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Market Discipline by Bank Creditors during the 2008-2010 Crisis

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Abstract

This paper shows that the liability classes most likely to exhibit evidence of market discipline during the recent financial crisis were uninsured depositors, insured depositors, and general creditors. We evaluate the FDIC's expectations about losses to creditors at banks that failed between 2008 and 2010 to establish that these creditors expected to incur loss. Our empirical tests find evidence of quantity market discipline that tends to begin far enough in advance to signal to both banks and supervisors that corrective actions can and should be taken. Consistent with the literature, our results suggest that during the crisis, quantity discipline was relatively strong and price market discipline was relatively weak. Our findings support several policy implications for encouraging market discipline.

JEL Classifications: G01, G21, G28, G33, H12

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Market Discipline by Bank Creditors during the 2008-2010 Crisis

The recent financial crisis resulted in the failure of over 300 banks and thrifts from 2008 through 2010 and most of these were community and medium-sized institutions. This paper examines these failures with two questions in mind. First, when a bank failed, what classes of creditors did the FDIC expect would incur losses and how large did the FDIC expect those losses to be? Second, is there evidence that in the months before failure, these creditors exerted either quantity or price market discipline on their banks?

It is important to answer these questions because it is widely believed that the liability guarantees and direct capital injections used by the government during the crisis undermined market discipline.[1] Creditors who believe that their funds are at risk either from outright loss or from a delay in access may actively monitor their banks and also take actions to protect themselves when the probability of their banks' failure is perceived to be significant and/or increasing. Such actions may discipline a bank's risk taking. For this reason alone, evidence of market discipline at banks that clearly will be allowed to fail would be of interest. But second and perhaps more important, a study of such evidence may yield valuable guidance on how best to encourage market discipline in the post-crisis world at banks of all sizes. Lastly, although it has long been known that in a bank failure the FDIC and bank stockholders should expect losses and that uninsured creditors could incur losses, the loss rates that the FDIC expected uninsured creditors to experience have not been known.[2] By documenting the loss rates expected by the

[1] For discussions of these guarantees and injections in the United States, see Bair (2009) and Bernanke (2009). In reaction to fears that market discipline had been undermined, a core mandate of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), enacted in July 2010, is to promote market discipline. See, for example, Financial Stability Oversight Council (2011, p. 11). Berger and Turk-Ariss (2012) find evidence consistent with the view that in both the United States and the European Union government actions contributed to declines in depositor discipline during and after the crisis.

[2] Stockholders are not considered further in this study because it is well known that they typically lose all of their claims. Indeed, according Bennett and Unal (2009), stockholders received payments in only 6 of the 1,213 BIF- and DIF-insured banks that failed between 1986 and 2007.

FDIC, this paper will help bank creditors and other market participants better understand the extent to which uninsured bank liabilities are truly at risk, and overall financial market efficiency will improve.

To address the questions, we first provide evidence that bank creditor classes were subject to risk of losses by evaluating data on the FDIC's expectation of loss to each creditor class.[3] Then, we analyze the dynamics of the liability structure at banks during the crisis. We look at both failed banks, and those that did not fail. For the banks that did not fail, we group them by risk as indicated by their supervisory rating. This allows us to determine if there is evidence that market discipline is stronger at riskier banks. We also analyze the spread between uninsured and insured deposits to evaluate price discipline at banks during the crisis.

We find that in almost all failures during the recent crisis the FDIC expected itself and general creditors to incur substantial losses. In a significant but much smaller number of failures, the FDIC expected uninsured depositors to take large losses because the FDIC typically chose a resolution method in which an acquiring bank assumed all uninsured deposits of the failed bank during the crisis. Still, it is clear that, ex ante, uninsured depositors were not assured of full recovery and therefore faced significant uncertainty as to the security of their funds. The FDIC did not expect secured creditors to incur losses, although secured claims were typically a substantial percentage of total claims. In the banks where subordinated debt existed, the FDIC expected holders of such debt to lose 100 percent of their claims. However, very few banks that failed held subordinated debt and when they did it was a small amount. Furthermore, our statistical tests support the view that subordinated debt was not a relevant source of market discipline at the failed banks used in this study. Overall, the liability categories most likely to exhibit evidence of market discipline were the uninsured deposits, insured deposits, and general creditor claims.

Our results indicate that changes in liability shares before a bank's failure are consistent with quantity market discipline (QD) in which liability holders reallocate their portfolios in ways that protect

[3] The FDIC covers insured deposits in full and then stands in their place in the priority of claims. No insured depositor loses money, however the FDIC will lose money on the insured deposit claim.

them from losses. We call these changes "QD-consistent portfolio reallocations". These reallocations include the following actions: creditors convert their funds to insured claims at their current bank; they move their funds to banks they perceive as relatively safe; and, in the case of general creditors, they reduce their exposure to the bank. All of these actions have the potential both to constrain the ability of a bank to take risk and to signal to supervisors and market participants that the bank is becoming more risky. However, like most other researchers, we find evidence only of "monitoring" by creditors, not of "influencing" a bank's risk taking.

Importantly, our results indicate that during the crisis, QD-consistent portfolio reallocations typically began well before—often four or more quarters before—a bank failed. In addition, when we expand our analysis to include risky banks that did not fail, we observe comparable reallocations. Indeed, our expanded analysis finds that creditors generally seemed able to distinguish between very risky and safe banks. However, they appeared to have trouble assessing the risk of moderately risky banks and tended to treat them more like very risky banks.

Our results for price market discipline (PD) are much less compelling than those for quantity discipline. On the one hand, we find weak evidence of price discipline. For example, average interest rate spreads between uninsured and insured deposits are positive. On the other hand, these spreads are not related to bank risk, and it is not clear whether our results reflect primarily the extent of PD or the inherent weaknesses of available data. Still, our findings of relatively strong QD and relatively weak PD during a crisis are consistent with expectations based on the existing literature.

Our study both builds on and has several advantages over previous work. The first advantage is that, to our knowledge, no other study examines market discipline of any type at community and medium-sized banks during the recent crisis.[4] These banks are of particular interest because it is clear that they are

[4] Although Berger and Turk-Ariss (2012) examine depositor discipline during the crisis, their sample of U.S. banks is weighted heavily toward much larger banks than those in our sample. In addition, there is a growing literature on quantity discipline runs on large banks and "shadow banks" during the crisis, but this literature focuses on such nontraditional quantities as asset-backed commercial paper, repurchase agreements, and money market mutual fund shares. See, for example, Gorton (2008) and Bernanke (2010).

at risk to fail. Second, no other study has identified the loss rates expected by the FDIC on the full range of failed-bank liability categories: FDIC claims, uninsured deposits, general creditor claims,[5] secured claims, and subordinated debt. Finally, to our knowledge no other study of failed banks has constructed comparison samples of nonfailed banks using broad supervisory measures of overall bank risk.

The paper proceeds as follows. The next section—Section I—defines quantity and price market discipline and briefly reviews the literature on market discipline in banking, placing our paper within that literature. Section II describes the study's 318 bank failures across several important dimensions—time, geographic region, size, and failed-bank resolution method. Section III documents loss rates expected by the FDIC in bank failures for the five classes of bank claims listed above (the FDIC claim; uninsured deposits; general creditor claims; secured claims; and subordinated debt). Section IV investigates the behavior of claims in these categories for evidence of quantity market discipline in the two years before a bank's failure, and we compare this behavior with that of the same liability classes in risk-stratified samples of banks that did not fail. The investigation is preceded by an explanation of our empirical strategy and of the procedures we used. In Section V we briefly examine price discipline. The concluding section summarizes our results and discusses their policy implications. Appendix A is a chart defining receivership claims, and appendix B consists of three tables presenting the full regression results for the claim categories that are of primary interest.

I. Definition of Market Discipline and Literature Review

When liability holders are exposed to the risk of loss and/or to the risk of delayed access to their funds, they may attempt to impose ex ante market discipline on their depository institutions. The goals of such market discipline are both to compensate creditors for the risks that banks take and to deter banks from taking excessive risks. The pre-crisis literature found reasonably strong evidence of market

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[5] General creditor claims include claims of outside law firms, accountants, information technology providers, landlords, and any other firm that was not paid for goods or services provided before the bank failed. (General creditor claims also include trading liabilities and foreign deposits, but for reasons given in note 25, they are not important for our purposes.)

discipline at depository institutions. However, the estimated strength of market discipline depends on the extent to which the bank closure regime imposes losses on the uninsured and unsecured creditors.[6]

The pre-crisis literature considers market discipline as either a quantity or price mechanism which can be direct or indirect.[7] Direct quantity market discipline occurs when, ceteris paribus, a bank experiences withdrawals of funds as its risk increases. Withdrawals can be gradual or may become a run on the bank. Such discipline imposes a direct cost on a banking organization that chooses to increase its risk. Indirect quantity discipline occurs when bank creditors restructure their holdings in ways that signal they are concerned about a bank's safety and, as a result of this signal, supervisors or private agents require the bank to take risk-reducing actions. Whether direct or indirect, we call such movements in deposits "QD-consistent portfolio reallocations," and they can include moving funds to a bank they perceive to be safer, converting uninsured funds to insured funds, obtaining collateral, and cancelling existing banking relationships.

Direct price market discipline occurs when, ceteris paribus, a bank must pay higher risk premiums on at-risk liabilities (e.g., uninsured deposits) or suffer other risk-based cost increases (e.g., higher credit default swap spreads) as its risk increases. Indirect price discipline occurs when government supervisors or private agents monitor market prices and react to changes in those prices in ways that deter a bank from taking excessive risk. Bank supervisors might, for example, conduct a special examination or limit a bank's activities in response to a large increase in the bank's market risk premiums.

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[6] Papers that emphasize the importance of the regulatory regime include Balasubramnian and Cyree (2011), Ashcraft (2008), Nier and Baumann (2006), Covitz et al. (2004), Goldberg and Hudgins (2002), and Jordan (2000).

[7] The distinction between quantity and price mechanisms is made by Park and Peristiani (1998), among others, and direct and indirect effects are discussed in Board of Governors (1999). Papers that focus on quantity discipline are discussed in the text. Papers that focus on price discipline include Balasubramnian and Cyree (2011), Curry et al. (2008), Goyal (2005), Krishnan et al. (2005), Bliss and Flannery (2002), Hancock and Kwast (2001), Board of Governors (1999), and Hannan and Hanweck (1988). Papers that focus on both quantity and price discipline include Berger and Turk-Ariss (2012), Schaeck (2008), Davenport and McDill (2006), Maechler and McDill (2006), Covitz et al. (2004), and Jagtiani and Lemieux (2001).Market discipline has been studied in an international context by Berger and Turk-Ariss (2012, 2010), Pop (2009), Murata and Hori (2006), Nier and Baumann (2006), and Peria and Schmukler (2001). A comprehensive discussion of the importance of bank liability structure can be found in Bradley and Shibut (2006).

The literature suggests that at relatively low levels of bank risk, price discipline tends to dominate.[8] Consistent with this view, Ben-David, Palvia, and Spatt (2011) find that in the pre-crisis period (2007–2008), banks with low capital paid relatively higher CD rates than banks with higher capital (i.e., price discipline was operative). They also found that "as the crisis evolved, small low capital banks offered significantly lower CD rates, and large low capital banks offered the same CD rates as better-capitalized banks."[9] These results suggest that because our analysis is limited to a time of extremely high bank-specific and systemic risk, we may also expect to observe relatively low levels of PD.

In contrast, the literature suggests that as tangible signs of serious weakness begin to appear, QD becomes more likely. In the banking literature, one of the most commonly used signals of QD is a decrease in the share of uninsured deposits in a bank's liabilities. In addition, as the perceived risk of a bank's failure rises significantly, withdrawals can become destabilizing and may lead to contagious runs on other banks. However, it is noteworthy that the pre-crisis literature on bank runs and contagion generally concluded that even these phenomena tended to "be bank-specific and rational."[10] Moreover, federal deposit insurance has virtually eliminated destabilizing runs.[11] Because our analysis focuses on a high-risk period and the literature has found that QD dominates in these environments, we focus our search for evidence of market discipline on tests for QD-consistent portfolio reallocations.

Previous literature has focused on an additional aspect of market discipline—monitoring versus influence. Bliss and Flannery (2002), emphasize the importance of distinguishing between the ability of bank owners and creditors to "monitor" accurately the financial condition of a firm and their ability to "influence" a bank's risk-taking behavior. The authors point out that most studies of market discipline test

[8] For example, Maechler and McDill (2006) examined uninsured deposits and studied price and quantity discipline at both banks and thrifts from 1987 to 2000. They found "that good banks can raise uninsured deposits by raising their price, while weak banks cannot" (p. 1871).

