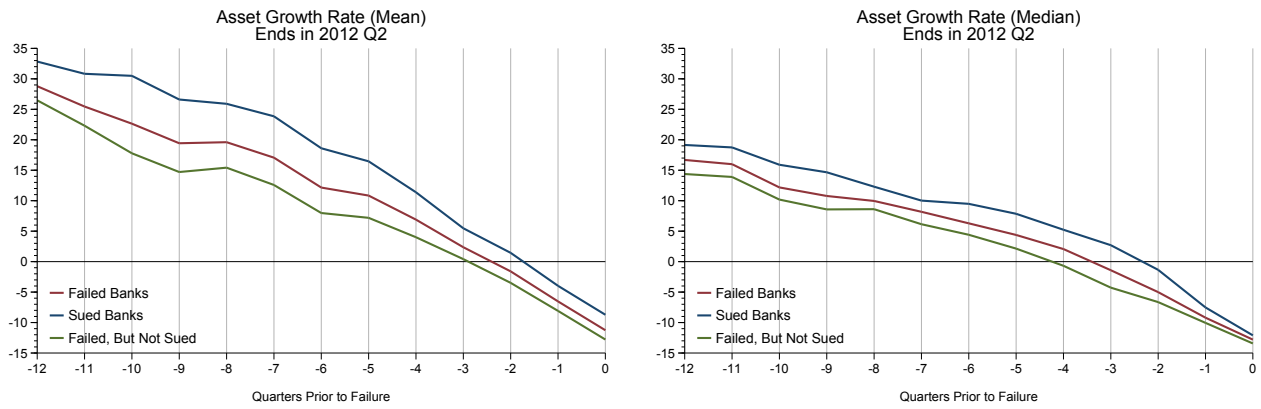
Figures

Figure 1: Pre-Failure Balance Sheet Dynamics – Net Non-Core Funding Dependence



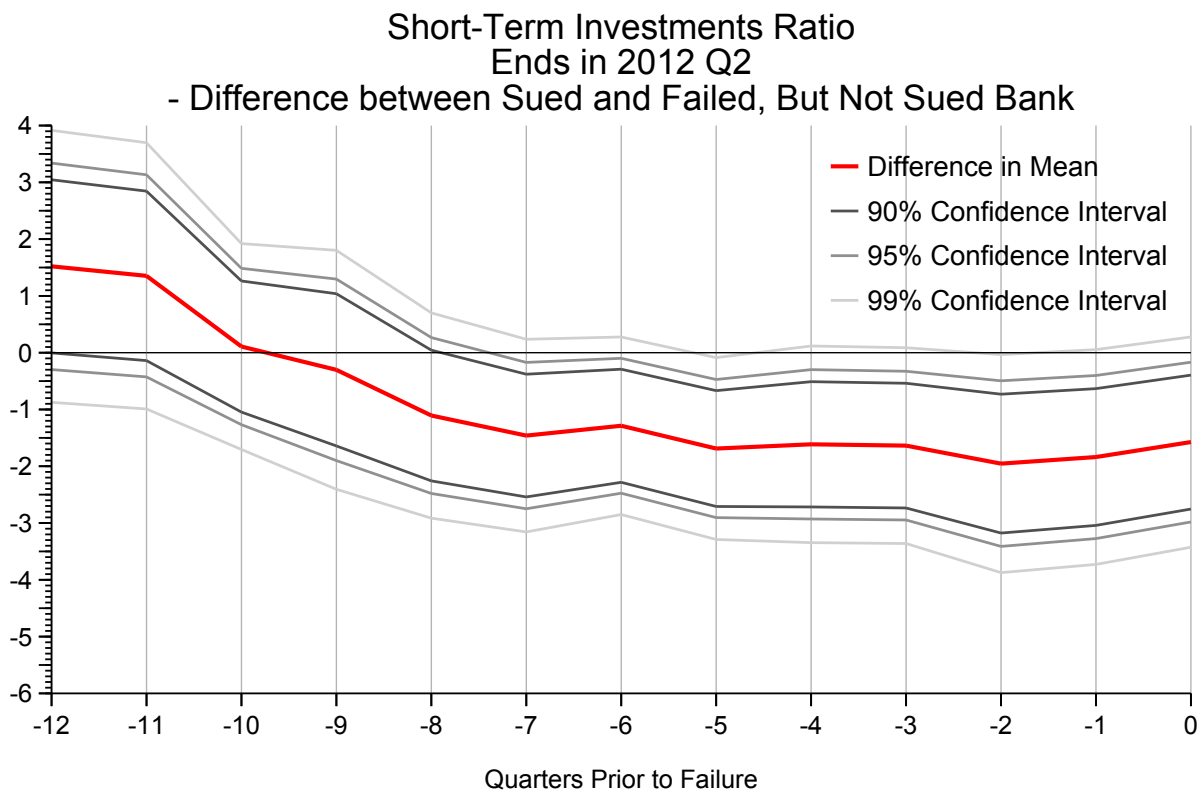
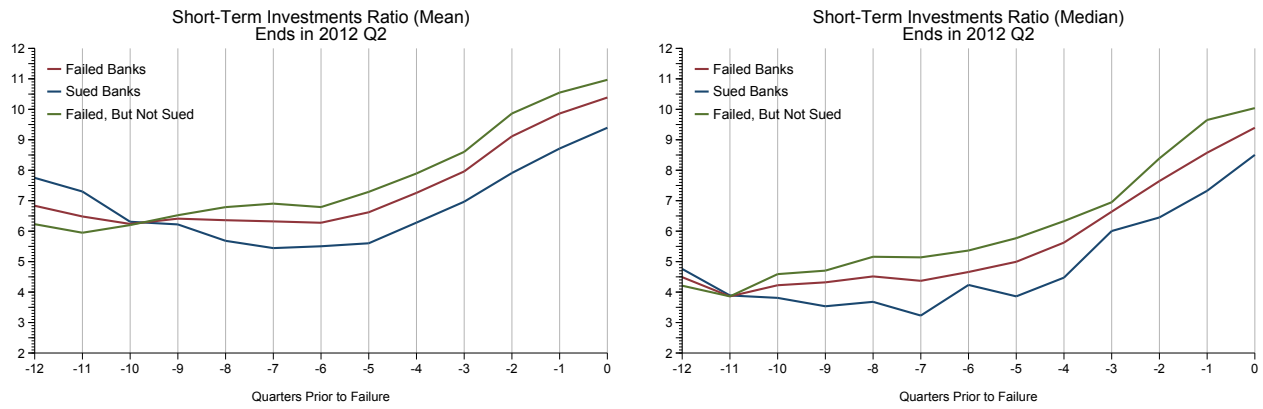
Notes: The difference between noncore funding and short-term investments divided by long-term assets. Noncore funding is the sum of time deposits with balances of \$100,000 or more, deposits in foreign offices and Edge or Agreement subsidiaries, federal funds purchased and securities sold under agreements to repurchase, commercial paper, other borrowings (including mortgage indebtedness and obligations under capitalized leases), and brokered deposits less than \$100,000. Short term investments are the sum of interest-bearing bank balances, federal funds sold and securities purchased under agreements to resell, and debt securities with a remaining maturity of one year or less.

