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Working Paper 21786
http://www.nber.org/papers/w21786

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
December 2015

We are very grateful for the comments and suggestions from participants at sessions on the paper at the World Congress of Cliometrics in 2013 and the NBER-DAE Summer Institute in 2015. Fishback and Snowden acknowledge support from the National Science Foundation (grant SES-1061927). Any opinions expressed here do reflect the attitude of the National Science Foundation nor of the National Bureau of Economic Research.

At least one co-author has disclosed a financial relationship of potential relevance for this research. Further information is available online at http://www.nber.org/papers/w21786.ack

Forbearance by Contract: How Building and Loans Mitigated the Mortgage Crisis of the 1930s

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NBER Working Paper No. 21786
December 2015
JEL No. G23,N22,R31

ABSTRACT

During the Great Depression, Building and Loans (B&Ls), the leading home lenders, had a structure that mitigated the crisis. Borrowers were owners of the B&L and dissolution of the institution required a two-thirds majority vote. Using panel data from New Jersey in the 1930s, we find that this voting rule delayed dissolution by about one year. The year delay allowed one-fourth of the borrowers in the at-risk B&L to pay off their loans, but nonborrowers lost share value. The net loss was roughly -0.67 percent of the value of all New Jersey B&L assets in the mid-1930s.

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During both the Great Depression of the 1930s and the Great Recession of 2008, the economy was rocked by home mortgage crises. In both periods nominal housing values fell sharply after an earlier boom and housing starts fell to levels below 25 percent of the earlier peak and failed to recover anywhere near normal levels for an extended period of time.[1] On the credit side, opportunities to obtain new mortgages were cut back drastically. The real stock of home mortgage debt in 2013 still remained 11.7 percent below its 2009 peak, while during the Depression the stock remained 15 percent below the 1932 peak as late as 1940. Atif Mian and Amir Sufi (2011 and 2014) find that the problems in the mortgage markets significantly contributed to drops in employment in nontradeable sectors and had strong effects on household balance sheets that contributed to the Great Recession. In both periods the federal government put significant programs in place to provide relief for borrowers, to reduce foreclosures and distress sales, and to prop up housing markets. The major New Deal intervention was the Home Owners' Loan Corporations (HOLC) that refinanced and modified the loans of distressed borrowers on more generous terms. During the recent crisis the Homes Affordable Modification Program (HAMP) was created to offer side payment to loan servicers so that they provided borrower with relief by modifying the terms of their loans.[2]

One important difference between the mortgage crises of the two periods is the structure of mortgage contracts and the organization of the most common type of lender. Arms-length contracts account for the vast majority of modern mortgage contracts. In the early 2000s most

[1] In the 2000s housing starts peaked at 2.1 million in 2005, fell to 1.3 million in 2007 and troughed at 0.5 million in 2009 and recovered to only 0.9 million by 2013. In the earlier era they peaked at 937,000 in 1925 and then fell to 509,000 in 1929, a level that was still substantially higher than the levels prior to the 1920s. They then fell 93,000 in 1933 and only reached the 1929 level again in 1940. Data on housing starts and the stock of home mortgage debt from the earlier era was compiled from Snowden 2006, 4-481 to 4-482 and 4-526 to 4-527 and deflated by the CPI 1967=100. For the current period they are from the FRED database at the St. Louis Federal Reserve Bank.

[2] Government programs provided more forbearance to borrowers in servicing the repayment loans in the 1930s than in the 2000s. In government programs the HOLC allowed borrowers to be delinquent on repayments for periods that were four to eight times as long as the HAMP has allowed in the modern period.

were split up and sold into mortgage-backed securities and collateralized debt obligations, breaking the connection between original lender and borrower in the repayment process. When the mortgage crisis developed in the 2000s borrowers had little say in the foreclosure process or in the timing of the liquidation of a troubled lender beyond beseeching the lender for forbearance or pushing for political solutions to their problems. Mian and Sufi (2014) argue that this imbalance caused borrowers to bear a larger share of the burden than lenders when housing prices dropped and the financial crisis developed 2006 and 2010. They have proposed a new "shared responsibility" mortgage contract that would protect mortgage borrowers against the downside risk of drops in housing prices. In a sense their proposed mortgage provides forbearance to the borrower through the mortgage contract itself.[3]

Before World War II the market for mortgages included opportunities for forbearance by contract to a significant number of borrowers at Building and Loans (B&Ls), the leading type of mortgage lender during the period. Each B&L was mutually-owned by both its borrowing and non-borrowing members. As owners, borrowing B&L members shared in the profits and losses earned by their associations but also shared control over whether and when their B&L liquidated when it was distressed. We show here that B&L borrowers who remained current on their loans generally favored delaying liquidation of the B&L because of the unique structure of the traditional B&L mortgage loan. These contracts combined a simple balloon loan with a commitment from the borrower to purchase in monthly installments over time shares of the association's equity association equal in value to the principal of the loan. The borrower's shares, and the dividends received on them, formed a sinking fund that secured the loan and was

[3] For examples of uses of contractual clauses to limit the incentives of lenders to foreclose, see Mulherin and Muller (1987). To see the impact on mortgage interest rates of laws that impose specific contractual arrangements that influence foreclosure risk, see Pense (2006) and Alston and Rucker (1987). Ghent (2011) description of the loan modifications made by commercial lenders in the 1930s typically involved lengthening the contract and not reductions in principal.

normally used to repay it when the book value of the accumulated dues and dividends was sufficient to cancel the outstanding debt. If the association went into liquidation before a borrower could repay his B&L loan, in contrast, the borrower had to refinance the entire principal of the loan and then wait to receive the liquidation value of the shares in the sinking fund. These results of a dissolution increased the distress of B&L borrowers and gave them good reason to favor delaying liquidation until after they had repaid their loans.

Nonborrowing B&L members in a distressed B&L viewed liquidation differently. Just like borrowers, these members purchased B&L equity in monthly installments and normally received dividends on these investments from the profits of the association's mortgage lending operations. But dividends disappeared, and losses from foreclosures became embedded in balance sheets when B&Ls suffered substantial losses during the 1930s crisis. Faced with this situation, many nonborrowing members of B&Ls sought to withdraw from their association in order to avoid further decreases in the value of their investment. Because B&L members held equity, and not deposits, the association could postpone acting on meeting the request for withdrawal indefinitely and thousands of B&Ls remained in this "frozen" state for several years in the 1930s. In this situation voluntary liquidation was the only avenue through which members could withdraw from a B&L. Absent a closure by state regulators for fraud or mismanagement, B&Ls could voluntarily liquidate only if two-thirds of its members voted in favor of the action. Thus, borrowing members had strong incentives to favor delaying liquidation, while nonborrowers were anxious to use liquidation as an alternative to withdrawal. Given these conflicting incentives, a B&L was unlikely to voluntarily liquidate until borrowers represented fewer than one-third of the membership.

Below we document the contractual elements that governed B&L withdrawals, insolvency and liquidation and provided the legal basis for borrowing B&L members to delay the liquidation of their association. We then estimate a hazard model of liquidation for a panel data set of balance sheets of all 1,563 B&Ls that operated in New Jersey during the 1930s and find that the two-thirds voting rule delayed the liquidation of failing B&Ls by about a year on average. We interpret these delays as forbearance by contract, and estimate that the additional time enabled roughly one-fourth of borrowers in distressed B&Ls to pay off their loans as originally written and before liquidation.

Some of these borrowers would have been foreclosed upon had their B&Ls liquidated earlier and we estimate that through this channel the year of delay prevented a loss equal to roughly 0.3 percent of the book value of all New Jersey B&L assets in the mid-1930s. The gain to B&L borrowers and their associations from the forbearance provided by delayed liquidation came at the expense of the remaining B&L members who suffered additional decreases in the liquidation value of their shares and waited longer to transfer their B&L equity into more remunerative assets. We estimate these costs to be about 1 percent of the book value of New Jersey B&L assets and conclude, therefore, that delayed B&L liquidations generated negative net benefits on an *ex post* basis. This last result could help to explain why the traditional B&L contract and association was rapidly abandoned during the 1930s and transformed into the new Savings & Loan industry that dominated residential mortgage markets for decades after 1940 (Rose and Snowden, 2012).

I. The Rise and Fall of the B&L

Why would a rational investor join a Building & Loan in which borrowers could impose costs on investors by delaying in liquidation when the association became distressed? The

reason, of course, is that B&Ls had performed relatively well historically before the U.S. economy entered the worst Depression and housing crisis in U.S. history. Prior to the Depression, B&Ls had become the most important source of residential mortgage credit in the U.S. just one century after their introduction. By 1929 12,342 B&Ls operated in every state and in cities of all sizes and together claimed 12 million members or one B&L member for every two of the nation's nonfarm families.[4] These institutions specialized in residential mortgage lending and financed 4.2 million of the 7 million homes built between 1920 and 1929 and a total of 10.5 million of the owner-occupied homes standing in 1930.[5] In the aggregate, B&Ls held 30 percent of the mortgage debt on 1 to 4 family homes in 1930 or 48 percent of home mortgage debt held by institutional lenders.[6]

This record of success attests to the advantages B&L mortgages provided to borrowers, and B&L shares to savers, relative to the other loan and savings products that were available at the time. Before 1930 most other lenders offered homeowners interest-only, balloon loans for no more than 50 percent of the property's value and with maturities no longer than five years. Given these short maturities, loans often had to be renewed one or more times before they could be paid off in full and each renewal exposed borrowers to additional costs and risks. The B&L SAC mortgage was written for up to 60 percent of the property value and fully extinguished the debt over a single 11 to 12 year horizon. The B&L share accumulation plan, in addition, provided borrowers with a form of amortization at a time no other lender offered such gradual repayment options.

[4] Bodfish, 1931, p. 136; *Housing Statistics Handbook*, 1948, p. 87. Richard Ely emphasized their importance in his forward to the 1920 U.S. Census Report *Mortgages on Homes* by observing that "[t]he American method of acquiring a home is to buy the site, gradually pay for it, then to mortgage it through a *building and loan* or otherwise, to construct the home with the aid of the mortgage and gradually to extinguish the mortgage."
[5] Bodfish, 1931, p. 138; *Housing Statistics Handbook*, 1948, p. 5, 60.
[6] *Housing Statistics Handbook*, 1948, p. 114. Individuals held nearly 40 percent of home mortgage debt as late as 1930.