[9] Ben-David, Palvia, and Spatt (2011, p. 4).

[10] Kaufman (1994, p. 143). See also Calomiris and Mason (1997).

[11] And, according to a recent study of Russian banks by Karas et al. (2013), has blunted market discipline.

only for monitoring, and our study is similarly constrained. They found little evidence that either bank stockholders or bond holders exert much influence. More generally, banks subject to monitoring by creditors most often do not fail, which implies that such creditors exert some influence. However, the effect of influence has proved hard to quantify.[12]

The previous studies most closely related to ours are Billett et al. (1998), Park and Peristiani (1998), Jordan (2000), Goldberg and Hudgins (2002, 1996), Maechler and McDill (2006), and Acharya and Mora (2011). A standard approach in these studies is to examine movements in some measure's share of liabilities—for example, uninsured deposits' share of total liabilities. Billett et al. found that as a bank's risk increases, the percentage of insured deposits relative to total liabilities tends to increase as well. The authors interpreted this result as suggesting that market discipline was dampened by bank behavior. However, their analysis did not examine uninsured deposits, did not consider possible indirect market discipline, and examined only publicly traded banks. Building on Billett et al. (1998), Jordan (2000) examined flows of both uninsured and insured deposits at New England banks and thrifts that failed between 1989 and 1995. In addition, using data on the average cost of deposits, he looked for evidence that both uninsured and insured depositors demanded higher interest rates at riskier banks. Jordan found some evidence for both quantity and price discipline, sometimes beginning as much as two years before failure. He also discovered that at least some failed banks had been able to replace runoffs of uninsured deposits with insured deposits.

In a quantity and price discipline study of thrifts from 1987 to 1991, Park and Peristiani (1998) found evidence of both QD and PD by uninsured depositors as well as weaker evidence for both types of discipline by insured depositors, but did not examine either banks or other classes of claims. Similarly,

[12] Maechler and McDill (2006) conclude that "depositor discipline not only raises the cost of choosing a higher level of risk but also may, at very high levels of risk effectively constrain bank managers' behavior." (p. 1871). Covitz et al. (2004) find that a bank holding company's decision to issue subordinated debt is inversely related to the firm's risk, an effect that could constrain a firm's risk taking. Ashcraft (2008) finds that subordinated debt appears to reduce bank risk taking.

Goldberg and Hudgins (2002), studying thrifts for the period 1984 through 1994, found both that the ratio of uninsured deposits to total deposits declined as a thrift institution approached failure and that failing thrifts had a lower ratio of uninsured deposits before failure than did healthier thrifts. They interpreted their results as being consistent with quantity market discipline.[13] Maechler and McDill (2006) examined uninsured deposits, but not other categories of claims, at both banks and thrifts from 1987 to 2000.

Acharya and Mora (2011) were not concerned with market discipline per se but examined bank deposit rates and flows through the first quarter of 2009 to assess the extent to which banks functioned as liquidity providers. They found that banks "that are about to fail experienced increasingly large deposit outflows and reacted by raising deposit rates in an effort to stem the loss" (p. 19).

II. Banks That Failed: Time, Region, Size, and Type of Resolution

This section examines the 318 bank failures that occurred from 2008 through 2010 along four dimensions: time (quarter of failure), region of the country, asset size, and method of resolution.[14] Method of resolution receives particular attention.

Table 1 shows the distribution of the 318 failures across each of the quarters in our sample and across five geographic regions.[15] As shown in column 6, the number of failures increased substantially toward the end of 2008, when the broader financial crisis was at its worst. Indeed, only four banks failed early in the crisis—two in each of the first two quarters of 2008. The number of failures peaked in the

[13] Our empirical methodology for testing for QD is somewhat similar to that of Goldberg and Hudgins (2002). In a previous paper (1996), these authors examined shares of uninsured deposits at failing thrift institutions over a shorter period using a different methodology and found evidence of QD.

[14] There were 322 bank failures, excluding assistance transactions, between 2008 and 2010. Our analysis includes all but 4 of those failures. We exclude Washington Mutual Bank (WaMu), which closed on September 25, 2008, because it's size (over $300 billion in total assets) and complexity make it such an extraordinarily special case that it would be misleading to compare it with the other banks in this study. We also exclude 3 banks that failed that were located in Puerto Rico.

[15] We use the location of a bank's headquarters office to identify its primary state of operation, and then classify states into regions. For the specific states in a given region, see the notes to table 1.

third quarter of 2009 and remained elevated through 2010.[16] As for region, while bank failures occurred across all five regions and in 39 states, failures were concentrated in the South, Midwest, and West. These facts about quarter of failure and region suggest that our empirical analysis of market discipline will need to consider the time pattern of bank failures and include some control for geography.

Table 2 displays the number of failures by asset size class and type of resolution. The failed banks range in size from about $5 million in total assets to about $35 billion.[17] It should be emphasized that there are no money-center or internationally active banks in our sample. Although such banks received government assistance during the crisis, all were resolved in ways that did not require data about expected losses—the data used in this study. The asset size classes reflect the conventional definition of a community bank (total assets less than $1 billion). We also classify banks into size classes of $1 billion to $10 billion and over $10 billion in assets. As for resolution method, from 2008 through 2010 the FDIC used four methods for resolving failed banks: three types of purchase and assumption transactions and a deposit payout.[18] It is important to understand how these methods function because the expected losses of key groups of uninsured creditors vary across resolution methods.

[16] The number of bank failures fell from 154 in 2010 to 92 in 2011 and 51 in 2012. Partly for this reason, we end our crisis period in 2010.

[17] The smallest bank in our sample held $6.2 million in assets at its failure date; the largest held $30.7 billion. In the five years before failure, the smallest amount of assets a sample failed bank ever had was around $4.4 million (merger adjusted) and the largest amount was around $33.5 billion (merger adjusted).

[18] As explained in the next section, usually the FDIC must resolve a failed bank in a way that is least costly to the Deposit Insurance Fund. Meeting this "least-cost test" requires calculating the expected loss. The major exception to the least-cost test requirement is the Federal Deposit Insurance Act's so-called systemic risk exception that was in effect during our sample period**.** Under this exception, the FDIC could use another resolution method if the Secretary of the Treasury, in consultation with the President and with the written recommendation of two-thirds of the Federal Reserve Board and two-thirds of the FDIC Board, determined that use of the least-cost resolution would have serious adverse effects on economic conditions or financial stability and that use of an alternative method can mitigate these adverse effects. For more on the systemic risk exception, see Government Accountability Office (2010). For a fuller explanation of FDIC resolution methods, see Federal Deposit Insurance Corporation (1998b).

Under the purchase and assumption types of resolution, the acquiring bank generally assumes all deposits (insured and uninsured) of the failed bank, some other liabilities, and some or all of the assets.[19] In addition, the FDIC frequently entered into a "loss sharing" agreement with the acquiring bank under which the FDIC agreed to assume a portion of the losses on the assets that were purchased by the acquirer. Thus, in table 2 we distinguish between purchase and assumption transactions with a loss-sharing agreement (PAL) and purchase and assumption transactions without a loss-sharing agreement (PA). For the present study, however, the key point is that in PAL and PA resolutions, insured and typically all uninsured deposits were fully protected.[20]

A third type of purchase and assumption is an insured-only resolution (PI)—a type of purchase and assumption in which the acquiring bank assumes only insured deposits on the liabilities side and may also assume some or all assets. Importantly, in a PI transaction, uninsured depositors may incur losses and will almost surely have delayed access to their funds, as the FDIC sells the failed bank's assets over time.[21]

In a deposit payout (PO) transaction, the FDIC pays depositors directly up to insurance limits, and puts all the assets into an FDIC receivership for liquidation. A deposit payout can be (1) a straight payoff of insured deposits by the FDIC, (2) an insured deposit transfer whereby a healthy depository agrees to act as the FDIC's agent, or (3) the transfer of insured transaction accounts to a newly chartered deposit insurance national bank (DINB), with the time and savings deposits paid by the use of normal payout practices and transaction accounts wound down. The usual life of a DINB is between 30 and 60 days. In all deposit payout cases, deposits over the insurance limit are not guaranteed. Furthermore, since

[19] Samolyk etal (2011) point out that the October 2008 increase in deposit insurance coverage from $100,000 to $250,000 probably increased acquirers' willingness to assume all deposits, a hypothesis that is supported by their data. Another recent paper that examines bank failures during the crisis is Cole and White (2012).

[20] In some purchase and assumption transactions, "certain brokered deposits" (see www.fdic.gov/bank/historical/bank) were not purchased by the acquiring institution. If those brokered deposits had been uninsured, they could have been at risk of loss.

[21] One failure was resolved by the use of a PI resolution that also involved a loss-sharing agreement. We included this failure in the PI group.

there is no acquiring bank, the FDIC as receiver must liquidate all of the failed bank's assets. Uninsured depositors and other creditors receive payments from the proceeds as the assets are liquidated in accordance with the priority of their claims on the bank.[22] In both PO and PI resolutions there is typically substantial uncertainty about the timing and amount of such payments.

As shown in table 2, during the crisis the PAL was the most common resolution type (69 percent of failures).[23] Overall, a PAL or PA resolution was used in 92 percent of the community bank cases and in 84 percent of the medium-sized banks. In addition, 84 percent of the failures met the standard definition of a community bank, 14 percent were in the middle size class, and 2 percent (7 failures) were in our sample's largest size class. Thus, the vast majority of our failed-bank sample is quite homogeneous with respect to size, and there does not appear to be a strong relationship between bank size and resolution method.[24] Despite the severity of the financial crisis and policymakers' preference during this period for maintaining macrofinancial stability, slightly over 9 percent of the failures (29 banks) were resolved using either the PI or the PO approach, both of which always put uninsured depositors at risk of loss.

III. Expected Loss Rates by Claim Category

As indicated in the previous section, when a bank fails the FDIC must usually resolve it in a manner that is least costly to the deposit insurance fund (DIF). To help the FDIC Board determine which resolution method to use, FDIC staff prepares estimates of the cost of each of the resolution methods under consideration. FDIC staff estimate the expected losses not only to the DIF (which assumes all the

[22] There is no uncertainty about the priority ranking of claim payments: (1) administrative expenses of the FDIC, and secured claims to the extent that these claims are covered by collateral; (2) domestic deposits (including FDIC claims which result from paying insured depositors in full); (3) other general creditor claims or senior liabilities, including foreign deposits; (4) subordinated debt; and (5) at the end of the line are shareholder claims.

[23] The use of loss sharing was more prevalent in this financial crisis than in the previous one from 1980 to 1994. The FDIC first used loss sharing in 1991. Between 1991 and 1993, the FDIC entered into loss share agreements with fewer than 10 percent of the banks that failed. These banks accounted for 40 percent of the assets in all the failed banks in those three years. In our sample, the FDIC entered into loss-sharing agreements in 69 percent of the failures—banks that accounted for 83.4 percent of the assets in the failed banks in our sample. See Federal Deposit Insurance Corporation (1998a). In addition, use of the PAL resolution type increased from 8 percent of sample failures in 2008 to 64 percent in 2009 and to 82 percent in 2010.

[24] Still, our empirical tests control for bank size (see Section IV).

claims of insured depositors) but also to the four categories of uninsured claims: uninsured deposits, general creditor claims, secured liabilities, and subordinated debt.[25]

Before a bank fails and the FDIC announces the resolution method it will use, the holders of claims in the four uninsured categories are uncertain about the losses they could experience on their claims if the bank were to fail. The first reason for their uncertainty is that they cannot know which resolution method the FDIC would choose. The second reason is that unless their claims were to be assumed fully by an acquiring institution, uninsured depositors, general creditors, and subordinated debt holders would experience substantial uncertainty about both the size and the speed of recovery of their claims. With respect to the size of dollar loss, the loss rates expected by the FDIC are not made public. Moreover, the final amount of loss would not be known until the failed bank was fully resolved, which typically occurs after several years.[26] With respect to timing, publicly available FDIC data indicate that in recent years uninsured claimants typically received around half of their claim within one and a half years of a bank's failure. However, a claimant may receive his or her last payment anytime between one quarter and more than two and half years after failure. In addition, the percentage of claims payments in a given quarter may range between zero and 100 percent.[27]

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[25] These five claim categories (insured deposits and the four uninsured categories) sum to total liabilities. As mentioned in note 5, general creditor claims include not only the claims of outside law firms, accountants, information technology providers, landlords, and any other firm that was not paid for goods or services provided before the bank failed, but also trading liabilities and foreign deposits. Although these latter two types of account are potential sources of QD, it is very unusual for banks in our sample to hold them. For example, of the 85,926 bank-quarters in our sample, trading liabilities and foreign deposits each appear only 0.6 percent of the time. Thus, we do not consider them important sources of potential QD for our sample.