Figure 2: Pre-Failure Balance Sheet Dynamics – Asset Growth Rate



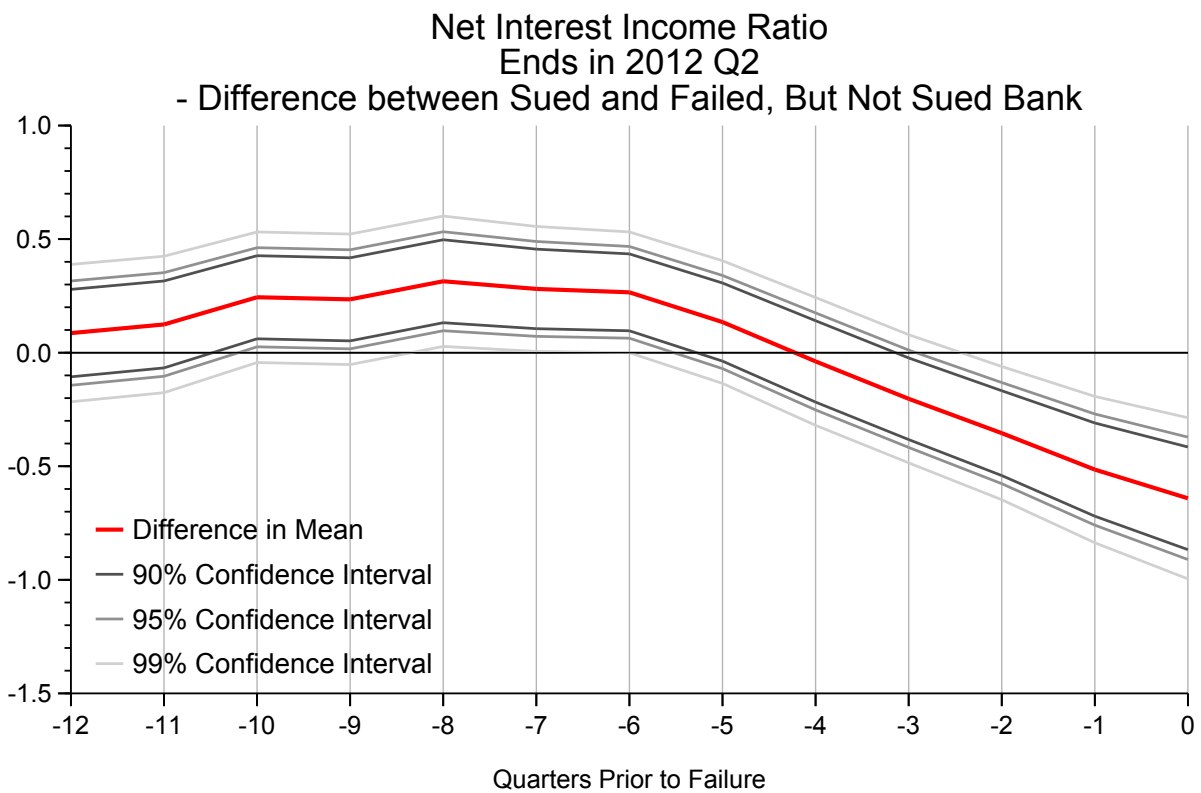
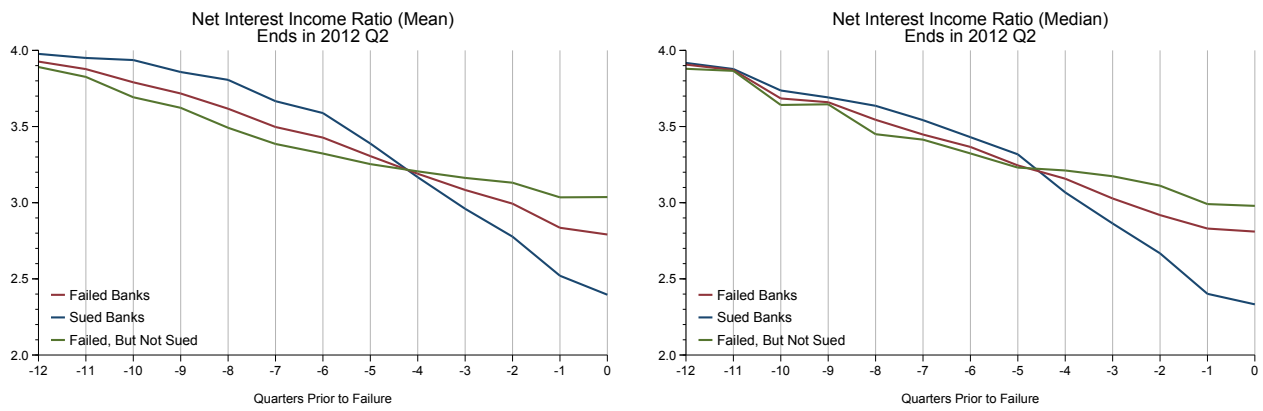
Notes: Percentage growth in assets over the prior twelve months.

