

Integration Without Decentralization: The Financial Geography of U.S. Life Insurance, 1880–1940*

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Abstract

American life insurers were the largest institution for contractual saving in the United States before Social Security. This paper asks whether control over the savings they collected became geographically dispersed as the market for insurance became national. Using a newly digitized annual panel of premiums and losses by firm and state for nearly every legal-reserve life insurer from 1888 to 1940, I separate the geography of collection, where premiums were paid, from the geography of control, the states in which the collecting firms were domiciled and made their underwriting, investment, and expansion decisions. The number of insurers rose from 56 in 1890 to 359 in 1940, incorporation shifted toward the Midwest and South, and the median within-state Herfindahl index fell by 52 percent. Yet the five largest firms collected 54 percent of national premium in 1890 and 53 percent in 1940, and the share collected by firms domiciled in the state of collection fell from 23.3 percent in the 1890s to 20.8 percent in the 1930s. Gains in local retention came almost entirely from states acquiring a first domestic insurer, and the Northeast–South gap in retention closed chiefly because the South rose. Local control rose substantially only where the law compelled it: after the Robertson Law of 1907, the in-state share of Texas premium rose from 7 to 60 percent within six years, as premium collected there by out-of-state insurers fell by more than half relative to the rest of the South. Participation in legal-reserve insurance converged across states before 1920, in part through the decline of fraternal insurance, and diverged thereafter.

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1 Introduction

For more than a century, life insurance has been one of the most important financial intermediaries in the United States, mobilizing the savings of ordinary households into long-term investment in a national market. Long before Social Security, millions of families used life insurance contracts not only to protect dependents against premature death but also to accumulate savings, borrow against cash values, and transfer wealth. Insurers, in turn, converted those premiums into long-duration assets on a scale that rivaled parts of the banking system.

Despite this prominence, life insurance occupies a marginal place in the economic history of American finance. In the three volumes of Engerman and Gallman's *Cambridge Economic History of the United States*, insurance receives only passing treatment, against multiple chapters for banking and securities markets (Engerman and Gallman, 1996-2000). One reason may be the perception that life insurance was a stable oligopoly of a few giant firms headquartered in New York or Connecticut. That view is incomplete. Between 1880 and 1940 the industry changed substantially in its geography, market structure, and relationship to households. This paper documents that transformation with newly digitized data that combine annual firm-by-state premiums and losses of the near-universe of life insurance firms with the accounting statements of those operating in New York, so that both sides of the industry's geography can be followed: where insurance was sold, and where the firms collecting the premiums were domiciled.

The central finding is that the rise of life insurance produced integration without decentralization. By *integration* I mean the spread of firms across state lines, the growth of competitive state markets, and, for households, the convergence of participation across states. By *decentralization* I mean a shift of control toward the states in which premium was collected, where control is the location of the firms that made underwriting and investment decisions, measured by their state of domicile. Control in this sense is not a measure of where savings were, ultimately, re-invested: an insurer domiciled in New York could and did lend in Iowa or Georgia, and the out-of-state shares reported below do not measure capital flows. Measured this way, the industry expanded well beyond the Northeast, new firms appeared in the Midwest and South after 1900, and state markets became more competitive, yet most states continued to send the great majority of their premium to firms domiciled elsewhere, and premium-weighted control remained concentrated in a few older centers.

Contemporaries expected entry to change this. Southern and Western politicians held that premiums paid to Eastern companies drained local savings, and the home-company movement, with its deposit laws, retaliatory taxes, and favorable treatment of domestic insurers, assumed that local

charters would keep local premium at home. The period allows that expectation to be examined under unusually open entry. American commercial banks were confined by law to a single state, and often to a single office (Sylla, 1969; White, 1983; Calomiris, 2000), but no statute of the period confined an insurer to its home state: *Paul v. Virginia* left insurance to the states, which regulated entry into their own markets without prohibiting insurers from operating across state lines, and hundreds of firms entered. Regulation shaped where firms wrote and where they incorporated, through deposit requirements, retaliatory taxes, and the Armstrong limits on the largest New York companies, but it did not prevent a firm from operating nationally. Given that hundreds of firms could and did enter, why did entrants remain small, and what shifted premium toward local firms? The answer has two parts. Entry dispersed charters far more than premium, because scale in agency networks and reputation favored the established national companies. And premium moved toward local firms in large amounts only where the law compelled it: after the Robertson Law of 1907 required out-of-state insurers to invest most of their Texas reserves in Texas, the in-state share of Texas premium rose from 7 to 60 percent in six years, while the average for the other Southern states never exceeded 11 percent.

The paper makes three contributions. First, it documents the scale and geographic reach of life insurance as a national intermediary for household saving. Second, it separates the geography of business from the geography of control and shows that the industry became more dispersed without becoming locally controlled. After 1900 incorporation shifted toward the Midwest and South and state markets became less concentrated, but gains in local retention came almost entirely from states acquiring a first domestic insurer, the Northeast–South gap in retention closed chiefly because the South rose, and the national share retained by domestic insurers did not rise. Texas is the exception that shows what compulsion achieved: the in-state share rose because out-of-state premium collapsed, and total premium per capita in Texas appears to have fallen relative to the rest of the South. Third, it links the geography of firms to household participation. Participation in legal-reserve insurance converged across states before 1920, in part because fraternal insurance, its principal substitute, collapsed in those years, and diverged after 1920.

This study connects several literatures. It contributes first to the economic history of American insurance, which has examined the industry’s role in nineteenth-century capital mobilization (Pritchett, 1970; Zartman, 1906), the Armstrong investigation and the politics of regulation and organizational form (North, 1954; Ransom and Sutch, 1987; Merkel, 1991; Zanjani, 2007), its investment behavior (Huebner et al., 1932; Snowden, 1995), its experience in the Great Depression

(Dickinson et al., 1933; Rose, 2017) and the influenza pandemic of 1918–19 (Cortes and Verdickt, 2025), and life insurance as a vehicle for household saving (Murphy, 2010; Arthi et al., 2025), together with the institutional histories of the Armstrong era, the American Life Convention, the agency system, and company founding (Keller, 1963; Buley, 1953; Stalson, 1942; Budros, 1992). Closest to the present paper is Janas (2026), which asks how individual insurers became large and geographically diversified through costly and uncertain market entry. To this literature I add a firm-by-state account of the industry’s financial geography across six decades that distinguishes where premiums were collected from where the collecting firms were domiciled. The paper also speaks to the literature on the integration of national capital markets, which has emphasized banks, securities markets, and mortgage finance (Davis, 1965; Snowden, 1995; Sylla, 1969) and has measured integration chiefly through the narrowing of regional interest-rate differentials (Bodenhorn and Rockoff, 1992; James, 1976, 1978; Landon-Lane and Rockoff, 2007), a gauge that can reflect differences in risk and transaction costs as well as segmentation (Odell, 1989). Those studies ask whether the price of funds converged across regions; this paper asks where household savings were collected and where the institutions that controlled them were domiciled.

The rest of the paper proceeds as follows. Section 2 provides historical background on life insurance contracts, household saving, and state regulation. Section 3 describes the data. Section 4 documents the aggregate growth and importance of the industry. Section 5 examines the two geographies of business and control, and Section 6 the geography of household demand. Section 7 relates retention to local entry, examines the Texas case, decomposes the regional gap, and measures convergence in participation. Section 8 concludes.

2 Background

2.1 Life insurance as household saving

Ordinary life insurance was a central household financial product in the late nineteenth and early twentieth centuries. These policies were not simply death-benefit contracts. They combined insurance protection with a savings component. Policyholders made fixed premium payments and received a promised benefit either at death or, for some contracts, at maturity. Over time, policies accumulated cash value: policyholders could borrow against that value when liquidity needs arose or simply surrender the policy for cash (for example, during the Great Depression), or convert the policy to a less-lucrative but paid-up contract.

(Figure I about here)

Insurers sold the product in these terms. The Metropolitan advertisement in Figure I promises not a death benefit but a list of household uses (“creating estates, paying off mortgages, educating children, providing income in retirement”) and notes that the company is a mutual whose divisible surplus returns to policyholders as dividends. The Home Life notice of 1891 sells strength instead: \$126 of admitted assets for every \$100 of liabilities, and the portfolio behind them, mostly railroad bonds alongside federal and municipal issues and bank stocks. A household buying a thirty-year promise had to judge whether the firm would still honor it decades later.¹ The Home Life list also shows what the reserves financed: national railway systems such as the Chicago and North-Western and the Delaware and Hudson, rather than securities issued where the policies were sold. When a household in Kansas or Texas bought a policy from a firm headquartered in New York or Connecticut, its saving entered a national financial institution; as Davis (1965) observed, an insurer that collected premiums wherever it sold policies moved savings across regions whether or not it also invested nationally.

2.2 State regulation and the politics of local finance

Life insurance was regulated primarily by the states. In *Paul v. Virginia* (1869), the Supreme Court held that issuing an insurance policy was not “commerce” under the Constitution, affirming that regulation was the responsibility of the individual states rather than the federal government. This precedent held until *United States v. South-Eastern Underwriters Association* (1944), so throughout the period studied in this paper each state wrote its own insurance law and maintained its own supervisory apparatus. Many states created insurance departments or commissioners’ offices (New Hampshire was the first, in 1851) to license companies, require annual financial statements, and set minimum capital and reserve requirements (Orfield, 1948).

