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7 The Evolution of Interregional Mortgage Lending Channels, 1870–1940: The Life Insurance–Mortgage Company Connection

Kenneth A. Snowden

The American mortgage market experienced a burst of financial innovation between 1870 and 1890 when several new types of intermediaries arose to facilitate the flow of mortgage credit from the Northeast and Europe to areas of settlement in the South and West.[1] But progress toward a fully integrated national mortgage market stalled when most of the new institutions failed during the mortgage crisis of the 1890s. The most important survivors were a few life insurance companies that had already become the nation's largest interregional lenders. Other large life insurance companies established interregional lending operations soon after 1900, and the industry remained the primary source of long-distance mortgage credit in the United States until the 1950s. This paper traces the historical process that brought life insurance companies to their position of dominance in the interregional mortgage market and explains why no other intermediary served the same function.

In order to lend interregionally, intermediaries had to employ loan agents who could make and enforce mortgage contracts in distant markets. But these agents also had to be monitored. A few insurance companies internalized the supervision of loan agents within elaborate branch office networks, but most contracted with other firms, called mortgage companies, to supervise loan agents for them. The life insurance–mortgage company connection dominated the interregional mortgage market in the United States because other interme-

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1. Lance Davis (1965) first articulated the connection between nineteenth-century American financial market integration and financial innovation.

diaries either did not incorporate loan agents into their lending structures or failed when they attempted to do so.

Local building associations, savings banks, and commercial banks did not use loan agents because they made mortgages only in their local markets. Many of these institutions were prohibited from lending out of state, but regulation cannot explain why they all shunned the national mortgage market. I argue in section 7.2 that local lending agencies restricted their mortgage operations to spatially concentrated markets because they were poorly designed to cope with the unique information imperfections associated with long-distance mortgage lending. To make the point I examine the notable exception: the "national" building associations of the 1880s. These intermediaries extended the cooperative mortgage lending structure popularized by local building associations to the interregional market, but nearly all of them had collapsed by 1900.

Western farm mortgage companies appeared in the 1870s specifically to make and enforce loans for eastern and European investors, first by simply brokering mortgages and later by issuing mortgage-backed securities. These companies grew rapidly in number for more than a decade, but nearly all of them failed in the 1890s. In sections 7.3 and 7.4 I examine the rise and fall of the farm mortgage companies to characterize the complex contractual arrangements that were used in the interregional market. These contracts linked borrowers to loan agents, loan agents to intermediaries, and intermediaries to investors. All three types of contracts can be rationalized as responses to the specific information asymmetries that arose in each of these bilateral relationships. A rapid increase in the supply of mortgage credit during the 1880s, however, led to a breakdown of the incentives built into the contracts and generated an episode of "overlending." So the fragility of interregional lending arrangements was responsible for the mortgage crisis of the 1890s and, as a result, the incomplete integration of the national mortgage market before 1900.

Unlike other interregional intermediaries, life insurance companies externalized their loan agent networks by establishing relationships with independent mortgage companies. This structure also proved to be fragile, however, and actually became the driving force behind the farm mortgage boom of the 1920s. In fact, the insurance companies came to dominate the national mortgage market not because they were able to avoid bouts of overlending, but because they were able to survive the subsequent mortgage crises. They did so by establishing internal monitoring structures to enforce outstanding mortgages and to manage foreclosed properties when their relationships with mortgage companies broke down. This complex inside-outside lending structure was ideally suited to withstand the instability that was an inherent characteristic of the interregional mortgage market before 1950. These themes are drawn out in sections 7.5 and 7.6, where I examine the development of the life insurance–mortgage company connection before 1900, its rapid expansion during the interwar period, and the collapse of this most durable interregional lending structure in the 1930s.

Insurance companies once again regained their dominance in the interre-

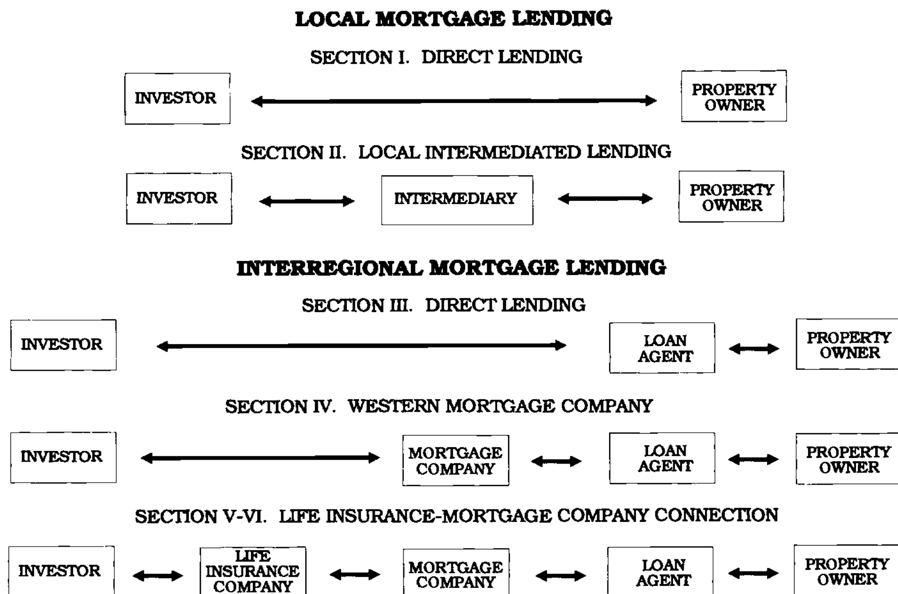

Fig. 7.1 Lending arrangements in the historical mortgage market

gional mortgage market after World War II by establishing connections with a new generation of mortgage companies. This time, however, they concentrated on federally insured and guaranteed loans. In the conclusion I argue that these government programs ameliorated the informational forces which had previously destabilized interregional lending structures, encouraged intermediaries other than insurance companies to lend over long distances, and led to an integration of the national mortgage market.

In section 7.1 I characterize the information imperfections that are associated with mortgage lending and discuss their influence on the costs of making and enforcing historical mortgage contracts. I also examine the role of "delegated monitors"—individuals or institutions who made and enforced contracts for other investors. I use these insights in the rest of the paper to explain why several types of lending arrangements were used in the historical mortgage market and why so many interregional structures failed. Some of these institutional arrangements may be unfamiliar to readers, so all of the contractual relationships that are discussed in the paper are outlined schematically in figure 7.1.

7.1 Negotiation and Enforcement of Historical Mortgage Contracts

Before 1930 American mortgage contracts differed from modern loans in several respects. They generally had maturities of only three to five years, were

normally written for less than one-half of the property value, and required the borrower to pay only interest while the loan was outstanding. The entire principal was due at maturity, but it was common for the borrower to renew the mortgage several times before extinguishing the debt.[2] In this section I explain how mortgage debt was negotiated and enforced in the historical mortgage market and why investors sometimes used a third party to perform these services for them.

The owner of real estate realizes the returns from his investment by retaining ownership and earning a stream of income, or by selling the property for the present value of the income that it is expected to earn in the future. When the acquisition of property is externally financed, the outside investor must be paid from one or both of these sources. These arrangements are generally complicated by two types of information asymmetries. First, the owner directly observes information about the actual level of current returns, whereas the outside investor does not. Second, the owner can take unobserved actions that affect the level of current and future returns. "Hidden information" and "hidden action" problems have a profound influence on the contractual relationship between owner and investor and are the reasons that real estate investments are generally financed with mortgage debt.

To understand why, consider the problems of financing a real estate project with equity. Under this contract the owner might claim that the current return on the project was lower than its actual level and blame the poor performance on a bad "state of nature." Since the announcement might be true, the investor would have to accept a smaller payment than her share of the actual return. Moreover, the owner might choose to increase current returns by overworking the property and depreciating its value, opt to consume leisure rather than maintain the property's physical condition, or even sell off portable property improvements—all without the investor's knowledge. Any of these actions would lower the investor's payment below its promised level if the property were then sold. Under an equity contract, then, an uninformed investor can protect her interests only by directly observing the project's current return and the owner's actions. Contracts like these are very costly to enforce, however, because the investor must continuously monitor the property owner.

Mortgage—rather than equity—contracts have typically been used to finance real estate projects because they mitigate hidden information and action problems while generating relatively low expected enforcement costs.[3] Such contracts stipulate a fixed payment of principal and interest which is independent of the project's current return or of the property's value. Because the owner cannot affect the size of the payment made to the investor by under-

2. Snowden 1987 and 1988 provide detailed information about the lending terms that were used in the historical mortgage market.

3. Much of the discussion in this paragraph is based on Townsend's explanation (1979) of the optimality of debt when state verification is costly. Townsend's analysis is restricted to the hidden information problem, however. See also Gale and Hellwig 1985.

reporting the project's current return, he has no incentive to do so. In particular, the owner is discouraged from declaring a "false" default under a mortgage contract because the investor is then allowed to take possession of the property, sell it, and recover all principal, forgone interest, and expenses. Because the owner knows that a false default only delays full repayment and triggers a "penalty" as well (the costs of foreclosure proceedings), he is better off simply honoring the contract when he can. In addition, a mortgagor has incentives to make and maintain improvements to his property because he holds the residual claim if it is sold. So the mortgage contract is costlessly self-enforcing so long as the owner chooses to retain possession of the property and earns sufficiently high returns to make the stipulated payments.

If the owner defaults, however, the investor must actively enforce a mortgage, and the cost of doing so depends on the reasons for the delinquency. Sometimes the owner would like to make the payments stipulated by the contract, but is unable to do so because current returns are too low. In this situation the investor must first confirm that a temporary problem exists, and then normally seeks to reschedule the payments.[4] The investor incurs only modest enforcement costs during a "temporary" default, since she must only confirm that the owner continues to value his residual claim on the property. The problem is much more serious, and enforcement costs far greater, if the owner chooses to default because the market value of his property falls below the discounted value of the remaining mortgage payments. In this case the owner's residual claim on the property is worthless, and the investor already "owns" the entire project (less the foreclosure costs she must absorb to assume ownership). In these situations the hidden-information and -action problems also arise in full force because the owner has incentives to hide all of the project's return, to make no interest or property tax payments, and to sell off or depreciate all improvements. To protect her interests, therefore, the investor must monitor the property owner carefully and at great cost when foreclosure is imminent.

These elements of contract enforcement were clearly at work in the historical mortgage market. Despite Populists' claims to the contrary, investors consistently sought to accommodate mortgagors by rescheduling mortgage payments when they defaulted.[5] In fact, most states required mortgagees to exercise this type of forgiveness during the late nineteenth and early twentieth

4. Bagnoli and Snowden (1993) examine an environment in which the hidden-action problem becomes critical in the default state. They also provide historical evidence of the contingent nature of enforcement costs in the mortgage market during the late nineteenth and early twentieth centuries.

5. An interesting feature of the analysis in Bagnoli and Snowden 1993 is that the optimal secured debt contract calls for the investor to take all of the surplus under rescheduling, and leave the borrower at his reservation level of utility. The reason is that the original scheduled payment is minimized and, therefore, the expected cost of monitoring is lowest, when the investor's return is maximized whenever costly default occurs. This helps to explain why investors in the nineteenth century consistently claimed that "we seek interest, not land," while borrowers (and Populists) perceived that investors were trying to push them off the land during negotiations subsequent to default.

centuries. During statutory "redemption" periods of one or two years, a defaulter had the right to maintain possession of the land and to terminate the foreclosure proceeding at any time by paying all arrears (Skilton 1944). When all efforts to reschedule failed, however, the property owner was left to choose one of three actions (Bogue 1955; Woodruff 1937). Sometimes he simply abandoned the property and left the investor to initiate foreclosure proceedings. Alternatively, the owner deeded the land over to the lender for a nominal fee to avoid the costs and delays of foreclosure proceedings. The third response was worst from the investor's viewpoint; the owner could choose to remain on the land during the redemption period so that the investor had to monitor the borrower and inspect the property until foreclosure proceedings had been completed.

No matter how ownership changed hands, there were still greater costs ahead. The investor had to sell the property to liquidate her investment, and the outlays associated with this activity were substantial (Mehr 1944; Woodruff 1937). Taxes had to be paid so that ownership did not pass to the local government. If the property was not sold through the court (the procedure when foreclosure was contested), advertising and selling costs had to be borne. More important, the property had to be managed and maintained until it was sold. If the improvements had depreciated (during the redemption period, in anticipation of deeding the land, or as a result of abandonment), investments had to be made to bring the land back to salable condition. The investor would often lease the land to a tenant until a buyer could be found. While this approach yielded income, it also required intensive monitoring to collect rental payments and to make sure that the tenant did not depreciate property improvements. Therefore, the investor would break even on a foreclosure only if the sale of the property covered the original payments that she had been promised and the substantial expenses that were associated with seizing encumbered real estate and liquidating her investment.