Figure 3: Pre-Failure Balance Sheet Dynamics – Short-Term Investments Ratio



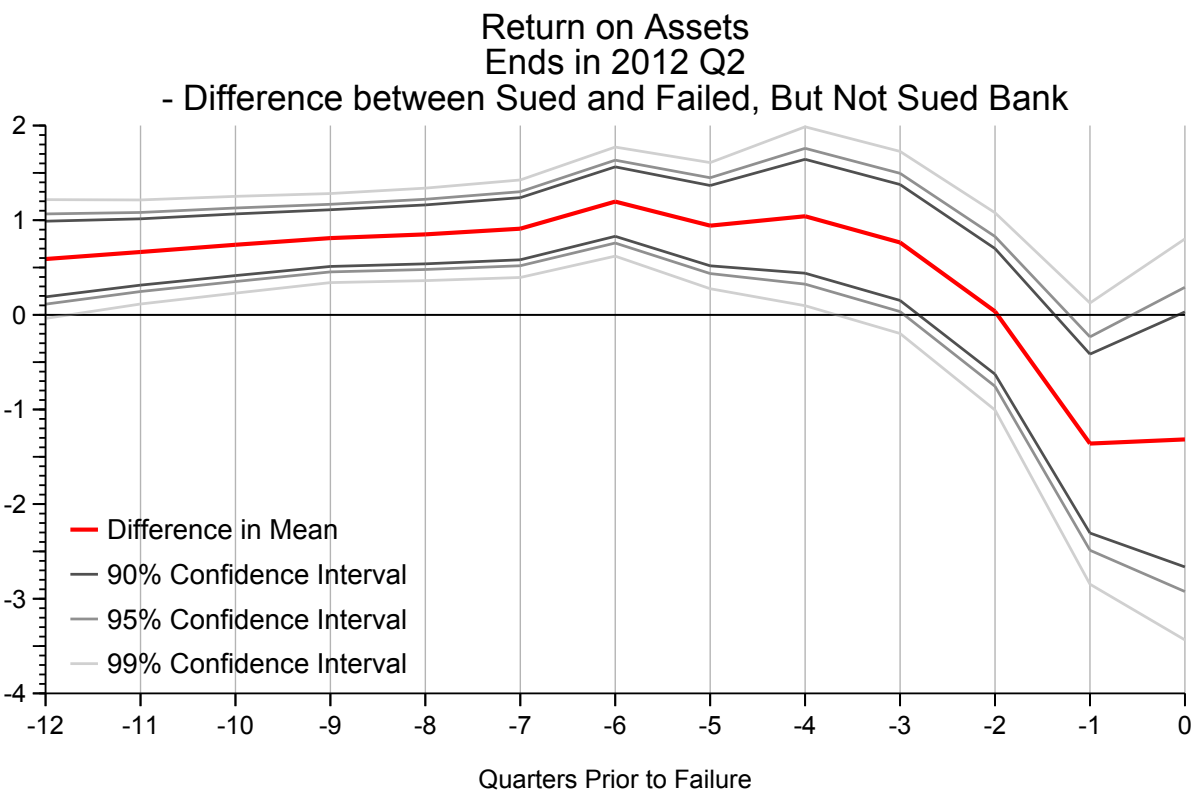
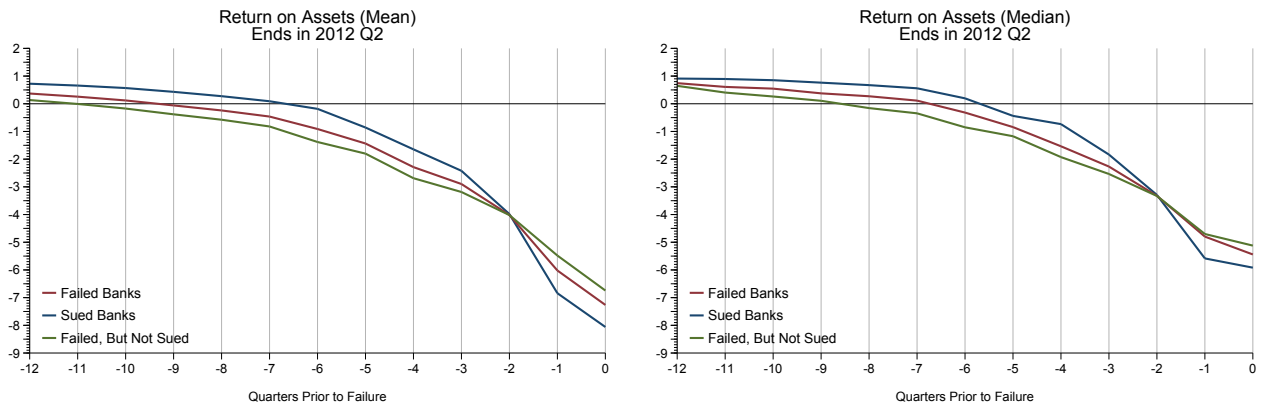
Notes: Short term investments divided by total assets. Short term investments equals the sum of interest-bearing bank balances, federal funds sold and securities purchased under agreements to resell, and debt securities with a remaining maturity of one year or less.