This structure produced a patchwork of regulatory environments that differed most visibly in the rules governing where insurers could invest. The earliest statutory rules date from Massachusetts in 1845 and New York in 1849 (Stalson, 1942), and many had a geographic character. By 1870 New Jersey, Ohio, California, Iowa, Kansas, Kentucky, and New York barred their domestic insurers from lending on mortgages outside the state, while Connecticut and Wisconsin granted theirs broad lending powers, so that for three decades five companies in Hartford and Milwaukee

¹Metropolitan continues to operate as MetLife; Home Life of New York merged with Phoenix Mutual in 1992 to form Phoenix Home Life.

dominated interregional mortgage lending (Snowden, 1995). New York lifted its restriction only in 1886 (Snowden, 1995), and by 1905 only Georgia, Nebraska, Pennsylvania, and Texas still prohibited their insurers from investing in out-of-state mortgages (Davis, 1965). Stringency varied as widely as focus (Halaas, 1932), and minimum-capital rules shaped organizational form and entry: mutual companies formed disproportionately where capital requirements for mutuals were low (Zanjani, 2007).

The Progressive Era made these issues especially visible. The Armstrong investigation in New York, spurred by a 1905 exposé of self-dealing at the Equitable, exposed governance failures and conflicts of interest among the major life insurers (North, 1954; Ransom and Sutch, 1987). The reforms enacted in New York in 1906 limited acquisition costs, including agents' commissions, capped the new business each company could write in a year, prohibited investment in common stocks, banned deferred-dividend "tontine" policies, and revised the procedure for electing the trustees of mutual companies (Stalson, 1942), and other states adopted many of them (Zanjani, 2007). Because several of the largest firms were domiciled in New York and other states looked to it as a regulatory model, these reforms reshaped practice well beyond the state's borders.

At the same time, the politics of local finance gave insurance geography a broader significance. Southern and Western politicians complained that premiums collected from local households were funneled to Eastern financial centers, a grievance that fed the Progressive-Era attack on the "money trust" (Merkel, 1991). Texas Governor Charles Culberson observed that between 1886 and 1897 Texans paid roughly \$25 million more in premiums than they received in claims, which he attributed to the export of local savings to New York (Zartman, 1906), and the grievance persisted: in 1933 an Atlanta banker urged the Mutual Life to keep balances in the sections of the country from which its business was drawn (U.S. Congress, Temporary National Economic Committee, 1939). The New York companies understood the danger, and sought the power to lend outside New York in the 1870s and 1880s partly because other states might restrict their sales if they appeared to be draining local savings (Snowden, 1995). States responded by promoting "home companies," taxing out-of-state insurers more heavily, or requiring them to deposit securities in the state as a condition of doing business (Grant, 1979; Meier, 1988). Retaliatory provisions, under which a state imposed on an insurer from another state whatever taxes and fees that state levied on the first state's own companies, were authorized in forty-two states by 1942, and ten states reduced premium taxes for insurers that held a stipulated share of their assets in approved local securities (Orfield, 1948). The tools were old: Pennsylvania barred out-of-state insurers from 1810 to 1849, New York's deposit

law of 1851 led twelve out-of-state companies to withdraw, and California’s law of 1874 precipitated the withdrawal of most of them (Stalson, 1942). Out-of-state companies answered the distrust of distant home offices in kind, for example by establishing local boards of policyholders (Stalson, 1942).

The most striking example of home-company legislation was the Robertson Insurance Law of 1907, sponsored by state representative James Harvey Robertson of Austin, which required companies operating in Texas to invest three-quarters of the reserves on their Texas policies in Texas securities (Beard, 1958; Hobbs, 1921). Rather than comply, twenty-eight out-of-state life insurers withdrew during 1907, and Metropolitan followed at the end of the year. Seven resumed writing once the commissioner waived the accompanying requirement to deposit the securities in the state, but Travelers, the first of the others to return, did not renew its license until 1922, and in 1939 New York Life and the Mutual Life still did not operate in Texas (Beard, 1958; U.S. Congress, Temporary National Economic Committee, 1939). Legislation passed in Wisconsin in 1907 also led a number of Eastern companies to withdraw from that state (Stalson, 1942). The Texas law remained unique: compulsory-investment bills were considered 232 times in forty states and two territories between 1907 and 1957, but in 1958 the Robertson Law remained the only such law in the United States (Beard, 1958).²

Several features of the regulatory environment and of the source bear directly on the measures used below. New York’s Appleton rule, applied administratively from the early 1900s and later written into law, required any insurer licensed in New York to comply with New York law in all of its business, so many smaller companies did not seek a New York license, and the New York accounting data describe an increasingly large-firm sample after that date. The Armstrong legislation limited by statute the acquisition expenses and the annual new business of every company licensed in New York, on a scale that bound hardest on the largest companies in the years after 1906 (Keller, 1963), although the limit on new business was suspended in several later years (Stalson, 1942). These were the years in which the entry wave documented below accelerated: new incorporations had begun to rise in 1899, but the number formed each year rose from 23 in 1905 to 44 in 1906 and 48 in 1909, most of them stock companies, and a company president testified in 1940 that the post-Armstrong laws had “made possible the organization and growth of practically all of the companies that have since been chartered” (Stalson, 1942). The premium totals include industrial insurance, sold in

²Canada imposed a comparable requirement at the national level, obliging foreign insurers to hold Canadian assets against their Canadian liabilities, yet American and British companies still collected 40 percent of Canadian premium in 1914 (Drummond, 1962).

small weekly-premium policies to working-class households and dominated by a few Northeastern firms, but also written by Southern companies, among them Black-owned insurers such as North Carolina Mutual (Weare, 1973; Bouk, 2015), although most Black households bought from white-owned companies (Arthi et al., 2023). Finally, the paper covers legal-reserve insurers only. Fraternal benefit societies and assessment associations are not in the *Year Book* tables (Beito, 2000), and they were large: their insurance in force equalled 87 percent of the legal-reserve total in 1890 and 110 percent in 1895, and fell to 23 percent by 1920 (Stalson, 1942).

2.3 The two geographies of insurance markets

The geography of life insurance can be described along two dimensions. The first is the geography of business: where firms collected premiums and paid losses. This geography reflects household demand, agency networks, and state permission to operate. The second is the geography of control: where the firms receiving those premiums were incorporated or headquartered. This geography reflects entry, regulation, and the location of financial decision-making.

The general agency system gave the two geographies their institutional form. A company operating outside its home state had to appoint a representative to accept legal process there, and state lines tended to become the boundaries of that representative’s selling territory as well (Stalson, 1942). General agents paid the local costs of selling, among them advertising, postage, rent, and travel, out of their commissions (Stalson, 1942), so a company could extend its sales state by state at little fixed cost to the home office, while premium income, investment, and control remained at home. Building such a network was nonetheless costly for a new company: first-year acquisition costs in opening a new territory could exceed 200 percent of first-year premium, and the commissions paid by the three largest companies set the rates smaller companies had to pay to attract agents (Stalson, 1942). By 1905 New York Life alone employed about 10,000 agents (Stalson, 1942). A charter without a sales force retained little: the Wisconsin State Fund, established in 1911 to sell by mail without agents, had 1,302 policies in force in 1938 (Stalson, 1942).

The distinction is central to the paper. A state could have a large and competitive insurance market while relying almost entirely on firms domiciled elsewhere, and a state could be important as a headquarters even if its own residents accounted for a small part of its firms’ business.

Throughout, “control” means domicile: the state whose law chartered the insurer and in which its management and investment office sat. Organizational form does not change this. Several of the largest insurers, among them New York Life, Mutual, Northwestern Mutual, and, after

1915, Metropolitan, were mutual companies, nominally owned by their policyholders, but mutual organization dispersed ownership, not control. Directors were elected through proxies gathered by management, and managements were largely unaccountable to policyholders both before and after the Armstrong investigation (Keller, 1963; North, 1954); by 1867 they were already “entrenched beyond recall” (Stalson, 1942). When the Temporary National Economic Committee examined mutual elections in 1939, New York Life had received 318 votes in its 1937 election and Metropolitan, with 29 million policyholders, had never faced an opposition slate; New York law also required a majority of a domestic insurer’s directors to reside in the state (U.S. Congress, Temporary National Economic Committee, 1939). Policyholders held no transferable claim on a mutual’s surplus, which its managers invested on behalf of what Cohn (1974) calls “rather vague constituencies.” What mutual form changes is the destination of the surplus, which after 1906 returned to policyholders in every state as dividends rather than to shareholders in the home state (Zanjani, 2007). Mutual companies collected between 51 and 62 percent of premium in each decade, and between 52 and 62 percent of the premium collected by out-of-state insurers (Appendix Table A6).³ Seventy percent of the premium collected by Northeastern firms in the 1930s went to mutual companies, against 13 percent for Southern firms, whose entrants were almost all stock companies.

Domicile has a second limit: it does not show where premiums were invested. Insurers kept the two geographies apart deliberately: when Northwestern Mutual’s agents proposed in the 1870s that its mortgage lending in each state be tied to the policies sold there, the company refused (Snowden, 1995). Out-of-state insurers lent heavily on farm mortgages in the Midwest and the Plains (Snowden, 1995) and, from the 1920s, on urban property in every region; the South received between 14 and 25 percent of the urban mortgage loans made by the 24 leading companies in each five-year period from 1920 to 1946 (Saulnier, 1950). The out-of-state shares reported below therefore measure where decisions over the premium were made, not how much local saving left a state as capital.