[26] For this reason we are limited to using the FDIC's expected loss rates. Although such estimates are clearly subject to revision, they are the best data available.

[27] Although the FDIC does not publicly disclose expected loss rates for any claimant other than itself and equity holders (always expected to lose 100 percent of their claim), it does provide a substantial amount of other information to the public about a bank failure. For more on these procedures, see Federal Deposit Insurance Corporation (1998b).

We hand collect data from the Least Cost Test that was performed for the 318 failed banks in our sample. Table 3 displays expected loss rates for each liability category and each type of resolution.[28] As shown in panel A, on average the FDIC expected to lose 28 percent of its total claim. The expected loss rates for uninsured deposits in PI and PO resolutions were quite high—on average, in a PI approximately 28 percent and in a PO about 38 percent.[29] Expected loss rates for general creditor claims (GCC) were between 94 and 100 percent. Columns 4 and 5 show that subordinated debt holders were always expected to lose all of their claims and that secured creditors were always expected to fully recover their assets.

As shown in panel B, insured deposits were present in all 318 failures; therefore the FDIC had claims in all failures. General creditor and secured claimants were also present in virtually all failures. However, uninsured depositors faced possible losses in only 25 bank failures (8 percent), and subordinated debt holders were present in only 23 failures (7 percent).

As shown in panel C, FDIC claims are typically the largest claims with an average (at failure) of approximately 90 percent of total claims. Secured claims are typically the second largest set of claims (10 percent), followed by uninsured deposits (2 percent). Both general creditors and subordinated debt holders (when present) are usually only about 1 percent of total claims.

On balance, these results suggest that the most likely categories of claims to test for evidence of market discipline are uninsured deposits, insured deposits, and general creditors. As noted above, the previous literature has examined insured deposit shares and sometimes uninsured deposit shares. To our knowledge no previous study has considered general creditor claims as a potentially important source of market discipline.

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[28] Unreported results from multivariate regressions that control for resolution type, bank size, region, and holding company status reinforce the univariate tests reported in the text, with one exception: expected loss rates of general creditor claims are estimated to be higher at failed banks that hold more assets or are part of a holding company. These results are available from the authors upon request.

[29] An interesting comparison can be made with Rolnick and Weber's (1983) study of the U.S. Free Banking Era (1837–63). For banks that failed in the four states Rolnick and Weber study, they estimate that average losses to note holders per dollar ranged from 11 percent to 71 percent, with 15 percent to 26 percent being most typical.

Although general creditor claims are typically a very small share of total claims, there are good reasons for believing that the holders of such claims may be in a position both to monitor and to influence the risk taking of their banks. General creditors frequently represent small businesses in a bank's local community, businesses that support critical bank functions, and they constitute a class of claimants that will almost certainly lose in any resolution scenario. And even in a PA where the whole bank is sold, their contracts may not be renewed or honored by the acquiring bank. In addition, the bank's business may be a large proportion of these firms' total revenues. Such firms have a particularly strong incentive to monitor the riskiness of their client banks. Perhaps more importantly, some of these creditors, such as law firms and accountants, may be both especially knowledgeable about the riskiness of the bank and in an unusually strong position to influence that risk. In short, general creditors may be an important source of market discipline.

The FDIC has always expected subordinated debt holders to lose 100 percent of their claims, and for this reason subordinated debt would be an ex ante source of market discipline. At our sample banks, however, subordinated debt was typically both a very unusual and an extremely small component of total claims. Furthermore, because of its long maturity, subordinated debt is not subject to runs by its holders. For all these reasons, we do not expect subordinated debt to be an instrument of market discipline at our sample banks.

In contrast to uninsured deposits, general creditor claims, and subordinated debt, secured claims have always been expected by the FDIC to experience zero losses, a fact which suggests little scope for market discipline from secured claims. However, two other facts suggest that secured claims deserve some attention as we test for market discipline by examining changes in shares of bank liabilities: first, secured claims averaged 10 percent of total claims, and second, secured claims were present in 88 percent of the failed banks.

IV. Tests for Quantity Discipline

Here we investigate the behavior of claims in the five liability categories during the two years before a bank's failure, concentrating on the three categories that are most likely to offer evidence of

quantity market discipline. We compare this behavior with that of the same liability classes in risk-stratified samples of banks that did not fail. After explaining our empirical strategy and then the procedures we used, we analyze the results and their implications.

Empirical Strategy

Our tests for quantity discipline focus on quarterly changes in the shares of total claims of the five categories of claims identified in Section III. We test for whether the categories most likely to exhibit evidence of market discipline (in terms of changes in shares of total claims) are uninsured deposits, insured deposits (FDIC claims), and general creditor claims. This subsection begins with a brief rationale for our approach and then explains our empirical strategy in detail.

Because the claim data analyzed in Section III are computed only for failed banks at the time of failure, historical analyses both of failed and non-failed banks require comparable historical claim data derived from other sources of information. Quarterly regulatory reports collected by the federal banking agencies provide such information.[30] However, because the categories in these reports do not match exactly the claim categories used in the analysis of least-cost resolution methods, we must construct approximations to the least-cost-test categories.[31] The resulting data are, for each bank, time series of claims that are defined the same across both failed and nonfailed banks.[32]

Several denominators could be chosen to scale the claim categories: the concurrent value of total claims, the starting value of a given claim (the value in quarter *t-8*), or the starting or ending value of total claims. We choose to scale the claim categories by the concurrent value of total claims. Importantly, the direction of change does not depend on the denominator used in the calculation, but the speed of the

[30] We refer to both bank Call Reports and Thrift Financial Reports as Call Reports.

[31] The definitions of the claim categories and the mapping to Call Report items are given in appendix A.

[32] All data are merger-adjusted. We merger adjust by collecting historical data for acquired banks and adding their balance sheets to those of the acquirers for each quarter as if the acquirer owned the acquired bank's assets and liabilities throughout the entire period. This process allows easy comparison of balance sheet items over time and smooths large jumps in the data when a merger occurs.

change does. For this reason, our analysis concentrates on the direction of change. In addition, under our approach the shares of the five claim categories are constrained to sum to 100 percent at each bank in each quarter. This approach is consistent with our objective of examining liability portfolio reallocations, but clearly does not allow us to determine if the dollar amounts of claims are changing. For example, in an extreme case, if dollars are flowing out of the bank in equal proportions across claim categories, we will detect no evidence of QD. However, the changes in proportions across claim categories are our primary concern. Therefore, use of the concurrent value of total claims as our reference point provides the most features that are consistent with our research objectives.

Examination of changes both in the average size and in the average growth rates of assets and liabilities at our failed banks and at three groups of comparable banks that did not fail (defined below) indicates that by the end of 2008, funds were generally flowing out of failing and other very risky banks into safe banks. This pattern continued through 2010. Acharya and Mora (2011) find similar results. Thus, we conclude that perhaps the most straightforward indicator of QD-consistent portfolio reallocations—funds flowing out of troubled banks into safe banks—was generally operative during the crisis.

Although examining changes in liability shares is common in the literature, our analysis makes an important innovation. It is well known that during this particular crisis policymakers' responses, agents' behavior, and virtually everyone's expectations changed rapidly and were often unpredictable. As a result, assuming parameter stability over this period is highly problematic. We explicitly recognize such dynamics by examining changes in portfolio shares in each of the 12 quarters in 2008 through 2010. Thus, by design all relevant parameters are allowed to vary quarter by quarter.[33] Because we wish to test for evidence of QD well before failure, we extend the analysis in each quarter back in time for 8 quarters.[34]

[33] This approach maintains extensive noise in the data and therefore creates a bias against finding evidence of QD. Additional analysis was done combining all quarters and results tend to be stronger.

[34] In contrast to estimating parameters quarter by quarter, looking for evidence of QD up to eight quarters before the current quarter is common in the literature. See Goldberg and Hudgins (2002) and Jordan (2000).

To search for patterns of QD-consistent portfolio reallocations, we estimated the following equation for each of the five claim categories:

$$CS_{it} = \sum_{j=1}^{4} \beta_{0,j} + \sum_{j=1}^{4} \sum_{k=1}^{7} \beta_{t-k,j} D_{t-k} G_j + \varepsilon_{it} \quad (1)$$

Where

CS_{it}	=	A given claim category's percentage share of total claims at bank *i* in quarter *t*
D_{t-k}	=	Indicator variable for quarter *t-k*
G_j	=	Indicator for bank risk group
β	=	Estimated parameters
ε_{it}	=	Normally distributed random error

By construction, the constant terms in (1), $\beta_{0,j}$, is the average share of that claim in the eighth quarter before the current quarter for risk group *j*. The other coefficients each measure the difference between the mean of the dependent variable in the eighth quarter before the current quarter and the mean in quarter *t*. Thus, our coefficient estimates provide a clear picture of the pattern of average changes over the seven quarters before the current period for each claims category and by each bank risk group (see next paragraph). Standard errors are clustered at the bank risk group level.

The bank risk groups represent the spectrum from safe banks to failed banks. We define our comparison groups of banks that did not fail by using a bank's supervisory rating, or composite CAMELS rating, in a given quarter.[35] A bank's composite CAMELS rating is a confidential supervisory rating that is assigned to a bank by its primary federal regulator as part of the bank's safety-and-soundness examination. The rating is an integer that ranges from 1 to 5. Banks rated 1 or 2 are considered to be either in excellent condition or fundamentally sound; banks rated 3 exhibit moderate to severe weaknesses but are deemed unlikely to fail; and banks rated 4 or 5 are considered to be either severely or critically unsound, with failure a distinct possibility. Although CAMELS ratings are not public, they are widely

[35] The letters in the acronym CAMELS stand for **C**apital adequacy, **A**sset quality, **M**anagement, **E**arnings, **L**iquidity, and **S**ensitivity to market risk. For more on the CAMELS rating system, see Federal Financial Institutions Examination Council (1996).

viewed as a reasonably accurate broad-based measure of a bank's financial condition.[36] Our assumption is that if private liability holders are doing their own risk assessments, they will view as very risky the same banks that supervisors have rated 4 or 5 (group 1); will view as weak the same banks that supervisors have rated 3 (group 2); and will view as safe the same banks that supervisors have rated 1 or 2 (group 3). Put differently, we assume that private monitors may be approximately as good as (but not better than) supervisors in assessing a bank's condition. Group 4 consists of banks that failed.

The three risk groups for banks that did not fail are created separately for each quarter.[37] Our choice of non-failed banks controls for bank size and location. We restrict the banks that did not fail to those that had total assets between $5 million and $35 billion, in order to be consistent with the asset-size of the failed banks. In addition, the banks that did not fail are restricted to those that were headquartered in a state in which at least one bank failed between 2008 and 2010.[38] (We also excluded any bank with less than two years of data, essentially deleting de novo banks and their well-known idiosyncrasies.) This expanded sample allows us to observe differences in creditors' behavior across the perceived riskiness of a creditor's bank.

In summary, we analyze the share of total claims for a particular claim category and track it eight quarters back through time at safe, weak, very risky, and failed banks. We do this every quarter starting from first quarter 2008 through the fourth quarter of 2010. We estimate a straightforward regression with indicators for the bank group and indicators for the number of quarters before the reference quarter.

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[36] Using public data including "traditional proxies for CAMELS components," Cole and White (2012, p. 27) argue that their results "offer strong support for the CAMELS approach to judging safety and soundness of commercial banks."

[37] The samples of banks that did not fail omit banks that failed at any time during the sample period. Many banks in our samples of banks that did not fail appear in multiple quarters. Comparable tests using a random sample of banks that did not fail (without replacement) each quarter produced results that were qualitatively similar to those reported in the text.

[38] The reason we did not use a more precise matching methodology was that (again) our objective was to search for the general directions of portfolio reallocations during the crisis.

Figure 1 is a graphical representation of our statistical approach for one bank group (failed banks) in one quarter (2009Q3) and across the claim classes.[39] Visual inspection of the data suggests that the average share of insured claims was generally rising over the eight quarters before failure, the mean share of uninsured claims was generally falling, the average share of secured claims was stable until about three quarters before failure, and the mean share of general creditor claims was declining. Our regression equations shown in equation (1) subject such impressions to more rigorous tests.

Results

Our empirical approach clearly requires estimation of a large number of parameters. To limit the number of tables presented in this paper without excluding any substantive results, we now briefly discuss, but do not report, two general sets of results.[40] One has to do with secured claims, the other with CAMELS 3 banks. (In the next part of this section, we analyze our main results.)