In addition to the attractive terms a B&L loan offered to borrowers, B&Ls also offered non-borrowers higher returns than the savings accounts offered by commercial and savings banks. The modal rate of earnings on book values of B&L shares in New Jersey in 1928, for example, was 7 to 8 percent per annum.[7] Members who paid penalties for withdrawing shares earlier than scheduled still earned six percent or higher on B&L investments after holding the shares for five years. At the same time, deposits in mutual savings banks in New Jersey paid no more than 4 or 4.5 percent interest (Piquet, p.111). B&L earnings were higher on average because members participated fully in the earnings on their association's portfolio of home mortgage loans.[8] In addition, B&L loans were written with higher effective interest rates than those on other lenders because as mutual organizations they were free to charge their own borrowing members rates higher than the prevailing usury limit. With higher returns came risk, but individual B&L loans were better secured (with a sinking fund) and more regularly monitored (they required weekly or monthly payments) than loans made by other lenders. The relative attractiveness of B&L shares as investments led to an increase in membership of 141 percent between 1920 and 1928 (5 to 12 million) at the same time that it grew in savings banks by just 32 percent (11.4 to 15 million). Total B&L assets also grew relatively rapidly; by 318% (from $2.5 to $8.0 billion) between 1920 and 1928 while the assets of mutual savings banks increased by only 60 percent ($7.1 to $11.4 billion).

When taken together, the B&L SAC mortgage structure proved to be attractive to both savers and borrowers in the pre-1930 home mortgage market, which was smaller in size relative to the housing stock, less institutionally mature, and more spatially fragmented than its modern

[7] Piquet (1930, pp. 99-110) reports the results of a detailed examination of earnings on B&L share in New Jersey.
[8] B&L mortgage earnings were relatively high, moreover, because their Loans were not subject to local usury laws given the cooperative nature of the association. So B&L borrowers often paid loan premiums that raised their effective interest rate above the legal limit.

counterpart (Snowden, 2010). Within this environment B&Ls proved to be a nimble and elastic source of mortgage finance as they faced lower barriers to entry than depository institutions and could organize with no more than several dozen members wherever local demands and supplies of mortgage funds were sufficient.[9]

For decades B&Ls had proved relatively successful at surviving downturns in the housing sector. The Great Depression, however, led to their demise in a slow-moving process that lasted 15 years. The combination of a 30 percent drop in per capita income, sharp drops in the nominal value of housing, and deflation that raised the real cost of repaying loans contributed to a sharp rise in foreclosures on loans from all types of lenders. By 1934 foreclosures had become so numerous that real estate accumulated from the foreclosures accounted for 20 percent of B&L assets. As the foreclosures built up, B&Ls reduced or eliminated dividend payments, suspended withdrawals, stopped making new loans, and focused on servicing loans still in good standing and foreclosing on those who became delinquent for too long. As we show below, the process continued until the number of borrowing members fell to a level where the nonborrowing members could win a vote to liquidate the B&L.

The slow moving process is illustrated with the data from New Jersey B&Ls. Even as the real estate share of assets rose from 4 percent in 1930 to 24 percent in 1935, a level that would have led to closures of other types of real estate lenders, the number of B&Ls in New Jersey fell by only 3.2 percent from 1565 to 1514, compared with a 27 percent drop in the number of commercial banks between 1930 and 1933. The real estate share of assets at New Jersey B&Ls jumped to levels between 39 and 43 between 1936 and 1939, and yet 83 percent of

[9] More than 5,000 B&Ls were established and began operation during the urban building boom of the 1880s. During the housing boom of the 1920s, more than 3,000 new B&Ls appeared. In both periods B&Ls grew in number and importance in all regions and states, and in cities of all sizes. See Snowden, 2003.

the 530 closures between 1936 and 1940 did not occur until 1938 or later. The number of B&Ls continued to decline during World War II, reaching 509 in 1945.[10]

As the B&Ls became frozen and slowly closed, their lending was replaced by Savings and Loan (S&L) Institutions. S&L "share accounts" offered non-borrowers virtually the same liquidity and withdrawal privileges as a bank savings account. Borrowers held only nominal amounts in their share accounts, no longer shared substantially in the association's lending risk, and took out only "direct reduction" mortgage loans. These were amortized and principal payments and immediately reduced the loan balance, so the borrower no longer faced the risk of changes in the contractual length of the loan. Some B&Ls had begun shifting in this direction in the 1920s (Rose and Snowden, 2014). After the problems with the SACs during the 1930s, there was a wholesale shift in the 1930s that given was solidified by the creation of federal S&L charters in 1934 and the establishment of deposit insurance with the Federal Savings and Loan Corporation in 1935.

II. The Contractual and Legal Basis of Delayed Resolution in Building & Loans

The B&Ls attracted large numbers of lenders and borrowers in the boom of the 1920s and were slow to close even as the mortgage crisis raged. Four key features of the B&L contractual structure and the case law related to their operations and closure help explain these facts: 1) The B&Ls were cooperative lending organizations in which both borrowers and nonborrowers had ownership. As a result, borrowers had more influence on their lender's

[10] Information on the New Jersey B&Ls is from the sample we constructed from New Jersey state reports, and the number of New Jersey banks come from New Jersey fared better than the nation as a whole as the U.S. number of B&Ls and Savings and Loans declined 12.8 percent between 1930 and 1935 and the number of commercial banks declined 39 percent between 1930 and the trough in 1933 (U.S. Bureau of Census, 1975, series X834 and series X580). Nationwide, the number of B&Ls and Savings and Loans fell by 12.8 percent. In comparison, 27 percent of commercial banks and 15 percent of U.S. life insurance companies were eliminated nationwide between 1930 and 1933/34.The national figures are from the changes in the number of insurance companies and commercial banks come from series X834 and X580 from U.S. Bureau of the Census (1975).

decisions than they did with other lenders; 2) When the B&L ran into trouble, members faced limits on their ability to withdraw funds; 3) Liquidation of a B&L typically required a two-thirds vote of the members, who each had one vote no matter how many shares they owned; 4) Borrowers had incentives to delay liquidation to give them more time to pay off their loans and avoid the losses from dissolution.

A. Building & Loans were member-owned, cooperative mortgage lending corporations.

The heart of the traditional B&L was the share accumulation contract. Upon joining a B&L each member agreed to purchase one or more shares in the association by making weekly or monthly installment payments, called dues. In a typical New Jersey B&L, for example, members pledged to pay monthly dues of $1 to purchase B&L shares that had par values of $200. The B&L invested these funds in local home mortgage loans and paid dividends to members from profits earned on the mortgage loans in proportion to their paid-in investments in the association. If the B&L paid annual dividends of 6 percent, as an example, the combined value of a member's dues and dividends reached its $200 par value after 139 months. The time it took to reach par value was longer if dividends fell below 6 percent, and shorter if they averaged more.

Three features of the share accumulation plan made the traditional B&L a unique financial intermediary. First, weekly or monthly share accumulation payments were not deposits; they were equity contributions so that all B&L members were owners of the association and fully shared in its profits and losses. Second, members who joined to borrow from the association were required to participate in the same share accumulation plan that non-borrowing members used for their savings. For borrowing members the investment in B&L shares,

however, represented a sinking fund that grew over time in order to repay their loan. Third, because both borrowing and non-borrowing members were owners they enjoyed similar voting rights and shared equally in profits and losses even though the borrowing member-owner was, at the same time, a debtor to the association. This last feature of the traditional B&L created divergent interests between borrowing and non-borrowing member-owners when an association became distressed. This divergence proved to be instrumental in delaying resolution within the industry during the 1930s housing crisis.

To clarify the unusual dual status of a B&L borrowing member it is useful to describe the structure of the hybrid B&L mortgage loan in more detail. The loan combined two features: an interest-only, balloon loan and the requirement that the borrower enter into a share accumulation contract (SAC) equal in value to the principal of the loan. To secure a $2,000 home loan at an interest rate of 6 percent, for example, a B&L borrower agreed to purchase ten shares of the association each with a maturity value of $200 each. Under the combined loan and share accumulation contracts, the borrower had to pay $10 each month in "dues" on her shares ($1 per share for each $200 share) and another $10 each month in interest on the balloon loan (6 percent of the $2,000 loan divided by 12 months).[11] B&L shares were generally structured to mature in 11 or 12 years, but could mature more quickly if dividend rates were higher than expected or longer if they were lower. When the maturity value was reached, and not until then, the borrowing member's share account was used to repay and cancel her loan. If the borrowing member defaulted on dues or interest payments before the shares matured, the association could foreclose upon the property and seek full repayment from the borrower's share account and from the proceeds from renting or selling the property.

[11] If the market interest rate at the time of the loan differed from the dividend rate at the time the loan was taken out, the borrowing member might pay an additional premium payment each month or make a lump sum payment at the time of the loan.

B. Non-borrowing B&L members had limited withdrawal privileges.

B&L share accumulation plans were marketed as programs that encouraged and rewarded regular patterns of savings over long horizons. To encourage regularity, B&Ls charged fines to non-borrowing members who did not keep current on payment of dues. Non-borrowers were also assessed fines, and forfeited some dividends, if they withdrew their B&L shares before they had fully matured. The penalties on early withdrawals were structured so that the net return to a shareholder was negative or just above zero within the first two years of the share accumulation contract, and then gradually approached the expected full maturity return after that (Clark and Chase, 1925, 176). Despite the incentives to hold the association stock until maturity, a survey in 1920 found that between 35 and 90 percent of B&L shares were withdrawn before maturity (Clark and Chase, 1925, 170). The term of B&L stock was, therefore, longer than the desired term of most members, but appears to have offered many savers sufficiently attractive returns over their expected investment horizon.

B&Ls became concerned in the 1920s, however, with competition from savings deposits at banks that offered greater liquidity, although lower expected returns, than B&L shares. To address the issue, many associations began to waive the industry-wide requirement that B&L members provide their association with written notification 30 days before withdrawing their shares (Clark and Chase, 1925, 185). The change in notification policy, however, could not mitigate the inherent and contractual limitations on B&L withdrawals. Without some restrictions on withdrawals the B&L could not have invested almost exclusively in illiquid residential mortgages in pursuit of their stated goals of financing homeownership and encouraging long-term saving. Even more fundamentally, a "withdrawal" of shares from a B&L actually involved

the repurchase of one member's equity by the remaining owners in the association. From this perspective, it is clear why limitations had to be placed on B&L withdrawals because an association could not serve one of its members if by doing so it compromised the health and liquidity of the entire association or imposed losses on other member/owners (Sundheim, 1922, 153).