3 Data

The paper draws on two newly digitized sources. The first is the Insurance Year Book published by the Spectator Company. These annual volumes reported information on American and foreign

³Prudential is coded as a stock company throughout, because its mutualization, begun under a New Jersey law of 1913, was completed only in 1943. Contemporaries treated it as mutual from 1915 (Stalson, 1942); counting it as mutual from that year raises the national mutual share to 63 percent in the 1910s, 76 percent in the 1920s, and 77 percent in the 1930s, and the share of Northeastern firms in the 1930s to 90 percent.

insurance companies, including premiums, losses, policy types, firm characteristics, and state-level business activity. I use annual firm-by-state data on premiums and losses paid from 1888 to 1940, and every year in that range is present.⁴ For the vast majority of years, the data cover the entire contiguous United States and the District of Columbia. Two limits of the source matter for what follows. First, state detail is incomplete in the earliest volumes: the four largest companies report business in only 21 to 32 states in 1888–1890 against 33 to 49 by 1893–94, so per-capita premium in several Southern and Western states is understated in those years, although part of the difference may be real, since the largest companies were still extending their agency systems. The convergence estimates in Section 7.4 therefore take 1892–94 as the initial period. Second, there are one-year gaps, in which a firm reports business in a state in the years before and after but not in between. Interpolating these adds at most 8 percent to national premium (in 1892) and more than 5 percent only in 1892, 1894, 1897, and 1916; the results in Tables IV and V are unchanged when they are interpolated (Appendix Table A1). Premium is ordinary, industrial, and group premium combined unless stated otherwise; ordinary premium was 71 percent of the total in 1940, industrial 24 percent, and group 5 percent.⁵

The second source is the Annual Report of the Superintendent of Insurance of the State of New York. These reports provide audited financial statements for firms operating in New York. They include balance-sheet and income-statement information, such as assets, liabilities, reserves, premiums, investment income, losses, commissions, dividends, policy loans, and lapsed-policy payments. I digitize these tables for the period 1880 to 1940 and use them here for the aggregate growth series of Section 4 and the policy counts of Section 6.

(Table I about here)

State population, the urban share, and manufacturing output come from the decennial censuses of 1880 through 1940, interpolated log-linearly between census years (Haines and Inter-university Consortium for Political and Social Research, 2010), and nominal magnitudes are deflated

⁴The panel’s nominal premium can be compared with the national series for U.S. life insurance companies in U.S. Bureau of the Census (1975, series X 895), which is also drawn from the *Year Book* for these years but reports each company’s total premium income, including premium on business written outside the United States. The panel equals 64 percent of that series in 1890, 82 percent in 1900, 87 percent in 1910, 95 percent in 1920, 99 percent in 1930, and 96 percent in 1940. The shortfall in the early years reflects in part the foreign business of the largest New York companies and in part the incomplete state detail described below, so growth rates measured from the panel’s first years overstate the growth of the industry’s domestic business. Foreign business was 13 percent of U.S. companies’ insurance in force in 1890 and about 30 percent at New York Life and Equitable (Stalson, 1942), so the state-level data also understate the business directed from New York early in the period.

⁵Five Northeastern companies, Aetna, Equitable, Metropolitan, Prudential, and Travelers, wrote more than 80 percent of group insurance (Stalson, 1942).

to 2024 dollars with the MeasuringWorth consumer price index (Williamson, 2026).

The firm-by-state dataset contains 150,070 firm-state-line observations on 847 insurers; the Data Appendix documents how the sample is built and checked. For each firm, state, and line the *Year Book* also reports insurance in force, which I use to screen the data: cells with premium above \$200 or below \$5 per \$1,000 in force (below \$1 for group insurance), claims above \$200 per \$1,000, or claims more than ten times premium are dropped. Among cells with positive premium in the states, the screen removes 2,966 of 151,438 (2.0 percent), carrying 0.8 percent of premium, and the results are essentially unchanged without it. The median firm is observed for 8 years and the mean firm for 13. The New York accounting data include 171 firms and 2,406 firm-year observations; the median firm held about \$0.7 billion in assets in 2024 dollars, and the largest held tens of billions.

I organize the data around several geographic measures. A firm’s state of business is the state in which it collected premiums or paid losses, and its state of domicile is the state in which it was incorporated. States are grouped into four regions: Northeast, Midwest, South, and West. For each state-year I measure the share of premium collected by firms domiciled in the state, which I call the in-state share or, equivalently, retention; the number of firms operating in the state and the number domiciled there; and concentration in premium collection, using the Herfindahl-Hirschman Index.

4 The Rise of a National Insurance Intermediary

Life insurers became major intermediaries in long-term capital markets. By the early twentieth century they held large amounts of mortgages, municipal securities, corporate bonds, and other assets, and their importance is clearest when they are placed alongside the banking system. Figure II shows this comparison for 1928. For each major financial instrument, it plots how the combined holdings of life insurers, the several classes of banks (national banks, state banks, loan and trust companies, stock and mutual savings banks, and private banks), and building and loan associations were divided among them.⁶ The bank series are aggregated from the annual reports of the Office of the Comptroller of the Currency; the life-insurance series are aggregated from the *Spectator Insurance Year Book* and the Proceedings of the Annual Meeting of the Association of Life Insurance Presidents. Life insurers were not peripheral participants but central holders of long-term claims in several asset classes: they held about two and a half times as much mortgage debt as state and

⁶The shares are among these institutions only: individuals, non-life insurers, and other holders are excluded, so the figure measures the relative position of life insurers among institutional holders rather than their share of all debt outstanding.

national banks combined, held municipal debt on par with the nationally chartered banks, and ranked among the first and largest institutional investors in corporate bonds.

(Figure II about here)

Banks created deposits and provided short-term credit; life insurers accumulated regular household premiums and invested them in long-duration assets to back long-term promises. The 1928 comparison is a single cross-section, but it captures a structural feature of the period: life insurers were most important where long maturities and predictable cash flows were valued.

4.1 Aggregate growth, entry, and survival

The industry expanded rapidly between 1880 and 1940. Measured from the company-wide balance sheets of the insurers licensed in New York, real assets grew 6.7 percent per year, liabilities 7.0 percent, and revenue 6.8 percent, against 7.2, 7.5, and 7.3 percent in nominal terms. The sample is not balanced, and after the early 1900s the Appleton rule tilts it toward large companies, so these aggregates combine the growth of continuing firms with changes in membership. Growth continued through the Depression: between 1929 and 1933 nominal assets grew 5.02 percent a year and liabilities 5.16 percent, and because prices fell, real assets and liabilities grew 12.65 and 12.78 percent. Revenue held up less well: it grew 1.64 percent a year in nominal terms over the four years and fell 2.74 percent in 1932–33, the years in which policyholders borrowed against and surrendered their contracts in the largest numbers (see Section 6).⁷

The aggregate series also show that life insurance was not a static sector. Figure III plots aggregate premiums and losses summed across all U.S. states, deflated to 2024 dollars, together with the number of active firms (labeled at five-year intervals) and an annual exit rate, drawing all three series from the *Insurance Year Book*. Real premium income rose from \$3.5 billion in 1890 to \$75.4 billion in 1940, and losses paid rose in step to about \$29 billion. Measured against national income, premiums rose from 1.3 percent in 1889 to 4.1 percent in 1929 and a peak of 7.1 percent in 1932 (Stalson, 1942). The number of firms climbed from 56 in 1890 to a peak of 369 in 1931 before easing to 345 by 1935. Entry was especially pronounced in the first decade of the twentieth century, when the firm count nearly doubled between 1905 and 1910, from 115 to 219. This pattern indicates that the industry’s transformation involved both the scaling of incumbents and the entry of new firms. Many of these new firms were small: in 1937 the median company operated in four

⁷Appendix Table A10 reports the series and compares the Depression and other recession years with the rest of the period.

states and 112 of 352 operated in only one. Their entry changed the geographic composition of the industry more than its premium-weighted center of gravity.

(Figure III about here)

Firms left the industry steadily but rarely failed. The exit rate in Figure III counts the firms that left the industry in each year, dated by the reinsurance, merger, acquisition, failure, or retirement, as a share of the firms active the year before. Between 1889 and 1940, the exit rate was 3.2 percent in the median year and never exceeded 6.8 percent, the rate in 1931. Of the 378 exits in those years, 332 (87.8 percent) were reinsurance, merger, or acquisition, 37 (9.8 percent) were failures, and 9 were retirements. Failures clustered in the 1930s, which account for 24 of the 37, yet at the end of 1932 less than one-half of one percent of the assets of legal-reserve insurers was involved in failure or receivership (Dickinson et al., 1933).

5 Two Geographies: Business and Control

5.1 Geography of business

The first dimension is the geography of business. Panel A of Figure IV maps premium collected in each state in 1890 and 1940, in 2024 dollars, on the same seven classes in both years, from under \$1 million to between \$4 billion and \$14 billion. In 1890 collection was concentrated in the Northeast and the eastern Midwest. Four states reached the class between \$250 million and \$1 billion, New York (\$646 million), Pennsylvania (\$556 million), Massachusetts (\$301 million), and Illinois (\$255 million), and Ohio stood just below it at \$244 million; no state reached \$1 billion. Fourteen states and the District of Columbia collected less than \$10 million: every Mountain state except Colorado, the Dakotas, Washington, Oklahoma, Delaware, Virginia, and Mississippi. By 1940 collection had spread across the country. New York (\$13.4 billion), Pennsylvania, Illinois, Ohio, and California formed the highest class, above \$4 billion, fourteen other states collected between \$1 billion and \$4 billion, and no state collected less than \$10 million; the smallest market, Nevada, collected \$44 million.