The important point is that the enforcement costs associated with mortgage lending varied across contingencies: they were negligible so long as the project's current return was sufficient to cover interest charges and the property owner preferred to retain ownership; increased modestly if the borrower defaulted because of a transient shock to the return stream; but rose to much higher levels when foreclosure became imminent. So expected enforcement costs under a historical mortgage contract depended critically on the probability of default and foreclosure. Investors were compensated for these costs by a premium that was stipulated in the contract when the mortgage was negotiated. The investor absorbed all "enforcement risk," however, because she did not know whether any particular loan would involve low or high enforcement cost when it was made. We shall see below that the allocation of enforcement risk played a critical role in all interregional lending arrangements.

The theory of optimal contracting predicts that agents will choose the least-cost mechanism from the set of incentive-compatible contracts. So expected

enforcement costs under mortgages should have been lower than those under other types of contracts that could have been used to finance real estate investments. In fact, to lower expected enforcement costs investors used a rule of thumb in the historical market that may appear conservative when compared to modern practice—"the principle of sound . . . mortgage [lending] is that the loan shall not exceed one-half the value of the land even though [the property] be abandoned, the improvements destroyed, and the land reduced practically to its primitive state" (Robins 1916, 124). The idea, of course, was to avoid foreclosure (and very high enforcement costs) by restricting total debt payments to a level well below the property's current value. A serious problem with this system, however, was that the risk of foreclosure was completely determined by the accuracy of the property appraisal which, in turn, depended heavily on the judgment, experience, and honesty of the person performing it (Hurd 1923, 197). The great danger was that the property might be overvalued during negotiation, in which case its owner would have been more likely to renege on the contract if property values declined during the life of the loan.

I have spoken as if investors perform all negotiation and enforcement themselves, and, in fact, most American mortgage loans were directly negotiated and enforced by investors until the early twentieth century. But I am interested here in explaining the development of more complex lending arrangements in which investors contracted with third parties to negotiate and enforce mortgages for them. Financial intermediaries normally take up the role of the third party in loan transactions, and by 1900 savings banks and building associations had become the nation's most important sources of intermediated mortgage debt. But these institutions operated only within local markets. All interregional loans, on the other hand, were made through loan agents who negotiated and enforced the mortgage for a distant investor. Sometimes these individual agents would contract directly with an investor, but most interregional mortgage credit passed through complex hierarchical arrangements in which one or more financial institutions intermediated the relationship between investor and loan agent. The goal of this paper is to explain why these complex forms of intermediation arose in the interregional market, and why so many of them failed.

To do so I appeal to a framework that has recently been used to show that intermediaries act as "delegated monitors" when they negotiate and enforce information-intensive loans.[6] The critical insight of this new understanding of financial intermediation is that a delegated monitor must have incentives to negotiate and enforce loans in the investor's best interest. This requirement, which I refer to as credibility, stems from the fact that the intermediary, rather than the investor, observes the private information of the borrower. Unless its behavior is constrained, there are several ways that the intermediary could use

6. Diamond 1984 and Williamson 1986 show why delegated monitors arise when loan contracts are subject only to hidden information.

this information advantage to raise its own payoffs at the expense of the investor: by negotiating loans carelessly; by selecting high-risk, high-interest loans without informing the investor; or by falsely reporting loan defaults. It can be costly, however, to provide an intermediary with incentives not to engage in these behaviors. So the intermediary qualifies as a cost-effective and credible delegated monitor only if the information asymmetry between it and the investor can be ameliorated without exhausting its relative cost advantage over investors in the negotiation and enforcement of loans.[7]

I argue below that the uneven and irregular development of the interregional mortgage market resulted from the difficulty of establishing lending structures within which loan agents could serve as delegated monitors. I will show that the primary determinant of mortgage negotiation and enforcement costs was proximity to the property owner—so loan agents clearly enjoyed a cost advantage over distant investors. The vexing problem was to establish the agents' credibility. In sections 7.2 and 7.3 I argue that locally focused intermediaries and most individual investors found it prohibitively costly to monitor distant loan agents, and so were shut out of the interregional market. Then I show that the intermediated lending structures that were specifically designed to incorporate loan agents were inherently unstable.

7.2 Intermediated Mortgage Lending within Local Markets

In this section I consider intermediaries that restricted their mortgage lending operations to local markets before 1900. The discussion provides historical evidence that proximity to the borrower was the critical determinant of the costs of mortgage negotiation and enforcement and that this constraint represented a particularly troublesome impediment to the development of interregional intermediaries. I also explain why intermediated structures that operated successfully in local markets did not enter the national mortgage market.

Two of these intermediaries, mutual savings banks and local building associations, rank among the most successful American financial innovations of the nineteenth century. Mutual savings banks were introduced in a few northeastern cities in the 1810s and 1820s to serve as a repository for the savings of the working poor. Building associations, on the other hand, were first established in Philadelphia during the 1830s so that members could cooperatively finance

7. In Diamond 1984, for example, the cost advantage of intermediation arises because individual investors must share loans in the absence of a delegated monitor because of a wealth constraint. No single investor can credibly promise to act as a faithful delegated monitor for the others, so each one must enforce the contract separately. He then uses the law of large numbers to show that the delegated monitor can charge borrowers an infinitesimal premium and drive to zero the probability that the return on the loan portfolio will fall below the deposit liability. Since it is nearly impossible for the delegated monitor to actually default, he cannot falsely declare that he has.

the purchase of homes. These institutions became so popular that by 1900 savings banks were operating in seventeen states and building associations had been organized in every state and more than two thousand cities (Lintner 1948, 49; Rotella and Snowden 1992). Both institutions specialized in raising funds from small investors who could not have made mortgage loans directly. In 1890, for example, the average deposit in a savings bank was $355, and the average shareholding in a building association was $303, while home mortgages ranged in average size from $900 in the North Central states to $1,600 in the Northeast (Lintner 1948, 49; Wright 1893, 15; U.S. Census Office 1895a, 75). But these modest investments added up. In 1890 these two intermediaries claimed more than five million depositors and members, and held 60 percent of the nation's intermediated mortgage debt.

With so many members dispersed so widely across space, these intermediaries could have become large in size and lent broadly within and across the nation's urban markets. By doing so they could have become large and highly diversified delegated monitors, and stimulated the flow of mortgage funds among regional markets. But mutuals and building associations chose to lend only within their local markets. Both lending structures relied on social, cultural, and economic relationships in their communities to make and enforce loans at lower cost than individual investors, and to establish their credibility as delegated monitors. Outside community boundaries, however, they were neither cost-effective nor credible.

Mutual savings banks were organized and run by local business leaders and entrepreneurs who already had accumulated knowledge about local real estate markets and lending conditions. They were less qualified, however, to make and enforce loans in more distant markets. Two early antebellum mutuals, for example, adopted "investment polic[ies] . . . marked by a considerable degree of provincialism. It is almost as if the managers refused to invest in any asset that they could not touch" (Davis and Payne 1958, 404). John Lintner (1948, 406–8) explained why mutuals continued to behave in the same way during the early twentieth century. He found that between 1918 and 1931 Massachusetts' savings banks experienced a 3.8 percent net loss rate on mortgages that were made close to the home office (in the same or adjoining cities), while the loss rate was 7.1 percent on loans made two or three cities distant, and 10 percent on those located four or more cities away from the bank. He concluded that "[t]he results clearly point up the greater hazard of lending outside the area with which the bank is most familiar and within which its lending facilities are most adequate" (Lintner 1948, 408).

Building associations relied on its members to make and enforce mortgages cooperatively, and had to restrict their activities to areas that were already well known to the membership and easy for them to observe. Members pledged to purchase association shares equal in value to the principal of the home mortgage loan for which they planned to apply in the future. The installment pay-

ments on these shares were collected at mandatory monthly meetings, and each member eventually received his loan as the share payments accumulated. Members jointly monitored the condition of the property that secured the others' loans, and the ability of other members to make share and interest payments as promised (Bodfish 1931; Clark and Chase 1925). Not surprisingly, building associations were often small, single-neighborhood organizations. In fact, in 1890 more than twenty-three hundred building associations operated in just the twenty-eight largest cities in the country. Each averaged only 314 members. The focus on community lending continued during the late nineteenth and early twentieth centuries even after elected officers and committees of members assumed the responsibility for the mortgage business of most associations. These individuals were drawn from the general membership and had no special knowledge of remote loan markets, much less experience in them (Bodfish 1931).

Besides the cost advantage, these two mutual organizations also used their local character to establish credibility. The general membership of these mutual organizations need not have been overly concerned that the trustees or member committees would exploit their informational advantage because none of these "insiders" held residual claims on their institutions' portfolios. The greater danger was that trustees or member committees, who served without pay, might neglect their duties or select and enforce mortgages carelessly. These individuals had strong incentives not to shirk their responsibilities, however, because to do so risked the loss of their reputations as well as the imposition of sanctions within their local community.

The trustees of mutual savings banks were self-proclaimed philanthropists who publicly committed themselves to help the poor by providing a safe outlet for the savings of the working class. The goal was to raise the material and spiritual welfare of the unfortunate and to relieve the "better-off" citizens from having to care for the destitute population. Whatever other motives trustees may have had, and there has been controversy on this score, there is little doubt that a failure of a savings bank would have resulted in substantial public embarrassment for its organizers (Olmstead 1976, 108–16). This may explain why "[f]or the country as a whole, the total losses to depositors over their entire 131 year history have been less than 1/4 of 1% of the deposit balances now outstanding" (Lintner 1948, 21). It seems unlikely that the trustees would have shown such care and diligence if they had been serving members located far away from their own communities. The officers of building associations, on the other hand, had incentives to perform their duties faithfully because their closest neighbors and friends relied on them to do so. Many associations served tightly knit ethnic and religious communities, so an irresponsible member or director could expect to suffer social sanctions as well as a loss of face.

The reader may worry that regulatory restrictions, rather than the cost and reputational advantages of localization, imposed a narrow geographic focus on these institutions. Mutual savings banks were prohibited from lending out of

state until the 1950s, but we have already seen that they limited their activities to markets that were even more concentrated. The case is even clearer for the building associations. Most states did not even begin to regulate these organizations until the 1890s, but by then the members of some four thousand associations had already decided to restrict the lending operations of their cooperatives to their home counties (Rosenthal 1888, 103). Building associations were prohibited from lending out of state only after the "national" associations had unsuccessfully attempted to extend this lending structure to the interregional market in the 1880s and 1890s (Bodfish 1931, 113). It will be useful to briefly examine their story.

Beginning in the mid-1880s the "nationals" began to recruit members and make loans across and within broad regional markets (Bodfish 1931, chap. 7). These organizations attracted members by emphasizing the benefits that could be derived by extending the building-association form over a wider area: greater safety (because the loan portfolio was geographically diverse), higher earnings (because the association could penetrate markets with high mortgage rates), and lower expenses (because of efficiencies of large scale). The officers of the nationals could not cost-effectively make and enforce mortgages from headquarters, of course, and so local loan boards were established to perform these functions in markets hundreds of miles away. While these delegated monitors were knowledgeable about their home markets (many were real estate agents and developers), they were given no incentives to place the interests of an anonymous membership above their own. The directors of the nationals should have monitored loan agents of this type with great care. It would have been very costly to do so, however, and the nationals established no formal mechanisms to assure the reliability of their local boards. So it was no surprise when many mortgages went into default after 1893 and the nationals began to acquire substantial amounts of overvalued real estate. The end of the national movement is generally dated at 1896, after the failure of the largest national association in the country. A wave of closings followed, and only 6 out of 240 national associations survived the century.

The local associations believed that the failure of the nationals provided compelling evidence that long-distance cooperative mortgage lending structures were inherently unreliable. A more disinterested group, the Massachusetts Bank Commissioners, reached the same conclusion: "A co-operative bank is in all respects a local institution. Its members should be taken from the immediate vicinity where it is formed, and its loans made upon real estate in the same locality" (Eldredge 1893). Thus, a broad range of evidence, opinion, and experience all point to the same conclusion: intermediated structures that were successful in local mortgage markets could not lend over wider areas both credibly and at low cost.