To guard against such withdrawals, B&L statutes regularly required that "at no time shall more than one-half of the funds in the Treasury [of a B&L] be applicable to the demands of withdrawing stockholders without the consent of the Board of Directors."[12] If funds in a B&L treasury were insufficient to meet withdrawal requests, then directors were required and empowered to suspend withdrawals beyond the notification window and until sufficient treasury funds were available. Once withdrawals had been suspended, moreover, the priority given to members had to be determined solely by the date they had requested their withdrawals. This meant, in particular, that no priority for withdrawals could be given to members who held matured shares relative to those requesting early withdrawals; nor could members accelerate a withdrawal by paying a premium to the association.[13] The obligation to treat members equally and in their collective best interest led B&Ls to suspend withdrawals indefinitely in the heart of the mortgage crisis and eventually to develop the rotation principle for distributing withdrawals in the heart of the mortgage crisis.[14]

[12] In citing the 1874 Pennsylvania law, Sundheim, 1922, 152 observes that "statutes in the various jurisdictions usually contain …a similar proviso". He shows in New Jersey (p. 253) , for example, "not more than one-half of the receipts of any one month shall be required to be used for the payment of withdrawal claims."

[13] Endlich, 1895, 105-7; Sundheim, 1922, 153. The B&L could also not differentiate in priority for withdrawals between the traditional installment shares and the "full-paid" share that became widely used in the 1920s.

[14] B&Ls that adopted the "rotation principle," during the 1930s set a fixed dollar limit for withdrawals each month and members queued up to receive it. Once they had received this fixed amount, they were then placed at the back of the line to wait for their next fixed payment. It took some members several years to withdraw all of their investment under this system (Bodfish and Theobold 1938, 161).

Restrictions on the withdrawal of shares by a borrowing member of a B&L were much simpler. First, borrowing members could never withdraw their shares without fully repaying the loan. Second, borrowing members could use unmatured shares and additional funds to prepay their mortgage loan at any time (Sundheim 1922, 168). Finally, and most important for purposes here, borrowing members had a right to use their shares to pay off their loans at any time (Endlich (1895, 144). Such "withdrawals" drained no funds from the association's treasury and so could not be suspended. This ability to repay at any time played an important role in determining the borrower's incentives to delay the closing of the B&L.

C. B&L insolvency was rare; liquidation generally had to be triggered by a vote of members.

A B&L could not be closed because it was illiquid. B&Ls were member-owned corporations that were not obliged to repurchase the shares of their owners on demand. It turns out that B&Ls also rarely became insolvent. A survey of available state supervisory reports in 1925 found there had been no reports of B&L failures in 24 states and only 88 failures reported across the entire industry since around 1890 (Clark and Chase, 1925, 15).[15] B&L advocates pointed to the small number of failures as evidence of safety and soundness. A more accurate characterization, however, would have been that the unique character of the traditional B&L insured that "failures" within that industry—using the common understanding of the term—would be rare:

[15] Clark and Chase (1925, 365) conducted the survey by consulting the state regulatory reports that were then available at that time. The periods covered by this survey varied by state, but rarely extended to before 1890 when only a few states systematically regulated B&Ls. Nonetheless, the annual reports revealed that no B&L failures had been reported in 24 states up to that time. Excluded from these counts were the planned closings of what were known as "terminating" B&L associations and a wave of failures during the early 1890s among a group of "national" building & loans that unsuccessfully attempted to deploy the local building & loan model over multi-state markets. Snowden (2003, 172-8) examines the reasons for and impacts of the failures of the national associations.

> The insolvency of [a building and loan] is *sui generis*. There can be, strictly speaking, no insolvency, for the only creditors are the stockholders by virtue of their stock.
>
> Braver, 1936, 1345-6.

The meaning of insolvency for B&Ls was unique because their business was confined to raising capital from their member-owners and making loans to a subset of the same group (Endlich 1895, 497 and Sundheim 192, 179). The traditional B&Ls in most states were not allowed to take deposits.[16] B&Ls were also restricted in their use of other forms of borrowing to conduct their business.[17] With such limited reliance on creditors:

> It is scarcely conceivable that the assets of a building association should shrink in so remarkable a manner as to leave such claimants in a position of inability to reimburse themselves by process of law. No case, it is believed, has occurred in which this was a ground for a successful appointment of a receiver.
>
> Endlich, 1895, 497.

The fact that Building and Loans were generally not vulnerable to insolvency due to the actions of external creditors was recognized in 1932 in law when the industry was exempted from the U.S. bankruptcy code (U.S. House of Representatives (1932).

As a B&L suffered distress, the issue of insolvency did arise, however, because withdrawing members who had not been paid became general creditors in law and could sue for restitution after the notification period for withdrawals had passed. In these cases the court was left to identify the conditions under which an association could be judged "insolvent." Over time, case law settled on a deceptively simple standard. A B&L was insolvent when the assets of the association became insufficient to repay on a "dollar for dollar" basis the dues that its members had paid into their share accounts (Sundheim, 1922, 179; *Yale Law Review*, 1933, 932).

[16] In the early 1920s 30 states, including New Jersey, prohibited B&Ls from taking deposits, and only 3 (Ohio, Missouri and Arizona) permitted them. The remaining states, some of which had not yet enacted specific B&L regulation, remained silent on the issue (Clark and Chase 1925, 396).

[17] B&Ls generally borrowed only from a bank for the purpose of smoothing the seasonal demand for mortgage loans with the steady payment of stock subscriptions. All states limited borrowing to one year and most limited it to 20-25 percent, although New Jersey's limit was 30 percent See Clark and Chase (1925, 125-6 and 403-8).

The rationale for this standard was the presumption that an association in this condition could no longer fulfill the function it had been created to perform for its owners (Braver, 1936, 1346).

The inability to repay the equity contributions of B&L members was a sensible standard for insolvency, but one that was difficult to implement since it required the court to assess the net worth of an operating entity. This difficulty was not mitigated, moreover, when a series of court decisions ruled that more obvious factors—such as an empty treasury, a suspension of withdrawals, or the appointment of a receiver by the state due to the negligence or malfeasance of an association's directors—did not represent determinative evidence regarding insolvency (Sundheim, 1922, 180; Braver, 1936, 1347). As a result, a member or group of members of a B&L that alleged its insolvency bore the burden of proof that the value of the association's assets was not greater than the contributions of equity made by the members. It was difficult if not impossible for them to do so, however, because the money value of an association's assets could only be determined by liquidating its loans and real estate holdings—but by liquidating these the association became dissolved. The courts, therefore, could not settle the issue of insolvency without ordering the liquidation of an association that they were required to presume was solvent.[18]

There was, therefore, no statutory basis or court remedy through which a B&L could be forced into insolvency. The state or court could appoint receivers to manage the B&L, but only if the association was "exceeding its powers, or violating the law, or that its conditions or methods of business would render the continuation of its operation hazardous to the public or those having funds in its custody" (Braver, 1936, 1380). Absent these circumstances, a member-owned, equity-financed B&L was presumed to be performing its intended function until its

[18] "The difficulty with such a hard and fast definition is that the value of "available and collectible assets" cannot be really be determined until the association attempts to convert its securities into cash which, in turn, can only be effectively done upon liquidation." (University of Pennsylvania Law Review, 1933).

owners chose to liquidate the firm and surrender its charter (Endlich, 1895, 486). To do so, the members had to approve a resolution of voluntary liquidation. Although there was a presumption that liquidation required a unanimous vote of the members, this requirement could be overridden within the B&Ls charter. For the case we examine in this paper—New Jersey—the B&L Law of 1904 permitted voluntary liquidation and dissolution with the approval of two-thirds of the stockholders attending a meeting that was called specifically for the purpose of considering that motion (Sundheim, 1922, 258; Prescott, 1931, 200).[19]

D. Borrowing members had incentives to delay voluntary liquidation.

During the housing crisis of the 1930s most B&Ls became distressed, just like all other residential mortgage lenders. However, B&Ls were unlike other intermediaries in that they did not have to close when they became illiquid and could not be declared insolvent by creditors. As a result, thousands of "frozen" B&Ls continued to operate during the 1930s even though they had suspended withdrawals, had stopped making new loans, and were focused primarily on servicing loans that were still in good standing and foreclosing upon those that had fallen into arrears. B&Ls in this condition could operate indefinitely unless and until its members approved a voluntary liquidation.

Upon an approval of liquidation, all contracts between the B&L and its members were rescinded (Sundheim, 1922, 183-40; Braver, 1936, 1349-50). Non-borrowing members were no longer required to pay dues on their share accumulation contracts and could no longer take or

[19] Prescott (1931, 200) cites Section 31 of the law to read "A resolution to dissolve is adopted by the board of directors when in their judgment such course is deemed best. A notice of adoption is sent to each member stating the time and place of the shareholders' meeting for action thereon. At the meeting, an affirmative vote of two-thirds in interest of the members present is required for the adoption. A copy of the resolution must them be filed with the Commissioner of Banking and Insurance, whereupon a certificate to the trustees in liquidation may be issued by him."

request a withdrawal. A borrowing member also no longer had to pay dues on the share account that secured her loan, but the loan itself became immediately due in full. The loan was not in default, however, and the borrower was required to continue to make payments of interest on it, and still owed the principal. With all these contracts laid aside, the trustees were free to dispose of the association's assets and distribute the proceeds to members in shares proportional to their contributions of equity into the association.

A substantial body of case law developed over the years concerning the priority of different classes of non-borrowing stockholders during the distribution of the liquidated assets. Some members owned shares that had matured, others had filed notifications of withdrawal before the voluntary liquidation was approved, and still others had purchased full paid stock rather than through a share accumulation contract (*Yale Law Journal*, 1933, 935-40). The courts generally recognized priorities or preferences that had been granted before the liquidation had been approved or even anticipated, but once in liquidation shareholders were generally awarded claims proportional to the equity they had paid into the association regardless of differences in the maturity or types of shares they had held.

An issue of greater concern here regards the treatment of borrowing members during a voluntary liquidation. To confront the issue, courts had to clarify the status of the claims of borrowing members given that they were both owners of and debtors to their associations. The view held in the great majority of states, including New Jersey, was known as "the Pennsylvania Rule," named after the state where the key court decision was made.[20] Under the Pennsylvania

[20]A handful of states dealt with SAC borrower/members by the "Maryland rule." Under this interpretation the dual role of stockholder-mortgagor was treated as a fiction imposed by the technical aspects of the B&L contractual structure. As a result, the borrowing member was fundamentally a debtor with a liability equal to the difference between her outstanding straight mortgage loan and the balance in her share account. Under insolvency, therefore, the borrower became responsible for a loan balance equal to the difference between her share account and the original loan balance. This NET debt was calculated based on the book value of her shares and became due immediately.