(Figure IV about here)

The reach of individual firms widened alongside this diffusion. Panel B of Figure IV plots the number of states (including the District of Columbia) in which firms operated, with the cross-firm

median, mean, and 90th percentile, and the total number of firm-state connections. Before 1900 the median firm already wrote in roughly 13 to 17 states and the 90th percentile in 36 to 45, so multi-state operation was established well before the turn of the century.

After 1905 the number of firm-state connections rose from roughly 1,800 to about 4,100 by 1940, but the median number of states per firm fell from about 13 to 3 or 4, and the mean from a peak near 21 in 1896 to about 8 in 1912 before recovering to roughly 11. Existing firms did not retreat: the 90th percentile fell to about 30 for some fifteen years and then climbed back to about 46 states by 1940. The fall in the median reflects entry by many small firms operating in few states, so that by the interwar period the industry combined large national insurers, multi-state firms of middling size, and small regional firms.

5.2 Geography of control

The second dimension is the geography of incorporation and financial decision-making. Panel A of Figure V plots the number of firms incorporated in each region over time together with the Northeast's share of aggregate national premium on the right axis. Here the early twentieth century marks a clear turning point. Before 1905, incorporation was overwhelmingly Northeastern in both weight and count: the region held between about 34 and 40 incorporated firms, the Midwest between 14 and 34, and the South and West only a handful each. Between roughly 1905 and 1913 the number of firms incorporated in the Midwest and South rose sharply, the Midwest climbing from 27 firms in 1900 to 106 by 1911 and the South from 9 to 72. This shift coincided with Progressive Era regulatory changes, the politics of home-company promotion, and the growth of regional markets.

(Figure V about here)

Midwestern incorporation peaked near 147 firms in 1931 before easing to 119 by 1940, and the South held between 110 and 128 through the 1930s (135 in 1940), so that each region came to hold about twice as many incorporated firms as the Northeast's 62; the West held 24. State governments had reasons to encourage these firms where political leaders worried that premiums collected from local residents were controlled by distant firms, and their entry gave many states a visible domestic insurance sector.

But the premium-weighted geography changed much less than the firm-count geography. The Northeast's share of national premium, plotted on the right axis of Figure V, fell only from about 0.89 in the late 1880s to roughly 0.78 by 1940, and its lowest readings, near 0.74, came around

1920, after a decade in which the Armstrong limits restrained new business at the largest New York companies and the wave of Midwestern and Southern entry peaked. The restraint is visible directly. New business written by the New York companies in 1907 was 58 percent below its 1904 level, while out-of-state companies operating in New York sustained or increased their sales, and between 1905 and 1910 insurance in force fell at New York Life, Mutual, and Equitable but rose by 39 percent at Metropolitan and 58 percent at Prudential (Stalson, 1942), which is why the 1890 leaders lost ground chiefly to the industrial companies. Even as the Midwest and South together came to hold four times as many incorporated firms as the Northeast, more than three-quarters of national premium still flowed to Northeastern firms at the end of the period. This divergence between firm counts and premium shares implies that incorporation dispersed more than financial control. The entry of many small firms changed the institutional landscape, but large established insurers retained strong advantages in premium collection rooted above all in their agency networks. Those networks were increasingly directed from the home office: in the 1890s New York Life abandoned the general-agency method for salaried managers who reported to the home office, and extended the system through the Western states (Stalson, 1942).

5.3 Local markets became competitive

Market structure changed substantially at the national level. Panel A of Figure VI plots two measures of concentration in national premium collection: the log ratio of the 90th to the 10th percentile of firm-level premium, and the share of premium collected by the five largest firms in each year. At the top, concentration hardly changed. The five largest firms collected 0.54 of national premium in 1890, 0.53 in 1910, 0.49 in 1920, and 0.53 in 1940, and the ten largest roughly two-thirds to three-quarters throughout. What changed was their identity: by premium, Prudential had joined the top two by 1910,⁸ and John Hancock replaced Mutual in the top five by 1940. The five firms that led in 1890 (New York Life, Mutual, Metropolitan, Equitable, and Northwestern Mutual) did lose ground, from 0.54 to 0.39, but to other large Northeastern insurers rather than to the new entrants (Panel A, dashed line). Measures based on assets give the same picture: at the end of 1937 the five largest companies held 54.4 percent of the assets of all U.S. life insurance companies, and companies with home offices in the New York City area and New England held 74.1 percent (U.S. Congress, Temporary National Economic Committee, 1939). The 90/10 log ratio, a measure

⁸By insurance in force, the five largest companies held 59.3 percent in 1890, 54.4 percent in 1910, 47.4 percent in 1920, and 53.2 percent in 1937. On that measure Prudential ranked third in 1910 and second from 1915, because industrial insurance carried more premium per \$1,000 of coverage.

of firm-size dispersion, ran between about 5.5 and 6.5 before 1905, narrowed to about 4.4 by 1920, and widened again to about 5.7 by 1940 as the largest firms pulled away from a lengthening tail of small entrants.

(Figure VI about here)

Concentration fell within states as well. Panel B plots the state-level Herfindahl index of premium collection, its cross-state median and 25th-to-75th-percentile range, alongside the national HHI. The median within-state HHI fell by about half, from about 0.15 in 1890 to roughly 0.07 by 1940, and the interquartile range across states narrowed sharply, from roughly 0.10–0.22 in the early 1890s to 0.06–0.10 by the end of the period, so that markets became not only less concentrated but also markedly more alike in their concentration. The national HHI, already low, fell from about 0.08 in 1890 to about 0.06 around 1920 and was back at 0.08 by 1940, well beneath the level the image of a simple oligopoly would imply. What changed was the structure of competition: the older firms now competed in most markets alongside regional and local entrants.

5.4 The limits of decentralization

The key question for financial geography is whether this increased competition translated into local control of household savings. The answer is only partially. Many states that had little or no in-state premium collection in the late nineteenth century had domestic firms by the interwar period, especially in the Midwest and South, where entry was strongest.

(Figure VII about here)

Panel A of Figure VII tracks the in-state share: the premium-weighted national share, the unweighted cross-state mean, the 25th percentile, and the maximum. The national share stands near 0.23 in 1890, holds between 0.20 and 0.24 for five decades, and stands at 0.195 in 1940, so roughly four-fifths of American premium was collected by out-of-state firms at both ends of the period. The unweighted mean runs at about half that level, since retention rises with market size; it rose from about 0.055 in the mid-1890s to roughly 0.14 by the mid-1910s and eased to 0.115 by 1940. The 25th percentile was indistinguishable from zero until 1906 and never exceeded about 0.07, and the maximum fell from about 0.72 in the early 1890s to 0.47 by 1940, so that by the end of the period no state retained a majority of the premium its households paid. Local participation increased while local dominance became rarer.

What local dominance existed was concentrated in the largest markets, which were themselves the headquarters of the major insurers. Panel B plots each state’s in-state share against its percentile in the distribution of total premium. In 1890 most states retained essentially none of their premium, and only the largest markets held a meaningful domestic share, led by New York at about 0.72. By 1940 the mass of states at zero had disappeared, but the most self-supplied large market retained only about 0.47.

Because the national share is a premium-weighted average, its stability conceals offsetting movements, and one state accounts for much of the offset. Appendix Table A5 splits the change in the national share between 1888–99 and 1930–40, from 0.233 to 0.208, into contributions by state. New York’s own in-state share fell from 0.66 to 0.49, and New York alone lowered the national share by 0.038, more than the total decline of 0.026. With Pennsylvania, Massachusetts, Connecticut, and New Jersey, the five headquarters states subtracted 0.061. The rest of the country added 0.036, almost all of it through rising retention within those states rather than through their growing weight in national premium. The unchanged aggregate is therefore the sum of a large decline in the old headquarters states, above all New York, and a broad rise everywhere else.

One explanation for the gap is that the premiums were never there to be retained, and that the regions chartering the most firms were also those where households bought the least. Section 6 takes up the geography of household demand, and Section 7 puts magnitudes on both.

6 Households and the Geography of Demand

Demand was distributed as unevenly as supply. Households bought policies for protection, saving, liquidity, and wealth transfer, and, unsurprisingly, the same regional hierarchy that governed where firms were domiciled also governed where households bought the most insurance.

Affordability rose because real wages rose. Table II sets the premium rates of a single conservative insurer, Aetna, whose rate book is accessible across the period, against average manufacturing wages. Gross rates were nearly flat: continuous whole-life coverage at age 50 cost about \$44.70 per \$1,000 in 1893 and \$43.73 in 1929. Consumer prices rose 96.4 percent between the two years, so a policy giving the same real coverage as \$1,000 in 1893 needed a face amount of \$1,964 in 1929 and cost \$85.89 a year. The average manufacturing wage rose faster, from \$0.15 to \$0.56 an hour, so the labor time needed to buy that fixed real coverage fell from 296 hours to 153.

(Table II about here)

Life insurance thereby became accessible to working- and middle-class households, which helps explain the growth of policy counts before 1940.

Demand nonetheless expanded unevenly across space. Panel B of Figure V plots average per-capita premium by region, in 2024 dollars, together with the share of all premium collected in Northeast states, which is distinct from the share collected by Northeastern firms in Panel A. Per-capita premiums were consistently highest in the Northeast, rising from about \$90 in the late 1880s to a peak near \$950 in 1932 and about \$865 by 1940. The Midwest and West rose toward Northeastern levels, reaching roughly \$600 and \$525 at their 1932 peaks and \$585 and \$500 in 1940, while the South remained persistently lower, at about \$330 by 1940, never fully catching up with the other regions. As demand spread, the Northeast’s share of premium collected fell from about 0.57 in the late 1880s to roughly 0.41 by 1940, reaching its lowest point, near 0.39, around 1920.