Figure 4: Pre-Failure Balance Sheet Dynamics – Net Interest Income Ratio



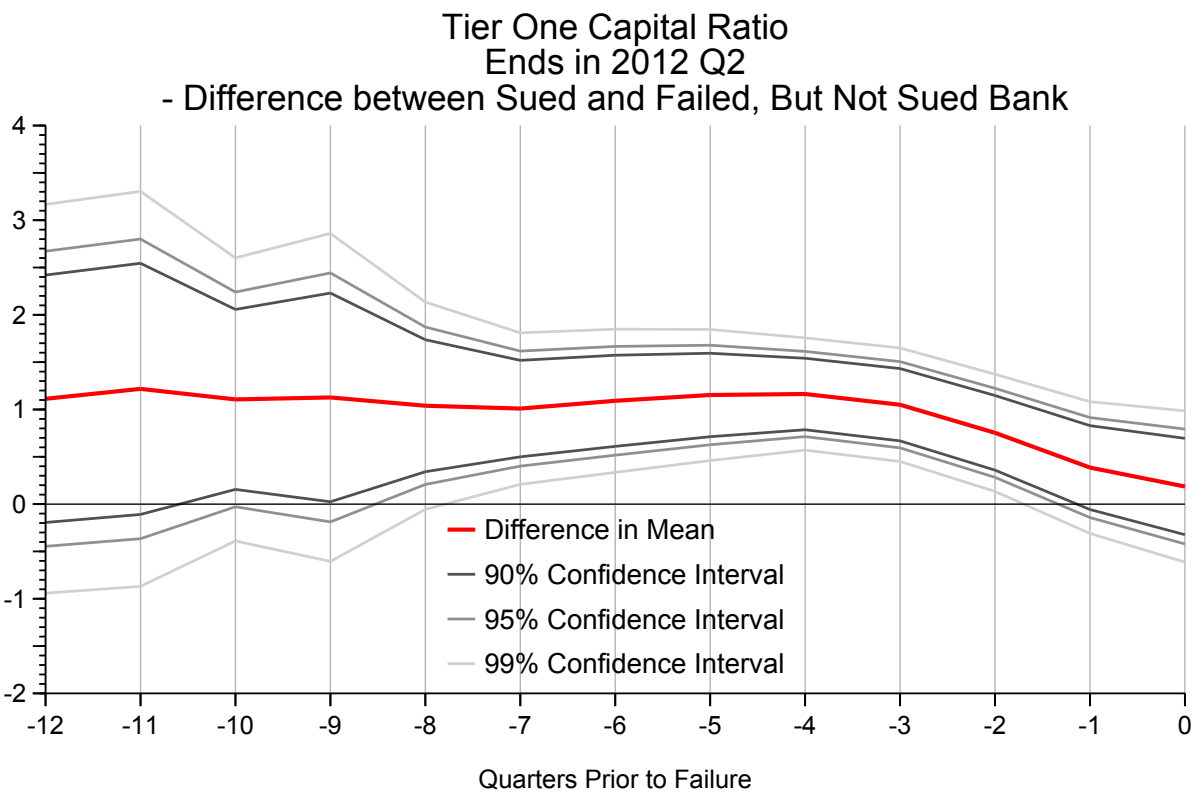
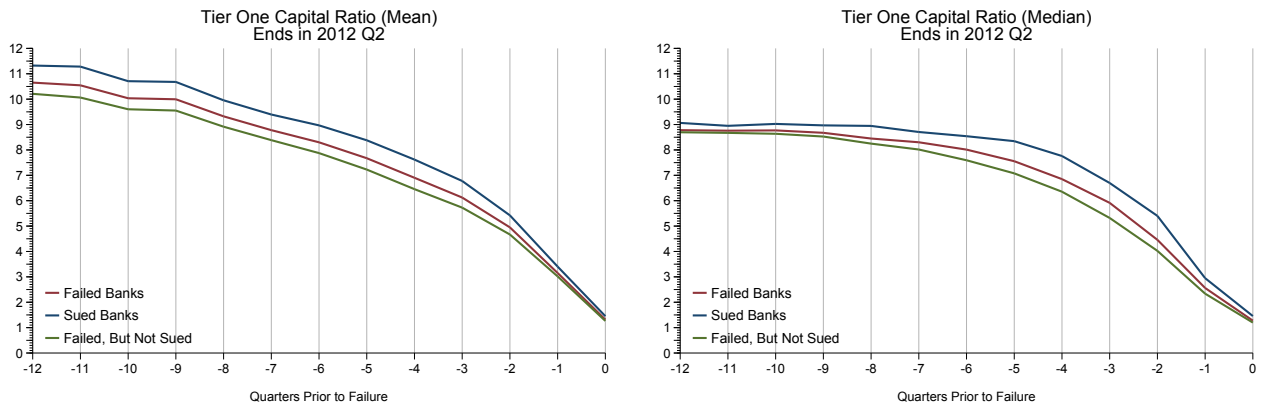
Notes: Net interest income as a percent of average assets. Net interest income is total interest income, plus the tax benefit on tax-exempt income, less total interest expense.