Rule the SAC borrower was both a bona fide member/owner of the B&L and a debtor to the B&L. The rationale for this position was that the share account attached to the SAC member's loan earned the same profits and absorbed the same losses as the share accounts of non-borrowing members. Thus, when a resolution for voluntary liquidation had been passed, the borrowing member's loan became immediately due in full, while the shares built up in the associated sinking fund was held back until all of the B&L's assets had been disposed of and a liquidating dividend payment declared.

Under the Pennsylvania Rule borrowing members in a distressed association had incentives to delay liquidation until they could pay off their share accumulation loan contract as originally written. If a borrowing member could finish paying off the loan prior to liquidation, his shares were assessed at their book value and he avoided absorbing further losses suffered by the association. After liquidation, the borrowing member still owed the principal of the loan but the ultimate value of all his shares fell to the liquidation value of the B&L shares. As we estimate below, the liquidation value of the shares were typically two-thirds of the book value at best.[21] Thus, the borrowing member who still was repaying the loan at liquidation was stuck with a sizeable loss. This loss also raised the probability that the borrower would have to default on the loan and thus also lose his home, in which he typically held 40 to 50 percent equity during this period.

Given the divergent incentives of borrowing and nonborrowing members, it is likely that their relative numbers influenced the decision to voluntarily liquidate. More specifically,

[21] Rose (2014) examines in detail the operation of the curb market for B&L shares in New Jersey during the 1930s and shows that it provided withdrawals at deep discounts for B&L members and offered purchasers control over the foreclosed real estate owned by the association. In his examination of the Milwaukee situation, Kendall (1962, 146) examines secondary market prices for nearly one hundred Milwaukee B&Ls in 1936 and finds that B&L members sold shares at prices that ranged from $15 to $86 for each $100 "par" share. The average discount was 20 to 30 percent relative to their book values.

borrowing members could effectively block dissolution if they accounted for more than one-third of the members in the vote. As seen in Table I, the mean share of SAC borrowers in New Jersey B&Ls fell from 26.3 percent in 1934 to 16 percent in 1939. When we consider the one-third focal point, the share of B&Ls in which SAC borrowers accounted for over one-third of the membership fell from 26.6 percent in 1934 to 10.6 percent in 1939. Although one-third is the focal point, SAC borrowers might still have been able to block dissolution with less than two-thirds of the vote because they had more at stake in the vote than the nonborrowering member and thus were more likely to attend meetings where votes were held. They may also have been able to lobby nonborrowing members to delay the vote as well. In the estimation we have tried several cutoff points as well as estimating the impact of the percentage of SAC borrowers on the dissolution hazard.

III. Examining the Impact of the Dissolution Voting Rule with New Jersey B&L Data

To examine the impact of the two-thirds majority rule for dissolution, we have collected and digitized a panel dataset with time-varying information on the features of the balance sheets of all of the B&Ls operating in New Jersey in the 1930s. We chose New Jersey for several reasons. First, it is the only state in which the state regulator consistently reported the number of borrowing and nonborrowing members and balance sheet information for each B&L for each year in the 1930s. Second, New Jersey had a large number of B&Ls spread throughout the cities of the state. Third, few of the B&Ls in New Jersey converted to the Savings and Loan structure; therefore, we can look specifically at voluntarily liquidations without facing the complications in incentives created by the conversion to S&Ls and the attempts to shift borrowers into S&L contracts.

The information on individual B&Ls was collected, compiled, and digitized from the *Annual Reports of the Commissioner of Banking and Insurance* in New Jersey for the years 1930 through 1940. The sources provide the name, location, and date of establishment for each association that operated between 1930 and 1940, as well as comprehensive balance sheet information for each year. It also identifies B&Ls who have exited each year and the type of exit.

A total of 1,581 associations operated at some time during the decade in New Jersey, but with wide variation in age and size. In 1930 there were 283 associations operating that had been established before 1900, another 585 that had been placed in operation between 1900 and 1920, and 693 that had been organized during the rapid expansion of the 1920s. Together these account for the 1,561 B&Ls that were operating in the state in 1930. The size of these B&L's varied considerably, however, with more than 400 small associations holding total assets of less than $250,000 while another 92 held more than $2 million. Membership numbers correlate closely with total association size and vary from 240 small associations with fewer than 250 owner-members to the 297 that claimed more than 1,000 members. All told, the average association in New Jersey held assets of $633,000 in 1930 and claimed 528 members of which 123 were borrowers.

The detailed balance sheet data provided in the annual reports provide a rich set of measures of each association's financial structure and strength that we use here as controls for the probability of exit. Table I shows the means and standard deviations for these variables for several years during the 1930s. In our regressions we control for the size of the association's total assets, and use the shares of total assets represented by key assets and liabilities to measure their financial condition. The principal earning assets for a healthy B&L was mortgage loans and these represented an average of 90 percent for operating associations in 1930. As the housing

crisis unfolded the average share of mortgages fell to low of only 50 percent in 1937 and then recovered to 58 percent by the end of the decade. Offsetting increase in the shares of two other assets trace the dynamics of the difficulties B&Ls faced during the crisis. Nonpayment of dues on stock subscriptions and interest on loans were classified as arrearages, and the average share of assets in this category increased from less than 1 percent in 1930 to 5 percent in the mid-1930s before falling back to 2 percent in 1940. Increases in arrearages on loans and shares securing loans were signs of problems and often were followed by loan foreclosures. Increased numbers of foreclosures caused the average share of assets represented by real estate owned to increase from 3 percent in 1930 to nearly 40 percent as late as 1939. The annual shares of mortgage loans, arrearages and real estate owned for the B&Ls in our sample together give a rich and dynamic picture of their basic profitability and solvency and we supplement that here with a measure of their short-run liquidity—the share of assets held in cash.

The liabilities reported in the annual reports characterize the structure of claims on each B&L's assets that were held by its member-owners. In 1930 most of the capital invested in New Jersey B&Ls (84 percent on average) came through the traditional channel—dues paid on installment shares and the profits on these shares that had been apportioned by the B&L and accumulated in the members share account. As distress mounted, B&Ls built loss reserves and sought greater liquidity by holding back on payments of dividends and retaining profits to serve as loss reserves and to fund greater liquidity. These unapportioned profits -which legally belonged to members- became a major liability, rising from one percent in 1930 to more than 20 percent by the end of the decade, as shown in Table III. Also by the end of the decade the more modern form of investment that would become the standard liability in the postwar S&L—paid-up shares—increased in importance as a share of liabilities.

The annual reports provide information in each year on the number of borrowing and non-borrowing members in each B&L. The voting bloc of most interest here is borrowing members, but more specifically borrowing members with traditional B&L share accumulation, sinking-fund loans. One of the important changes in the transition from B&L to S&L was the replacement of the traditional share accumulation loan (henceforth SAC) with the modern direct reduction loan contract (DRC) in which monthly principal payments were used to immediately reduce the outstanding loan balance. The impact of a voluntary liquidation on DRC borrowers, and their likely voting positions, were fundamentally different because under liquidation the dues payments the SAC borrower's had made under the original contract in order to repay the loan were held back and subject to the member's share of association losses. So although the loans of both SAC and DRC borrowers became due immediately upon liquidation, under the traditional contract the borrower owed the original loan amount while the DRC owed only the remaining principal.

The New Jersey B&L reports are unusual because they report for each year not only the number of borrowing and non-borrowing members, but also the breakdown of mortgage loans into the volume of SAC and DRC loans. As a result, we could estimate the number of SAC and DRC borrowing members in each B&L by multiplying the total number of borrowers by the shares of the two loan types in total mortgage lending volume.[22] As can be seen in Table III, the share of members who borrowed under a direct reduction mortgage contract, was very small in New Jersey over this decade, accounting for less than 2.5 percent of members through 1938 and then rising to 5.6 percent in 1939 as the dissolution of traditional B&Ls accelerated. The share

[22] The maintained assumption is that the size of SAC and DRC loans were on average the same. The categories of loans reported in the annual report are "Mortgage Loans-With Pledged Shares" and "Mortgage Loans-Without Pledged Shares". The latter could include both DRC and straight loans—we refer to them all as DRC which clearly become more important over the decade.

of members who had borrowed using SAC contracts was a much larger voting bloc, on the other hand, and represented 23 percent of members in 1930 and 26 percent in 1934 before falling off rapidly in the last few years of the decade.

The New Jersey data, therefore, allow us to divide B&L membership each year into three groups—SAC borrowers, DRC borrowers and non-borrowers. We treat all non-borrowers as a single voting bloc here because non-borrowers were treated equally when associations became frozen or liquidated whether they held installment, matured, or paid-up stock. The focus here is on the share of SAC borrowers, however, and the requirement in New Jersey law that a voluntary liquidation had to be approved by at least two-thirds of all members. In our main specification we estimate the impact of SAC membership shares by creating a dummy variable for B&Ls in which the share of SAC borrowers in that year accounted for more than or equal to one-third of the voting members and thus could block liquidation. To allow for measurement error and the possibility that borrowers were still able to block liquidation with a lower share, we add a second dummy for settings when the share was greater than or equal to 25 percent and less than one-third. As shown in Table III, SAC borrower voting blocs were sufficiently large to determine voting outcomes in nearly 20 percent of B&Ls over the entire 1930s decade and just under that size in another 20 percent. We also estimate the impact on the hazard of the share of SAC borrowers to allow comparisons of the size of the effects on dissolution of changes in the SAC share and changes in features of the balance sheet.

Not all of the New Jersey B&L closures were voluntary liquidations. Of the 568 closures between 1934 and 1940, 351 were voluntary liquidations, 93 involved mergers, 31 were reorganizations, 6 were conversions to Federal S&Ls and 87 were driven by state action. Most of the reorganizations involved “bulk transfers” of assets in which the membership of an

association segregates non-performing loans from good loans and places the good loans in a new B&L in which each member was given a proportional share. The members, in essence, accepted a write-down in the value of the shares in their original association so that the new "healthy" B&L can begin to operate while the "bad loan association," was liquidated (Ewalt 1962, 116-8). The state actions included 21 liquidations and conservatorships run by the state regulator, likely for fraud. The remaining 58 occurred in only two years—1937 and 1940—and are described in the state reports as "the state taking possession." Most B&Ls in this category continued to operate for a year or two before ending operations, but the annual report provides no clear information about how they were resolved.