(Figure VIII about here)

Rising affordability also appears in the number of contracts households held. Figure VIII plots New York policy counts per capita on the left axis and two measures of drawdown on the right. Whole-life policies rose steadily, from about 0.04 in the mid-1890s to roughly 0.37 by 1930. Industrial policies, sold door to door in small denominations to working-class households, grew far larger in number, rising from about 0.41 in 1902 to a peak near 1.22 in 1932, more than one policy per resident (these contracts were small and a household could hold several). The Depression then reveals the dual character of the contract: policy loans, which had drifted from about 2 percent of admitted assets in the mid-1890s to 11 percent by the First World War and held near that level through the 1920s, rose to 17 percent by 1932.⁹ Payments on lapsed and surrendered policies moved more sharply still, from a band between 9 and 16 percent of disbursements that had held for four decades to 33 percent at the trough in 1932–33, before both series retreated by 1940. Households drew on the savings embedded in contracts they already held, and it was the small working-class contracts they gave up: industrial policies fell to about 0.90 per resident by 1940¹⁰ while whole-life counts merely flattened.

These regional differences plausibly reflect income, urbanization, occupational structure, household wealth, access to agents, and competing savings institutions, which the descriptive ev-

⁹These shares are computed for firms operating in New York. For the industry as a whole, Dickinson et al. (1933) report policy loans equal to 13.3 percent of assets in 1929 and 18.4 percent in late 1932. During the banking crisis of 1933 the New York superintendent used emergency powers to suspend policy loans and cash surrenders, a ban that remained in place until September (Rose, 2017).

¹⁰This decline is measured in New York. Nationally, industrial policies in force fell from 88.2 million in 1930 to 83.0 million in 1932 and had recovered to 88.9 million by 1937 (Stalson, 1942).

idence cannot separate. They raise a question for the geography of control. The Northeast was both the region where most large firms were domiciled and the region where households bought the most, while the South chartered insurers in quantity but its households bought least. If the second fact explains the first, Southern incorporation failed to shift premium control because there was too little local premium to retain. Section 7 examines that conjecture.

7 Quantifying Integration and Control

The preceding sections established two patterns: local markets grew competitive and states acquired domestic insurers, yet control over the premium stayed where it had begun; and household participation spread across the country, yet the South never caught up. This section attaches magnitudes to both. It asks how retention varied with the number of domestic insurers, what happened when a state compelled local control, how the regional gap divides between the number of domestic insurers and their size, and how fast participation converged across states.

7.1 Local entry and premium retention

Figure V showed that the Midwest and South came to hold far more insurers than the Northeast while the Northeast retained more than three-quarters of national premium. Domestic incorporation may have raised local retention substantially, with the aggregate pattern reflecting the small number of firms involved, or hardly at all, with domestic firms too small to matter; the distinction bears on the home-company politics of Section 2.

I estimate, over the panel of states and years,

$$\text{InStateShare}_{st} = \beta_1 \ln(N_{st}^{\text{dom}} + 1) + \beta_2 \ln \text{PremiumPC}_{st} + \gamma' X_{st} + \alpha_s + \alpha_t + \varepsilon_{st}, \quad (7.1)$$

where InStateShare_{st} is the share of premium collected in state s in year t by firms domiciled in s ; N_{st}^{dom} is the number of insurers domiciled in the state and writing business there; PremiumPC_{st} is premium per capita, the measure of local demand from Section 6; and X_{st} collects manufacturing output per capita, the urban share, and the number of out-of-state insurers writing in the state. The count enters as $\ln(N + 1)$ so that states with no domestic insurer remain in the sample, which makes β_1 most informative about the step from zero to one. State effects absorb time-invariant differences in market size, regulation, and industrial structure, year effects absorb national trends, and standard errors are clustered by state. Table III describes how retention varied with the size of

the domestic sector, and an event study examines what happened when a state first acquired one.

(Table III about here)

Column (1) of Table III omits state effects, columns (2) through (4) add state effects and the controls in sequence, column (5) uses region-by-year effects, and column (6) enters the domestic count as indicators. The coefficient on the log domestic count is 0.081 (s.e. 0.012) in column (4) and between 0.078 and 0.082 across columns (2) through (5). Column (6) shows the shape of the relationship directly. With states having no domestic insurer as the omitted category, states with one domestic insurer retained 0.067 (s.e. 0.011) more against a sample mean of 0.103. The second added 0.019, the next three 0.037 between them, and the five after that 0.033; a state with more than ten domestic insurers retained 0.221 more than one with none. The profile is monotone and sharply concave. The first insurer is associated with about three times the increment of the second and ten times each of the sixth through tenth, and on its own it delivers thirty percent of what having more than ten delivers, against the twenty-five percent a log-linear profile would imply. The differences between states lie chiefly between having a domestic insurance sector and having none.

A stacked event study for the 29 states whose first domestic insurer appears after at least four years of observation compares each with states that did not acquire one until at least nine years later, with state-by-stack and year-by-stack effects (Appendix Figure A2). The in-state share is zero by construction before entry, and afterwards it rose by 0.02 in the year of entry, 0.06 after four years, and 0.10 after eight. The number of out-of-state insurers writing in the state fell by 10 to 15 percent within two to five years (-0.15 log points, s.e. 0.045, after four years), and real out-of-state premium per capita fell by 4 to 7 percent in the first four years (standard errors 0.02 to 0.035) and was back near its pre-entry level by the sixth. The pre-period coefficients for premium are positive but imprecise, between 0.07 and 0.11 log points relative to the year before entry, so the estimates cannot exclude that entry responded to expected demand. The first domestic insurer also frequently coincided with home-company legislation, such as deposit requirements and discriminatory taxes, that could itself have led out-of-state insurers to withdraw, and the panel does not record those laws by state and year. Domestic entry was therefore associated with the exit of some out-of-state firms and at most a modest and temporary decline in what incumbents collected.

I find no evidence that local demand accounts for retention. The coefficient on log premium per capita lies between -0.002 and 0.009 across columns (3) through (6), with standard errors of the same order, so the interpretation suggested in Section 6, that Southern firms retained little

because Southern households bought little, is not supported once the size of the domestic sector is held fixed. Manufacturing output per capita enters positively, at 0.039 (s.e. 0.016) in column (4) and 0.031 under region-by-year effects. Retention is nonetheless overwhelmingly a persistent state attribute in its level. Adding state effects raises the adjusted R^2 from 0.460 to 0.888, while the four covariates together add 0.006. The geography of control was durable in a way that the geography of firm counts was not.

7.2 Compelled local control: Texas

The Robertson Law provides the one case in which a state compelled rather than permitted local control. Figure IX compares Texas with the other Southern jurisdictions, fifteen states and the District of Columbia, from 1895 to 1925. Before 1906 the two series were indistinguishable: Texas had no domestic insurer before 1901, and its in-state share was 0.023 in 1905, against a Southern mean of 0.027. After the law the Texas share rose to 0.13 in 1907 and 0.60 in 1912, while the mean for the other Southern jurisdictions never exceeded 0.11 between 1907 and 1925. The number of domestic insurers writing in Texas rose from 5 in 1906 to 24 in 1912, consistent with Beard (1958), who reports that Texas companies wrote 25 percent of the new insurance sold in the state in 1906 and 59 percent in 1911.

(Figure IX about here)

The rise came from the collapse of out-of-state premium rather than from the growth of domestic business alone. Out-of-state premium per capita in Texas fell from \$88 in 1906 to \$27 in 1912, in 2024 dollars, while the median in the other Southern jurisdictions rose from \$97 to \$113, and total premium per capita in Texas fell from \$95 to \$69, because the domestic companies did not replace what the departing insurers had written. Out-of-state premium recovered only after 1919. Appendix Table A9 reports difference-in-differences estimates with state and year effects that compare Texas from 1907 onward with the other Southern jurisdictions, together with a placebo exercise that assigns the same treatment to each of those sixteen jurisdictions in turn. The Texas estimate for the in-state share is 0.35, larger than every placebo estimate. Out-of-state premium per capita fell by 0.86 log points relative to the other Southern jurisdictions, an estimate exceeded in absolute value by one placebo in sixteen. Total premium per capita fell by 0.37 log points. The number of out-of-state insurers reporting Texas premium changed little, because the companies that withdrew continued to collect renewal premiums on policies already in force; the withdrawal

appears in the premium series as those books ran off. Local control moved in large amounts only where it was compelled, and in Texas it appears to have come at the cost of participation: relative to the rest of the South, Texas households bought less legal-reserve insurance per capita after the law than before it.

7.3 Relative size of domestic insurers

Table III shows that local retention rose with the size of the domestic sector, and that most of the association came from the first domestic insurer rather than the twentieth. A state's retained share is the product of how many of the insurers operating there were its own and how large those insurers were relative to the firms they competed against. A region can retain little either because few of the firms present are domestic or because the domestic ones are small.

Writing N^{dom} for the number of insurers domiciled in a state and writing business there, N for the number writing there from anywhere, and summing over all state-years in a region and period,

$$S = \frac{\sum \text{domestic premium}}{\sum \text{total premium}} = \underbrace{\frac{\sum N^{\text{dom}}}{\sum N}}_{\text{count margin } C} \times \underbrace{\frac{\bar{q}^{\text{dom}}}{\bar{q}}}_{\text{size margin } R}, \quad (7.2)$$

where $\bar{q}^{\text{dom}}$ and $\bar{q}$ are mean premium per domestic insurer and mean premium per insurer present, respectively. The two margins multiply so that $\ln S = \ln C + \ln R$ exactly and the difference between two regions splits into a count contribution and a size contribution. The size margin R is the ratio of mean premium per domestic insurer to mean premium per insurer present, so a value of one means the average domestic insurer collected as much in the state as the average insurer operating there.