Figure 5: Pre-Failure Balance Sheet Dynamics – Return On Assets



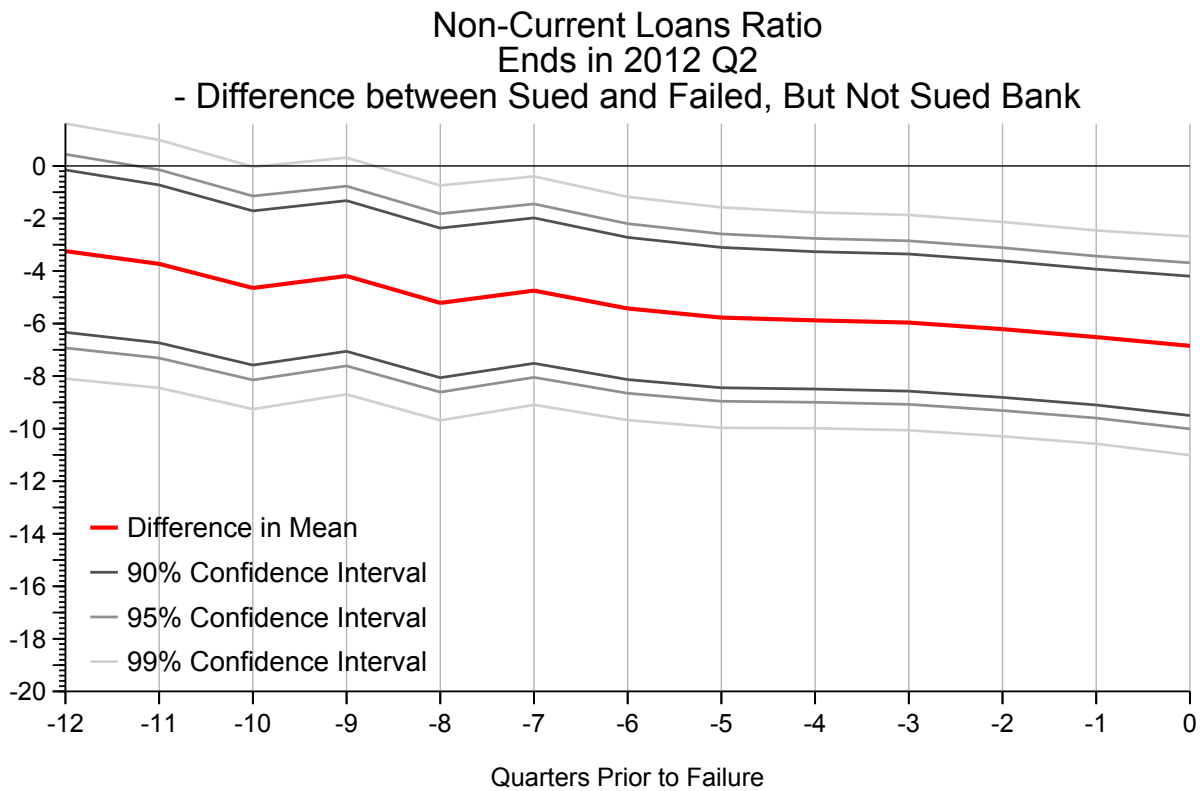
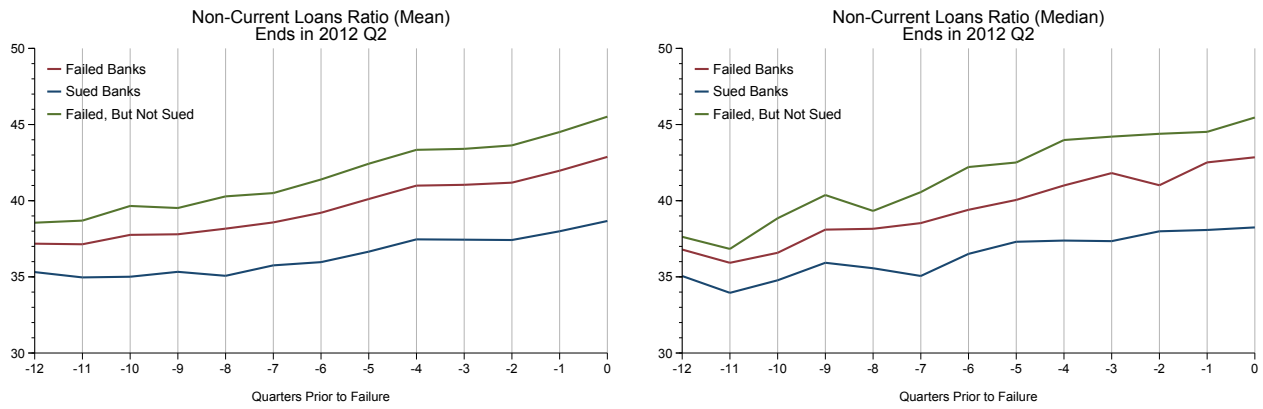
Notes: *Net income divided by total assets.*