The empirical sections of the paper identify the determinants of voluntary liquidations as the key to understanding the timing of B&L resolutions. By narrowing the focus to the period 1934 to 1940 our empirical analysis examines 992 B&Ls that survived and operated until at least 1940, 351 B&Ls that were voluntarily liquidated by their members between 1934 and 1940, and 170 B&Ls who exited through mergers, federal conversions, reorganizations or state actions. The strategy we employ is to first examine the timing of voluntary liquidations by using the first two groups and then investigate the robustness of the results by considering the impacts of the other types of exits in a multinomial logit analysis. In Appendix Table A.1 we also show that the basic qualitative results are unchanged when we treat mergers and reorganizations as voluntary liquidations and when we treat estimate the model treating all the closures the same.

IV. The Empirical Hazard Model

The empirical analysis focuses specifically on the 1934 to 1940 period during which voluntary liquidations accelerated and before state government and federal regulators began to

sponsor large numbers of resolutions. For our baseline analysis we restrict our sample to B&Ls that either exited through voluntary liquidation or survived until the end of our five-year sample period.[23] Using these data we estimate a Cox survival model in which the hazard of closure through voluntary liquidation is:

$$h(t) = h_0(t)\, exp(\beta\, SAC_{itc} + \delta_1\, F_{itc} + \delta_2\, C_{itc} + \delta_3\, F_{i30c})$$

in which $h(t)$ is the hazard of closure in time t, SAC_{itc} is a vector of dummy variables to capture the impact of different ranges of the share of SAC borrowing members among all members. The subscript i refers to the firm, t to the year, and c to the county where the firm is located. Our primary focus is on β, the coefficient(s) on the measure(s) of the proportion of SAC borrowers.[24]

The most complete specification of the model includes a rich set of correlates to control for omitted variable bias and potential selection bias. F_{itc} is a vector of time-varying firm characteristics, including size (measured as log of total assets), the share of DRC borrower/member and a series of variables describing the assets and liabilities. The asset variables include the shares of assets in arrears (non-payments), real estate owned, and cash on hand; the left out category is loans and miscellaneous assets. On the liability side we can also control for the shares of liabilities in installment shares, paid up shares, and unapportioned profits with apportioned profits and miscellaneous as the left-out category.[25]

[23] See Section VIII for the multinomial logit analysis for the sample period in which all types of exits—mergers, conversion to federal charters and reorganizations as well as voluntary liquidations—are modeled.

[24] Because the SAC borrower shares may have some measurement error, we have tried alternative measures of the reliance on SAC loans. In one we used the SAC share of the value of loans, which focuses on the differences between DRC borrowers and SAC borrowers but ignores the non-borrowing members. In a second, we used the proportion of borrowing members of the total membership, which focuses on differences in attitudes between borrowers and non-borrowers but ignores differences between DRC and SAC borrowing members. The results in all settings suggest that greater reliance on SAC loans was associated with a lower probability that the B&L would close.

[25] Although the shares of assets and liabilities measure different elements of the financial structure and health of B&Ls, there are strong connections between the structure of liabilities and the structure of assets. To see the robustness of results to multi-collinearity, we also estimated, but do not report, models with the variables describing the structure of assets and liabilities alone.

C_{itc} represents a vector of time varying measures of economic activity in the county where the B&L was located. Retail sales per capita offers a measure of average consumption and federal tax returns filed per capita controls for the top end of the income distribution. These variables were drawn from data sets compiled by Fishback, et. al. (2011). We also developed a variable for the value of Home Owners' Loan Corporation (HOLC) loans purchased per household across New Jersey counties. [26] The HOLC purchased mortgages from all types of New Jersey lenders and refinanced them for roughly 8 percent of households. Approximately 80 percent of the purchases were made in 1934 and 20 percent occurred in 1935 and the shares varied across counties. We controlled for the value of the HOLC loans purchased per household in those years because somewhere between 33 and 50 percent of the HOLC funds removed problematic mortgages from the B&Ls balance sheets. [27]

Finally, the hazard model structure will not allow us to control for time-invariant features of the B&Ls with fixed or random effects. To control for a significant degree of the unmeasured time-invariant heterogeneity across firms, we therefore include time-invariant controls for the asset structure and size of the firms in 1930 and/or the liability structure in 1930 just before the mortgage crisis started to develop.

[26]The HOLC reported the total distribution of loans and number of households that they made across each county in New Jersey; 80.7 percent of the New Jersey loans were distributed in 1934, and 19.26 were distributed in 1935. See Federal Home Loan Bank Board (1934, 86; 1935, 63; 1936, 164, 192-193) . We used these percentages to apportion the loans for each county for 1934 and 1935.

[27] The HOLC bought troubled mortgages from lenders and then refinanced them for borrowers in 1933 and 1934. This would have helped delay insolvency by removing a number of troubled mortgages from the B&Ls' books. A rough estimate is that the HOLC purchased about $50 million in mortgages from New Jersey B&Ls in 1934 and 1935, which was about 20 percent of the decline in B&L assets during that period. Through 1935 About 8 percent of New Jersey nonfarm homes were mortgaged by the HOLC compared with 9.5 percent for the nation as a whole. New Jersey ranked 36th on that percentage. 5.3 percent of HOLC loans. (Federal Home Loan Bank Board, 1935, p. 63, 1937, p. 164). The Federal Housing Administration (FHA) had relatively small impacts in New Jersey because it, insured a relatively small share of mortgages in NJ before the early 1940s.

V. Estimation Results

In column 1 of Table II we model the hazard of exiting through voluntary liquidation as a function only of the voting bloc size of the borrowing members of B&L associations. Dummies are included here to identify B&Ls in which SAC borrowers were more than one-third of members, for associations with SAC borrowers between one-quarter and one-third of members, and with the actual share of DRC members. The negative and statistically significant coefficients imply that the probability of closure declined for B&Ls with higher shares of SAC borrowers. B&Ls with SAC shares greater or equal to one-third of voters were 75.7 percent less likely to close than B&Ls with SAC shares below 25 percent. B&Ls with SAC shares between one-fourth and one-third were 63.6 percent less likely to close.

The estimated relationships above are unconditioned by the asset or liability structures of the B&Ls. This likely means that there is omitted variable bias that overstates the ability of the SAC loan holders to stop voluntary liquidations. B&Ls with higher shares of assets in real estate owned due to foreclosure were more likely to be in trouble and thus be closed down. The increases in real estate owned almost mechanically led to a reduction in the SAC loan holders as a share of voters. This combination of a positive and a negative relationship would lead to an omitted variable bias that would bias the unconditional estimates toward being more negative.

Once we control for changes in the asset and liability structure of the B&Ls in Specification 2 of Table II, the coefficients on the SAC borrower share of borrowers become substantially less negative. This is consistent with the anticipated negative omitted variable bias in the unconditional estimates.

To reduce potential problems with endogeneity, we add additional controls for the structure of the assets and liabilities of B&Ls in 1930 before the crisis. These controls act somewhat like fixed effects because they control for the asset and liability structures of each B&L in good times just before the crisis hit. We also add measures of contemporary economic activity in the county. When the additional factors are included in the analysis, the coefficients in column 3 of Table II become less negative but remain statistically significant for B&Ls with a SAC share of voters greater than or equal to the one-third needed to block liquidation. The coefficients imply that B&Ls with SAC shares above one-third were 50.2 percent less likely to go into voluntary liquidation than ones with SAC shares below 25 percent. B&Ls with SAC shares of less than one-third and greater than or equal to one-fourth were 24 percent less likely to close than those with less than a one-fourth share, but the relationship is statistically insignificant.

VI. Magnitude and Robustness of the SAC Borrower Vote Effect

One way to show the impact of the SAC share is to see how the baseline probability of liquidation for the sample changes when all B&Ls had SAC mortgage shares of ownership greater than one-third. To obtain the mean predicted baseline probabilities, we started by predicting for each observation the probability of liquidation in a year using the baseline probability estimated in the model, the coefficients from specification 3 in Table II and the actual values of each of the correlates. We then calculate the mean for those probabilities. The mean baseline probability of failing in a particular year is 16.0 percent for the entire sample covering 1934 through 1940. When all firms are given a SAC share above one-third while leaving the rest of the correlate values the same for each observation, the predicted probability falls by -7.6

percentage points from 16.0 to 8.4 percent. Our measure of membership shares has measurement error and voting blocks of SAC mortgage holders might have been able to capture swing voters, so we also have tried giving all firms SAC shares between one-fourth and one-third, and the probability of liquidation would have been 4.2 percentage points lower.

Another way to measure the impact of the SAC Borrower's Share of Assets is to compare the change in the number of voluntary liquidations associated with different assumptions about the shares. Table III shows that the actual number of voluntary liquidations in the 1930s was 351, with only 11 liquidations before 1936. The number of liquidations rose to a peak of 149 in 1939. After calculating the predicted probability of liquidations using the coefficients in specification 4 in Table II in conjunction with the values of the correlates and baseline probabilities for each observation, we found that there would have been the same number of 351 liquidations if we assumed that each firm liquidated when its predicted probability reached 83 percent or more. The frequency distribution of the predicted probabilities using the 83 percent figure was more backloaded than the actual distribution with no predicted liquidations before 1936, a higher peak at 184 in 1939 and most of the rest of the liquidations in 1940.

If all firms had had SAC Borrower Shares greater than one-third, the number of predicted liquidations would have been cut sharply and the peak delayed. Table III shows that the predicted number of liquidations would have been 98 rather than 351 and the peak was moved to 1940 rather than 1939. Had the SAC shares all been between one-third and one-fourth, the predicted number of liquidations would have been 230, roughly two-thirds of the actual number liquidations and also been more delayed. Had all firms had SAC shares been below one-fourth, there would have been 23 more liquidations than actually occurred with a frequency distribution that looked more like the predicted probabilities based on the actual shares. Thus, holding every

other factor at its actual value, the SAC borrower share of owners would have had powerful impact on the likelihood of closure.