(Table IV about here)

Table IV reports the decomposition in four panels. Panel A reports the regional aggregates. The Northeast retained 0.338 of its premium, while the South retained 0.144 against the Midwest's 0.113. The two margins explain how. The Midwest had the most domestic insurers of any region, 6.9 per state-year against the South's 3.4, but they were of ordinary size: its size margin is 1.05, meaning the average Midwestern domestic insurer collected almost exactly what the average insurer operating in the state collected. The South had fewer domestic insurers and larger ones, at 2.09. The West is the extreme case, with 1.3 domestic insurers per state-year, present in only 52 percent

of state-years, but the second largest relative to their competition at 2.76. Local retention was less a matter of how many firms a state chartered than of what kind.

Panel B decomposes the Northeast–South gap by decade, and the composition of the gap inverts as its level falls. The gap declines monotonically, from 2.381 log points in the 1890s to 0.711 in the 1930s, which is to say from a ratio of nearly eleven to one down to about two to one, a figure that depends heavily on New York (see below). Within that decline the two margins move in opposite directions. The count margin falls from 2.111 to 0.230, a reduction of nearly ninety percent: by the interwar decades the South had very nearly closed its deficit in the share of local insurers that were its own. The size margin nearly doubles over the same span, from 0.270 to 0.482, so that what began as a gap in number ended as a gap in scale. In the 1890s eighty-nine percent of the Southern deficit was a count deficit; by the 1930s sixty-eight percent of a much smaller deficit was a size deficit in these regional aggregates. That size gap is a product of aggregation. Computing S , C , and R state by state and averaging the logs with premium weights across states that had a domestic insurer (Appendix Table A2) gives a log size margin of 0.45 in the Northeast and 0.42 in the South in the 1930s. Within the states that had them, Southern domestic insurers were as large relative to their competitors as Northeastern ones, and the remaining gap lies almost entirely in the share of insurers that were domestic, with a log count margin of -2.52 in the South against -1.84 in the Northeast. The regional size gap arises because equation (7.2) weights states by premium, and New York, where domestic insurers were exceptionally large, carries much of the Northeast’s weight.

Panel C reports the level of retention by region and decade and investigates whether the convergence came from the South rising or the Northeast falling. It came overwhelmingly from below: Southern retention rises from 0.036 to 0.162, a factor of more than four, while Northeastern retention falls from 0.390 to 0.330, a decline of fifteen percent. Of the 1.670 log points by which the gap closed, the Southern rise accounts for about 1.50 and the Northeastern decline for about 0.17, so roughly nine-tenths of the convergence is the South gaining rather than the Northeast losing. By the 1920s the South had passed the Midwest, at 0.148 against 0.133, and by the 1930s it retained more than any region except the Northeast.

Panel D shows what the South’s rise consisted of, and the answer is the extensive margin almost to the exclusion of anything else. The share of Southern state-years with at least one domestic insurer runs 18.8, 57.7, 97.0, 97.6 and 99.5 percent across the five periods. In the 1890s four Southern states in five had no domestic insurer at all; by 1910 essentially every one did. The

count margin accordingly rises from 0.016 to 0.083, and it accounts for more than the whole of the region's gain: decomposing the South's own change, the count margin contributes +1.65 log points and the size margin -0.14 . Southern domestic insurers became more numerous and, relative to the firms they competed with, slightly smaller, falling from 2.27 to 1.96 while the Northeast's rose from 2.97 to 3.18. The 1890s Southern figure rests on only eight domestic insurers, in Kentucky, Maryland, Virginia, and West Virginia, consistent with the scarcity of Southern life companies that Davis (1965) documents for the 1880s, and the size margin moves non-monotonically across decades. The Northeast moved along the same margin in the other direction, its count share falling from 0.131 to 0.104 as insurers domiciled elsewhere came to make up more of the firms writing in its markets.

The national aggregate ties these movements together. The final column of Panel C reports the in-state share for the country as a whole, and it runs 0.233, 0.214, 0.223, 0.219 and 0.208: roughly four-fifths of American life insurance premium was collected by out-of-state firms at the beginning of the period and roughly four-fifths at the end. What happened between 1880 and 1940 was a redistribution of local control among regions, not an increase in it. The Northeast's losses offset the South's gains, and the country as a whole came no closer to keeping its premiums at home. Control did disperse across regions, although the size of the remaining interwar gap depends on New York. It did not disperse from national firms to local ones, because the aggregate share held by firms domiciled where the premium was collected did not rise.

Two further checks qualify these magnitudes. First, because the states are the population rather than a sample, I assess the regional comparison by dropping each Northeastern and Southern state in turn (Appendix Table A2). The narrowing of the gap survives every drop: in the 1890s the log gap lies between 1.81 and 2.92 whichever state is excluded. Its interwar level does not. In the 1930s the gap ranges from 0.19 to 1.00 log points, and the lower bound is the value without New York: excluding that one state, the Northeast retained 1.2 times as large a share of its premium as the South in the 1930s, against 2.0 with it. The size of the interwar gap therefore depends on whether New York is included. Second, the regional pattern does not depend on Texas or on the border South. Texas accounted for 9 to 14 percent of Southern premium in every decade, and excluding it the South's rise still accounts for 87 percent of the closing. Excluding the border states of the South (Delaware, Maryland, the District of Columbia, Kentucky, West Virginia, and Oklahoma) makes the pattern starker: all eight Southern domestic insurers of the 1890s were in the border states or Virginia, Southern retention in the remaining states rises from 0.012 in the 1890s to 0.201 in the

1930s, and the South’s rise accounts for 94 percent of the closing (Appendix Table A1). The pattern is also unchanged using ordinary premium only, although Southern retention is lower on that base, 0.127 against 0.162 in the 1930s, because Southern domestic companies collected 29 percent of the region’s industrial premium but 13 percent of its ordinary premium, and it is unchanged when one-year reporting gaps are interpolated or New York and New Jersey, and Maryland and the District of Columbia, are treated as single markets.

7.4 Convergence

The third exercise turns from control to participation. Panel B of Figure V showed regional per-capita premium series that rise together while remaining ordered, with the South below the other three regions throughout. Whether that constitutes integration depends on whether the states that started low grew faster, whether any such catch-up survives conditioning on the growth of economic activity and on regional composition, and whether it persisted.

The most direct evidence is the cross-state dispersion of log real premium per capita, plotted year by year in Panel A of Figure X. Because it is recomputed every year, it depends much less than a regression on the level measured in any one initial year. Leaving aside 1888–1891, when incomplete state reporting inflates it, dispersion rose from 0.64 in 1892 to 0.78 in 1896, then fell steeply, to 0.52 by 1905 and to a trough of 0.34 in 1920, a decline of more than half. It then reversed: through the 1920s and into the 1930s the distribution widened again, to about 0.55 in the mid-1930s, before easing to 0.50 in 1940. Participation converged across states for a quarter century and diverged for the next two decades.

I also estimate the standard convergence specification across states,

$$\frac{1}{T} \ln \left(\frac{p_{s,1940}}{p_{s,1893}} \right) = \alpha + \beta \ln p_{s,1893} + \gamma' Z_s + \varepsilon_s, \quad (7.3)$$

where p_s is real premium per capita in state s , $T = 47$, and Z_s contains the growth of manufacturing output per capita over the same interval, the initial urban share, state income per capita, and in some specifications region dummies. A negative β indicates that states with low initial participation grew faster. Following the usual convention, the implied annual rate of convergence λ solves $\beta = -(1 - e^{-\lambda T})/T$, and the associated half-life is $\ln 2/\lambda$. Because β is estimated from a single long difference on 49 observations, I report heteroskedasticity-robust standard errors and treat the point estimates as indicative. The initial level is a three-year average centered on 1893 and the terminal

level a three-year average centered on 1939. The initial period is 1892–94 rather than 1889–91 because the largest insurers report state detail on a fuller basis from 1892 (Section 3); a three-year average centered on 1890 cannot correct an understatement that affects all three years, and the earlier start raises the estimated rate from 1.2 to 1.8 percent (Appendix Table A3) because per-capita premium in the understated states, among them Idaho, Utah, Mississippi, and New Mexico, is 1 to 2 log points higher in 1892–94 than three years earlier, relative to the median state. The sample is 49 states because Oklahoma, organized as a territory in 1890, reports premium from 1892.

(Figure X and Table V about here)

Table V reports the results. The estimate in column (1) is $\beta = -0.0093$ (s.e. 0.0016), implying $\lambda = 1.2$ percent per year and a half-life of 57 years; the initial level accounts for half of the cross-state variation in growth. This long-difference rate is a net figure. It averages a convergent phase and a divergent one: estimating equation (7.3) separately for the two phases (Panel B of Figure X) gives $\beta = -0.022$ (s.e. 0.002, $\lambda = 3.4$ percent) for 1893–1920 and $\beta = +0.012$ (s.e. 0.004) for 1920–1940: before 1920 the states that began low grew markedly faster, and afterwards they grew more slowly.