Figure 6: Pre-Failure Balance Sheet Dynamics – Tier One Capital Ratio



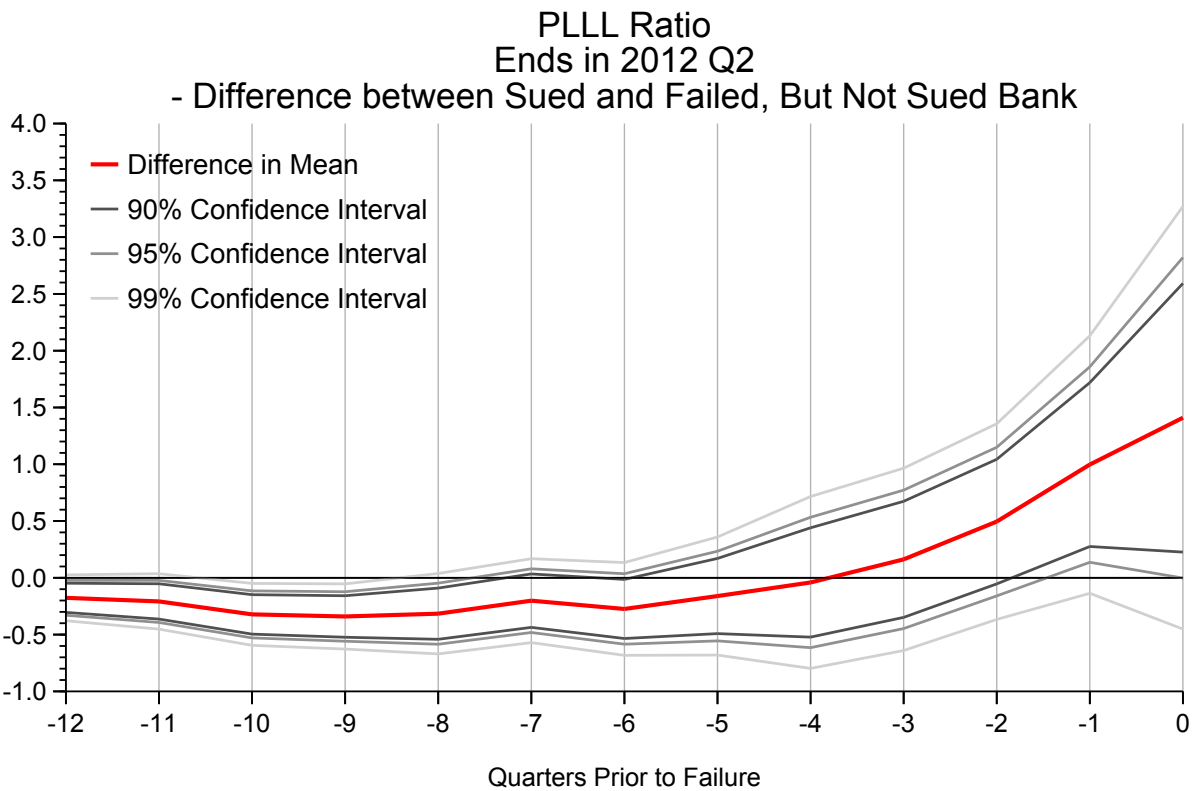
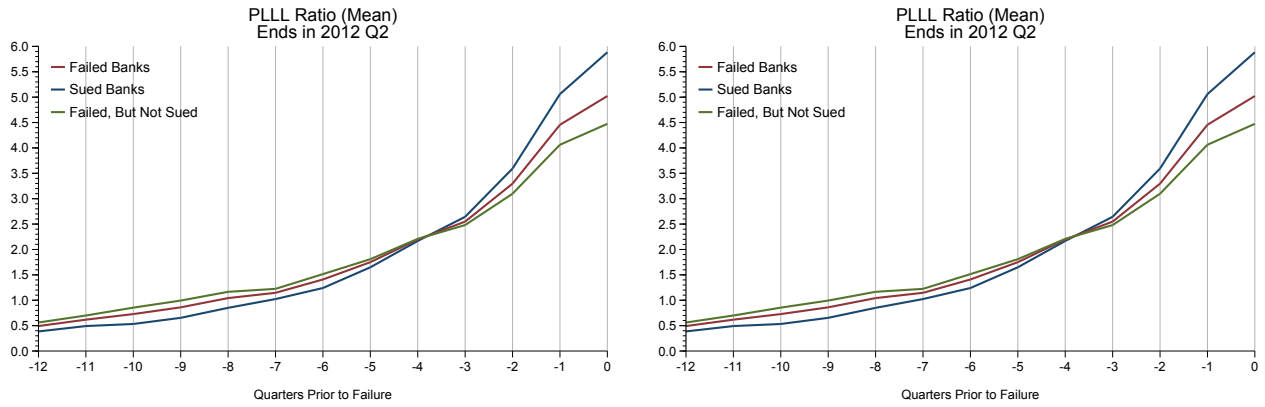
Notes: Tier One capital divided by total assets.