Before considering the interregional market, it will be useful to provide a more precise picture of the significance of local intermediated lending channels. Table 7.1 reports the relative importance of these institutions by region

Table 7.1 Structure of Intermediated Mortgage Lending, 1890–93

			Held by Local Lenders[b]				Held by Interregional Lenders[b]			
			Banks (%)						Mortgage Companies	
				Savings						
Region[a]	Total Mortgage Debt (millions of $)	Held by Intermediaries (millions of $)	Commercial	Mutual	Stock	Local Building Associations	Life Insurance Companies (%)	National Building Associations (%)	Bonds (%)	Passed-Through[e] (millions of $)
Northeast										
New England	519	328 (63%)	—	90	1	4	4	0.2	—	–(0%)
Mid-Atlantic	2,586	637 (25%)	1	53	—	22	24	0.7	—	— —
North Central										
East North Central	1,027	315 (31%)	4	3	5	49	35	3	—	— —
West North Central	603	144 (24%)	2	—	18	10	41	7	23	67 (11%)
South										
South Atlantic	126	24 (19%)	3	1	6	61	5	25	—	3 (2%)
East South Central	173	39 (22%)	1	—	1	63	9	26	—	— —
West South Central	658	149 (23%)	7	—	1	27	29	3	33	121 (18%)
West										
Pacific	324	158 (49%)	14	—	71	12	2	1	0.2	3 (1%)
U.S.	6,017	1,793 (30%)	3	36	9	24	22	3	5	194 (3%)

Sources: Mortgage debt outstanding: U.S. Census Office 1895b. Commercial and savings banks: U.S. Comptroller of Currency 1890. Local and national building associations: Wright 1893. Life insurance companies: Pritchett 1977. Mortgage companies: Massachusetts 1890–95; New York 1891–97.

Notes: Debt for 1 January 1890, while debt held by intermediaries for as close to 1 January 1893 as possible. Debt allocated to region of intermediary's headquarters, except for the insurance companies.

[a]Regions are New England: CT, ME, MA, NH, RI, VT; Mid-Atlantic: DE, NJ, NY, PA, MD, DC; East North Central: IL, IN, MI, OH, WI; West North Central: IA, MN, NB, ND, SD, WY, MT; South Atlantic: VA, WV, FL, GA, NC, SC; East South Central: AL, KY, MS, TN, LA; West South Central: MO, AR, KS, TX, CO, NM; Pacific: AZ, ID, NV, UT, CA, OR, WA.

[b]The percentage shown in the table is the share of "Held by Intermediaries" in each region.

[c]Mortgages held by insurance companies are allocated to the region where they were originated.

[d]Debentures issued by mortgage companies backed by mortgage portfolios.

[e]"Passed-through" mortgages are originated by mortgage companies but held by individuals. In parentheses is the percentage of the total regional mortgage debt passed through.

and for the nation as a whole. The numbers in the table are rough: mortgage debt outstanding was measured by the Census Office as of 1 January 1890, whereas the amounts of debt held by intermediaries were taken from a variety of government reports prepared between 1890 and 1893. My aim is to provide a sense of relative magnitudes, however, and the estimates are reliable enough for this purpose.

As noted earlier, mutual savings banks and local building associations were the most important institutional mortgage lenders in the late nineteenth century and together held three-fifths of the nation's intermediated mortgage debt. When deposit and stock savings banks are included, the share supplied by strictly local lending agencies increases to three-quarters. In addition, we shall see later that many insurance companies were also lending close to home at this time. So the vast majority of all intermediated mortgage lending was local in character right before the turn of the century.

The rest of the paper focuses on the interregional market. I have already discussed the national associations which, for all of their notoriety, contributed only 3 percent of the intermediated lending flow in 1893 and disappeared altogether by 1900. Life insurance and mortgage companies were the only other institutional channels through which interregional mortgage lending took place in the early 1890s.

7.3 Loan Agents as Delegated Monitors

We have seen that mortgage lending was primarily a local activity before 1900. An accurate appraisal required a detailed inspection of the property and an intimate familiarity with the determinants of current and future property values in that market. Effective monitoring of a defaulter entailed continuous, "hands-on" contact and periodic reappraisals of the property as well. The requirement for local supervision and control became even greater if the lender acquired the land through deed or foreclosure. So an investor could lend interregionally only if she employed a representative located close to the property to make and enforce the mortgage contract. These loan agents were used by every intermediary or individual investor who participated in the national mortgage market. In this section I show how loan agents established themselves as low-cost and credible delegated monitors.

Because proximity to the borrower was the critical determinant of the cost of mortgage making, loan agents normally resided in the county in which they conducted business. To be an effective delegated monitor the agent also had to be familiar with local real estate conditions. We have seen that national building associations appointed real estate brokers and developers to their local loan boards. Allan Bogue (1955) has documented a similar pattern for the Davenports, a New York family that invested heavily in farm mortgages in Illinois, Iowa, Kansas, and Nebraska between 1870 and 1900. The family chose either lawyers, real estate promoters, or, most frequently, bankers to serve as their

loan agents in all four states. Agents like these could observe information about individual owners and property values in their local markets at low cost.

There were individuals willing to serve eastern investors in most western towns, but a reliable loan agent first had to be selected and trained. Mortgage lending was a complex undertaking that required a thorough understanding of the investor's particular preferences and methods, and the ability to implement these with good judgment. The Davenports sent a son to live in Illinois for several years in the 1860s to establish the family's western mortgage loan business (Bogue 1955, 9–11). During this time he learned how to select borrowers, set loan terms, and maintain lending records. He also developed techniques for handling delinquencies, foreclosure proceedings, and land sales. Potential agents had general knowledge of these matters, but the Davenports corresponded extensively with new agents to instruct them about the family's particular procedures and methods. Furthermore, after training an agent, the investor still had to evaluate his competence and judgment. The Davenports typically made a few loans through a new loan agent and evaluated his performance on these before allowing him to make more loans (Bogue 1955, 62). Investors as large as the Davenports, who made $4 million of loans in thirty years, could spread the fixed costs of selecting and training a loan agent over many loans. For small investors, however, these costs were prohibitive.

A second, and greater, difficulty associated with interregional mortgage lending was that the loan agent had to be given incentives to negotiate and enforce loans faithfully. Like any delegated monitor, the loan agent observed hidden information about the borrower before and after the loan had been made. He had both opportunity and incentive, therefore, to increase his own well-being at the investor's expense by making high-risk loans, sharing "hidden returns" with the property owner, or supplying too little enforcement effort. In addition, the opportunities were greater and incentives stronger because agents had collateral interests in their local real estate markets.

So investors monitored loan agents to assure their performance. The Davenports, for example, corresponded frequently even with their most experienced agents and sent a family member west each year to evaluate their agents' work directly. Supervision of this type protected against gross negligence or fraud, but could not assure that the agent was diligent when negotiating or enforcing each loan. So a mechanism other than supervision was required to provide loan agents with incentives to be credible delegated monitors.

To explain the mechanism that was used I must be more precise about the structure of the contract between an investor and a loan agent. The agent agreed to search for prospective borrowers, take their applications, perform appraisals, and forward the papers for the investor's approval. If the investor accepted the loan, the agent was compensated with a commission. The commission was calculated as a percentage of the loan's principal and was normally paid by the borrower when the loan was closed. The agent then passed the

mortgage to the investor and agreed to collect payments and to enforce the loan until it was repaid.

This contract had a peculiar feature. The uninformed investor bore all of the monetary risk, while the informed agent received a commission that was fixed and independent of the loan's outcome. We have seen earlier that the mortgage loan itself specifies a fixed payment for the uninformed party (the investor), and made the informed party (the property owner) the residual claimant. It appears, therefore, that the contract between investor and loan agent placed risk on the wrong party and exacerbated, rather than solved, the hidden-information and -action problems. Why would an agent select a safe mortgage or enforce a loan if he suffered no monetary loss when the borrower defaulted?

The contract can be rationalized on informational grounds when the agent's payoff and incentives are clearly understood. Under the contract, the agent faced the risk associated with searching for a mortgage loan. He might spend considerable time and effort taking applications and making appraisals before finding a loan that the investor would approve. If the investor did not approve, of course, the agent received no compensation. Had agents been compensated with a salary, on the other hand, they could have expended no effort, reported that no qualified borrowers were available, and still received compensation. The commission system placed the costs and risks of search on the agent so he had an incentive to discontinue negotiations with unqualified borrowers quickly and to pursue only high-quality applications that the investor was likely to approve.

The agent's incentives to enforce an outstanding mortgage under this contract are less obvious. Recall that intensive monitoring was required when the borrower defaulted or foreclosure became imminent. Under the contract, however, the agent received a commission when the loan was closed and no additional compensation if he had to enforce the loan later.[8] For this reason the agent's commission had to include a premium to compensate him for the effort he expected to apply if the loan went bad. Once the loan had been made, however, the agent assumed the enforcement risk of the loan while the investor remained exposed to monetary losses.

Note that this feature of the commission contract strengthened the agent's incentive to search for high-quality loans. If the investor had agreed instead to compensate enforcement effort only when a default actually occurred, the

8. One could argue that the enforcement problem would have disappeared if the commission was paid during the loan period, or after the debt had been extinguished. Commissions were sometimes taken as second mortgages. The costs to the agent of enforcing a defaulted loan were much greater than the commission, whenever it was paid. Recall that the commission compensated the agent for expected enforcement costs and that foreclosure was a low-probability event most of the time. Even if the entire commission was paid after the loan was repaid, the agent would still need some other inducement to not walk away. The commission was most frequently paid lump-sum when the loan was closed, as I discuss here.

agent could have created a demand for these services by making risky loans look safe. Under the commission system, however, the agent imposed costs and risk on himself by recommending a low-quality loan to the investor so long as he intended to enforce the mortgage if it went bad. The great danger with the commission system, in fact, was that the agent might simply walk away from a defaulted loan rather than apply the effort required to enforce it. Even worse, if the agent were not committed to enforcing a bad loan, he would have been far less concerned about its quality during negotiation.

The contract, therefore, had to provide the agent with incentives to enforce a delinquent mortgage even though he received no explicit payment for the substantial amounts of time and effort that were involved. To provide these incentives the agent had to expect to lose something of value if he walked away from a bad loan. Investors in the interregional mortgage market entered into long-term relationships with their agents and threatened to discontinue lending through them if they failed to enforce a loan. It was the promise of future commissions, therefore, that provided the loan agent with the incentive to enforce outstanding loans.

The effectiveness of this mechanism depended on several factors: the agent's prospects for employment with other investors, the credibility of the investor's threat to terminate the relationship, and the willingness of the investor to continue lending within the agent's market. For example, if the agent's reputation mattered—so that no other investor would hire him if he shirked on enforcement—then the mechanism worked well.[9] Later in the paper, however, I will emphasize situations when it did not. In particular, the mechanism broke down if there was an increase in the demand for the agent's services outside the relationship, or if the investor refused to approve applications for new loans while other mortgages remained outstanding. Moreover, the mechanism was weakened if the investor was reluctant or unable to bear the costs of selecting and training a new agent. We shall see that a combination of these factors arose periodically in the historical mortgage market and played an important role in the collapse of interregional lending structures.

For the enforcement mechanism to work at all, of course, the investor had to be large enough so that she could credibly promise a steady flow of future commissions. I emphasized earlier that large investors also enjoyed scale economies when they selected and trained new agents. For both reasons the small investor faced formidable obstacles if she attempted to hire a loan agent directly. During the late nineteenth century, however, mortgage rates in the West were high enough to attract many eastern investors who were not as wealthy as the Davenports. To mobilize this potential flow of mortgage credit, a new

9. Reputation effects in the investor–loan agent relationship were likely to have been weak in areas of recent settlement, which was the area where loan agents were used most frequently. A distant investor would find it difficult to observe the complete history of a prospective loan agent's relationship with all previous investors.

mechanism had to arise—one that could cost-effectively mediate the relationship between investors and loan agents.

7.4 Western Mortgage Companies as Monitors of Loan Agents

Farm mortgage companies first began to monitor loan agents for eastern investors during the 1850s.[10] Most were organized by successful loan agents who sought to expand the volume and geographic scope of their mortgage brokerage businesses. The industry grew rapidly during the 1870s and 1880s as the pace of settlement accelerated in the plains states, and by 1890 more than two hundred of these agencies were selling western farm loans in eastern and European markets (Herrick and Ingalls 1915, 8–16; Frederiksen 1894; see table 7.1). In this section I show how mortgage companies established their credibility as monitors of loan agents and explain why that mechanism broke down when the supply of interregional mortgage credit expanded rapidly during the 1880s. I argue that nearly all mortgage companies collapsed during the 1890s because they had "overlent" in response to competitive market pressures several years earlier.