For the rest of the variables, which are all continuous, we show the average effect of a one-standard deviation change in that correlate while not changing any of the other correlates for each observation in Table II. We also show the effects of a change equivalent to the change in the mean of the variable between 1934 and 1939. The standard deviations for the sample and the mean values for 1934 and 1939 are shown in Table I. Because the SAC mortgage membership share variables are dummy variables, the changes above when we assign all observations to have SAC shares above one-third are not really comparable to one-standard deviation changes for continuous variables.

To allow comparisons of the magnitude of the impact of the SAC borrower share to the impact of other factors, we have re-estimated the model with the share of members with SAC mortgages, which is continuous, as the dependent variable. The coefficients of the SAC share continuous variable in Table II are statistically significant and negative in specifications 4, 5, and 6 in Table II. The effect of a one-standard deviation increase of 0.129 in the SAC share leads to the reduction in the predicted liquidation probability of 5.6 percentage points from 16 to 10.4 percent. Between 1934 and 1939 the mean SAC share fell by 10.3 percentage points from 26.3 to 16 percent. Such a decline would have been associated with a rise in the predicted liquidation probability of 5.6 percentage points from 16 to 21.6 percent.

There are only three other factors in Table II that have larger or comparable impact on such a 5.6 percentage point rise in dissolution hazard and these are key features of the asset structure that illustrate the dissolution process. Between 1934 and 1939 the average size of B&Ls fell sharply by more than 38 percent (Table I), and the drop increased the probability of

liquidation by 4.2 percentage points in Table II. The first sign of trouble came as the share of arrears increased, showing the impact of delinquencies in the payment on the loans. Between 1934 and 1939 the arrears share of assets actually fell from 5.1 to 2.6 percent in Table III, which would have lowered the probability of liquidation by -2.2 percentage points (Table II) from 16.0 to 13.8 percent. Unfortunately, they were replaced by increases in real estate ownership as the B&L foreclosed on the mortgages that were in arrears. Between 1934 and 1939 the share of assets in real estate owned rose from 21.5 to 37.6 percent of assets (Table I), implying a 14.3 percentage point increase in the probability of liquidation in Table II. [28]

In the estimates in Table II the sample is confined to firms that either voluntary liquidated or stayed open to focus on the decision where the SAC Mortgage share of members would have the most impact. To evaluate the SAC borrower effect in a model that allowed for all types of exits, we also estimate a multinomial logit model with results shown in Table IV that includes all B&Ls and examines the probability of all categories of liquidations: voluntary liquidations, acquisitions and mergers, state interventions, and other. The qualitative results are the same for the voluntary liquidations for the SAC share variables. The SAC shares were also negatively related to lower probabilities of the other types of closures, but the only coefficient that is statistically significant for the other types of closures is for the SAC share greater than one-third for acquisitions and mergers. As for other variables, the presence of more high-income federal

[28]The nonlinear nature of the exponential function underlying the Cox hazard model leads to differences in the magnitudes of changes in the probability of liquidation associated with changes in correlates at different points in the distribution. In the text, the comparisons are based on the average of the marginal differences associated with a change for each observation. An alternative method is to calculate the marginal effect when the predicted probability is evaluated at a point associated with the means for all of the correlates. This method also tells the same qualitative story as in the text. The predicted probability at of liquidation evaluated at the means is 5.1 percent. A one-standard deviation increase in the dummy for a SAC member share over one-third is associated with a -1.2 drop in the liquidation probability. The only larger effects of a one-standard deviation rise are for the real estate share of assets at 5.3, the size of the B&L at -2.1 and the arrears share of assets at 1.7. The OSD effect for installment dues was the same size at -1.2.

taxpayers reduced the probability of voluntary liquidation in this estimation. The HOLC purchase and refinance program had a strong negative relationship with other types of liquidations.

VII. Gains from Borrowing Members and Losses to NonBorrowing Members from Delay

The delay created by the voting rules offered gains to a significant set of borrowers but at the expense of losses for the other members of the B&L. Thus, there was a redistributive feature to the delay in voting rules. The next issue to address is the size of these actual gains and losses. If the gains offset the losses, the liquidation voting rules were purely redistributive between parties within the same B&L. If the losses were larger than the gains, it is useful to know the full cost if a policy maker were to choose to design a similar structure to provide borrowers with more say in the liquidation process. We use the data from the balance sheets of the last few years in operation of the 351 New Jersey B&Ls that voluntarily liquidated between 1934 and 1940 to develop estimates of these gains and losses. The distributions of actual and predicted liquidations in columns 1 and 2 of Table III imply that the two-thirds voting rule delayed liquidation by an average of about one year. Therefore, we focus on the gains and losses to the parties in the B&L from delaying by one year.

Two groups of borrowing members received gains from delaying liquidation by a year. During the delay one group of borrowing members was able to use their shares at book value to repay their loans and own their home free and clear before liquidation. Many of these borrowers had taken out their loans in the mid-1920s and were nearing the end of their repayment process. By avoiding the liquidation, they avoided losing the difference between the book value and the liquidation value of their shares had they been stuck in liquidation. We estimate that the typical loan principal was $6,485, which is 60 percent of the average New Jersey nonfarm house value

of $10,808 in 1930. All dollar figures in this section are denominated in 1967 dollars. After repaying the loan, the book value of the shares would have been $6485. Had these borrowers been forced to go through the liquidation, their shares would have fallen in value by 34.5 percent, so they each avoided an average loss of $2,238 on their shares, as shown in Table V. We estimate that the number of SAC borrowers who paid off their loan during the year delay was 2,598, roughly 25 percent of the borrowers at the start of the year.[29] Thus, the total gain for this group was 2,598*$2,223=$5.8 million in Table V.

A second group who gained from the delay were the borrowing members who likely would have been foreclosed upon had the liquidation occurred earlier. Early liquidation would have caused the loan to come due. Even though the courts typically tried to set repayment structures to minimize foreclosures, this second group would have been unable to repay the loan once they knew that the values of their shares would drop to liquidation value. They typically lost the full value of the home because the foreclosure process typically did not return enough to fully pay off the original debt because home values in New Jersey had dropped by 40 to 50 percent in nominal terms. As the estimate of the home value lost, we interpolated between census years and obtained an average value of a New Jersey home of $7854 for the late 1930s. Our best estimate is that the foreclosure rate rose by 10 percent for borrowers in liquidation because of the drop in the value of their shares. By delaying liquidation for a year, the number of SAC borrowers fell from 10,529 to 7,642. By delaying liquidation a year, the number of foreclosures due to liquidation would have fallen from 1,053 to 764, a reduction of 289 foreclosures in Table V. Thus, the gain to the borrowers who were saved from foreclosure was 289*$7,854=$5.357 million.

[29]The estimate of the number of SAC borrowers who repaid their loan was based on 90 percent of the change in SAC borrowers over the course of the year. We assumed that 10 percent of the mortgage borrowers would have been foreclosed during the year.

A third group of borrowers lost from the delay. This group is composed of borrowers who actually would have gained from further delay because they got stuck in the liquidation but still fully paid their loan. During the liquidation under the Pennsylvania rule, the courts typically valued their shares at book value in the repayment. However, in the final liquidation settlement they were among the owners of the repaid shares, which had dropped to the liquidation value, which declined each year in these troubled B&Ls. We calculated the liquidation value of assets by adding together the cash, investments held, 95 percent of the SAC mortgages, 99 percent of the direct reduction mortgages, the share loans, 50 percent of the real estate owned and the value of other assets. This assumes that the loss on foreclosures was 50 percent of the value of the real estate obtained, 10 percent of the SAC mortgages were foreclosed and 2 percent of the direct reduction mortgages were foreclosed (with a loss of 50 percent on each those loans). To get the liquidation value per member, we divided the liquidation value by the sum of the number of nonborrowing members and the number of SAC borrowers. The average liquidation value per member on average fell by $305 from $2,585 to $2,281 with the year's delay. The members also lost the opportunity to earn a real return of 1 percent on the $2585 liquidation value from the earlier year, which comes to $26 in Table V. For the 7,642 SAC borrowers who would have paid off their loan after liquidation the losses in Table V were a -$2.3 million drop in liquidation value and -$0.199 million in lost interest.

Like this third group of borrowers who repaid after liquidation, the nonborrowing members lost in two ways from the delay. The liquidation value of each share typically fell in value as liquidation was delayed and they lost the return they would have received from investing the liquidation value from the prior year in an alternative investment. There were

66,182 nonborrowing members who would have been involved in liquidations and their losses totaled -$20.2 million in lost value of shares and -$1.7 million in lost interest.

The one-year delay led to a gain of $8.1 million for the borrowers who paid off their mortgages during the delay and the borrowers who were able to avoid foreclosures because of the delay. Their gain came at the expense of the SAC borrowers and nonborrowers in the lower part of Table V who lost a total of -$24.4 million.

The key question is how to put this net loss in context. The size of the net loss relative to New Jersey's aggregate income in 1938 was 0.27 percent of New Jersey's aggregate income in 1938, but that is spreading the loss over the entire population. Say we focus instead only on the members of the B&Ls that liquidated. The sense of trouble generally began about four years before the actual liquidation. The borrowers who benefitted from the year delay received a gain of about 2.2 percent of the book value of the B&L's assets four year's earlier, while the losing members experience a loss equal to about 6.8 percent of that book value. The net loss from the year's delay was thus 4.6 percent of the earlier book value.

There is a problem in focusing on just the building and loans that liquidated because it focuses on the ex post outcome for the building and loans that were in the worst shape. The B&Ls' contracts and voting rules were established long before the signs of trouble developed and we should expect that both borrowing and nonborrowing members anticipated that the voting rules favored borrowers in times of trouble. In this ex ante sense the best comparison of the gains and losses from the year delay is to the value of all New Jersey B&L assets before the series of voluntary liquidations began around 1934. The book value of assets for all B&Ls was $2.4 billion in 1934. Thus, the members of the troubled B&Ls who benefitted from the delay

gained about 0.33 percent of the ex ante B&L total assets. The losing members lost about 1 percent of the B&L total assets, for a net loss overall of -0.68 percent of the assets.[30] [31]

If a policy maker were to design a similar mortgage contract and equity structure for the lending institution that favored borrowers in times of trouble, would the size of these losses prevent the other nonborrowing members from investing ex ante? Probably not if they succeeded in demanding a risk premium in the dividends. In fact, over a long time period, the dividend rates paid out on B&L shares were typically well above the returns for most similar size investments; part of this difference likely served as a risk premium for the rules favoring the borrowers. Also note that a risk premium incorporates the anticipated probability of negative events. B&Ls had performed relatively well in prior recessions and the Great Depression and the worst mortgage crisis in the 20th century had to be considered relatively low probability events in any risk premium calculations.