Figure 7: Pre-Failure Balance Sheet Dynamics – Non-Current Loans Ratio



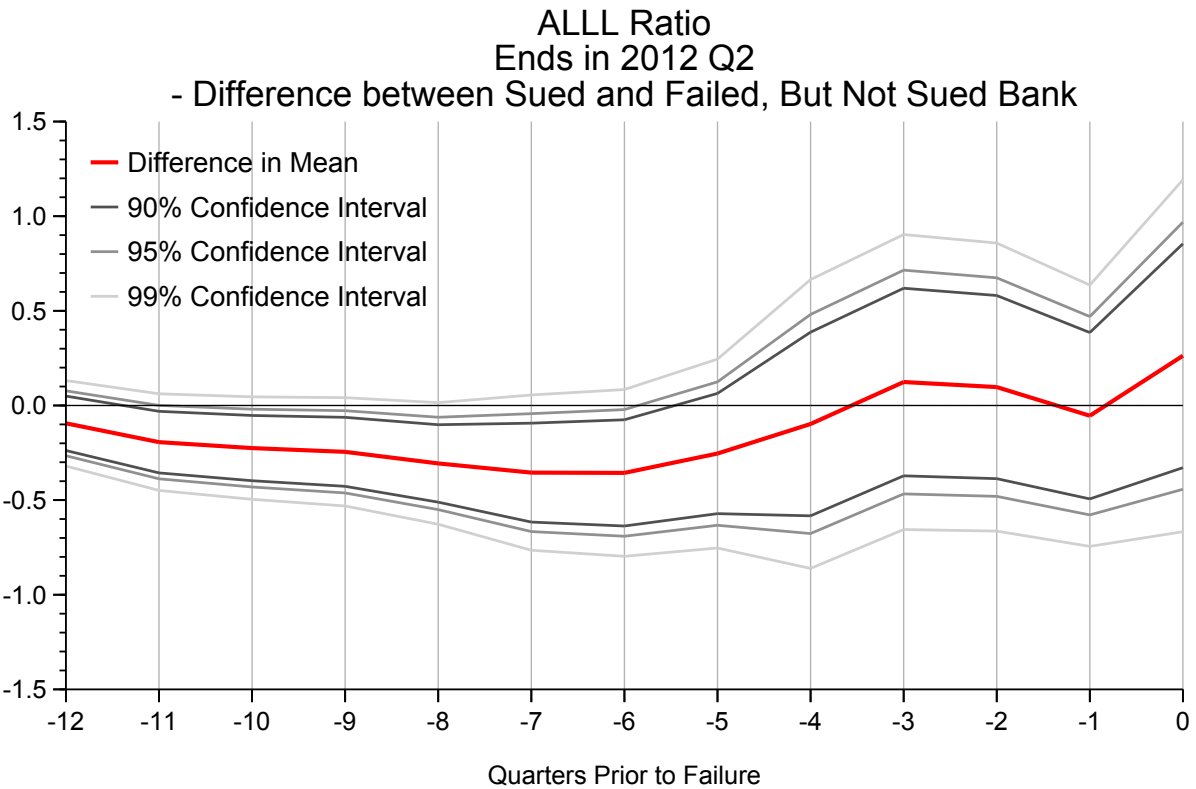
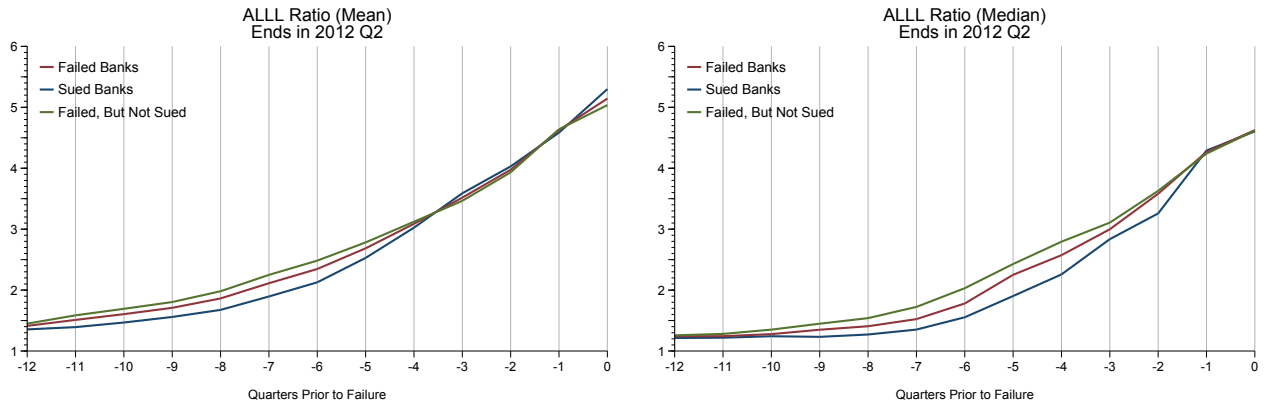
Notes: The sum of loans and leases 90 days or more past due, and loans and leases in nonaccrual status divided by total loans and leases.