The western mortgage companies used sophisticated methods to negotiate and broker loans. A network of field agents located borrowers, filled out standardized applications, appraised property, and passed the information along to the home office. The company reviewed these materials, along with the agent's confidential assessment of the quality of each loan, and determined whether the borrower was creditworthy. If so, the loan then had to be matched with an investor located thousands of miles away. Investors were solicited by advertisements in the eastern and European press, by sales trips of company representatives, and through offices set up in New York and other major financial centers (Bogue 1955). After receiving funds from the investor, the company forwarded a loan application to her for approval. If the investor approved, the company closed the loan and formally assigned it to the investor. At this point, the agent (and frequently the company) received a commission paid by the borrower. The company then collected interest payments and sent them to the investor minus a one-half to one percentage point servicing fee.

This system of negotiating and servicing loans offered several advantages over the methods used by investors who dealt directly with loan agents. Most important, the mortgage companies provided "hands on" monitoring of loan agents by full-time traveling supervisors who also evaluated lending conditions in established and potential loan markets. In this way the mortgage company provided much closer supervision of loan agents than individual investors even as large as the Davenports could undertake. The companies also reduced the

10. Mortgage companies went by a variety of names in the historical mortgage market—loan and trust, loan and debenture, and investment companies among them. I refer to all of these organizations as mortgage companies.

need to monitor the loan agent by centralizing many administrative functions, such as title search and interest collection, in the home office. Finally, the mortgage company solved one of the vexing problems faced by eastern investors in the West—large balances of idle funds. The Davenports constantly prodded their agents to locate good borrowers and "get our money working" as repayments on existing loans were received or after funds had been sent West to make new loans. Mortgage companies, on the other hand, generated continuous flows of loan applications and reduced balances awaiting investment by quickly matching investors and borrowers. The J. B. Watkins Company, for example, began to pay interest to investors two weeks after receiving their funds even if there were no loans immediately available for assignment.

Because of its cost advantages in making and administering loans, the western mortgage company attracted the funds of investors of modest means for whom the costs of directly selecting, training, and monitoring agents would have been prohibitive. The company also had to establish its credibility as a monitor of loan agents, however, because an information asymmetry arose between it and the investors. The return on each mortgage brokered by the companies was determined by three factors: the exogenous risk of the project being financed, the quality and intensity of the services provided by the loan agent, and the companies' own diligence in supervising the agent. The mortgage company observed information about all three influences, but the uninformed investor could not distinguish which factor had been responsible if a borrower defaulted. The mortgage company had both incentive and opportunity, therefore, to raise its own payoff by monitoring loan agents carelessly or by underreporting the loan payments made by borrowers.

Mortgage companies assured investors that they would not exploit their informational advantage by guaranteeing the loans they sold. One practitioner, Kingman Robins, showed a clear understanding that the guarantee served to establish credibility when he noted that a mortgage company "cannot allow [its] client to suffer the loss of a single dollar, for [s]he would make no allowances in case of loss—[s]he would lose confidence in [the company] and would wholly discontinue buying from [it]" (Robins 1916, 84). The mechanism worked informally in the 1870s. Investors were instructed to return delinquent mortgages to the company and were either repaid or given a replacement loan in return. Custom eventually became formalized in the 1880s when mortgage companies started to guarantee the principal and interest on the mortgages they brokered—the first use of mortgage loan insurance.

By guaranteeing its loans the mortgage company pledged to absorb all of the enforcement risk that investors faced in the interregional market. It could do so at low cost because of its scale and location. After a default, the loan agent monitored the borrower and rescheduled the loan if possible. If not, the loan was turned over to the legal department of the company, which conducted foreclosure actions from the home office. The farm then became the responsibility of a property manager who would rent the land until it could be adver-

tised and sold. Establishing an in-house enforcement operation as sophisticated as this involved substantial fixed costs, but the mortgage company could spread these costs over many loans. The company also diversified away most enforcement risk by making loans over a relatively wide geographic area, and so could offer the guarantee to investors without demanding large risk premia.[11]

In the 1880s some mortgage companies adopted a second method of guaranteeing the investor's return. They incorporated, held individual mortgages in eastern trust accounts, and issued mortgage bonds backed by the loans.[12] Each bond series was secured by a different pool of mortgages, but all of the series were effectively secured by the company's total assets and so were referred to as debentures. The American mortgage bond market of the 1880s and 1890s never approached the size or depth of its European counterparts, but the volume of debentures expanded rapidly enough to alarm eastern regulators (Frederiksen 1894). By 1891 New York, Massachusetts, Connecticut, and several other northeastern states required annual financial reports from those "foreign" mortgage companies that sold loans within their borders. These reports were then published for the benefit of the public, but always with the warning that the regulators could not verify the quality of the loans that stood behind debentures because it was too costly for an outsider to inspect the properties that secured individual mortgages (New York 1891; Massachusetts 1890). Despite the warnings, eastern investors had purchased $93 million of mortgage debentures by 1893.[13]

Questions were being raised at the same time about the quality of the individual mortgages brokered by the newer and more aggressive companies. Edward Darrow (1892), the owner of a Minnesota mortgage company, wrote a guide to the western mortgage market in which he cautioned investors not to accept western loans too easily. He advised investors to demand that a photograph of the property he sent along with the loan application and appraisal, and then to examine these materials with their own lawyer and architect. Darrow also cautioned about difficulties that often arose when an investor attempted to exercise a loan guarantee—especially since some disreputable companies had no intention of honoring it.

Darrow was apprehensive that the rapid expansion of the western mortgage

11. The J. B. Watkins Company, for example, was one of the first companies to be established in Kansas and eventually extended its operations over five states and sold $20 million of mortgages between 1872 and 1893. See Bogue 1955 for an extensive discussion of its operations.

12. Mortgage bonds had first been introduced to the United States during the antebellum period (Sparks 1932). Brewer 1976 provides an excellent discussion of mortgage companies in the Northeast that issued mortgage-backed bonds in the early 1870s. Several of these companies were operating in the West at the same time as the western companies I discuss here. For a discussion of how the mortgage bond was imported from Europe to the United States during the nineteenth century, see Snowden 1993.

13. Table 7.1 reports the regional distribution of both passed-through mortgages and debentures bonds for this year.

business in the 1880s had created an intense competition for borrowers that threatened the reputation and credibility of all mortgage companies. In particular, Darrow believed that some of the newer companies were sending poorly secured loans to the East and were at risk of failure if the land boom abated. That process began in the late 1880s as droughts appeared in several areas. Most mortgage companies were able to survive these early pressures, but by the early 1890s the collapse had begun. Eastern regulators supervised 167 companies in 1893 but discontinued their published reports only four years later because so few companies remained in operation. In fact, only 14 survived to join the Farm Mortgage Banking Association twenty years later (Frederiksen 1894; Robins 1916).

To explain why western farm mortgage companies collapsed, I must describe an additional feature of the historical mortgage market. Borrowers in recently settled areas usually applied for their first mortgage after they had already acquired and partially improved their property. These loans were written for only three or five years and were normally renewed two or three times before the debt was extinguished. The appraisal was a particularly important negotiating point when dealing with borrowers who already owned their land, because their equity in the property represented their down payment. Mortgage companies did not make loans that exceeded one-half, or sometimes one-third, of the property's appraised value. Therefore, borrowers who already owned their land pressed for high valuations so they could qualify for larger loans or lower rates.

A reliable loan agent resisted pressures to inflate appraisals, but Darrow's observation suggests that the newer, aggressive companies used this practice to compete for borrowers. Other observers confirmed his fears. W. F. Mappin (1889, 440) argued that the increase in the supply of eastern credit during the 1880s created intense competition among mortgage companies, and that many were accepting loans that would have been rejected as poorly secured in normal times. Recalling this period, the secretary of one western mortgage company remarked, "I found drafts, money orders, and currency heaped on my desk every morning and could not loan the money as fast as it came in." This same company finally resorted to hiring inexperienced loan agents who made mortgages based on "absurd" appraisals (Harger 1906, 572).

The older, established companies should have maintained loan quality in the face of these pressures because they had been building reputations for safety and conservatism for more than a decade. But their agents in the field found that they could not compete for borrowers if they based loan terms on accurate appraisals. So even experienced and reliable loan agents began to recommend marginal applications for approval. In order to retain their agents the mortgage companies felt pressured to approve loans that they knew were poorly secured. Allan Bogue's incisive account of the Watkins Company's experience makes the point best.

> During 1886 and 1887 the flow of eastern and foreign capital into the western mortgage business was at its flood. Companies competed strenuously for agents. Greater powers of discretion were placed in the hands of these men than ever before. Greater opportunities for lending unhealthily large sums of money on inadequate security were also present. Although the mortgage companies had inspectors who checked the work of these local agents, it was impossible for them to examine the security behind every loan. . . . If the traveling inspectors were too strict, the local representative could easily find other companies with funds to loan, and the original sponsor would see its flow of applications diminish. That Stanton and Sprankle [agent supervisors for the Watkins Company] endeavored to keep their agents in line is undoubted; that they unconsciously were stampeded into some of the excesses of their competitors is probable. Sprankle argued in February 1888, "One year ago sub-agents and borrowers run [*sic*] the loaning business in this state to suit themselves." (1955, 144)

The mortgage companies, like individual investors, established long-term relationships with their loan agents so that the threat of termination represented an effective incentive device. But the mechanism turned out to be a two-edged sword when the supply of mortgage funds and the demand for agents' services increased dramatically in the 1880s. By then the established companies had invested heavily in selecting and training their agents and relied on them to help enforce mortgages that were already outstanding. Had the companies refused to approve the marginal loans that their agents were sending forward, they would have had to discontinue lending operations and gone out of business. In order to retain their agents, therefore, even the largest and oldest companies began to pass through mortgages that they knew were of poor quality.

I refer to this behavior as overlending. Darrow, Watkins, and other insiders understood the implications of making loans on the basis of inflated appraisals, because the practice increased the average probability of foreclosure and introduced systematic enforcement risk to the western mortgage market. In this environment any reversal of land prices was certain to lead many borrowers to default at once, and to drive enforcement costs far above expected levels.

Thus, the collapse of the western mortgage companies in the 1890s was directly attributable to high rates of default and foreclosure on mortgages they had made in the late 1880s.[14] The newer companies failed first, either because they had made the poorest quality loans or because they did not have the resources to both honor their guarantee to investors and enforce the loans that had gone bad. As late as 1892 New York authorities continued to maintain that the crisis would affect only the most recently established firms. But older companies survived longer only by continuing to market low-quality loans, often on the same land they had acquired through foreclosure. By 1895 nearly

14. For an empirical examination of the failure of the Watkins Company, see Snowden and Abu Saba 1993.

all of the mortgage companies were in receivership and had left their investors with large amounts of unsalable land.

The transfer of land from mortgage company to investor created a powerful feedback effect that deepened and prolonged the mortgage crisis of the 1890s. Investors had neither the expertise nor the ability to manage, maintain, and sell foreclosed land, and had entrusted their funds to the mortgage company so that they would never have to perform these functions. So the land boom of the 1880s quickly turned to a land glut as eastern investors and the receivers of failed mortgage companies tried to liquidate their landholdings as quickly as possible. The sell-off reinforced the downward spiral in property values, caused more borrowers to default, and additional mortgage companies to fail. The lesson would not soon be forgotten, as individual investors never again entered the interregional mortgage market in the numbers or with the enthusiasm of the 1880s.

By 1900 the interregional mortgage market lay in institutional disarray. The most important institutional lenders, savings banks and building associations, were firmly committed to lending only within their local area. Meanwhile the two innovations designed specifically to facilitate an interregional flow of funds, national building associations and western mortgage companies, were both in ruins. Their failures had revealed the difficulties of establishing and maintaining incentive structures for distant loan agents. They also demonstrated that any investor who entered the interregional mortgage market faced the real possibility of one day having to enforce mortgages herself. By 1900 one type of investor had gained experience both in negotiating and enforcing mortgage loans interregionally: the life insurance company.

7.5 Interregional Lending by Life Insurance Companies before 1900: The Development of Links with Mortgage Companies

Before 1900 life insurance companies were the third-largest source of intermediated mortgage credit in the United States (see table 7.1). The majority of the industry's lending operations were local in character because most companies were permitted by law to lend only within the state where they were headquartered.[15] The notable exceptions were a few firms located in Connecticut and Wisconsin that had been granted broad lending powers right after the Civil War. For the next thirty years five of these companies—Aetna, Connecticut Mutual, Phoenix, Travelers', and Northwestern Mutual—dominated the interregional mortgage business of the life insurance industry. They made loans on commercial property and farms from Indiana to the western plains, and by 1890 together held 30 percent of the industry's mortgage portfolio. During the period this handful of companies settled upon three organizational principles

15. By 1870 New Jersey, Ohio, California, Iowa, Kansas, Kentucky, and, most notably, New York had prohibited companies headquartered in their states from lending out of state.

that would shape the industry's lending structures well into the twentieth century: (1) the separation of mortgage lending operations from insurance policy sales; (2) a reliance on independent mortgage companies to negotiate and service loans; and (3) the internalization of the property management component of mortgage enforcement. The activities of these five innovative firms represented the first phase in the development of "the life insurance–mortgage company connection." In this section I examine how and why these organizing principles were adopted.