First, we do not report the results for secured claims. Analysis of the FDIC's expected loss rates concluded that secured claims should provide little market discipline. Regressions of the form described in equation (1) reinforce this conclusion. However, these regressions also indicate that the share of secured claims is quite variable over time. In addition, we previously reported that secured claims are, on average, a relatively large proportion of total claims. Both of these findings imply that movements in the shares of secured claims complicate the interpretation of results for the shares of insured deposits, uninsured deposits, and general creditor claims. This is especially the case for uninsured deposits and general creditor claims because each of those two categories has, on average, a much smaller share of total claims than insured depositors. On balance, the "noise" created by secured claims biases us toward not finding evidence of QD in movements in the shares of other claim categories.[41]

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[39] Subordinated debt is very small in magnitude and visually indistinguishable from zero.

[40] All results are available on request from the authors.

[41] This being said, the behavior of secured claims during the crisis may be an interesting topic for future research. Secured claims include liabilities of agents who should be well informed about the financial condition of their banks: other banks, Federal Home Loan Banks (FHLBs), and state and local governments. Indeed, the role of

Second, we do not report the results for CAMELS 3 banks. Regression results for banks rated CAMELS 3 are similar to those for the CAMELS 4 and 5 banks and even the failed banks but are relatively ambiguous. This result, while not necessarily surprising, has an interesting and important behavioral interpretation. It suggests that creditors find it quite hard to assess the financial condition of CAMELS 3 banks and therefore, probably because of strong risk aversion, tend to treat them more like troubled than like safe banks.

The full regression results for the claim categories of primary interest are reported in appendix B, tables B.1 through B.3.[42] Because the number of estimated coefficients is so large, we have extracted portions of these tables and formatted them to highlight the main findings in tables 4 through 9. Tables 4-6 report regression results for FDIC claims and tables 7-9 report results for uninsured claims at all but the CAMELS 3 group of banks.

Tables 4 through 9 contain two panels each. The top panel of each pair reports results for 2008Q1 through 2009Q4, and in that panel the independent variables consist of a constant term and an indicator variable for each of the seven quarters before the current quarter (*t*). To repeat: specifically for the failed banks, the current quarter (*t*) is the quarter in which the bank failed and the coefficients represent the change in the percentage share of the claim for each of the seven quarters prior to failure. For the non-failed banks, the current quarter (*t)* is the quarter of the current Call Report.

Major changes to deposit insurance coverage in 2008, implemented to help manage the crisis, were first reflected in Call Report data in 2009Q3.[43] To address this increase, we estimate two sets of

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FHLBs as "lender of next-to-last resort" during the crisis is already receiving significant attention (see Ashcraft, Bech, and Frame [2010] and Davidson and Simpson [2012]).

[42] As expected, the tests for subordinated debt find no evidence of quantity discipline and are not reported or discussed further. Again, all results are available on request.

[43] On October 3, 2008, President Bush temporarily raised the standard deposit insurance limit from $100,000 to $250,000, and on October 14, 100 percent deposit insurance was temporarily extended to non-interest-bearing transaction accounts. President Obama extended these "temporary" actions, and the Dodd-Frank Act permanently raised the standard maximum deposit insurance amount to $250,000. We note that all these actions should bias us toward not finding evidence of either quantity or price market discipline. Details on the reporting of these changes in Call Reports are in appendix A in the description of Uninsured Deposits.

regressions for the four quarters in 2010. These results are shown in the bottom panels of tables 4 through 9. First, as shown in the regressions for 2009Q4, the coefficients on the "One Quarter before Failure" (and one quarter before quarter *t*) indicator variable increase sharply in absolute value. We are unable to disentangle the effect of the change in reporting in 2009Q3 from potential changes due to QD. Therefore, we do not report coefficients on any post-2009Q3 variables in columns 9 through 12. Second, to explicitly address the break in series caused by the reporting change, for each quarter in 2010 we run new regressions where the constant term is 2009Q3. Each coefficient measures the difference between the mean of the dependent variable in 2009Q3 and the mean of the same variable in a given quarter before t (or before failure). Columns 13 through 16 in each table show these results.

The change in the reporting of insured deposits does not affect our regressions for the shares of general creditor claims. Thus, tables 10 through 12 report only regressions similar to those in the top panels of tables 4 through 9.

To facilitate understanding, in tables 4 through 12 the statistically significant declines in shares are shaded in dark grey, and the statistically significant increases in light grey. In addition, F-tests show that results for each of the bank groups are always statistically significantly different from each other at the 95 percent confidence level or better. Pairwise t-tests of individual coefficients, which compare coefficients from two groups at a time, show that for most quarters the failed-bank group and the risky-bank group are statistically different from the CAMELS 1 and 2 bank group.[44] Thus, all the differences between bank groups discussed below are supported by formal statistical tests.

Analysis of Results

The changes in the shares of FDIC claims are overwhelmingly positive at both the failed banks and the CAMELS 4 and 5 banks. At the failed banks, from the third quarter of 2008 through 2010, statistically significant increases began to occur at least two quarters before failure, and typically well

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[44] All F- and t-tests are available on request from the authors.

before that. At CAMELS 4 and 5 banks, the results are even stronger: throughout the entire period, FDIC shares typically began rising four or more quarters before quarter *t*.

CAMELS 1 and 2 banks show a strikingly different pattern of change in shares of FDIC claims. Here the direction of change is overwhelmingly negative, especially from 2008 through the first half of 2010—the heart of the crisis.

The dynamics of uninsured claim shares (tables 7–9) complement the dynamics for FDIC claims. The direction of changes in the shares of uninsured claims is overwhelmingly negative at both the failed banks and the CAMELS 4 and 5 banks. From mid-2008 through the first half of 2010, statistically significant decreases began to appear from two to seven quarters before either failure or quarter *t*.

As is true for the shares of FDIC claims, changes in the shares of uninsured claims at the CAMELS 1 and 2 banks are strikingly different. From the second quarter of 2008 through 2010, shares of uninsured claims are, with only a few exceptions, significantly increasing.

The dynamics of GCC shares (tables 10–12), although suggestive of QD-consistent behavior, are less compelling than those for FDIC and uninsured depositor claims. Indeed, through 2008 the average general creditor does not appear to have been concerned about the financial condition of its bank—the statistical tests indicate claims rose or did not change. However, by the second half of 2009 this changes: significant declines typically occurred many quarters in advance of failure at the failed banks (or quarter *t* at the CAMELS 4 and 5 banks). A similar pattern can be found in the CAMELS 1 and 2 banks although the growth patterns are larger in magnitude pre-2008 and decline patterns post-2008 are smaller in magnitude compared with the failed and risky bank groups. In all cases, the share of GCC is on average quite small—normally less than 2 percent. Thus, the movements in secured claims (documented above at the end of the discussion of empirical strategy) may well be obscuring QD-consistent behavior by general creditors.

The dynamic patterns of claim shares described above are highly consistent with quantity discipline: liability holders at very risky banks (failing and CAMELS 4 and 5 banks) convert their funds to insured claims, move their funds into safe banks (CAMELS 1 and 2 banks), or—in the case of GCC—

reduce their exposure to the bank with which they are doing business. Equally important, our results indicate that during the crisis, these QD-consistent portfolio reallocations tended to begin well before, often four or more quarters before, a bank failed. Such lead times seem long enough to signal to both banks and their supervisors that corrective actions can and should be taken. In addition, creditors generally seemed able to distinguish between very risky and safe banks. Indeed, the dynamics of liability shares at CAMELS 1 and 2 banks are consistent with creditors' ability to identify them as safe. Finally, these patterns are observed despite the substantial increases in deposit insurance limits and other guarantees that were implemented at the height of the crisis.

V. Tests for Price Discipline

Creditors may also exert market discipline on relatively risky banks by demanding higher risk premiums, particularly on uninsured funds. Conversely, risky banks may seek either to retain or attract funds by being willing to pay higher interest rates, again particularly on uninsured funds. Acharya and Mora (2011) report that riskier banks had some success raising rates to attract deposits during the early part of the crisis. However, Ben-David, Palvia, and Spatt (2011) argue that as the crisis evolved, PD became inoperative; and Berger and Turk-Ariss (2012) find that PD probably declined during and after the crisis. Consistent with the literature established before the crisis, these newer results reach a similar conclusion—PD tends to dominate at relatively low levels of bank risk but that QD becomes more likely as tangible signs of serious weakness begin to appear.

To test for PD, in principle we would compute a variety of spreads between interest rates on uninsured and insured liabilities at each bank. Then we would test whether, ceteris paribus, these spreads are positively related to bank risk and whether higher spreads succeeded in either attracting or retaining uninsured claims. In practice, our research strategy is driven by the fact that the only interest rates we can

compute at our sample banks are very rough estimates of the average costs of uninsured and insured deposits as provided in Call Reports.[45]

Using these data, we conducted a number of tests for PD on the spread between the average interest rate on uninsured and insured deposits at individual banks in a given quarter.[46] On balance, the results provide at best only weak evidence that PD was somewhat operative at our sample banks during the crisis.

Spreads between the average interest rate on uninsured and insured deposits are, by and large, positive across all four bank groups (one of the groups is CAMELS 3 banks). Thus, perhaps the weakest condition for the existence of PD is supported. However, the spreads seem rather modest, virtually always less than about 50 basis points, and they even decline in the course of the crisis to around 30 basis points.[47] More importantly, a stronger condition for the existence of PD, the condition that spreads should be larger at riskier banks, is rejected. Finally, tests for whether banks were either forced by creditors or chose on their own to use higher spreads to attract or retain uninsured deposits suggest that all four groups made such adjustments. However, it does not appear that the riskiest banks differed much from the safest banks in the amount of PD imposed.[48]

Whatever the interpretation, it is unclear how much credence to put into these PD results. On the one hand, the results are roughly consistent with previous findings that PD was weak or even nonexistent

[45] Almost all studies of PD that use deposit data suffer from this constraint. Partly for this reason, some authors have abandoned deposit data and examined the spread between yields on subordinated debt and comparable Treasury securities. That research strategy limits the analyst to relatively large banks that issue traded debt and is therefore not a strategy available to us.

[46] The results are available on request from the authors.

[47] Inspection of spreads between a sample of jumbo (partially uninsured) and nonjumbo deposit rates from a RateWatch database (https://www.rate-watch.com/) suggests our spread magnitudes are reasonable. RateWatch spreads were typically well under 100 basis points during the crisis. Indeed, many banks in the RateWatch sample did not post differences in rates between (partially) uninsured deposits and insured deposits.

[48] Back-of-the-envelope calculations suggest that, consistent with Maechler and McDill (2006), the CAMELS 1 and 2 banks had a somewhat easier time using spreads to attract uninsured deposits than did very risky banks.

during the crisis. On the other hand, our QD results indicate that creditors were generally able to distinguish between very risky and safe banks and thus had the knowledge to demand substantial risk premiums if warranted. Perhaps most important, using average cost data to test a hypothesis that is most likely to be observed in marginal prices is highly problematic. On balance, we conclude that our PD results should be viewed as at most only suggestive of weak price discipline during the crisis.

VI. Conclusion and Policy Implications

Based on a unique dataset of the FDIC's expectations about losses to uninsured creditors in banks that failed during the 2008-2010 crisis, we hypothesize that the categories of liabilities most likely to exhibit evidence of market discipline are uninsured deposits, insured deposits, and general creditor claims. Empirical tests using all liability categories at both failed and non-failed banks are consistent with quantity market discipline, in which liability holders monitor their banks and reallocate their portfolios in ways that protect them from losses. These portfolio reallocations tend to begin far enough in advance to signal both to banks and to their supervisors that corrective actions can and should be taken. Although interest rates on uninsured deposits could provide similar signals and discipline, our results suggest that the data needed to reliably do price analysis are not readily available. However, consistent with the literature, our results also suggest that during the crisis, quantity discipline was relatively strong and price market discipline was relatively weak.

Our findings support several important policy implications. First, they strongly reinforce and enrich the view long held by bank supervisors and market participants that bank liability flows are powerful indicators of a bank's health.[49] Our results emphasize that the shares of liabilities held in uninsured and insured deposits and general creditor claims should be monitored as part of supervisory early-warning systems for community and medium-sized banks. Second, although most of the failures from 2008 to 2010 period were of community and medium-sized banks, it seems reasonable to conclude that such advice applies to the monitoring of larger banks as well.

[49] Acharya and Mora (2011) reach a similar conclusion.