VIII. Conclusions

During the heart of the mortgage crisis of the Great Depression, the institutional structure of the B&L gave borrowers more power over the dissolution process and mitigated the foreclosure crisis. The mutual structure of the B&L included SAC borrowers as owners of the

[30] The figures in Table V refer only to B&Ls that voluntarily liquidated because the focus is on the voting rule. It is possible that the voting rule delayed the other forms of exit that occurred by up to a year, as well. If the analysis expands to include all B&L who dissolved and assume that the voting rule delayed liquidation by a year for all of the firms, then the SAC borrowing members who benefitted from the delay received a benefit of 0.89 percent of the 1934 book value of all New Jersey B&L assets the losing members lost -1.26 percent and the overall net loss was -0.37 percent. The net loss is smaller because a large share the alternative forms of exit involved acquisitions and mergers of B&Ls who were in better shape than the ones that voluntarily liquidated.

[31] The building and loans that voluntarily liquidated could already see problems three or four years before they closed, as the share of assets in real estate had risen to 39 percent by that time and continued to rise to 55.5 percent in the year before liquidation. If the overall structure of the B&Ls contributed to as much as a three-year delay in dissolution, 55 percent of the SAC borrowers were able to pay off their mortgage before liquidation and another 6 percent likely avoided foreclosure. The gains to these groups from a three-year delay would have come to around 1.1 percent of the book value of New Jersey B&L assets and the loss to other members about 1.6 percent with an overall net loss of -0.5 percent.

organization. B&Ls were not depository institutions and the history of legal rulings about closure made it extremely difficult to close a troubled B&L without a voluntary decision by the members. The one-owner-one-vote structure and the two-thirds majority required for dissolution gave SAC borrowing members significant power to delay closure long enough for thousands of borrowers to pay off their mortgage and avoid facing a sharp drop in the value of their shares as well as an increased likelihood of defaulting during the liquidation.

After developing a new panel data set of all of the B&Ls in New Jersey during the 1930s, we estimate that the voting rules delayed the closure of troubled B&Ls through voluntarily liquidation by an average of about a year. The actual gain to SAC borrowers who repaid before the dissolution because of the delay came to about 0.33 percent of the book value of assets of New Jersey B&Ls in 1934. This gain came at the expense of a loss of about 1 percent of the book value for the remaining members who saw the liquidation value of their assets drop and lost the returns they could have earned from shifting their assets to another investment. From the ex ante perspective of an investor before the crisis the losses from delay would seem to have been reasonable given that the dividend rates paid by B&Ls had long been higher than for other small investments, partly as a risk premium, and that the mortgage crisis and the Great Depression of the 1930s were the most severe crises in American history.

The favorable status of borrowers in the B&Ls compared to their treatment in modern borrowing institutions likely extended beyond the delay in liquidation that is the focus here. B&Ls tended to be smaller institutions, where information on not easily measured aspects of the borrowers' character and likelihood of repayment was available to the managers and other members of the B&L. The B&L that first made the loan also typically serviced the loan.

Further, the borrowers' ownership status likely gave them some influence to other members in foreclosure decisions.

Cooperative lending organizations that resemble the B&L still remain a feature of the U.S. economy, but they tend to account for a much diminished share of the mortgage market. There are several reasons, including competition from new types of longer-term amortized loans and shifts in government policy. These changes are best illustrated by the shift to S&Ls, who ultimately faced their own demise for similar reasons.

Despite the forbearance for borrowers built into the B&L, the B&L model was largely replaced within 20 years by the Savings and Loan model, which offered accounts that were more like deposits and offered direct reduction loans in place of SAC loans. When the ownership stakes and greater forbearance on SAC loans was leavened by lengthening repayment periods as dividends fell, most new borrowers in the 1930s chose the direct reduction mortgage loans, which were amortized over 10 to 15 years with fixed lengths and retired principal with each payment. In fact, most surviving B&Ls started to offer direct reduction loans in the early 1930s (Rose and Snowden 2014). Direct reduction mortgages gained even more popularity when the Federal Housing Administration (FHA) and the Home Owners' Loan Corporation chose them as their standard in the mid-1930s, and their position was solidified when Fannie Mae created a secondary market for such "conventional" loans in the late 1930s. The FHA and later the VA guarantees of the conventional direct reduction loans for lenders allowed them to offer more competitive interest rates to borrowers than the B&Ls. B&Ls faced further disadvantages when the loan-to-value (LTV) ratios required for conventional loans rose to 80 percent and more recently above 90 percent. Such ratios were difficult for B&Ls to sustain because a key feature

that kept B&L borrowers prior to World War II from defaulting was their own 40 percent equity position in their home.

Meanwhile, the nonborrowers providing the funds sought to avoid the limitations on withdrawals imposed by the struggling B&Ls and chose S&L accounts where they had more immediate access to withdrawals. The shift to the S&L model was stimulated by the creation of federal charters for S&Ls in 1934 and the insurance of S&L accounts with the creation of the FSLIC in 1935. The S&Ls later faced their own competitive demise as the deregulation of the financial industry in the late 1970s eliminated their interest rate advantages on deposits and commercial banks and specialized lenders expanded their lending. Over the past two to three decades Freddie Mac and Fannie Mae joined private entities in packaging up mortgages into mortgage backed securities, which were often combined into collateralized debt obligations. All of these changes, involving both choices by market participants between competitive loan products and shifts in government policy that gave advantages to some types of lending, broke the connection between the original lender and the home borrower that helped mitigate the foreclosure problems during the mortgage crisis of the 1930s.

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Table I
Means and Standard Deviations from New Jersey Sample of Building & Loans that Survived or Voluntarily Liquidated Between 1934 and 1940

		1930	1934	1939	1934-1940
SAC borrowers as Share of Members	Mean	0.235	0.263	0.16	0.214
	Std. Dev.	0.117	0.123	0.121	0.129
Dummies: SAC Borrowers Share of Owners Is					
More than One-Third	Mean	0.187	0.266	0.106	0.199
	Std. Dev.	0.390	0.442	0.308	0.399
Between One-Third and One-Fourth	Mean	0.188	0.218	0.132	0.192
	Std. Dev.	0.391	0.413	0.339	0.394
DRC borrowers as Share of Members	Mean	0.003	0.01	0.056	0.029
	Std. Dev.	0.009	0.022	0.06	0.049
SHARES OF ASSETS					
Cash on Hand	Mean	0.016	0.021	0.028	0.024
	Std. Dev.	0.023	0.03	0.043	0.034
Arrearages	Mean	0.015	0.052	0.027	0.039
	Std. Dev.	0.015	0.046	0.044	0.049
Value of Real Estate Owned	Mean	0.033	0.225	0.385	0.339
	Std. Dev.	0.048	0.136	0.196	0.183
Natural Log of Total Assets	Mean	13.678	13.847	13.451	13.626
	Std. Dev.	1.084	0.955	0.886	0.922
SHARES OF LIABILITIES					
Installment Dues	Mean	0.676	0.59	0.442	0.516
	Std. Dev.	0.097	0.111	0.164	0.15
Paid-up Shares	Mean	0.078	0.101	0.129	0.116
	Std. Dev.	0.089	0.104	0.116	0.113
Unapportioned Profits	Mean	0.007	0.118	0.212	0.167
	Std. Dev.	0.009	0.054	0.097	0.082
County Variables					
Retail Sales Per Capita	Mean	447.57	290.202	396.125	357.94
	Std. Dev.	102.63	60.426	71.804	80.942
Value of HOLC Loans Refinanced per Household	Mean	0.000	893.298	0.000	121.439
	Std. Dev.	0.000	401.511	0.000	337.872
Federal Tax Returns filed per Capita	Mean	0.051	0.053	0.094	0.081
	Std. Dev.	0.018	0.017	0.022	0.041

Table II

Results from Cox Model Estimation of Hazard of Voluntary Liquidation of New Jersey B&Ls, 1934-1940
With Percentage of Members with SAC Loans treated as Discrete Ranges and as Continuous Variable

	Dummies for Ranges of SAC Borrower Share					SAC Borrowers as Share of Members		
	Coefficients and (Standard Errors) in Specification			Changes in Predicted Probabilities for		Coefficients and (Standard Errors) in Specification		
	1	2	3	Increase By One Std. Deviation	Change From 1934 to 1939	4	5	6
SAC Borrowers More Than 1/3 of Members	-1.415*	-0.872*	-0.699*	NA	NA			
	(0.195)	(0.295)	(0.281)					
SAC Borrowers Between 1/4 and 1/3 of Members	-1.011*	-0.438*	-0.281	NA	NA			
	(0.210)	(0.186)	(0.199)					
SAC Borrowers' Share of Members						-5.855*	-2.499*	-1.648*
						(0.9443)	(0.6457)	(0.7126)
DRC Borrowers' Share of Members	-3.525	1.591*	1.613*	0.013	0.012	-5.337*	1.2449	1.4762
	(2.265)	(0.768)	(0.948)			(2.5203)	(0.9587)	(1.1749)
Natural Log of (Total Assets)		-0.635*	-0.600*	-0.066	0.042		-0.653*	-0.601*
		(0.083)	(0.155)				(0.0754)	(0.1548)
Share of Assets in								
Real Estate Owned		4.086*	3.968*	0.166	0.143		3.8127*	3.8415*
		(0.730)	(0.646)				(0.6638)	(0.6572)
Arrears		7.256*	5.937*	0.053	-0.022		6.8456*	5.8316*
		(1.099)	(1.133)				(1.1524)	(1.1571)
Cash on Hand		-2.294*	-2.062*	-0.011	-0.002		-2.857*	-2.300*
		(1.271)	(0.819)				(1.1108)	(0.8208)
Share of Liabilities in								
Installment Shares		-1.523*	-1.892*	-0.039	0.051		-1.586*	-1.860*
		(0.446)	(0.502)				(0.3801)	(0.4635)
Paid-Up Shares		-1.029	-1.731*	-0.028	-0.008		-1.201	-1.615*
		(0.876)	(0.599)				(0.8275)	(0.5846)