Conditioning does not remove the catch-up. Adding the growth of manufacturing output per capita in column (2) leaves β at -0.0094 , and the manufacturing term is small and imprecise (-0.011 , s.e. 0.13); adding region effects in column (3) moves β to -0.010 . Adding the initial urban share in column (4) strengthens the estimate to -0.015 ($\lambda = 2.7$ percent), with urbanization entering at 0.030 (s.e. 0.007), and column (5), with both region effects and the urban share, gives -0.016 ($\lambda = 3.0$ percent): more urban states grew faster in participation, so the low-participation states converged despite, rather than because of, their initial composition. Manufacturing output is a poor proxy for income in the South and the Plains, which are the low-participation states, so column (6) replaces it with state income per capita, using Easterlin (1960) for 1900 and the Bureau of Economic Analysis for 1940.¹¹ Participation grew one-for-one with income (1.04, s.e. 0.14), and conditional on income growth and the initial income level the convergence coefficient rises to -0.018 ($\lambda = 3.7$ percent). Income growth explains much of the variation in participation growth, but not the catch-up, which is stronger once income is held fixed.¹²

¹¹The series are those compiled by Brian Jenkins from Easterlin (1960) and the Bureau of Economic Analysis; Easterlin’s 1900 figure measures income originating in commodity production and distribution. The two sources are deflated differently, a difference common to all states and absorbed by the constant. Easterlin gives no 1900 value for the District of Columbia, so column (6) has 48 states.

¹²With the initial level measured in 1889–91, the growth of manufacturing output enters negatively (-0.19 ,

Before 1920, in the period in which entry, rising real wages, and the extension of agency networks were doing their most visible work, participation converged at a rate well above the roughly two percent per year estimated for state per-capita incomes over comparable horizons (Barro and Sala-i-Martin, 1992). The interwar decades reversed part of that convergence. The widening coincides with the period in which, as Section 5 showed, the largest firms were pulling away from a lengthening tail of small entrants, so the integration of household participation and the consolidation of premium collection were not moving in the same direction after 1920. Dropping the five 1890 territories or the ten states with the weakest early coverage lowers the long-difference rate to 0.9 to 1.0 percent without changing its sign (Appendix Table A3).

The convergence before 1920 and the divergence after it do not depend on how participation is measured or on how the initial level is dated (Appendix Tables A3 and A8, Appendix Figure A4). With ordinary premium only, which removes the industrial policies that Metropolitan, Prudential, and John Hancock extended into Southern cities and the group insurance that later concentrated in industrial states, the slope is -0.025 for 1893–1920 and $+0.013$ for 1920–1940; with insurance in force per capita, arguably the better measure of coverage, it is -0.021 and $+0.009$. Measuring the initial level in 1896–98 gives a long-difference slope of -0.011 , and instrumenting the 1892–94 level with the 1896–98 level, which removes measurement error that is not common to the two windows, gives -0.009 (first-stage coefficient 0.93). Excluding the border South leaves the 1893–1920 slope at -0.021 .

A competing explanation qualifies the first phase. Premium per capita measures participation in legal-reserve insurance only, and the convergence before 1920 coincided with the collapse of its principal substitute: fraternal and assessment insurance in force exceeded that of the legal-reserve industry in 1895 and had fallen to 23 percent of it by 1920 (Stalson, 1942). Part of the catch-up may therefore record households moving from fraternal to legal-reserve policies. A proxy for fraternal coverage by state, which spreads each society’s national insurance in force over the states of its stated jurisdiction in proportion to population (Fraternal Monitor, 1912; Hamilton, 1927), allows a first check (Appendix Table A7 and Figure A3).¹³ States with more fraternal insurance per capita

significant at the 10 percent level). Manufacturing grew fastest where there was least of it, in the states with the lowest initial participation (the correlation between the two regressors is -0.72), so when the initial level of those states is understated the manufacturing term absorbs part of the spurious catch-up. The sign disappears with the 1892–94 start.

¹³The proxy excludes accident and funeral societies and assigns societies with no stated jurisdiction to the census region of their home office. The societies included held \$6.4 billion in force in 1907 and \$7.9 billion in 1920, of the same order as Stalson’s aggregates (Stalson, 1942). Because the proxy assumes that each society’s business was spread evenly over its jurisdiction, it understates cross-state differences in fraternal coverage.

in 1907 grew faster in legal-reserve premium between 1893 and 1920 (0.011, s.e. 0.003), as did states in which fraternal coverage fell more between 1907 and 1920–22 (-0.012 , s.e. 0.005), but controlling for either leaves the convergence coefficient at -0.023 to -0.024 , because fraternal coverage was highest where legal-reserve premium already was. The substitution appears in dispersion instead: the cross-state standard deviation of log legal-reserve insurance in force per capita fell from 0.46 in 1907 to 0.34 in 1920, while that of legal-reserve and fraternal insurance combined fell only from 0.36 to 0.30. Part of the narrowing before 1920 was therefore a shift between forms of coverage, and the estimates here measure convergence in legal-reserve participation rather than in life insurance coverage as a whole. The interwar divergence coincides with the boom in sales that followed the War Risk Insurance program of the First World War, in which insurance in force doubled between 1917 and 1922.

8 Conclusion

Between 1880 and 1940, U.S. life insurance developed into a national system of household saving without a matching dispersal of control. Hundreds of firms entered, incorporation shifted toward the Midwest and South, and state markets became more competitive, yet the five largest firms collected the same share of national premium in 1940 as in 1890, and the share collected by firms domiciled where it was paid fell slightly. Retention rose chiefly where states acquired a first domestic insurer, and the Northeast–South gap narrowed because the South acquired domestic insurers where it had had none; how large a gap remained by the 1930s depends on New York. The unchanged national share is the sum of a large decline in the old headquarters states, above all New York, and a broad rise elsewhere.

Contemporaries expected local charters to keep local premium at home. Entry under open conditions did not do so, because the established national companies held advantages in agency networks and reputation that small entrants did not match. Premium moved toward local firms in large amounts only where the law compelled it: in Texas after 1907 the in-state share rose to three-fifths, as out-of-state premium collapsed and Texas households appear to have bought less legal-reserve insurance relative to the rest of the South. Participation followed a different path from control. Participation in legal-reserve insurance converged across states before 1920, in part as fraternal insurance declined, and diverged over the next two decades.

Two limits bound these conclusions. Domicile locates the firms that made underwriting, investment, and expansion decisions, not where the savings were invested: out-of-state insurers

collected \$67 billion (2024 dollars) more in Southern premium than they paid in Southern claims in the 1930s (Appendix Table [A4](#)), a gross flow rather than a measure of capital export, and they lent on farm mortgages in the Midwest and the Plains and, from the 1920s, on urban property in every region (Snowden, 1995; Saulnier, 1950). Measuring where the assets were invested, state by state, is the natural next step. And the comparison with banking is imperfect, because pooling mortality risk and the credibility of long promises reward scale and geographic diversification (Janas, 2026; Goetz et al., 2016). The geography of American financial development should nonetheless be studied through contractual savings institutions as well as through banks and securities markets.

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9 Figures

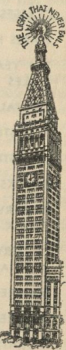
Figure I: Ads for Metropolitan Life (1930) and Home Life (1891), *The Insurance Year Book*

Metropolitan Life
Insurance Company's contracts
afford a means to

- create estates and incomes for families
- pay off mortgages
- educate children
- provide income in the event of retirement
- establish business credits
- stabilize business organizations by indemnifying them against the loss of keymen
- provide a temporary income in the event of incapacity resulting from accident or sickness
- provide group protection for employees covering accident, sickness, retirement, and death.

The Metropolitan is a mutual organization. Its assets are held for the benefit of its policyholders, and any divisible surplus is returned to its policyholders in the form of dividends.

METROPOLITAN LIFE INSURANCE COMPANY
Frederick H. Ecker 1 Madison Avenue Leroy A. Lincoln
Chairman of the Board New York, New York President



NOT HOW BIG? BUT HOW STRONG?

• THE •
Home Life Insurance Co.
— OF NEW YORK —

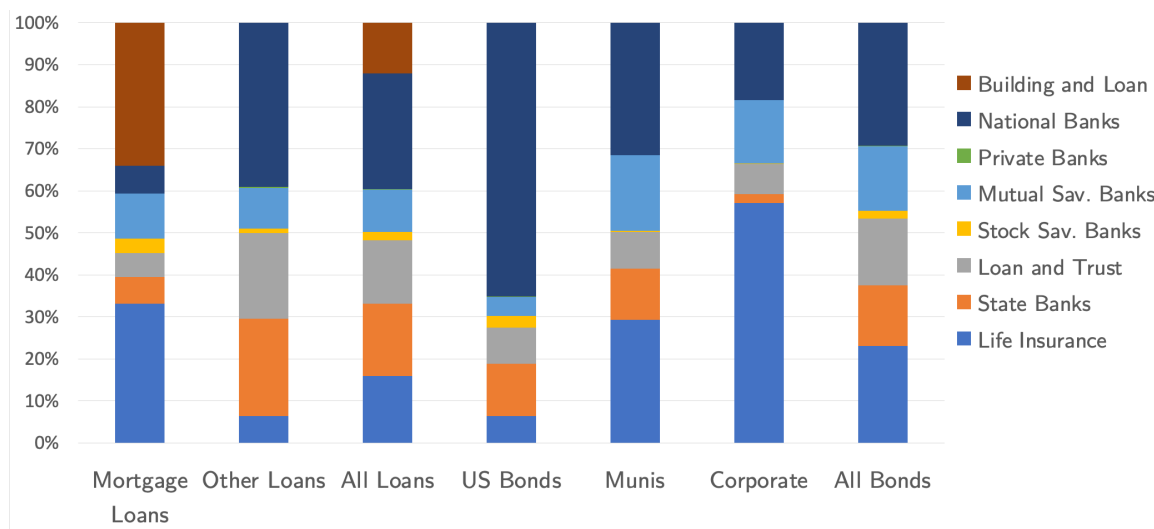
**Has over \$126 of Assets to secure every
\$100 of Liabilities.**

BONDS AND STOCKS OWNED BY THE COMPANY.