An important corollary of these implications relates to regulatory collection and disclosure of data. Our results indicate that supervisory data collections should explicitly include quantity flows by creditor categories, particularly insured and uninsured deposits, and that accurate disclosure of such data would encourage market discipline.[50] Indeed, the difficulties we experienced constructing such at-risk claims from currently available data argue strongly that appropriate changes in regulatory data collection and disclosure should be important policy priorities. These conclusions hold with even more force for current regulatory collections of data on interest rates paid on similar categories of bank liabilities, i.e. insured and uninsured deposits.

Finally, our findings support the view that market discipline can be an effective complement to safety-and-soundness supervision by bank regulators. We are not suggesting that market discipline before and during the crisis was enough by itself to control bank risk. Clearly, many banks failed and many others became severely troubled. However, many troubled banks recovered, and our results are consistent with the conclusion that market discipline is potentially important when creditors are at risk of loss. More generally, our results support the view that policymakers' active encouragement of market discipline will be beneficial

[50] Schaeck (2008) reaches the same conclusion in his study of FDIC losses and their relationship to bank liability structure.

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Table 1
Number of Bank Failures by Quarter and Region

	Region					
	(1)	(2)	(3)	(4)	(5)	(6)
Quarter	Northeast	South	Midwest	Southwest	West	All
2008Q1	0	0	2	0	0	2 (0.6)
2008Q2	0	1	1	0	0	2 (0.6)
2008Q3	0	3	1	0	4	8 (2.5)
2008Q4	0	5	2	2	3	12 (3.8)
2009Q1	1	6	5	0	9	21 (6.6)
2009Q2	1	8	7	0	8	24 (7.5)
2009Q3	4	16	17	6	7	50 (15.7)
2009Q4	0	16	15	5	9	45 (14.2)
2010Q1	3	15	9	3	11	41 (12.9)
2010Q2	1	12	18	2	9	42 (13.2)
2010Q3	4	19	8	1	9	41 (12.9)
2010Q4	3	13	8	2	4	30 (9.4)
All	17 (5.3)	114 (35.8)	93 (29.2)	21 (6.6)	73 (23.0)	318 (100.0)

Notes:

1. The Northeast region includes Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Deleware, Maryland, and DC. The South includes West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Tennessee, and Kentucky. Midwest includes Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, and South Dakota. The Southwest includes Oklahama, Texas, New Mexico, and Arizona. The West includes California, Oregon, Washington, Idaho, Montana, Wyoming, Colarado, Utah, Nevada, Alaska, and Hawaii.

2. The parenthetical numbers in column 6 and in the final row are percentages.

Table 2
Number of Bank Failures by Resolution Type and Size, 2008 to 2010

	Total Assets (TA) Size Class			
Resolution Type	**(1) TA < $1B**	**(2) $1B <= TA <= $10B**	**(3) TA > $10B**	**(4) All**
PAL	179	33	6	218 (68.6)
PA	67	4	0	71 (22.3)
PI	7	3	1	11 (3.5)
PO	14	4	0	18 (5.7)
All	267 (84.0)	44 (13.8)	7 (2.2)	318 (100.0)

Notes:
1. PAL is a purchase and assumption transaction with FDIC loss sharing. PA is a purchase and assumption transaction without FDIC loss sharing. PI is a purchase and assumption transaction where the acquirer assumes only insured deposits on the liabilities side of the failed bank's balance sheet. PO is a deposit payout transaction.
2. The parenthetical numbers in column 4 and in the final row are percentages.

Table 3
Expected Loss Rates by Resolution Type and Claims Category, 2008 to 2010

Resolution Type	Claims Category (1) FDIC	(2) Uninsured Deposits	(3) GCC	(4) Sub Debt	(5) Secured Claims
Panel A: Mean and Standard Deviation of Expected Loss Rates[1]					
PAL	25.8	0.0	96.8	100.0	0.0
	(10.7)	(-)	(20.1)	(-)	(-)
PA	33.3 ***	0.0	98.6	100.0	0.0
	(13.8)	(-)	(11.9)	(-)	(-)
PI	28.8	28.4	100.0	100.0	0.0
	(12.2)	(12.8)	(-)	(-)	(-)
PO	37.8 ***	38.4 +	94.4	100.0	0.0
	(12.9)	(14.0)	(23.6)	(-)	(-)
All	28.3	34.4	97.2	100.0	0.0
	(12.2)	(14 .2)	(18 .4)	(-)	(-)
Panel B: Number of Observations					
PAL	218	0	216	18	197
PA	71	0	71	2	60
PI	11	10	11	2	11
PO	18	15	18	1	12
All	318	25	316	23	280
Panel C: Percent of Total Claims					
Mean	89.9	2.3	0.7	1.2	10.4
Std Deviation	(8 .6)	(4 .3)	(1 .0)	(0 .8)	(8 .1)

Notes:
1. Mean percent of total claims in a category. Standard deviations in parentheses.
*** Significantly different from PAL at the one percent confidence level; ** at the five percent level.
+ Significantly different from PI at the ten percent confidence level.

Table 4
FDIC Claims
Failed Banks at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Failure)	83.0***	48.0**	51.6***	54.0***	56.5***	57.6***	66.2***	65.0***
Seven Quarters before Failure	-0.7	-2.8***	-0.4	3.8	-0.7	3.2	-0.0	-2.5***
Six Quarters before Failure	-2.3*	-1.6	0.0	4.2	-1.8	2.7	2.3**	-3.2*
Five Quarters before Failure	-3.0	37.1	1.0	7.5*	3.2	3.1	1.9*	-0.4
Four Quarters before Failure	-3.6	36.3	4.9**	7.2*	4.8	4.1	6.8***	2.9**
Three Quarters before Failure	-3.6***	34.5	10.6**	5.0	5.2	6.2	7.9***	4.3***
Two Quarters before Failure	-5.0***	36.1	17.3***	17.6***	9.4*	7.9*	9.4***	6.0***
One Quarter before Failure	-2.8	39.3	25.5***	15.3***	12.8**	8.8**	9.6***	17.9***
Number of Banks	2	2	8	12	21	24	50	45
R-Squared	0.951	0.950	0.951	0.952	0.952	0.953	0.956	0.954

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Failure)	66.5***	63.8***	66.8***	66.6***	84.8***	84.1***	82.7***	82.0***
Seven Quarters before Failure	1.0	3.5**	1.2**	0.8				
Six Quarters before Failure	3.4***	3.5*	2.4***	3.1*				
Five Quarters before Failure	4.3***	6.2***	3.3***					
Four Quarters before Failure	5.0***	6.1***						1.3
Three Quarters before Failure	6.9***						1.5**	2.8***
Two Quarters before Failure						-0.0	2.4***	2.3**
One Quarter before Failure					1.1*	2.5***	3.6***	4.3***
Number of Banks	41	42	41	30	41	42	41	30
R-Squared	0.954	0.955	0.956	0.956	0.971	0.971	0.972	0.972

Table 5
FDIC Claims
CAMELS 4 and 5 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Quarter t)	69.7***	68.9***	67.7***	67.0***	67.0***	67.1***	66.0***	65.2***
Seven Quarters before Quarter t	0.1	-0.1	0.0	1.9***	0.4	-0.3	-0.7***	0.4*
Six Quarters before Quarter t	0.7	0.1	2.0***	2.3***	0.3	-0.8***	-0.1	0.6*
Five Quarters before Quarter t	1.1	1.8*	2.1***	1.8***	-0.1	-0.2	0.3	2.1***
Four Quarters before Quarter t	3.4**	2.6**	1.7**	1.7**	0.1	0.5	1.9***	2.7***
Three Quarters before Quarter t	4.4***	2.1*	1.9**	2.4***	0.8	2.0***	2.5***	3.8***
Two Quarters before Qarter t	4.0***	2.5**	2.4***	3.3***	2.6***	2.8***	3.5***	4.4***
One Quarter before Quarter t	4.4***	3.0**	3.7***	5.1***	3.2***	3.6***	4.1***	15.7***
Number of Banks	76	98	142	185	264	370	493	586
R-Squared	0.951	0.951	0.950	0.951	0.952	0.952	0.953	0.956

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Quarter t)	66.0***	66.0***	66.8***	67.2***	80.7***	80.5***	80.2***	80.2***
Seven Quarters before Quarter t	0.1	1.2***	0.3	1.0***				
Six Quarters before Quarter t	1.4***	1.6***	1.4***	1.4***				
Five Quarters before Quarter t	1.9***	2.7***	1.7***					
Four Quarters before Quarter t	3.0***	3.1***						0.7***
Three Quarters before Quarter t	3.4***						0.6***	1.7***
Two Quarters before Quarter t						0.6***	1.6***	2.3***
One Quarter before Quarter t					0.8***	1.6***	2.3***	3.1***
Number of Banks	666	740	761	762	666	740	761	762
R-Squared	0.954	0.955	0.956	0.956	0.971	0.971	0.972	0.972

Table 6
FDIC Claims
CAMELS 1 and 2 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Quarter t)	71.2***	71.4***	71.3***	71.3***	72.2***	72.2***	71.9***	71.3***
Seven Quarters before Quarter t	0.1**	-0.2***	-0.0	0.6***	-0.1**	-0.5***	-0.7***	0.1
Six Quarters before Quarter t	-0.1*	-0.3***	0.5***	0.5***	-0.7***	-1.2***	-0.6***	-0.5***
Five Quarters before Quarter t	-0.2**	0.3***	0.4***	-0.0	-1.4***	-1.2***	-1.2***	-0.5***
Four Quarters before Quarter t	0.4***	0.2**	-0.1	-0.8***	-1.3***	-1.7***	-1.2***	-0.9***
Three Quarters before Quarter t	0.3***	-0.4***	-0.8***	-0.7***	-1.8***	-1.7***	-1.6***	-0.4***
Two Quarters before Quarter t	-0.2**	-1.1***	-0.8***	-1.2***	-1.8***	-2.1***	-1.1***	-0.4***
One Quarter before Quarter t	-0.9***	-1.0***	-1.3***	-1.2***	-2.2***	-1.6***	-1.2***	8.9***
Number of Banks	6,537	6,402	6,235	6,059	5,859	5,653	5,401	5,200
R-Squared	0.951	0.951	0.950	0.951	0.952	0.952	0.953	0.956

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Quarter t)	71.5***	71.0***	70.8***	70.4***	80.3***	80.3***	80.3***	80.3***
Seven Quarters before Quarter t	-0.5***	-0.1*	-0.4***	0.5***				
Six Quarters before Quarter t	-0.6***	-0.5***	0.2**	0.5***				
Five Quarters before Quarter t	-1.0***	0.0	0.1					
Four Quarters before Quarter t	-0.5***	0.0						-0.2***
Three Quarters before Quarter t	-0.5***						-0.2***	0.2***
Two Quarters before Quarter t						-0.2***	0.2***	0.2***
One Quarter before Quarter t					-0.2***	0.2**	0.2***	0.1
Number of Banks	5,048	4,944	4,909	4,864	5,048	4,944	4,909	4,864
R-squared	0.954	0.955	0.956	0.956	0.971	0.971	0.972	0.972

Table 7
Uninsured Claims
Failed Banks at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Failure)	2.3***	32.3*	24.9***	31.9***	30.1***	27.7***	21.5***	20.8***
Seven Quarters before Failure	-0.5	-1.0*	1.2	-2.3	0.0	-3.9	-1.1	-0.6
Six Quarters before Failure	-0.9	1.8	3.2**	-2.4	0.2	-4.8	-2.7***	-0.1
Five Quarters before Failure	-0.4	-27.1	1.7	-7.1	-4.8	-4.9	-2.1*	-2.5**
Four Quarters before Failure	0.8	-26.5	-0.8	-6.3	-6.5	-4.5	-6.6***	-4.1***
Three Quarters before Failure	-0.6	-23.7	-0.9	-0.8	-7.4	-5.1	-5.9***	-2.1
Two Quarters before Failure	-0.7	-26.3	-6.8*	-13.1***	-11.5**	-6.7	-4.0**	-2.5
One Quarter before Failure	-0.2	-22.8	-11.8***	-11.2***	-13.6***	-4.1	-3.5*	-13.6***
Number of Banks	2	2	8	12	21	24	50	45
R-Squared	0.586	0.611	0.635	0.604	0.613	0.641	0.665	0.627

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Failure)	20.4***	22.8***	20.8***	20.6***	6.8***	6.3***	8.0***	8.1***
Seven Quarters before Failure	-0.8	-2.9**	-0.2	0.6				
Six Quarters before Failure	-2.5**	-2.8	-0.2	-0.9				
Five Quarters before Failure	-2.9**	-4.2**	-1.2					
Four Quarters before Failure	-2.0	-3.0*						-1.3
Three Quarters before Failure	-3.4**						-0.9	-1.3
Two Quarters before Failure						0.8	-0.5	-0.7
One Quarter before Failure					-1.1**	-0.6	-1.6*	-2.3*
Number of Banks	41	42	41	30	41	42	41	30
R-Squared	0.644	0.645	0.650	0.655	0.410	0.487	0.519	0.416