Unapportioned Profits	2.086*	1.562*	0.022	0.025		1.9192*	1.5798*
	(0.891)	(0.886)				(0.9458)	(0.9431)
County Data							
Retail Sales per Capita		0.0003	0.004	0.005			0.0001
		(0.003)					(0.0032)
Federal Tax Returns Filed Per Capita		5.691	0.043	0.042			5.6843
		(5.261)					(5.3857)
Value of HOLC Loans per Household		0.0003	0.019	-0.039			0.0005
		(0.001)					(0.0009)
Information from 1930							
Natural Log of (Total Assets)		-0.0002	0.000	NA			-0.0033
		(0.186)					(0.1866)
Share of Assets in							
Real Estate Owned		1.245*	0.008	NA			1.1268*
		(0.478)					(0.4560)
Arrears		9.317*	0.019	NA			8.9250*
		(4.687)					(4.3474)
Cash on Hand		4.482*	0.015	NA			4.5036*
		(1.919)					(1.8953)
Share of Liabilities in							
Installment Shares		0.642	0.010	NA			0.5691
		(0.420)					(0.3752)
Paid-Up Shares		2.570	0.014	NA			0.7245
		(7.011)					(0.7806)
Unapportioned Profits		0.970	0.003	NA			1.5392
		(0.806)					(7.3976)

Notes. The sample is confined to B&Ls that stayed open or voluntarily liquidated. There are 9,426 observations across time and B&L. The predicted probability of voluntary liquidation was calculated by adding either the one-standard deviation to the factor in the row (7), or the change in the factor between 1934 and 1939 (8), to every observation while hold all other factors at the actual value for the observation and then averaging the predicted probabilities across all observations. The information on standard deviations and the change from 1934 to 1939 is in Table I. *p < 0.05

Table III
Predicted Number of Voluntary Liquidations Under Different Assumptions About the SAC Borrowers' Share of Owners

		Predicted Probability Exceeded 83 percent When SAC Borrower Asset Shares were			
Year	Actual	Equal to Actual Value	All greater than 1/3	All between 1/4 and 1/3	All less than 1/4
1934	2	0	0	0	0
1935	9	0	0	0	0
1936	36	4	1	4	4
1937	82	12	3	4	14
1938	69	21	6	16	32
1939	149	184	39	113	185
1940	4	130	49	93	139
Total	351	351	98	230	374

Notes. Probabilities of Voluntary Liquidations are based on coefficients from specification 3 in Table II and the baseline hazards and values for each observation. When the predicted probability reached 83 percent or higher in the predictions, we assumed the firm liquidated. The number of liquidations differ from the number in Table II in part due to missing values.

Table IV
Multinomial Estimation for Voluntary Liquidations, Mergers/Acquisitions, State Liquidations, and Other Liquidations

	Voluntary Liquidations		Acquisitions and Mergers		State Interventions		Others	
	Coeff.	Z-Score	Coeff.	Z-Score	Coeff.	Z-Score	Coeff.	Z-Score
SAC Borrowers are More Than One-Third of Members	-1.405	-4.71	-0.639	-2.06	-1.051	-1.35	-0.615	-1.00
SAC Borrowers are Between One-Fourth and One-Third of Members	-0.748	-3.37	-0.249	-0.90	-0.568	-0.87	-1.024	-2.06
DRC Borrowers' Share of Members	0.122	0.10	3.502	2.09	-9.566	-1.82	2.999	1.48
Natural Log of (Total Assets)	-1.391	-7.14	-0.824	-3.67	0.401	0.65	0.595	1.88
Share of Assets in								
Real Estate Owned	4.093	5.99	0.703	0.56	7.798	6.63	0.741	0.76
Arrears	9.018	4.49	2.983	2.59	13.548	6.48	-3.597	-0.74
Cash on Hand	4.954	4.02	-1.797	-0.82	11.736	1.17	12.126	3.90
Share of Liabilities in								
Installment Shares	-1.872	-2.50	-2.593	-1.56	-1.552	-0.85	-1.388	-0.69
Paid-Up Shares	-1.423	-2.00	-0.592	-1.02	-5.113	-4.29	-3.864	-3.03
Unapportioned Profits	3.261	3.21	-7.493	-2.75	-1.594	-0.70	-3.753	-1.19
County Data								
Retail Sales per Capita	0.002	0.70	0.001	0.47	-0.007	-1.13	-0.003	-1.01
Federal Tax Returns Filed Per Capita	-22.084	-5.30	-6.234	-1.25	-13.128	-1.63	-18.835	-2.84
Value of HOLC Loans per Household	-0.00001	-0.01	0.0003	0.73	-0.124	-0.26	-10.082	-5.71
Information from 1930								
Natural Log of (Total Assets)	0.587	2.68	0.420	2.44	-0.167	-0.27	-0.031	-0.10
Share of Assets in								
Real Estate Owned	1.936	2.79	-1.771	-0.65	0.673	0.31	7.314	5.19
Arrears	6.573	1.08	-3.343	-0.32	21.514	1.48	16.389	1.07
Cash on Hand	3.935	1.73	1.821	0.38	1.927	0.22	-9.621	-0.90
Share of Liabilities in								
Installment Shares	1.510	2.83	1.785	3.63	-4.643	-2.53	0.825	1.24
Paid-Up Shares	2.639	2.63	3.399	1.72	-2.370	-1.24	1.131	0.42
Unapportioned Profits	4.945	0.97	29.931	3.03	22.083	2.05	19.141	2.65
Log(Duration)	2.143	4.83	0.757	2.18	3.793	2.10	5.435	6.43
Constant	2.080	0.92	-0.569	-0.28	-8.925	-1.62	-17.346	-4.88

Notes. The sample includes all B&Ls in New Jersey and has 9,426 observations across B&Ls,

Table V
Gains and Losses to Borrowers and NonBorrowing Members from a Year Delay in Liquidation for the 351 New Jersey B&Ls that Voluntarily Liquidated Between 1934 and 1940

Winners and Losers from One Year Delay	Average Gain (+) or Loss (-) per person	Number in Category	Total Gain (+) or Loss (-)	Percentage of New Jersey B&L Assets in 1934
Borrowing Members				
1) Gain for borrower group that avoids the drop in share value from book to liquidation value by repaying during the year delay	2,232	2,598	5,799,583	0.24
2) Gain for homeowners who do not lose their home through foreclosure.	7,854	289	2,267,450	0.09
3) Loss to borrowing members who would have fully paid in liquidation.				
a) Drop in liquidation value	-304	7,642	-2,323,168	-0.10
b) lost return from investing prior year liquidation value	-26	7,642	-198,692	-0.01
NonBorrowing Members				
a) Drop in Liquidation Value of shares	-305	66,182	-20,185,510	-0.83
b) Lost return from investing prior year liquidation value	-26	66,182	-1,720,732	-0.07
Total Gain for borrowing members			8,067,033	0.33
Total Loss for borrowing members			-2,521,860	-0.10
Total loss for nonborrowing members			-21,906,242	-0.90
Net loss			-16,361,069	-0.68
New Jersey Income in 1938			6,090,047,393	
Value of All Assets of All New Jersey B&Ls in 1934			2,421,882,134	
Value of Assets of the Voluntarily Liquidated B&Ls Four Years Before the Liquidation Vote			360,653,404	

Source: Sample of B&Ls that voluntarily liquidated between 1934 and 1940.

Appendix Table A.1

Results in Sample Including All B&Ls and Treating only Voluntary Liquidations as Liquidations

	Specification					
	Treating only Voluntary Liquidations as Liquidations			Treating All Closures as Voluntary Liquidations		
	1	2	3	4	5	6
SAC Borrowers are More Than One-Third of Members	-1.3333*	-0.8824*	-0.7108*	-1.0845*	-0.6432*	-0.4858*
	(0.1895)	(0.2752)	(0.2595)	(0.1868)	(0.2349)	(0.2578)
SAC Borrowers are Between One-Fourth and One-Third of Members	-0.9453*	-0.4143*	-0.2708	-0.8286*	-0.3415*	-0.2100
	(0.2134)	(0.1711)	(0.1880)	(0.1366)	(0.1294)	(0.1463)
DRC Borrowers' Share of Members	-3.6216*	1.4801*	1.5506*	-1.2139	2.6017*	2.4632*
	(2.0600)	(0.6926)	(0.8326)	(1.7608)	(0.7257)	(0.9263)
Natural Log of (Total Assets)		-0.6937*	-0.6830*		-0.3618*	-0.2600*
		(0.0608)	(0.1369)		(0.0834)	(0.1305)
Share of Assets in						
Real Estate Owned		3.5502*	3.5205*		3.3023*	3.1455*
		(0.7053)	(0.6448)		(0.5116)	(0.4735)
Arrears		6.6687*	5.7404*		6.1341*	5.0757*
		(1.1717)	(1.2514)		(1.0803)	(0.9157)
Cash on Hand		-3.0211*	-2.9473*		0.7821	1.2577
		(1.1278)	(0.6194)		(1.1853)	(1.1898)
Share of Liabilities in						
Installment Shares		-1.0602*	-1.2906*		-1.6718*	-1.8504*
		(0.4747)	(0.5500)		(0.4309)	(0.4561)
Paid-Up Shares		-0.8826	-1.1584*		-1.1593*	-1.2042*
		(0.7832)	(0.6119)		(0.5502)	(0.5982)

Unapportioned Profits	2.6491*	2.2835*	-0.5063	-0.7061
	(0.9743)	(1.0841)	(0.6634)	(0.7483)
County Data				
Retail Sales per Capita		0.0006		-0.0007
		(0.0024)		(0.0019)
Federal Tax Returns Filed Per Capita		5.8871		7.3913*
		(4.7402)		(3.1556)
Value of HOLC Loans per Household		0.0003		-0.0002
		(0.0010)		(0.0005)
Information from 1930				
Natural Log of (Total Assets)		0.0168		-0.0597
		(0.1743)		(0.1341)
Share of Assets in				
Real Estate Owned		0.8612*		0.5040
		(0.2645)		(0.5499)
Arrears		7.5735		10.4437*
		(4.8602)		(2.0724)
Cash on Hand		3.8157*		3.2651*
		(1.9137)		(1.5587)
Share of Liabilities in				
Installment Shares		0.4623		0.5504*
		(0.7679)		(0.2702)
Paid-Up Shares		0.9400*		0.2510
		(0.3162)		(0.8018)
Unapportioned Profits		-0.2730		10.3204*
		(5.6836)		(3.8986)

Notes. The sample includes all B&Ls in New Jersey and has 9,426 observations across B&Ls and years. In this sample all voluntary liquidations are treated as liquidations, while all survivors and the firms that were merged, acquired, closed by the state or closed for other reasons are treated as nonliquidations..*$p < 0.05$