It might interest the reader to learn that the first organizational principle enumerated above was in direct contrast to my expectations at the outset of this project. My original conjecture was that life insurance companies dominated the interregional mortgage market because of a technological complementarity between mortgage lending and insurance sales. Life insurance policies are subject to the same types of hidden-action and -information problems as mortgage contracts, and during the late nineteenth century most large companies began to market their insurance product throughout the nation. In doing so the companies had to manage geographically dispersed networks of policy sales agents and so faced an information problem similar to that of mortgage lenders who had to control distant loan agents. In particular, the insurance companies had to discourage their sales representatives from misrepresenting the quality of applicants simply to earn commissions, and to prevent these agents from shirking their responsibility to carefully investigate policy claims. To do so insurance companies appointed general agents to supervise sales agents in each regional market and also set up elaborate monitoring divisions at the home office to evaluate applications and claims sent in from the field. These mechanisms were strikingly similar to those implemented by the western mortgage companies. I thought it likely, therefore, that the insurance companies came to dominate the interregional mortgage market because they could both make loans and sell policies through a single agency network.

In fact, insurance companies separated mortgage lending activities from policy sales soon after the Civil War. Northwestern Mutual of Wisconsin confronted the issue in the early 1870s when the company's policy sales force was still permitted to solicit mortgage loan applications and send them to the home office for approval by the Investment Committee (Williamson and Smalley 1957, 63–67, 77–81). The investment group maintained an explicit policy of evaluating each loan application only on its merit, however, and did not consider whether it had been submitted by a policyholder. The sales agents pressed the company to adopt a new policy at this time so that the volume of mortgage lending in each state would be tied to the value of policies sold there and preference would be given to the loan applications of policyholders. The Executive Committee rejected this attempt to strengthen the connection between policy sales and mortgage lending. Its members noted that sales agents lacked the specialized knowledge of real estate markets that was required to accurately determine the quality of a mortgage. In addition, the committee was concerned

that some sales agents would be induced to approve poor-quality mortgage loans simply to sell more policies and increase their commission income. A few insurance companies actually combined mortgage lending and policy sales during the 1870s, but these structures were quickly abandoned for the reasons cited by Northwestern's officials.[16] So policy sales and mortgage lending agency networks became completely separated within insurance companies even though they controlled similar informational asymmetries for the same intermediary.

After rejecting the sales agents' proposal, Northwestern established a more formal method of negotiating and enforcing its interregional mortgage portfolio. In 1877 the company hired several salaried "loan agents" and assigned each one to set up an office of the mortgage lending division in a different regional market. These branch offices operated as internal mortgage companies. They established contacts with independent loan agents and brokers, evaluated the loan applications submitted by these individuals, and then appraised the property that secured the loans. The application was then forwarded to the home office for final review. If approved there, the branch office closed and serviced the loan. The independent agent or broker was paid a commission by the borrower and normally helped the branch office enforce the loan without compensation in order to maintain a good reputation with the company.

Northwestern was a pioneer in the interregional mortgage business, but its reliance on a branch-office system turned out to be unusual. It was the Connecticut companies that developed the second general feature of the insurance industry's interregional mortgage lending system—the use of independent mortgage companies located in the West, Midwest, and South to negotiate and enforce loans for them. These mortgage companies were identical in structure and function, in some cases even in identity, to those that served individual eastern investors. Different Connecticut companies established different types of relationships with their mortgage company correspondents, however. Aetna chose to lend through only one mortgage company in each market and relied on the exclusivity of the relationship to strengthen that agency's incentive to perform faithfully. The company specialized in farm mortgages and made more than fifty thousand loans between 1870 and 1900 through a very small number of companies located in Indiana, Illinois, Iowa, and Minnesota. Travelers', on the other hand, used several companies in each state and made both urban and farm mortgages through them.[17]

16. Brewer (1976) discusses Equitable's unsuccessful attempt to establish its own independent mortgage company during the 1870s, and to use its policy sales force to make loans through it. Zartman (1906, 137) argues that the Life Association of St. Louis failed during the 1870s because it implemented a plan very similar to the one proposed by Northwestern's sales agents.

17. These generalizations about the number of mortgages made by the Aetna and Travelers' are drawn from an inspection of the companies' mortgage records, which are held at the American Heritage Center (Laramie, Wyoming).

Aetna's system worked well. The company suffered modest losses during the late 1870s when real estate holdings reached 5 percent of total mortgage investment, but it acquired very little additional property during the turbulent 1890s (Aetna 1947). In contrast, Travelers' had to foreclose on 650 of the 2,100 loans that it had made through just two companies during the 1890s and acquired $0.6 million in western farm property as a result. The company also saw nearly all of its western correspondents fail during the decade and so had to manage the liquidation of this property on its own (Travelers' 1890–95). Travelers' was much better equipped to assume the enforcement obligations of its western mortgage company correspondents, however, than the individual investors who had lent through the same firms. In fact, the life insurance–mortgage company connection became the dominant interregional mortgage lending structure precisely because of this third characteristic of their organizational structure—the insurance companies could conduct their own property management operations if became necessary for them to do so.

Insurance companies learned of the risks and costs associated with mortgage loan enforcement during the Depression of 1873, when eastern urban land values collapsed and seventy-one companies failed from mortgage-related problems (Zartman 1906, 133). When the collapse in real estate values spread to western markets in the mid-1870s, therefore, attention naturally shifted to the few eastern companies that had recently entered the interregional mortgage market. In 1876 the Connecticut legislature commissioned an independent audit of that state's companies, which found that Aetna, Connecticut Mutual, Phoenix, and Travelers' together held $46 million in mortgages on western properties and had acquired $8.1 million of real estate through foreclosure (Connecticut 1878). At the time of the audit most of the property was held by Connecticut Mutual, and by 1880 this one company had acquired $5 million of real estate in Chicago, $3 million in St. Louis, and $2 million in Detroit (Zartman 1906, 30). Despite these apparent difficulties the auditors declared all of the Connecticut companies sound because each of them, including the Connecticut Mutual, had disposed of foreclosed real estate without absorbing substantial losses. This was a remarkable accomplishment, given that the companies had to manage and sell substantial amounts of property so far away from headquarters.

During the 1880s and 1890s Northwestern also demonstrated that it could effectively manage foreclosed real estate across regional boundaries (Williamson and Smalley 1957, 77–78, 122–23). In the 1870s the company acquired $1.5 million of farm property through foreclosure, or some 15 percent of the value of its mortgage portfolio. Northwestern then came under considerable pressure to dispose of these farms quickly, even though the strategy would have generated substantial losses. State regulators threatened to intervene because the company's charter permitted it to own real estate only in an emergency. In addition, some company officials argued that the recent wave of foreclosures justified discontinuing farm mortgage lending altogether. But other

insiders argued that the company would earn a high return on its farmland by postponing liquidation until property values recovered. A compromise position prevailed. To keep real estate holdings at acceptable levels, the company quickly sold off those properties that were unlikely to appreciate in value. At the same time it established a separate real estate division to manage the better-quality farms until they could be sold at a profit. During the 1880s Northwestern gradually sold off farms under this program, but it acquired even more land in the early 1890s before liquidation of the property that had been acquired earlier had been completed. The company finally disposed of all of its farm real estate between 1895 and 1904, and its property management operation earned between 8.4 and 11.6 percent in each of these years.

The property management operations of Northwestern and the Connecticut companies proved to be profitable, but the reader should recall that these activities involved the most costly and effort-intensive contingencies associated with mortgage enforcement. This was especially true when property has to be managed across regional boundaries. Lester Zartman (1906, 119) calculated the ratio of management expenses to property value for the twenty-nine largest life insurance companies between 1896 and 1904 and found that it was highest for the three interregional lenders discussed here: Travelers' (17 percent), Aetna (9 percent), and Northwestern (7 percent). No other company had a ratio greater than 5.2 percent, and the New York companies, which were still lending almost exclusively within local markets, all had ratios under 3 percent. Life insurance companies were uniquely suited to bear the costs of these operations because of the economies of scale that were related to their primary business—selling life insurance policies. Efficiency required them to write a large number of insurance policies in order to reduce the variability of claim payments and, thus, the share of assets they were required to hold in low-earning reserves. To accomplish this end, insurance companies had to grow very large in size and sell policies broadly across space. As a result, they were free to invest in very long term assets, such as property acquired through foreclosure, and had already made some of the fixed investments that were necessary for operating interregional property management divisions.

The unique combination of large size, a national market, and the long-term nature of their liabilities provided insurance companies with the resources and organizational flexibility to assume substantial investments in interregional property without jeopardizing their solvency. This was in marked contrast to national building associations and independent mortgage companies that were inadequately capitalized, given the short-term nature of their liabilities, to absorb the very high levels of enforcement costs that were generated during mortgage crises. Insurance companies came to dominate the interregional mortgage market because of their intrinsic ability to cope with contingent enforcement costs, therefore, and not because they had an advantage in negotiating and enforcing interregional mortgage loans under "normal" circumstances. In fact, eastern insurance companies found it efficient to make mortgage loans through

external mortgage companies and to assume enforcement activities only when these correspondents failed. So the dominance of the life insurance–mortgage company connection was intimately associated with the instability of the national mortgage market.

Northwestern and the Connecticut companies demonstrated that interregional mortgage lending was both feasible and profitable for insurance companies, but the great bulk of the industry's mortgage lending was still local in character by the end of the nineteenth century. This pattern was largely the result of New York's restriction on out-of-state lending because companies headquartered there held such a large share of the industry's assets. Had the New York companies allocated their investments in the same manner as Connecticut firms, they would have held an $82 million portfolio of interregional loans in 1890—an amount equivalent to the total farm mortgage debt in Nebraska or twice the actual volume of interregional lending by the life insurance industry.[18] In fact, the New York regulation probably had a larger impact on the spatial allocation of nineteenth-century mortgage funds than the more notorious prohibition on mortgage lending by National Banks.

The New York companies lobbied for a relaxation of out-of-state lending restrictions throughout the 1870s and 1880s, and had good reasons to do so. The companies were aggressively expanding national policy sales networks at the time, and were concerned that some western and southern states might restrict their sales operations if they appeared to be "draining" savings from the rest of the country to finance mortgage investment back east. More importantly, they were aware that western and southern mortgages rates were much higher than those in eastern metropolitan areas, and that interregional mortgage loans were an attractive investment outlet. But the New York companies did not immediately enter the interregional mortgage business when they were finally granted broad lending powers in 1886. An executive of the Metropolitan explained that his company continued to lend close to home in the 1890s because the higher rates of return available in the West were more than offset by the extra costs and risks associated with interregional lending during these crisis years (Keller 1963, 135). But by then the stage was set for Metropolitan, and most of the large northeastern insurance companies, to follow Northwestern and the Connecticut companies into the national mortgage market.

7.6 The Expansion and Collapse of the Life Insurance–Mortgage Connection

Northwestern and the Connecticut companies had worked out the basic structure and methods of interregional mortgage lending by 1890. But by then

18. The Connecticut companies allocated 52 percent of all assets to mortgage lending in 1889, while those headquartered in New York allocated only 32 percent (U.S. Census Office 1890).

it was still unclear whether the life insurance–mortgage company connection would become widely used within the industry or just how important insurance companies would become to the interregional flow of mortgage credit. Events over the next decade did little to clarify the prospects. Northwestern and the Connecticut life insurance companies survived the western land crisis of the 1890s, but the disruption had a chilling effect on their mortgage lending operations. Between 1892 and 1902 mortgage loans decreased from 80 to 46 percent of total assets at Northwestern, from 60 to 37 percent at Travelers', and from 46 to 41 percent at Aetna (Williamson and Smalley 1957, 126). From this point life insurance companies increased mortgage lending activities through their mortgage company correspondents so rapidly that by the early 1920s the industry had become the most important source of farm mortgage credit in the country, and had begun to play a substantial role in the nation's residential mortgage market as well. During the expansion, however, this lending mechanism succumbed to pressures to overlend, and ultimately collapsed in the 1930s.