Table 8
Uninsured Claims
CAMELS 4 and 5 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Quarter t)	17.8***	18.8***	19.9***	20.3***	20.6***	20.7***	21.2***	21.3***
Seven Quarters before Quarter t	-0.2	0.3	0.2	-1.5***	-0.7**	-0.4*	0.2	-0.8***
Six Quarters before Quarter t	-0.8	0.5	-1.3*	-2.1***	-1.2***	-0.5	-0.8**	-1.9***
Five Quarters before Quarter t	-0.8	-0.7	-1.6**	-2.0***	-1.4***	-1.2***	-2.1***	-3.0***
Four Quarters before Quarter t	-2.5*	-1.2	-1.3*	-2.2***	-1.7***	-2.6***	-3.2***	-3.0***
Three Quarters before Quarter t	-3.4**	-0.9	-1.5*	-3.3***	-2.9***	-3.7***	-3.1***	-2.9***
Two Quarters before Quarter t	-3.2**	-1.3	1.2	-4.2***	-4.3***	-3.5***	-0.4	-2.7***
One Quarter before Quarter t	-3.7**	1.8	-0.1	-5.6***	-4.0***	-0.7	-0.4	-13.2***
Number of Banks	76	98	142	185	264	370	493	586
R-Squared	0.586	0.611	0.635	0.604	0.613	0.641	0.665	0.627

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Quarter t)	20.2***	19.6***	19.0***	19.2***	8.2***	8.5***	8.7***	8.8***
Seven Quarters before Quarter t	-1.0***	-0.9***	0.1	0.3*				
Six Quarters before Quarter t	-2.0***	-0.9***	0.5*	0.4*				
Five Quarters before Quarter t	-2.0***	-0.6**	0.6**					
Four Quarters before Quarter t	-1.7***	-0.4						-0.2
Three Quarters before Quarter t	-1.5***						-0.2	-0.6***
Two Quarters before Quarter t						-0.1	1.5***	-0.8***
One Quarter before Quarter t					-0.2	1.5***	1.3***	-1.3***
Number of Banks	666	740	761	762	666	740	761	762
R-Squared	0.644	0.645	0.650	0.655	0.410	0.487	0.519	0.416

Table 9
Uninsured Claims
CAMELS 1 and 2 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4
Constant (Eight Quarters before Quarter t)	16.0***	15.4***	15.4***	15.9***	15.5***	15.0***	15.1***	15.4***
Seven Quarters before Quarter t	-0.6***	0.1**	0.6***	-0.2***	-0.2***	0.1*	0.5***	-0.1*
Six Quarters before Quarter t	-0.5***	0.7***	0.3***	-0.5***	-0.1**	0.5***	0.4***	-0.2**
Five Quarters before Quarter t	0.1	0.5***	0.1	-0.4***	0.3***	0.4***	0.3***	-0.5***
Four Quarters before Quarter t	-0.2**	0.2***	0.2**	0.0	0.2**	0.3***	-0.0	0.1
Three Quarters before Quarter t	-0.4***	0.3***	0.6***	-0.1	0.1	-0.0	0.6***	0.6***
Two Quarters before Quarter t	-0.4***	0.7***	5.6***	-0.2**	-0.3***	0.6***	6.1***	0.7***
One Quarter before Quarter t	0.1	5.7***	5.4***	-0.6***	0.3***	6.1***	6.2***	-7.8***
Number of Banks	6,537	6,402	6,235	6,059	5,859	5,653	5,401	5,200
R-Squared	0.586	0.611	0.635	0.604	0.613	0.641	0.665	0.627

	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
Constant (Eight Quarters before Quarter t)	15.3***	15.3***	15.1***	15.8***	7.6***	7.6***	7.7***	7.7***
Seven Quarters before Quarter t	-0.1*	-0.2***	0.6***	0.4***				
Six Quarters before Quarter t	-0.4***	0.4***	1.0***	0.5***				
Five Quarters before Quarter t	0.3***	0.8***	1.1***					
Four Quarters before Quarter t	0.7***	0.9***						0.4***
Three Quarters before Quarter t	0.8***						0.4***	0.4***
Two Quarters before Quarter t						0.4***	5.0***	0.5***
One Quarter before Quarter t					0.4***	5.0***	5.0***	0.7***
Number of Banks	5,048	4,944	4,909	4,864	5,048	4,944	4,909	4,864
R-Squared	0.644	0.645	0.650	0.655	0.410	0.487	0.519	0.416

Table 10
General Creditor Claims
Failed Banks at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4
Constant (Eight Quarters before Failure)	0.7*	0.8***	1.2**	0.6***	0.6***	3.8	1.3***	2.7**	1.8**	1.0***	0.9***	0.8***
Seven Quarters before Failure	0.0	0.3*	10.1	0.9	0.2	0.5	0.8**	1.2	-0.2	-0.2	-0.3**	-0.3*
Six Quarters before Failure	-0.0	0.0	8.4	0.8**	0.4**	0.4**	-0.2	0.4	-0.6	-0.4*	-0.4***	-0.2*
Five Quarters before Failure	1.0**	-0.2***	9.0	0.4	0.2	0.3	0.1	-0.6	-0.8*	-0.2	-0.3*	-0.4**
Four Quarters before Failure	0.9	1.4	7.5	0.4**	0.2	-0.5	-0.3	-0.9*	-1.1	-0.5**	-0.3**	-0.3
Three Quarters before Failure	2.4***	-0.5***	2.5	0.5	-0.1	-1.0	-0.6***	-1.3**	-1.1	-0.5**	-0.4**	-0.4
Two Quarters before Failure	3.9***	-0.2	2.3	0.8	-0.2	-0.2	-0.7***	-1.6*	-1.2*	-0.5**	-0.4***	-0.3
One Quarter before Failure	0.5	-0.4**	0.3	-0.2	0.1	-2.0	-0.7***	-1.9*	-1.0	-0.4	-0.4**	-0.3
Number of Banks	2	2	8	12	21	24	50	45	41	42	41	30
R-Squared	0.049	0.051	0.055	0.056	0.058	0.058	0.058	0.058	0.057	0.057	0.055	0.053

Table 11
General Creditor Claims
CAMELS 4 and 5 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4
Constant (Eight Quarters before Quarter t)	0.6***	0.5***	0.6***	1.7***	1.8***	1.7***	1.6***	1.7***	1.4***	1.7***	1.4***	1.1***
Seven Quarters before Quarter t	0.0	0.0*	0.4***	-0.2	0.1	-0.0	0.1**	-0.1	0.2***	-0.3**	-0.3**	-0.2**
Six Quarters before Quarter t	-0.0	0.3***	0.2***	-0.1	0.0	0.2	-0.1	0.1	-0.1	-0.6***	-0.4***	-0.0
Five Quarters before Quarter t	0.6**	0.3***	0.5***	-0.1	0.1	-0.0	0.2**	-0.3	-0.4**	-0.8***	-0.3***	-0.0
Four Quarters before Quarter t	0.4***	0.3***	0.4***	-0.1	0.0	0.2	-0.1	-0.6***	-0.5***	-0.6***	-0.3**	-0.1*
Three Quarters before Quarter t	0.5***	0.3***	0.5***	0.1	0.2	-0.1	-0.5**	-0.6***	-0.4***	-0.6***	-0.4***	-0.2***
Two Quarters before Quarter t	0.5***	0.3***	0.6**	-0.1	-0.2	-0.7**	-0.5**	-0.5***	-0.4***	-0.7***	-0.5***	-0.3***
One Quarter before Quarter t	0.9**	0.4**	0.4***	-0.6	-0.8*	-0.6**	-0.3**	-0.5***	-0.5***	-0.8***	-0.5***	-0.3***
Number of Banks	76	98	142	185	264	370	493	586	666	740	761	762
R-Squared	0.049	0.051	0.055	0.056	0.058	0.058	0.058	0.058	0.057	0.057	0.055	0.053

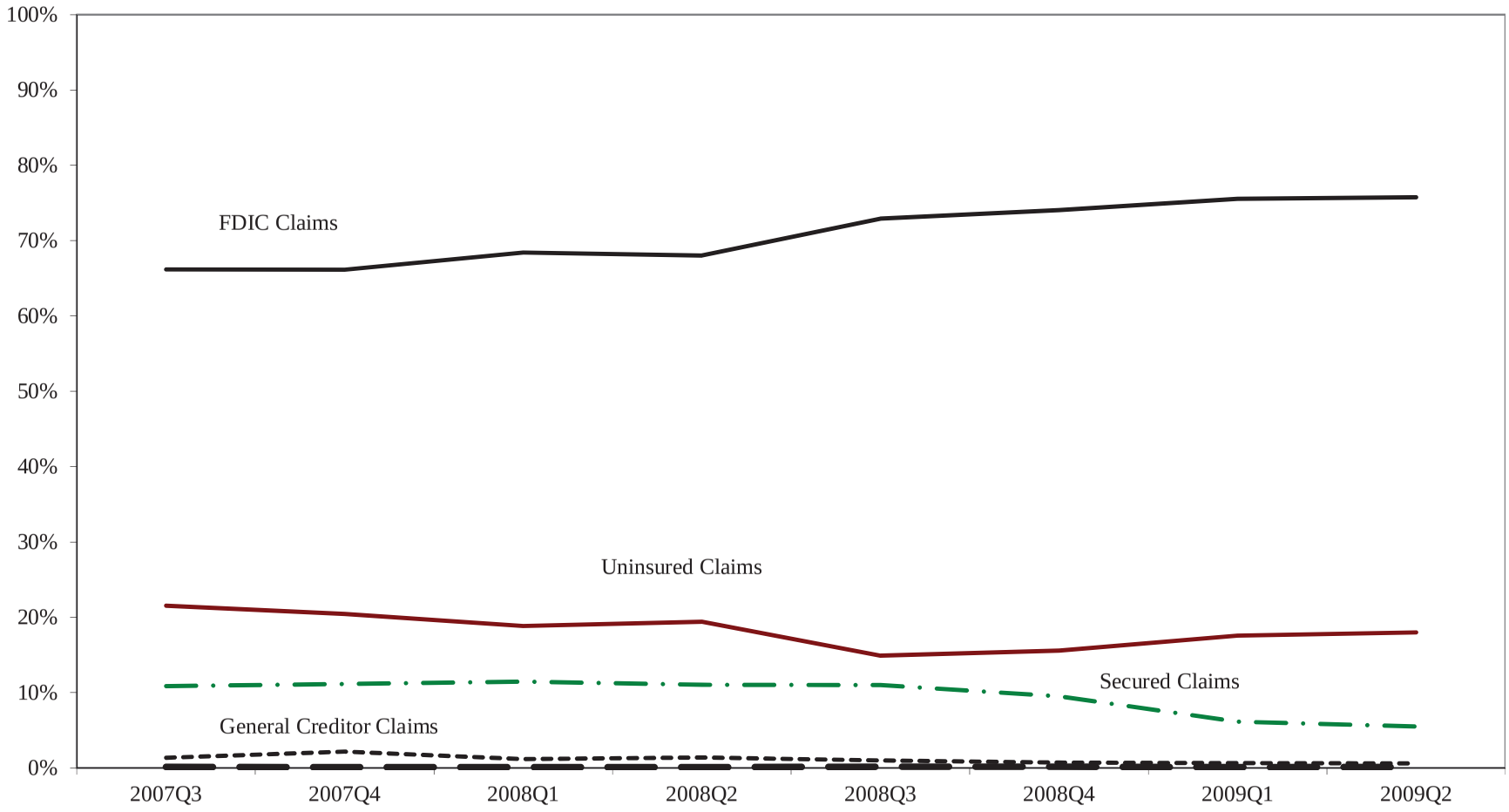
Table 12
General Creditor Claims
CAMELS 1 and 2 at Quarter t

***=Significantly different from zero at the 99 percent confidence level; **=at the 95 percent confidence level; * at the 90 percent confidence level. Darkly shaded cells indicate negative and significant coeffients and lightly shaded cells indicate positive and significant coeffients.