Figure 8: Pre-Failure Balance Sheet Dynamics – Provisions for Loan Losses



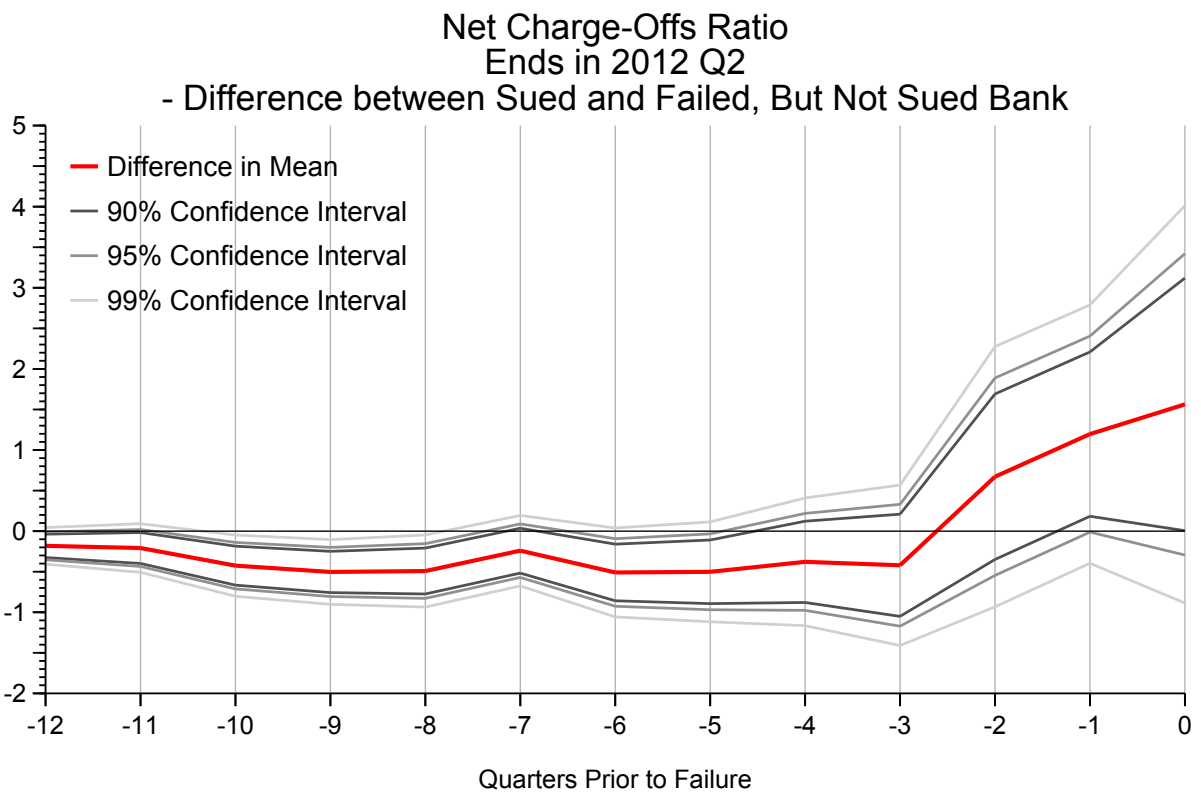
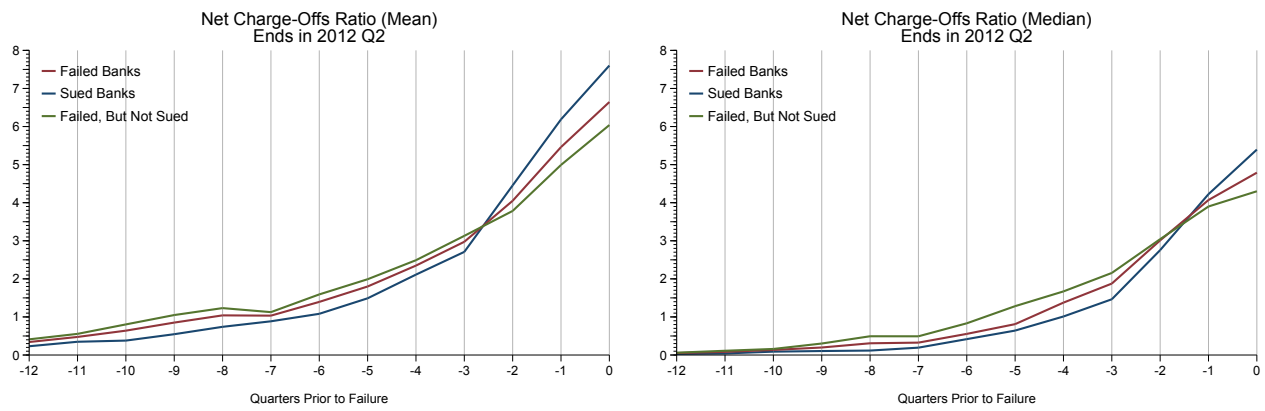
Notes: Provisions for loan losses (year-to-date from the income statement appropriately annualized) divided by total assets.

Figure 9: Pre-Failure Balance Sheet Dynamics – Allowances for Loan Losses



Notes: Allowance for loan losses from the balance sheet divided by total bank assets

Figure 10: Pre-Failure Balance Sheet Dynamics – Net Charge-Offs Ratio



Notes: Charge-offs minus recoveries from the income statement (year-to-date appropriately annualized) divided by total assets.