The second period of development of the life insurance–mortgage company connection was driven by an unprecedented expansion of farm mortgage debt between 1910 and 1920. During the decade farmers borrowed heavily to expand and improve their operations as farm prices and incomes trended upward before and during World War I. By 1920 outstanding farm mortgage debt in the United States exceeded $8 billion, and the most important institutional sources of mortgage credit were local commercial banks ($1.5 billion) and life insurance companies ($1 billion) (Wickens 1932).

Total farm mortgage debt grew at a much more modest pace during the 1920s, but the institutional structure of the market changed dramatically during the decade. Banks began to experience problems with their mortgage loans when farm prices and incomes fell violently during the recession of 1921, and by 1929 more than five thousand of them had been forced to close because of these difficulties (Johnson 1973). As bank holdings of farm mortgages decreased, insurance companies actually expanded their farm mortgage portfolios—by $0.5 billion in 1921 alone and by an additional $0.7 billion over the next five years (Mormon 1924, 42–47). As a result of these portfolio adjustments commercial banks held only 12 percent of the nation's farm mortgage debt in 1930, while the life insurance industry held 23 percent of the total. The recently created federal land banks and federally chartered mortgage banks also expanded their mortgage lending operations dramatically during the 1920s and held another 19 percent of the nation's farm mortgage debt by the end of that decade.[19] By the early 1920s, therefore, life insurance companies

19. The federal agencies concentrated on different areas of the country than the insurance companies did. Seventeen percent of the loan portfolios of both groups were made on land in the east North Central region. But the insurance companies had made only 22 percent of their loans in the Northeast, South Atlantic, South Central, Mountain, and Pacific regions, while the land and joint-stock banks had made 55 percent of their mortgages there. The big difference, therefore, was in the west North Central region. The federally sponsored banks held $500 million in mortgages in this area by 1929, while the insurance companies held $1.3 billion—60 percent of all loans made by the industry (Horton, Larsen, and Wall 1940, 222–24).

had become the most important source of interregional farm mortgage credit, and the most important farm mortgage lender of any kind.

The life insurance industry began to dominate the farm mortgage market because several large northeastern companies finally began to lend interregionally. Prudential of New Jersey established its farm mortgage lending operation in 1898, and the Equitable of New York followed in 1912 (May and Oursler 1950, 213; Skogvold 1956, 114). But Metropolitan of New York made the most dramatic entry into the interregional lending field (James 1947, 232–45). Before establishing its farm mortgage division in 1916, Metropolitan lent almost exclusively on commercial property in New York City. By 1918, however, its farm mortgage portfolio had swelled to $10 million and was spread over five states in the Midwest and the plains, and six states in the South. The expansion of the company's new line of business continued at this rapid pace for more than a decade, and by 1929 Metropolitan had become the second-largest farm mortgage lender in the country, with a portfolio of $196 million of farm loans spread over twenty-five different states (Woodruff 1937, 49).

Metropolitan's rise to prominence in the interregional farm mortgage business reflected a general trend within the insurance industry. Seven life insurance companies held more than $100 million of farm mortgages in 1929, and six of them were relative newcomers to the interregional market—Metropolitan, Equitable, and Mutual of New York; Prudential and Mutual Benefit of New Jersey; and John Hancock of Massachusetts (Temporary National Economic Committee 1940a, 161). Together these companies held $921 million of farm mortgage loans by the end of the 1920s, or 44 percent of the entire insurance industry's agricultural portfolio. On the other hand, the four Connecticut companies that had played such a prominent role in the western farm mortgage market before 1900 held a combined farm loan portfolio of only $165 million.

Of the firms that had pioneered the interregional business in the nineteenth century, only Northwestern maintained a leading position after 1900. In fact, its farm mortgage portfolio of $216 million was the largest in the industry in 1929. Northwestern was also unique because it continued to make interregional loans through a system of twenty-five branch offices that were staffed by company employees. In contrast, all of the large eastern companies relied on the same type of mortgage company connections that had been developed by the Connecticut insurance firms before 1900 (Woodruff 1937, 7–15). As before, these mortgage companies screened applications from local agents, made loans out of their own funds, and then sent the loans to the life insurance company for approval. Just like their nineteenth-century counterparts, moreover, these correspondents were paid by commission and a share of interest payments, and accepted the "effort risk" associated with enforcing outstanding loans.

Woodruff (1937, 9) attributes the widespread use of correspondents during the 1910s and 1920s to two refinements made to the system that the Connecticut companies had developed decades earlier. First, all of the eastern insurance

firms chose to establish exclusive relationships with mortgage companies similar to those that Aetna had developed in the 1880s and 1890s. In fact, the life insurance–mortgage company connections of the 1920s were so strong that fully 88 percent of all the farm mortgages originated by mortgage companies were purchased by their insurance company partners. A second refinement was the "right of reinspection," which was a more limited version of the guarantee that mortgage companies had offered individual investors during the late nineteenth century. Under these agreements the insurance company could return a mortgage to the correspondent if it performed poorly during its first year. Once the year had passed, however, the company was obliged to retain nonperforming loans, even though the correspondent remained responsible for enforcing them.

The expansion of the life insurance–mortgage company connection succeeded in mobilizing substantial flows of interregional farm mortgage credit between 1910 and 1930. But the viability of a loan agency network, whether internal or external to an intermediary, continued to depend on a constant flow of new loans and commission income. So the insurance companies, just like the western mortgage companies in the late 1880s, came under pressure to approve loans that they knew were marginal. The development of the life insurance–mortgage company connection did not eliminate the pressure to overlend in interregional markets; therefore, it simply transferred the pressure through the mortgage companies to their exclusive partners.

Northwestern came under pressure to overlend even though it supervised loan agents through branch offices (Williamson and Smalley 1957, 179–81, 210–15). As early as 1912 its president became concerned about the quality of loans because farm property values had already doubled from 1900 levels. His proposal to discontinue farm-lending operations was overruled by the Finance Committee, however, because its members believed that outstanding loans could not be adequately serviced if the branch offices were closed and the company's relationships with loan agents disrupted. In the following year the volume of loan applications began to run far ahead of the company's mortgage portfolio requirements, and it was forced to institute quotas to spread commissions evenly among its loan agents. Pressure from the field then increased over lending terms as well as volume. Northwestern's agents had difficulty attracting borrowers because the company adhered to its strict policy of making loans for no more than 40 percent of conservatively valued farmland, while the representatives of other lenders offered lending terms based on more liberal appraisals. Northwestern chose to meet the competition by lowering its lending rates, but by 1923 the company was actually making small losses on new mortgages net of commissions and service charges. The company finally abandoned its new farm loan program in 1925.

Northwestern came under pressure to overlend because of the activities of its large eastern competitors. These companies relaxed lending standards to accommodate mortgage companies and loan agents and, thereby, to expand

heir farm loan operations. Metropolitan, for example, instructed its correspondents to lend no more than $62.50 per acre on Iowa farmland in 1917, but aised the loan ceiling to $75 in 1918, and to $100 in 1919 (James 1947, 236–37). In doing so, the company was forced to ratify a two-year permanent capital gain of 60 percent on farmland to maintain its burgeoning lending network in that state. Under these conditions it was hardly surprising that the volume of loan applications submitted to the company increased rapidly in 1919, or that the company's $20 million annual allotment for farm loans was exhausted by 9 April of the following year.

Metropolitan was not alone in its actions, for the pressure to overlend was felt industrywide and intensified over time. In Story County, Iowa, the debt per acre for all mortgages made by insurance companies increased from $38 to $84 between 1910 and 1920 (Murray 1938). The companies appear to have maintained loan quality, because the appraised value of an acre in this county increased from $130 to $289 during the same period. Despite maintaining the appearance of a constant 30 percent loan-to-value ratio, however, the companies were almost certainly aware that land appraisals were being systematically inflated by correspondents in the field.[20] After 1920 the evidence of overlending in Story is much clearer; land prices fell to $150 in 1925, while the debt per acre on mortgage loans fell only to $77. This sharp jump in the average loan-to-value ratio occurred just as the insurance companies expanded their Iowa mortgage portfolios by $183 million and replaced the commercial banking system as the most important source of farm mortgage credit in the state. Archibald Woodruff, whose father served as the chief of farm mortgage operations for Prudential, remains the authority on the lending practices of the life insurance companies during the period. His observations leave little doubt about the link between the aggressive expansion of the industry's interregional lending networks and "overlending": "More serious was the disposition of the correspondent to emphasize the quantity of new business at the expense of quality. The income of the correspondent was derived chiefly from commissions on new loans so that the desire of the correspondent was to get through as many loans as possible. . . . The life companies had no trouble with the class of loans the correspondents had sent in up to 1910, [but] they were too free in accepting some of the loans sent in after that year, particularly during 1920 and 1921" (1937, 13).

The evidence of overlending drawn from Iowa is particularly compelling because the life insurance–mortgage company connection had its greatest impact in this state. Between 1910 and 1920 total farm mortgage debt in Iowa increased by 176 percent and land values by 136 percent—magnitudes twice as large as in Ohio, Indiana, and Illinois over the same period. Jones and Dur-

20. I should point out that Murray (1938) argues that the reasons for the Iowa land boom during the 1920s was the use of second mortgages, and that the first mortgages made by life insurance companies were well secured because the loan-to-value ratio was stable until 1920.

and (1954, 81) were led to conclude that "the causes of the Iowa land boom are difficult to explain," but these authors failed to connect the episode to the prominent role that insurance companies and their agents played in the state. In fact, 25 percent of the farm mortgages made by all insurance companies between 1910 and 1920 were on Iowa land, and by 1930 the industry was supplying more than 40 percent of the state's total farm mortgage debt (Jones and Durand 1954, 41).[21] More than a decade later the Temporary National Economic Committee concluded that "[i]n Iowa . . . many [life insurance] companies lent amounts on farm properties in excess of their true values," and blamed the practice of using correspondents that were paid commissions (1940b, 349).[22]

Even though the life insurance–mortgage company connection of the 1920s proved to be susceptible to overlending during the 1910s and 1920s, it continued to dominate the interregional mortgage market well into the post–World War II era. The reason, of course, was that insurance companies were able to absorb the costs of enforcing outstanding mortgage contracts after the farm mortgage lending boom ended in the 1920s, and rates of delinquency and default soon reached very high levels. The insurance companies assumed these responsibilities as their correspondent networks began to break down in the early 1930s (Woodruff 1937, 78–79; Saulnier 1950, 31–31). At first, insurance companies released correspondents from the obligation to take over bad loans under the right of reinspection. With new lending at a standstill, however, mortgage companies and loan agents were receiving no commissions to compensate them for enforcing outstanding loans. The insurance companies remained reluctant to disband their lending networks even at this point and began to pay management fees to their correspondents. But under this arrangement there was little difference between a correspondent and a salaried employee of the company, so this stopgap measure was quickly abandoned and the correspondents discharged. By the mid-1930s all of the major insurance companies had been forced to internally manage their remaining farm mortgage portfolios as well as the real estate that had been acquired through foreclosure.

These enforcement activities grew to staggering proportions. The industry's farm mortgage portfolio decreased from its peak of $2.2 billion in 1929 to $0.9 billion in 1938, and by then the companies owned more than $0.6 billion of farmland (Temporary National Economic Commission 1940a, 174–84). All of the large companies established internal operations to enforce the terms of defaulted loans and to undertake the costly enforcement tasks that were enu-

21. Recall from note 19 above that the federal land banks and joint-stock mortgage banks were much less active in the west North Central regions than the life insurance companies were.

22. In Iowa, defaults reached epidemic proportions by 1930, and during the 1930s insurance companies initiated two-thirds of the foreclosures in the state although they held only 40 percent of the mortgage debt. The companies could not quickly liquidate so much property and as late as 1939 still owned 8 percent of the farmland in Iowa (Temporary National Economics Commission 1940b, 349).

merated in section 7.2; they worked with delinquents to reschedule loan payments and prevent foreclosure, supervised defaulters who chose to remain on the land as tenants, and made substantial investments to improve, rent, and sell abandoned farms.[23] The companies received some relief when 30 percent of their loans in Iowa, Kansas, South Dakota, and Tennessee were extinguished through an emergency mortgage program operated by the federal land bank commissioner. But even with this "bailout" of $0.3 billion the companies were forced to undertake mortgage enforcement activities on a monumental scale (Temporary National Economic Commission 1940b, 347).