	(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4
Constant (Eight Quarters before Quarter t)	1.0***	0.9***	1.0***	1.7***	1.6***	1.7***	1.8***	1.8***	1.7***	1.8***	1.8***	1.8***
Seven Quarters before Quarter t	0.0	0.1***	0.7***	-0.1***	0.1***	0.1***	-0.0	-0.1***	0.2***	0.0	-0.1**	-0.2***
Six Quarters before Quarter t	0.1***	0.8***	0.6***	0.0	0.2***	0.1***	-0.2***	0.1*	0.2***	-0.0	-0.2***	-0.1***
Five Quarters before Quarter t	0.8***	0.7***	0.7***	0.1***	0.2***	-0.0	0.0	0.1*	0.1**	-0.2***	-0.2***	-0.1**
Four Quarters before Quarter t	0.7***	0.8***	0.8***	0.1***	0.1*	0.2***	0.1	0.0	-0.1	-0.2***	-0.2***	-0.2***
Three Quarters before Quarter t	0.8***	0.9***	0.8***	-0.0	0.3***	0.2***	-0.0	-0.1***	-0.0	-0.2***	-0.3***	-0.3***
Two Quarters before Quarter t	0.9***	0.9***	0.7***	0.2***	0.3***	0.1*	-0.2***	-0.1**	-0.0	-0.3***	-0.4***	-0.3***
One Quarter before Quarter t	0.9***	0.8***	0.9***	0.2***	0.2***	-0.1*	-0.2***	-0.1*	-0.1**	-0.4***	-0.3***	-0.2***
Number of Banks	6,537	6,402	6,235	6,059	5,859	5,653	5,401	5,200	5,048	4,944	4,909	4,864
R-Squared	0.049	0.051	0.055	0.056	0.058	0.058	0.058	0.058	0.057	0.057	0.055	0.053

Figure 1: Example of Changes in Composition of Liabilities Ending 2009Q3

Failed Banks, Amount of Claims as a Percentage of Total Claims (Average)



Appendix A
Definition of Receivership Claims

FDIC Claim	*Total Deposits + Interest Accrued on Deposits and Unpaid − Uninsured Deposits - Foreign Deposits*
Uninsured Claims	*Uninsured Deposits − Preferred Deposits*
General Creditor Claims	*Other Liabilities + Trading Liabilities + Foreign Deposits − Interest Accrued on Deposits and Unpaid*
Subordinated Claims	*Subordinated Notes and Debentures*
Secured Claims	*FHLB Advances + Preferred Deposits + Secured Fed Funds and Repos Purchased + Minority Interest in Consolidated Subs + Other Secured Borrowing*

		Call Report Line Items Used
Total Deposits		Schedule RC, Line 13 (RC 13)
Interest Accrued on Deposits and Unpaid		RC-G 1.a
Uninsured Deposits	For 2005Q4-2006Q1: Amount of large deposit accounts less $100,000 times the number of large deposit accounts	RC-O 1.b(1), 1.b(2), 1.d(1), 1.d(2)
	For 2006Q2-2009Q2: Amount of large deposit accounts less $100,000 times the number of large deposit accounts plus the amount of large deposit retirement accounts less $250,000 times the number of large deposit reitrement accounts	
	For 2009Q3 and after: Amount of large deposit accounts less $250,000 times the number of large deposit accounts plus the amount of large deposit retirement accounts less $250,000 times the number of large deposit reitrement accounts	
Foreign Deposits		RC 13.b
Preferred Deposits	Linear interpolation between year-end reported values.	RC-E 1.e
Other Liabilities	For 2005Q4-2006Q3 For 2006Q4 and after: Includes *Other Unsecured Borrowing* and *Unsecured Federal Funds*	RC 20
Secured Fed Funds and Repos Purchased	For 2006Q3 and before: Fed Funds and Repos Purchased	RC 14
	For 2006Q4 and after: The amount of fed funds purchased that are secured by pledged securities plus securities sold under agreements to repurchase on a consolidated basis	RC-M 10.a, RC-14.b
Unsecured Federal Funds	For 2006Q4 and after: Fed funds and repos purchasef less the amount of fed funds purchased that are secured.	RC 14.a, RC-M 10.a
	For 2006Q3 and before: not defined	
Other Unsecured Borrowing	For 2006Q4 or after: Other borrowed money less the amount of other borrowings that are secured by pledged securities less other liabilities from the FHLB	RC-M 5.c, 10.b, 5.a
	For 2006Q3 and before: not defined	
Trading Liabilities		RC 15
Subordinated Notes and Debentures		RC 19
FHLB Advances		RC-M 5.a
Minority Interest in Consolidated Subs	For 2005Q4-2006Q3 For 2006Q4 and after:	RC 22 RC 27.b
Other Secured Borrowing	For 2005Q4 and before: Bank's liability on acceptances plus other borrowings	RC 18, RC-M 5.b
	For 2006Q1-2006Q3: Other borrowings	RC-M 5.b
	For 2006Q4 and after: The amount of other borrowing that are secured	RC-M 10.b

Appendix B.1
FDIC Claims

***=Significantly different from zero at the 99 percent confidence level; **=at 95 percent confidence level; *=at 90 percent confidence level

		(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
CAMELS 1,2	Constant (Eight Quarters before Quarter t)	71.2***	71.4***	71.3***	71.3***	72.2***	72.2***	71.9***	71.3***	71.5***	71.0***	70.8***	70.4***	80.3***	80.3***	80.3***	80.3***
	Seven Quarters before Quarter t	0.1**	-0.2***	-0.0	0.6***	-0.1**	-0.5***	-0.7***	0.1	-0.5***	-0.1*	-0.4***	0.5***				
	Six Quarters before Quarter t	-0.1*	-0.3***	0.5***	0.5***	-0.7***	-1.2***	-0.6***	-0.5***	-0.6***	-0.5***	0.2**	0.5***				
	Five Quarters before Quarter t	-0.2**	0.3***	0.4***	-0.0	-1.4***	-1.2***	-1.2***	-0.5***	-1.0***	0.0	0.1					
	Four Quarters before Quarter t	0.4***	0.2**	-0.1	-0.8***	-1.3***	-1.7***	-1.2***	-0.9***	-0.5***	0.0						-0.2***
	Three Quarters before Quarter t	0.3***	-0.4***	-0.8***	-0.7***	-1.8***	-1.7***	-1.6***	-0.4***	-0.5***						-0.2***	0.2***
	Two Quarters before Quarter t	-0.2**	-1.1***	-0.8***	-1.2***	-1.8***	-2.1***	-1.1***	-0.4***						-0.2***	0.2***	0.2***
	One Quarter before Quarter t	-0.9***	-1.0***	-1.3***	-1.2***	-2.2***	-1.6***	-1.2***	8.9***					-0.2***	0.2**	0.2***	0.1
CAMELS 3	Constant (Eight Quarters before Quarter t)	68.5***	68.3***	67.1***	66.7***	67.6***	67.4***	67.2***	66.7***	67.2***	67.3***	68.1***	67.8***	78.7***	78.9***	79.0***	79.0***
	Seven Quarters before Quarter t	0.2	-0.2	0.1	0.8***	0.2	-0.6***	-0.4***	0.4**	-0.3***	0.9***	-0.2	0.6***				
	Six Quarters before Quarter t	-0.0	-0.0	0.9***	0.8***	-0.2	-1.0***	-0.0	0.2	0.5***	0.7***	0.4**	0.6***				
	Five Quarters before Quarter t	0.5	0.7**	1.1***	0.8***	-0.6**	-0.5*	-0.3	1.0***	0.4**	1.3***	0.4**					
	Four Quarters before Quarter t	1.1**	1.0***	1.1***	0.6*	-0.2	-0.8***	0.6**	0.9***	1.0***	1.3***						0.1
	Three Quarters before Quarter t	1.2***	1.2***	0.8**	0.9**	-0.3	0.1	0.6*	1.6***	1.0***						0.1	0.7***
	Two Quarters before Quarter t	1.5***	0.8**	1.2***	0.9**	0.6*	0.3	1.4***	1.7***						0.1	0.7***	0.8***
	One Quarter before Quarter t	1.2**	1.4***	1.2***	1.8***	0.8**	1.4***	1.7***	12.1***					0.2	0.9***	0.8***	1.0***
CAMELS 4, 5	Constant (Eight Quarters before Quarter t)	69.7***	68.9***	67.7***	67.0***	67.0***	67.1***	66.0***	65.2***	66.0***	66.0***	66.8***	67.2***	80.7***	80.5***	80.2***	80.2***
	Seven Quarters before Quarter t	0.1	-0.1	0.0	1.9***	0.4	-0.3	-0.7***	0.4*	0.1	1.2***	0.3	1.0***				
	Six Quarters before Quarter t	0.7	0.1	2.0***	2.3***	0.3	-0.8***	-0.1	0.6*	1.4***	1.6***	1.4***	1.4***				
	Five Quarters before Quarter t	1.1	1.8*	2.1***	1.8***	-0.1	-0.2	0.3	2.1***	1.9***	2.7***	1.7***					
	Four Quarters before Quarter t	3.4**	2.6**	1.7**	1.7**	0.1	0.5	1.9***	2.7***	3.0***	3.1***						0.7***
	Three Quarters before Quarter t	4.4***	2.1*	1.9**	2.4***	0.8	2.0***	2.5***	3.8***	3.4***						0.6***	1.7***
	Two Quarters before Quarter t	4.0***	2.5**	2.4***	3.3***	2.6***	2.8***	3.5***	4.4***						0.6***	1.6***	2.3***
	One Quarter before Quarter t	4.4***	3.0**	3.7***	5.1***	3.2***	3.6***	4.1***	15.7***					0.8***	1.6***	2.3***	3.1***
Failed Banks	Constant (Eight Quarters before Failure)	83.0***	48.0**	51.6***	54.0***	56.5***	57.6***	66.2***	65.0***	66.5***	63.8***	66.8***	66.6***	84.8***	84.1***	82.7***	82.0***
	Seven Quarters before Failure	-0.7	-2.8***	-0.4	3.8	-0.7	3.2	-0.0	-2.5***	1.0	3.5**	1.2**	0.8				
	Six Quarters before Failure	-2.3*	-1.6	0.0	4.2	-1.8	2.7	2.3**	-3.2*	3.4***	3.5*	2.4***	3.1*				
	Five Quarters before Failure	-3.0	37.1	1.0	7.5*	3.2	3.1	1.9*	-0.4	4.3***	6.2***	3.3***					
	Four Quarters before Failure	-3.6	36.3	4.9**	7.2*	4.8	4.1	6.8***	2.9**	5.0***	6.1***						1.3
	Three Quarters before Failure	-3.6***	34.5	10.6**	5.0	5.2	6.2	7.9***	4.3***	6.9***						1.5**	2.8***
	Two Quarters before Failure	-5.0***	36.1	17.3***	17.6***	9.4*	7.9*	9.4***	6.0***						-0.0	2.4***	2.3**
	One Quarter before Failure	-2.8	39.3	25.5***	15.3***	12.8**	8.8**	9.6***	17.9***					1.1*	2.5***	3.6***	4.3***
Observations		56,240	56,064	55,880	55,704	55,824	55,880	56,128	55,976	42,024	35,010	28,016	20,853	14,008	21,006	28,016	34,755
Number of Banks		7,030	7,008	6,985	6,963	6,978	6,985	7,016	6,997	7,004	7,002	7,004	6,951	7,004	7,002	7,004	6,951
R-squared		0.951	0.951	0.950	0.951	0.952	0.952	0.953	0.956	0.954	0.955	0.956	0.956	0.971	0.971	0.972	0.972

Appendix B.2
Uninsured Claims

***=Significantly different from zero at the 99 percent confidence level; **=at 95 percent confidence level; *=at 90 percent confidence level