Those companies that had expanded their lending activities most aggressively during the 1910s and 1920s were more seriously affected. Because Northwestern maintained stringent loan standards during the 1910s and suspended new farm lending completely in the early 1920s, it acquired property on only 14 percent of its farm mortgage portfolio (Williamson and Smalley 1957, 261–65). In contrast, 49 percent of Equitable's loans went into "serious default," and the company eventually acquired 5,035 farms and did not sell off the last of these properties until 1947. At its peak in 1938 the company's Farm Real Estate Division employed a force of four hundred men to make repairs on 2,800 farms at an average cost of $1,100 (Skogvold 1956, 114–19). Prudential established its Foreclosure and Property Section in 1928, and shortly thereafter one of the company's officers described the operation as the "stepchild who wandered in and couldn't find its way out" (May and Oursler 1950, 206). His comment was both incisive and prescient, as the company acquired 46,159 farms by 1939 and was still managing 2,000 of them in 1945. The largest enforcement task fell to Metropolitan's Department of Agriculture, however, which eventually managed 13,290 farms that represented the security on 58 percent of the loans it had held in its portfolio (James 1947, 294–305). By 1939 Metropolitan had become the largest private property owner in the United States because of these operations, as it held land equal in size to a farm one mile wide stretching from New York to Los Angeles.

Despite the nearly complete dissolution of the insurance industry's farm mortgage lending operations in the 1930s, the companies survived to dominate the interregional market for residential mortgage credit in the 1940s and 1950s. In fact, the life insurance industry had just begun to make inroads into this line of business before the onset of the Great Depression. Metropolitan was the innovator in the field and made its first loans in 1920 through a Kansas City banker who sought to finance a suburban housing development. Within three years Metropolitan's 66 residential mortgage loan correspondents were supervising 163 agents in 37 states (James 1947, 251). The impact on the company's portfolio was profound. In 1919 it had written four-fifths of its $272 million urban mortgage portfolio on New York property, and only one-third of that on

23. Woodruff 1937 and Mehr 1944 provide extensive discussions of the farm property operations of the life insurance companies during the 1930s.

residential real estate. Ten years later the company held $1.2 billion in urban mortgage loans, and more than 40 percent of the total had been written on single-family homes and apartments in out-of-state markets. The rest of the industry followed Metropolitan into the residential business during the late 1920s, and insurance companies held some $4.4 billion of residential debt by 1930, much of it made through loan correspondents.

There is little direct evidence that overlending affected the industry's residential mortgage business as it had its farm mortgage operations. Nonetheless, by 1935 the industry had acquired $1 billion of foreclosed urban property and faced an enforcement task equal in scale to its farm operation. At that point the Home Owners' Loan Corporation made nearly $3.1 billion of mortgages to refinance the debt of delinquent residential borrowers (Harriss 1951). It is likely that the share going to insurance companies was substantial, because by 1936 their residential mortgage portfolio had fallen to only $1.5 billion (Saulnier 1950, 2). Soon thereafter the insurance industry began to make interregional loans on residential real estate that were guaranteed by the new Federal Housing Administration (FHA). In fact, the expansion of federal mortgage insurance and guarantee programs in the postwar era provided the foundation for the revival of the life insurance–mortgage company connection in the 1950s.

7.7 Conclusion

Between 1870 and 1940 the cost of mortgage credit varied dramatically across regions of the United States. The mortgage rate gradient reflected severe imbalances in regional supplies and demands for mortgage finance and persisted because intermediaries were unable to move enough funds across space to equalize lending rates (Snowden 1987, 1988). Lance Davis (1965) argued that the national mortgage market remained regionally segmented because "information and transactions costs" inhibited the interregional flow of mortgage credit. The analysis presented here provides a more concrete picture of the informational forces that were at work. In particular, I have tried to explain how information imperfections destabilized most historical interregional lending structures in the late nineteenth century and why the life insurance–mortgage company connection emerged as the only viable mechanism to integrate the national mortgage market during the first half of the twentieth century.

Several types of lending structures arose in the interregional market before 1900, and I have interpreted all of them as hierarchical contractual arrangements that connected borrowers, loan agents, and investors. Each particular contract in these hierarchies was structured to provide the better-informed party in a bilateral relationship to faithfully perform certain obligations. Secured mortgage debt encouraged borrowers to fully repay loans, and commission payments induced loan agents to carefully negotiate and enforce mortgage

contracts for interregional investors. Mortgage companies arose to supervise loan agents for investors and established their own credibility by promising to absorb all of the enforcement costs associated with mortgage lending. Each of these contracts makes sense when considered alone, but in combination they created pressures to issue debt under terms that some participants knew were unsafe, led to massive waves of delinquency and foreclosure, and generated such large enforcement costs that mortgage companies were forced to renege on their pledge to enforce loans. By 1900 life insurance companies had proven to be the only investors with sufficient resources and institutional flexibility to enforce mortgage loans when their mortgage company correspondents failed. This was the fundamental reason that the life insurance–mortgage company connection became the dominant interregional lending channel between 1900 and 1950.

The final phase in the development of this lending structure occurred during the 1950s and has already been explored in several treatments of the postwar mortgage market (Behrens 1952; Morton 1956; Klaman 1959, 1961; Colean 1962). Each of these studies concludes that the nation's residential mortgage market became fully integrated in the 1950s after the insurance industry reestablished its connections with a new generation of mortgage companies. All of them also emphasize that the basis of the restoration was the FHA mortgage insurance and Veterans Administration (VA) loan-guarantee programs. Mortgage companies, more than eight hundred in number by the early 1950s, became FHA- and VA-qualified lenders and originated nearly all of the mortgages that entered the interregional market. Life insurance firms became their most important clients and lent broadly enough across space through them to equalize regional residential mortgage rates. As a result, the national mortgage market finally became integrated after eight decades of nearly continuous innovation and experimentation.

Federal intervention integrated the mortgage market by eliminating mortgage crises and protecting investors from the major risk associated with interregional lending. To begin with, FHA and VA programs ended the practice of overlending. These agencies popularized the long-term, amortized loan and ended the widespread use of the short-term mortgage that had to be renewed several times. The change in contract duration eliminated most borrowers' preference for an overappraisal because modern mortgages are typically negotiated only when property is being purchased and the borrower derives little benefit from an overappraisal at that time. Moreover, loan agents cannot independently inflate the appraisal on a federally underwritten loan because an additional property evaluation must be performed by a disinterested, independent expert. The FHA made overlending even more difficult by implementing a system of loan-risk evaluation that considers characteristics of the borrower and property other than the loan-to-value ratio (Massey 1939, 2–4). With the incentive and opportunity to overlend eliminated, and the federal agencies prepared to step in if a mortgage company failed for any other reason, investors

in the interregional mortgage market no longer faced the risks of having to enforce loans made thousands of miles away.

With the stabilization of the mortgage market, life insurance companies no longer enjoyed their intrinsic advantage in the interregional lending field that had led to their dominance in the first place. In fact, mutual savings banks finally entered the interregional mortgage market in 1950, but they were permitted to invest only in out-of-state mortgages that were government insured or guaranteed. Then, in 1970, all types of institutional investors gained access to the interregional market when federal agencies began to securitize pools of insured and guaranteed residential mortgage loans and sold them as mortgage-backed securities. So the historical development of the life insurance–mortgage company connection was intimately connected to the instability of the mortgage market. It dominated the interregional mortgage market between 1900 and 1950 because no other type of investor could survive mortgage crises. Since then it has come to play a more limited role because government intervention has eliminated the sources and impacts of these crises.

Besides identifying the forces that drove the integration of the national mortgage market, this history also demonstrates how informational considerations determine the boundaries of the financial firm. Financial innovation often occurs by the introduction of a single type of intermediary, and we have seen that the development of local mortgage lending structures fits this view of the unified financial firm quite well. But in other settings, such as the markets for interregional mortgages, commercial paper, or corporate securities, new financial services are produced by combinations of several intermediaries. These complex financial structures arise to deal in contracts that are negotiated and enforced under complex technological constraints that prevent any single intermediary from efficiently producing all of the required financial services.

In the case examined here independent loan agents negotiated and enforced mortgage loans efficiently because they enjoyed a locational advantage. The same spatial constraint that protected them from competitors outside of their local markets, however, prevented agents from expanding the size of their operations sufficiently to establish their credibility with investors. Mortgage companies arose, therefore, to monitor loan agents for distant investors. These firms performed quite well in normal times, but could not be profitably capitalized deeply enough to survive periodic mortgage crises. So life insurance companies, with no intrinsic advantage in interregional mortgage making, became the exclusive partners of mortgage companies because it was efficient for them to grow so large in their primary line of business that they were able to absorb substantial enforcement costs during a mortgage crisis. I conclude, therefore, that the historical development of complex multifirm financial structures like the life insurance–mortgage company connection can be understood only by clearly specifying the informational basis of financial contracts and the technologies that are used to negotiate and enforce them.

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Comment

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One of the great themes in the economic history of the United States is the regional integration of markets for both products and factors of production. Market integration permitted the efficient exploitation of this country's great human and material resources. Lance Davis showed long ago, in a justly famous paper, that the nineteenth century witnessed substantial integration in the market for capital. Kenneth Snowden's admirable paper reminds us that underlying Davis's convergence of interest rates were some complicated institutional developments. Market integration required the creating and improvement of mechanisms through which lenders could acquire and use the information they needed to move capital to the place where it was best rewarded. Snowden uses a nice balance of economic intuition and knowledge of institutional details to explain why interregional mortgage lending evolved in fits and starts and why life insurance companies grew to become such important lenders in that market.

Snowden's explanation of the role of life insurance companies in this process is, in my view, correct. One task he did not tackle—for entirely understandable reasons, including page constraints—was to ask why other institutions were not tried, or if they were tried, why they were not successful. Life insurance companies *did* become important, but why didn't other institutions emerge to

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take the place they eventually filled? At several places in Snowden's account the reader may be reminded of institutions that dealt with similar information problems in quite different contexts, or may be led to ask why people did not adopt some alterations to their basic arrangements that would seem to provide a better incentive structure. My remarks seek to highlight certain features of Snowden's account by restating it in slightly different form, and then to consider why lenders and borrowers did not find other ways to contend with information problems in interregional mortgage markets. For brevity I will focus on his account of the development of the life insurance–mortgage company connection prior to World War I.

Information and Interregional Mortgage Lending

At first blush it seems odd to devote so much attention to information problems associated with *mortgage*-based loans. Textbook accounts of the role of asymmetric information in credit markets often refer to collateral as one way to *solve* many of the problems associated with asymmetric information. A borrower who is willing to pledge collateral shows that he intends to repay the loan. And once a loan is made, collateral reduces the borrower's incentive to shirk or to invest the loan in risky activities. Consider the loan-to-value ratio typical of the mortgages Snowden discusses. If the land's value is appraised accurately and if the loan is only for one-half (or even less) of the land's value, then a borrower has much to lose through foreclosure. Land, moreover, is usually an excellent form of collateral. A borrower cannot run away with land, unlike tools or personal property; land does not burn or die of disease, unlike buildings and livestock; land's condition can be monitored simply by walking by the property in question; and in most legal environments land cannot be alienated without a transfer of title that serves to impede fraudulent exchanges.

The reader (or author) of the textbook view of collateral then, might be somewhat surprised to learn that mortgage lending in the United States evolved in fits and starts and eventually prospered only with the backing of the federal government. Why? Snowden's story stems from two distinctive features of the U.S. economy at the time, the spatial distribution of population and economic activity and the boom-bust cycle of western real estate markets. The demand for capital for agriculture and new housing was concentrated most heavily in the Midwest and the West. Yet the people of these regions were unlikely to have funds to lend their neighbors. To match savers with the most lucrative outlets for their savings, mortgage lending in the United States in this period had to reach across great distances. And here arises the information problem central to Snowden's paper. Much of what makes land desirable as collateral—the land is fixed in place, so the borrower cannot run off in the night with his farm—means that to evaluate a property and to supervise a loan, a lender must either incur the cost of travel to the farm's location or employ an agent to do so on her behalf. In the nineteenth century the distances required for lenders to investigate and supervise loans personally were prohibitive. In addition, the

booms and busts that characterized western real estate markets placed additional constraints on solutions to the information problem. Any individual or institution that would invest in these real estate markets had to be prepared to contend with the recurring general declines in prices. During such busts, many borrowers would default on their loans, forcing lenders either to sell the foreclosed property at depressed prices or to try to manage the property from a distance. To the extent lenders did not fully anticipate declines in real estate prices (and many did not), some institutional arrangements that functioned well in times of stable or even increasing land prices collapsed during price declines. The combination of information problems and fluctuating real estate prices meant that many conventional forms of financial intermediation could not facilitate interregional mortgage lending.

Thus, as Snowden shows, local mortgages in the nineteenth-century United States might have solved the textbook's information problem, but the need for *interregional* lending gave rise to a distinct set of information problems. Because it would be costly for lenders to contract directly with borrowers and for lenders to monitor the use of loans, lending had to occur through third parties. Interregional lending created principal-agent problems that concerned primarily the lenders and their intermediaries in addition to the textbook focus on lenders and their borrowers. The principals (the lenders) had less information about the characteristics of the loans than their agents (who arranged the loans). The problem faced by borrowers, loan agents, and lenders was to structure a set of institutions that could overcome those information barriers without incurring costs that would price credit out of the market.

The problems posed by long-distance lending are best appreciated by considering some of the most successful nineteenth-century institutions for financial intermediation. Many of these institutions have the common feature of restriction to small geographic areas in which members are likely to know each other and to encounter each other in their daily activities. This geographic restriction imposed costs on the institution, including correlation of the incomes of members, but also allowed the institution to maximize the cheap information that came from daily social interactions. Students of U.S. financial history are familiar with the image of the country banker who knew most of his customers and could inspect their fields during Sunday buggy rides. Snowden discusses the first building associations, institutions that voluntarily restricted themselves to operations within a single county. A more dramatic example of this principle is the rural credit cooperatives formed in Germany in the second half of the nineteenth century. Most of these cooperatives restricted their operations to single small villages. Because cooperative members had good information about one another and could impose some severe, noneconomic sanctions on defaulters, cooperatives could make loans other financial intermediaries would not, including loans without collateral. The obvious drawback to such arrangements, one that was in part responsible for the rise of "national" building associations in the United States, was that such arrangements could

not satisfy the demand for loans in the presence of the spatial mismatch between the supply of and demand for credit that characterized the United States in the second half of the nineteenth century. Germany's agricultural credit cooperatives relied primarily on local savings and made only local loans. Clearly the basis upon which they were organized would have required substantial modification for them to succeed at interregional lending.[1]

Whatever the mechanism employed for making interregional loans, to be successful it must involve some way to structure the relationship between the lender and her agent such that the agent does not take advantage of his superior information. This problem is common to many situations involving long-distance economic transactions. Recently economic historians have argued that some institutional arrangements amount to systems whereby an agent or group of agents commits not to take advantage of an informational or power asymmetry. A commitment mechanism amounts to an arrangement that alters the agent's incentives: he can be trusted not to cheat because, once he is part of the commitment mechanism, it is not in his interest to do so.[2] This is not the only way to structure such an arrangement, nor is there universal agreement about the role of commitment mechanisms in economic history. Another way to solve the principal-agent problem would be for principals to rely exclusively on people they could trust, such as family members or members of the same ethnic or religious group. If the agent fears punishment by God if he takes advantage of his superior information to cheat the principal, then the principal can trust the agent even in the absence of any commitment structure. Family connections function in an analogous way; presumably most of us are less willing to cheat a family member because we fear alienation from family members more than alienation from others. Snowden focuses on why a satisfactory commitment mechanism did not emerge and survive in the United States. Agents found ways to effectively commit themselves not to cheat lenders, but these arrangements could not survive the booms and busts of the real estate market.

Agents, Mortgage Companies, and Life Insurance Companies

The first widespread interregional lending took the form of individual loan agents in the Midwest and West, acting on behalf of individual lenders elsewhere. Although working through a loan agent might have been preferable to trying to conduct all business in person, this structure gave the agent considerable latitude to exploit his superior information. The agent's income was a

1. Guinnane (1994) discusses the unsuccessful attempt to introduce the German model into Ireland in the 1890s, and contains details on the structure and organization of the German cooperatives. The German agricultural credit cooperatives did create a system of "Centrals," regional cooperative banks that accepted deposits from some cooperatives and made loans to others. But these institutions functioned primarily to smooth credit needs over agricultural cycles and over bad years; they did not exist to intermediate credit between regions with chronic excess deposits and regions with chronic excess demand.

2. Greif 1989, an analysis of medieval trading groups, is a recent example of this style of argument.

finder's fee, and all he really had to do was to convince the lender to accept the loan. What was there to deter the agent from misrepresenting properties and borrowers to arrange as many loans as possible? The only sanction an individual lender could apply to an uncooperative or dishonest agent was to refuse to do business with him in the future and to refuse to recommend his services to others. Neither sanction meant much so long as the market consisted of many individual lenders dealing with many individual agents. Given the volume of lending conducted by a single person and the difficulty of establishing an accurate reputation in the fluid societies in question, neither the threat of losing future business nor the potential damage to the agent's reputation was very costly. The only commitment the agent could make not to take advantage of his superior information would be to agree to take back any loan at any time, in essence saying that he had confidence in any loan he passed through to a lender. Given the small size of his own portfolio, however, he simply could not commit to hold the entire stock of outstanding loans he had arranged. If land prices fell too much, his portfolio would become worthless.

Mortgage companies had several advantages over individual loan agents. Snowden rightly emphasizes gains from volume and standardization of practices. For lenders, the great volume of loans meant that their funds were less likely to lay idle waiting for a borrower. More importantly, perhaps, mortgage companies could make commitments to lenders that individual agents could not. Their size and relative permanence meant that the sanctions of loss of future business and damage to reputation were effective deterrents to dishonest behavior. Mortgage companies, moreover, could attempt the more effective commitment mentioned above, to take back any loan. This policy worked for a while because mortgage companies were sufficiently large that a small number of bad loans would not overwhelm their portfolios. Yet when a general decline in land values occurred in the late 1880s and 1890s, this commitment could not be honored. Mortgage companies were simply incapable of holding all the bad loans in their portfolios.

Snowden argues that life insurance companies—which in most cases worked through mortgage companies of the sort that had failed in the 1880s and 1890s—succeeded in this market for two related reasons. First, insurance companies were large enough to develop specialized departments to manage property. The costs of enforcing a bad loan were thus lower, because the insurance company could hire and train its own staff to supervise the property it held. Second, the life insurance companies did not issue demand liabilities, and so had relatively small need for liquidity. Life insurance company portfolios were so large and diversified that they could afford to take over and manage properties that came their way via foreclosures, even in a general downturn in prices. Although convenient for a real estate investor in any situation, this trait was particularly valuable during general downturns in land prices because the insurance company could simply sit things out and wait to sell its property until prices had recovered.

Some Why Nots

Snowden's account is a convincing explanation of why life insurance companies came to play a dominant role in interregional lending in the United States in the nineteenth century. He places rather more stress on explaining why life insurance companies succeeded than on explaining why other possible arrangements did not succeed. This is a sensible approach; one can hardly consider and discard every possible institutional arrangement. Yet his account suggests several arrangements sometimes used in other circumstances, and it is useful to ask why they were not employed in the United States.

The first question concerns the contract between the individual agents and the individual lenders. (Much the same questions can be asked about the mortgage companies, as well.) Snowden notes that the agent was paid a finder's fee, giving the agent no incentive beyond concern for repeat business or his reputation to refrain from passing through bad loans or to provide any services to the lender in managing a foreclosed property. Why would lenders agree to this sort of scheme? One could imagine two modifications that would provide better incentives for the agent. First, lenders could offer a different way to pay the agent. One could imagine, for example, a system that paid the agent's fee *only* when a loan was successfully paid off. This system would require agents to forgo a certain finder's fee now in return for a more uncertain income later. But lenders and their agents might find it in their mutual interest to increase the fee to compensate the agent for waiting and for bearing some of the default risk. Second, lenders could use as their agents only individuals who had some other tie to a community and some other reputation to protect. Lawyers or bankers might seem natural candidates, especially since many could treat their mortgage-agent business as a natural adjunct to their main line of work. Snowden mentions that the Davenport family preferred to use lawyers as their agents, but does not pursue the point beyond that.

The success of the Davenport family raises another set of questions. Snowden notes that this family made some $4 million in loans in a thirty-year period, relying on a network of agents that the family selected and trained. The organization of economic activity through families is not uncommon and, as noted above, has particular advantages when long distances make information difficult to obtain and use. Yet the use of family members could not obviate *all* the difficulties Snowden identifies. Some additional detail on this family's operations could provide useful insights into the principal-agent problem more generally. For example, Snowden notes that, in the face of declining demand for loans, mortgage companies faced the choice of losing their trained agents or knowingly accepting low-quality loans. How did the Davenports keep their trained agents under these conditions? What did the Davenports do in the face of general downturns in land prices? Were their liquidity needs so slight that they could hold large numbers of foreclosed mortgages in their family portfolio? One also wonders why families such as the Davenports did not expand their lending activities beyond their *own* capital, drawing on their networks of

trained agents to make loans for others. The Davenports and families like them, one would think, could easily increase their profits by using their eastern neighbors' funds and their own midwestern agents to achieve the economies of scale in investigation and monitoring that Snowden attributes to the mortgage companies. The Davenports could have dealt with the commitment problem by showing that their family fortune was invested in the activities in which they expected others to invest.

Snowden's account of the Davenports also raises questions about another form of interregional organization. Many of the people who needed capital in the West and Midwest must have had relatives themselves back east, relatives who could either lend the required money personally or function as intermediary for friends and neighbors who wanted to invest in western mortgages. These isolated, informal arrangements are of course quite difficult to track down in historical sources, but it would be interesting to know whether there is mention of them.

This brings us to a final option, and perhaps the most natural one to consider: full-fledged mortgage banks. Snowden notes that some mortgage companies began to issue bonds in the 1880s and 1890s, becoming, in a real sense, true financial intermediaries. By issuing bonds the mortgage companies came to resemble the mortgage banks common in Europe at the time. Following this suggestion and the logic of Snowden's own argument about the life insurance companies lead us to wonder just why the bond-issuing mortgage company would not be a *superior* interregional lender. Note first that a company that issues bonds to finance the mortgage loans it makes faces *no* principal-agent problem; it is both principal and agent.[3] Second, by issuing bonds of the right terms and maturity, the mortgage company could be just as happy holding property in its portfolio as the insurance company; liquidity problems are most severe for individuals and for institutions (such as banks) that issue demand liabilities. Finally, rather than setting up a separate unit to manage properties, the mortgage company could make property management a part of its more general business of gathering and using information on borrowers and their collateral.

The answer to my question may lie in regulatory restrictions on financial intermediaries. Clearly the institution we are imagining could run afoul of prohibitions on interstate banking, branch banking, or both, although one could imagine that those who stood to profit from organizing and running such an institution could lobby the Congress and state legislatures for appropriate changes in the law. More salient is the difficulty of issuing bonds with the right terms. Snowden identifies liquidity as the central shortcoming of both individual agents and the mortgage companies. To be successful our hypothetical mortgage bank would have to be able to hold nonperforming loans in its

3. Agency problems remain *within* the firm, of course, but both Snowden and I are ignoring those in this discussion.

portfolio long enough to ride out depressions in real estate markets. This in turn would entail the issuance of long-term liabilities. Could the mortgage bank in fact market long-term liabilities? Perhaps not. Short-term liabilities have long been a feature of banking institutions, even in circumstances where the assets had fairly long maturities and the mismatch between the two sets of maturities could lead to bank runs and other costly incidents. This mismatch is not an unfortunate product of custom. Calomiris and Kahn (1991) have shown that short-term liabilities function as an important policing device: because bank managers know more about the bank's portfolio than its depositors, one way for bank managers to commit not to capitalize on their superior information by absconding with the funds is to stand willing to refund deposits at any time. Lamoreaux (1991) refers to a similar principle in her study of New England banking in the nineteenth century. A mortgage banking institution might have found it very difficult to raise funds. European mortgage banks, in fact, usually borrowed money on public capital markets, but were based on governmental guarantees and often hefty government subsidies.

More compelling, however, is Snowden's argument that full-fledged mortgage banks would have been superfluous at the time of the life insurance company's dominance of the interregional mortgage market. By the end of the nineteenth century, when most states had removed their restrictions on insurance companies' investing out of state, the United States had in life insurance companies what amounted to *de facto* mortgage banks. Life insurance companies issued liabilities (insurance contracts) with long and actuarially predictable maturities and invested considerable portions of the funds raised this way in interregional mortgage lending. Because the life insurance companies did not need liquidity, they could ride out the recurring depressions in real estate prices. As Snowden emphasizes, the life insurance companies had their own difficulties in the interregional mortgage markets, including continuing problems with the mortgage companies. Yet for a period the life insurance companies were able to play a role that no previous financial intermediary had been able to play. Life insurance companies grew to play the role filled by mortgage banks in European countries, and so serve as yet another example of a distinctively American financial innovation that arose to overcome constraints put in place by our banking system.

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