		(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4	(13) 2010Q1	(14) 2010Q2	(15) 2010Q3	(16) 2010Q4
CAMELS 1,2	Constant (Eight Quarters before Quarter t)	16.0***	15.4***	15.4***	15.9***	15.5***	15.0***	15.1***	15.4***	15.3***	15.3***	15.1***	15.8***	7.6***	7.6***	7.7***	7.7***
	Seven Quarters before Quarter t	-0.6***	0.1**	0.6***	-0.2***	-0.2***	0.1*	0.5***	-0.1*	-0.1*	-0.2***	0.6***	0.4***				
	Six Quarters before Quarter t	-0.5***	0.7***	0.3***	-0.5***	-0.1**	0.5***	0.4***	-0.2**	-0.4***	0.4***	1.0***	0.5***				
	Five Quarters before Quarter t	0.1	0.5***	0.1	-0.4***	0.3***	0.4***	0.3***	-0.5***	0.3***	0.8***	1.1***					
	Four Quarters before Quarter t	-0.2**	0.2***	0.2**	0.0	0.2**	0.3***	-0.0	0.1	0.7***	0.9***						0.4***
	Three Quarters before Quarter t	-0.4***	0.3***	0.6***	-0.1	0.1	-0.0	0.6***	0.6***	0.8***						0.4***	0.4***
	Two Quarters before Quarter t	-0.4***	0.7***	5.6***	-0.2**	-0.3***	0.6***	6.1***	0.7***						0.4***	5.0***	0.5***
	One Quarter before Quarter t	0.1	5.7***	5.4***	-0.6***	0.3***	6.1***	6.2***	-7.8***					0.4***	5.0***	5.0***	0.7***
CAMELS 3	Constant (Eight Quarters before Quarter t)	17.5***	17.9***	19.9***	20.9***	20.6***	20.8***	20.2***	20.0***	19.3***	18.5***	17.5***	18.1***	9.9***	9.7***	9.6***	9.6***
	Seven Quarters before Quarter t	-0.6**	0.4**	0.1	-0.3	-0.4*	-0.1	-0.4**	-0.6***	-0.5***	-1.1***	0.5***	0.6***				
	Six Quarters before Quarter t	-0.2	0.5**	-0.3	-0.6**	-0.6***	-0.4**	-1.0***	-1.2***	-1.5***	-0.5***	1.2***	1.0***				
	Five Quarters before Quarter t	-0.1	0.2	-0.6**	-1.1***	-0.9***	-1.0***	-1.6***	-2.2***	-0.9***	0.2	1.6***					
	Four Quarters before Quarter t	-0.3	-0.2	-1.1***	-1.4***	-1.4***	-1.6***	-2.5***	-1.7***	-0.3	0.6***						0.3***
	Three Quarters before Quarter t	-0.5	-0.7**	-1.3***	-1.8***	-2.2***	-2.6***	-2.2***	-1.0***	0.1						0.4***	0.4***
	Two Quarters before Quarter t	-1.1**	-0.8**	1.9***	-2.6***	-3.0***	-2.5***	1.7***	-0.7***						0.3**	3.3***	0.4***
	One Quarter before Quarter t	-1.1**	2.6***	1.2**	-3.4***	-2.9***	1.0**	1.9***	-10.2***					0.3**	3.2***	3.5***	0.5***
CAMELS 4, 5	Constant (Eight Quarters before Quarter t)	17.8***	18.8***	19.9***	20.3***	20.6***	20.7***	21.2***	21.3***	20.2***	19.6***	19.0***	19.2***	8.2***	8.5***	8.7***	8.8***
	Seven Quarters before Quarter t	-0.2	0.3	0.2	-1.5***	-0.7**	-0.4*	0.2	-0.8***	-1.0***	-0.9***	0.1	0.3*				
	Six Quarters before Quarter t	-0.8	0.5	-1.3*	-2.1***	-1.2***	-0.5	-0.8**	-1.9***	-2.0***	-0.9***	0.5*	0.4*				
	Five Quarters before Quarter t	-0.8	-0.7	-1.6**	-2.0***	-1.4***	-1.2***	-2.1***	-3.0***	-2.0***	-0.6**	0.6**					
	Four Quarters before Quarter t	-2.5*	-1.2	-1.3*	-2.2***	-1.7***	-2.6***	-3.2***	-3.0***	-1.7***	-0.4						-0.2
	Three Quarters before Quarter t	-3.4**	-0.9	-1.5*	-3.3***	-2.9***	-3.7***	-3.1***	-2.9***	-1.5***						-0.2	-0.6***
	Two Quarters before Quarter t	-3.2**	-1.3	1.2	-4.2***	-4.3***	-3.5***	-0.4	-2.7***						-0.1	1.5***	-0.8***
	One Quarter before Quarter t	-3.7**	1.8	-0.1	-5.6***	-4.0***	-0.7	-0.4	-13.2***					-0.2	1.5***	1.3***	-1.3***
Failed Banks	Constant (Eight Quarters before Failure)	2.3***	32.3*	24.9***	31.9***	30.1***	27.7***	21.5***	20.8***	20.4***	22.8***	20.8***	20.6***	6.8***	6.3***	8.0***	8.1***
	Seven Quarters before Failure	-0.5	-1.0*	1.2	-2.3	0.0	-3.9	-1.1	-0.6	-0.8	-2.9**	-0.2	0.6				
	Six Quarters before Failure	-0.9	1.8	3.2**	-2.4	0.2	-4.8	-2.7***	-0.1	-2.5**	-2.8	-0.2	-0.9				
	Five Quarters before Failure	-0.4	-27.1	1.7	-7.1	-4.8	-4.9	-2.1*	-2.5**	-2.9**	-4.2**	-1.2					
	Four Quarters before Failure	0.8	-26.5	-0.8	-6.3	-6.5	-4.5	-6.6***	-4.1***	-2.0	-3.0*						-1.3
	Three Quarters before Failure	-0.6	-23.7	-0.9	-0.8	-7.4	-5.1	-5.9***	-2.1	-3.4**						-0.9	-1.3
	Two Quarters before Failure	-0.7	-26.3	-6.8*	-13.1***	-11.5**	-6.7	-4.0**	-2.5						0.8	-0.5	-0.7
	One Quarter before Failure	-0.2	-22.8	-11.8***	-11.2***	-13.6***	-4.1	-3.5*	-13.6***					-1.1**	-0.6	-1.6*	-2.3*
Observations		56,240	56,064	55,880	55,704	55,824	55,880	56,128	55,976	42,024	35,010	28,016	20,853	14,008	21,006	28,016	34,755
Number of Banks		7,030	7,008	6,985	6,963	6,978	6,985	7,016	6,997	7,004	7,002	7,004	6,951	7,004	7,002	7,004	6,951
R-squared		0.586	0.611	0.635	0.604	0.613	0.641	0.665	0.627	0.644	0.645	0.650	0.655	0.410	0.487	0.519	0.416

Appendix B.3
General Creditor Claims

***=Significantly different from zero at the 99 percent confidence level; **=at 95 percent confidence level; *=at 90 percent confidence level

		(1) 2008Q1	(2) 2008Q2	(3) 2008Q3	(4) 2008Q4	(5) 2009Q1	(6) 2009Q2	(7) 2009Q3	(8) 2009Q4	(9) 2010Q1	(10) 2010Q2	(11) 2010Q3	(12) 2010Q4
CAMELS 1,2	Constant (Eight Quarters before Quarter t)	1.0***	0.9***	1.0***	1.7***	1.6***	1.7***	1.8***	1.8***	1.7***	1.8***	1.8***	1.8***
	Seven Quarters before Quarter t	0.0	0.1***	0.7***	-0.1***	0.1***	0.1***	-0.0	-0.1***	0.2***	0.0	-0.1**	-0.2***
	Six Quarters before Quarter t	0.1***	0.8***	0.6***	0.0	0.2***	0.1***	-0.2***	0.1*	0.2***	-0.0	-0.2***	-0.1***
	Five Quarters before Quarter t	0.8***	0.7***	0.7***	0.1***	0.2***	-0.0	0.0	0.1*	0.1**	-0.2***	-0.2***	-0.1**
	Four Quarters before Quarter t	0.7***	0.8***	0.8***	0.1***	0.1*	0.2***	0.1	0.0	-0.1	-0.2***	-0.2***	-0.2***
	Three Quarters before Quarter t	0.8***	0.9***	0.8***	-0.0	0.3***	0.2***	-0.0	-0.1***	-0.0	-0.2***	-0.3***	-0.3***
	Two Quarters before Quarter t	0.9***	0.9***	0.7***	0.2***	0.3***	0.1*	-0.2***	-0.1**	-0.0	-0.3***	-0.4***	-0.3***
	One Quarter before Quarter t	0.9***	0.8***	0.9***	0.2***	0.2***	-0.1*	-0.2***	-0.1*	-0.1**	-0.4***	-0.3***	-0.2***
CAMELS 3	Constant (Eight Quarters before Quarter t)	0.8***	0.8***	0.7***	1.5***	1.2***	1.2***	1.6***	1.8***	1.8***	1.9***	1.8***	1.6***
	Seven Quarters before Quarter t	0.1	-0.1	0.8***	-0.1	0.1**	0.1*	0.1**	-0.1	0.2***	-0.1	-0.2***	-0.2***
	Six Quarters before Quarter t	-0.0	0.8***	0.7***	-0.0	0.2***	0.2***	0.1	0.1	0.2*	-0.3***	-0.4***	-0.3***
	Five Quarters before Quarter t	0.9***	0.7***	0.8***	0.1	0.3***	0.1*	0.3***	0.0	-0.1*	-0.5***	-0.6***	-0.4***
	Four Quarters before Quarter t	0.8***	0.8***	0.9***	0.2**	0.2***	0.3***	0.2**	-0.2**	-0.3***	-0.6***	-0.6***	-0.5***
	Three Quarters before Quarter t	0.9***	0.8***	0.9***	0.1	0.4***	0.2***	-0.0	-0.4***	-0.4***	-0.7***	-0.7***	-0.6***
	Two Quarters before Quarter t	0.9***	0.8***	0.8***	0.3***	0.3***	0.0	-0.2***	-0.5***	-0.5***	-0.8***	-0.8***	-0.5***
	One Quarter before Quarter t	0.9***	0.7***	1.1***	0.2	0.1	-0.1	-0.3***	-0.6***	-0.6***	-0.9***	-0.8***	-0.5***
CAMELS 4, 5	Constant (Eight Quarters before Quarter t)	0.6***	0.5***	0.6***	1.7***	1.8***	1.7***	1.6***	1.7***	1.4***	1.7***	1.4***	1.1***
	Seven Quarters before Quarter t	0.0	0.0*	0.4***	-0.2	0.1	-0.0	0.1**	-0.1	0.2***	-0.3**	-0.3**	-0.2**
	Six Quarters before Quarter t	-0.0	0.3***	0.2***	-0.1	0.0	0.2	-0.1	0.1	-0.1	-0.6***	-0.4***	-0.0
	Five Quarters before Quarter t	0.6**	0.3***	0.5***	-0.1	0.1	-0.0	0.2**	-0.3	-0.4**	-0.8***	-0.3***	-0.0
	Four Quarters before Quarter t	0.4***	0.3***	0.4***	-0.1	0.0	0.2	-0.1	-0.6***	-0.5***	-0.6***	-0.3**	-0.1*
	Three Quarters before Quarter t	0.5***	0.3***	0.5***	0.1	0.2	-0.1	-0.5**	-0.6***	-0.4***	-0.6***	-0.4***	-0.2***
	Two Quarters before Quarter t	0.5***	0.3***	0.6**	-0.1	-0.2	-0.7**	-0.5**	-0.5***	-0.4***	-0.7***	-0.5***	-0.3***
	One Quarter before Quarter t	0.9**	0.4**	0.4***	-0.6	-0.8*	-0.6**	-0.3**	-0.5***	-0.5***	-0.8***	-0.5***	-0.3***
Failed Banks	Constant (Eight Quarters before Failure)	0.7*	0.8***	1.2**	0.6***	0.6***	3.8	1.3***	2.7**	1.8**	1.0***	0.9***	0.8***
	Seven Quarters before Failure	0.0	0.3*	10.1	0.9	0.2	0.5	0.8**	1.2	-0.2	-0.2	-0.3**	-0.3*
	Six Quarters before Failure	-0.0	0.0	8.4	0.8**	0.4**	0.4**	-0.2	0.4	-0.6	-0.4*	-0.4***	-0.2*
	Five Quarters before Failure	1.0**	-0.2***	9.0	0.4	0.2	0.3	0.1	-0.6	-0.8*	-0.2	-0.3*	-0.4**
	Four Quarters before Failure	0.9	1.4	7.5	0.4**	0.2	-0.5	-0.3	-0.9*	-1.1	-0.5**	-0.3**	-0.3
	Three Quarters before Failure	2.4***	-0.5***	2.5	0.5	-0.1	-1.0	-0.6***	-1.3**	-1.1	-0.5**	-0.4**	-0.4
	Two Quarters before Failure	3.9***	-0.2	2.3	0.8	-0.2	-0.2	-0.7***	-1.6*	-1.2*	-0.5**	-0.4***	-0.3
	One Quarter before Failure	0.5	-0.4**	0.3	-0.2	0.1	-2.0	-0.7***	-1.9*	-1.0	-0.4	-0.4**	-0.3
Observations		56,240	56,064	55,880	55,704	55,824	55,880	56,128	55,976	56,032	56,016	56,032	55,608
Number of Banks		7,030	7,008	6,985	6,963	6,978	6,985	7,016	6,997	7,004	7,002	7,004	6,951
R-squared		0.049	0.051	0.055	0.056	0.058	0.058	0.058	0.058	0.057	0.057	0.055	0.053