United States 4 per cent Bonds.
Brooklyn City, Public Parks, 7 per cent Bonds.
Erie R. R. 2d Mortgage, Cons. 6 per cent Bonds.
Erie R. R., funded, 5 per cent Bonds.
New York, Chicago and St. Louis R. R. 4 per cent Bonds.
New York, Lack. and Western R. R. Cons't 5 per cent Bonds.
Albany and Susquehanna R. R., 1st Cons. 6 per cent Bonds.
Morris and Essex R. R., 1st Cons. 7 per cent Bonds.
Chicago and North-Western R. R. Cons. 7 per cent Bonds.
Oswego and Syracuse R. R. Cons't 5 per cent Bonds.
Fidelity Loan and Trust Co. 6 per cent Bonds.
Jefferson R. R., 1st 5 per cent Bonds.
Delaware and Hudson R. R., Pa. div. 7 per cent Bonds.
Monmouth Co., N. J., 5 per cent School Bonds.
Central Trust Co. Stock.
American Exchange National Bank Stock. National Bank of Commerce Stock.

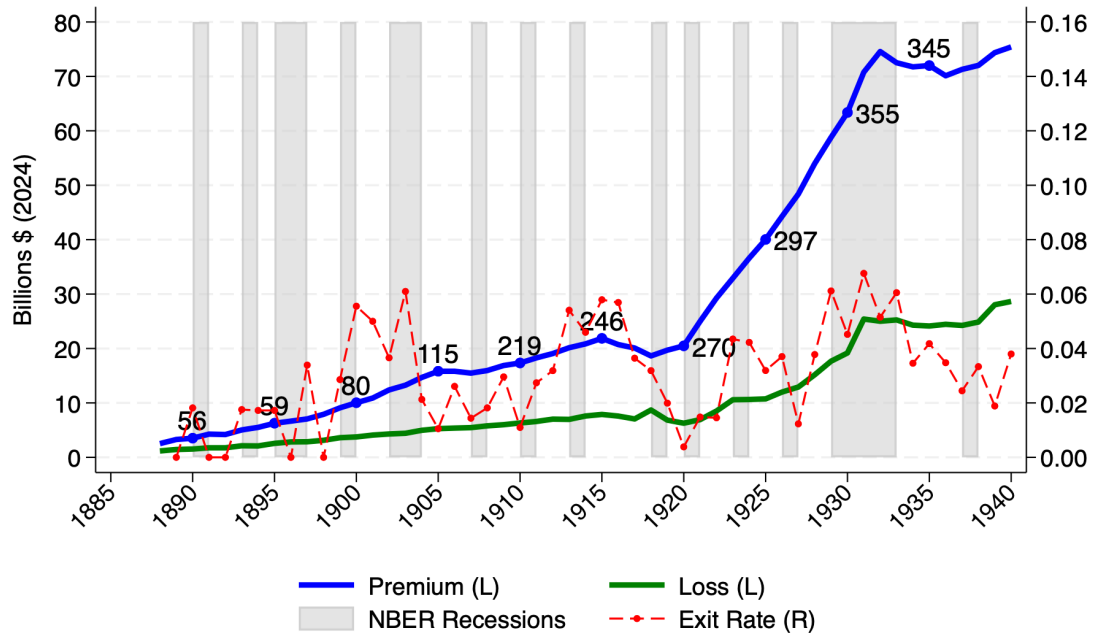
CHARLES A. TOWNSEND, President. GEORGE E. IDE, Secretary.
GEORGE H. RIPLEY, Vice-President. WM. A. MARSHALL, Actuary.

Figure II: Distribution of institutional holdings of financial instruments among life insurers, banks, and building and loan associations, 1928



Note: For each instrument, the bars show the share of the combined holdings of the listed institutions held by each; they sum to 100 percent across these institutions. Individuals, non-life insurers, and other holders are excluded, so the shares are not shares of the total amount outstanding. Sources: Data for national and state banks, loan and trust companies, stock and mutual savings banks, private banks, and building and loan associations come from the Office of the Comptroller of the Currency annual report. Data for life insurance come from the *Spectator Insurance Year Book* and the Proceedings of the Annual Meeting of the Association of Life Insurance Presidents.

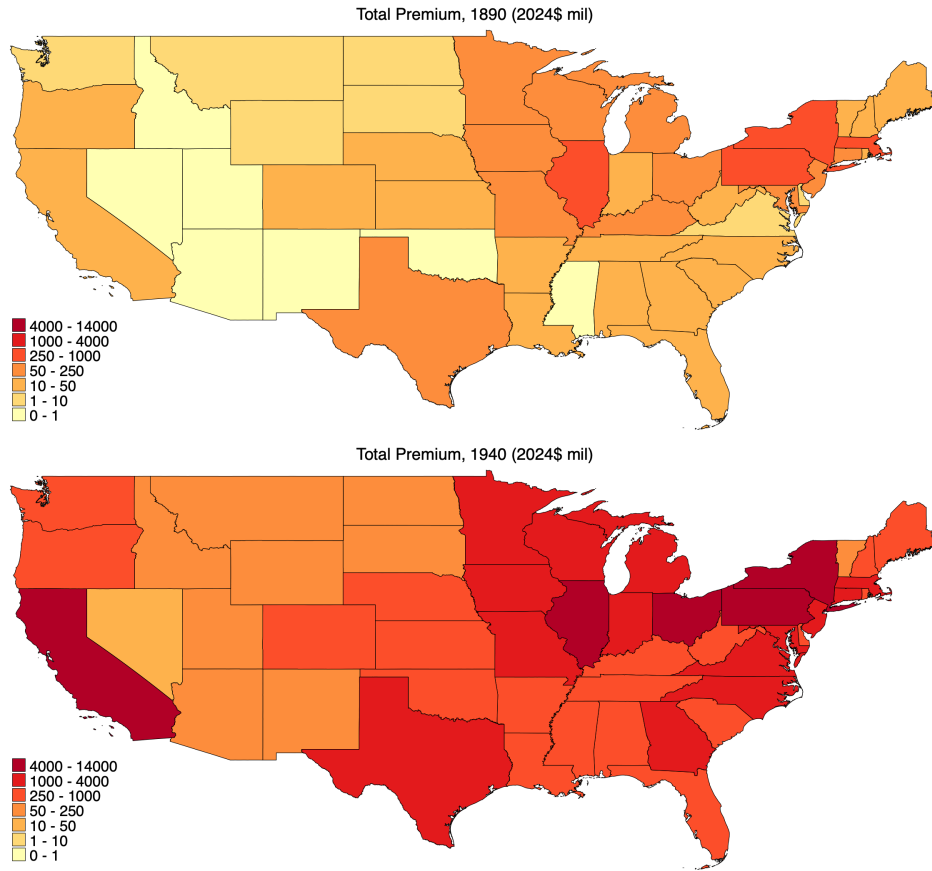
Figure III: Aggregate life insurance industry



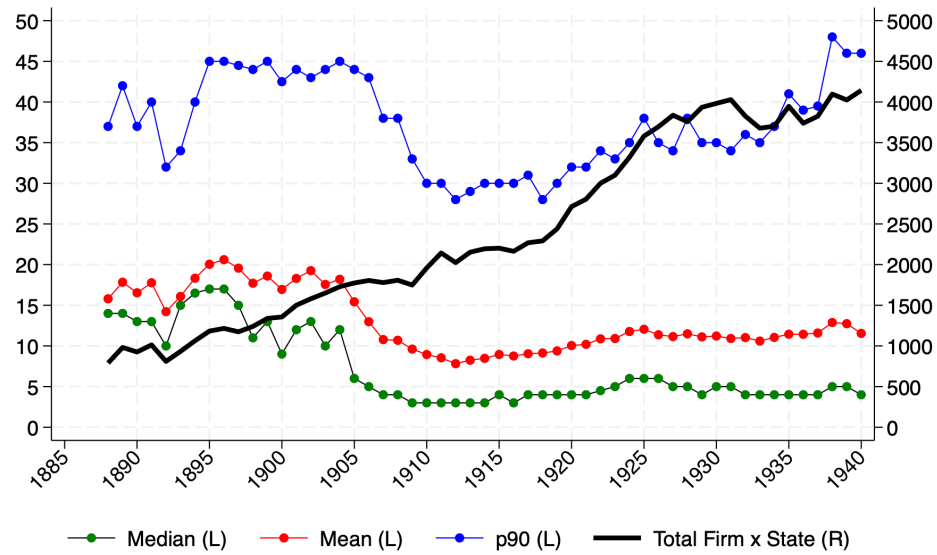
Note: Shaded years denote recessions from the NBER Business Cycle Dating Committee. The total number of firms is labeled every five years. The exit rate is the number of firms leaving the industry in a year, through reinsurance, merger, or acquisition, through outright failure, or through voluntary retirement, divided by the previous year's total number of firms (right y-axis); between 1889 and 1940, 332 of the 378 exits were consolidations, 37 were failures, and 9 were retirements. Aggregate premiums (blue) and losses (green) are deflated using the CPI to 2024 dollars (left y-axis). All series are from the *Insurance Year Book*.

Figure IV: Geography of life insurance

Panel A. Total premium collected by state, 1890 and 1940

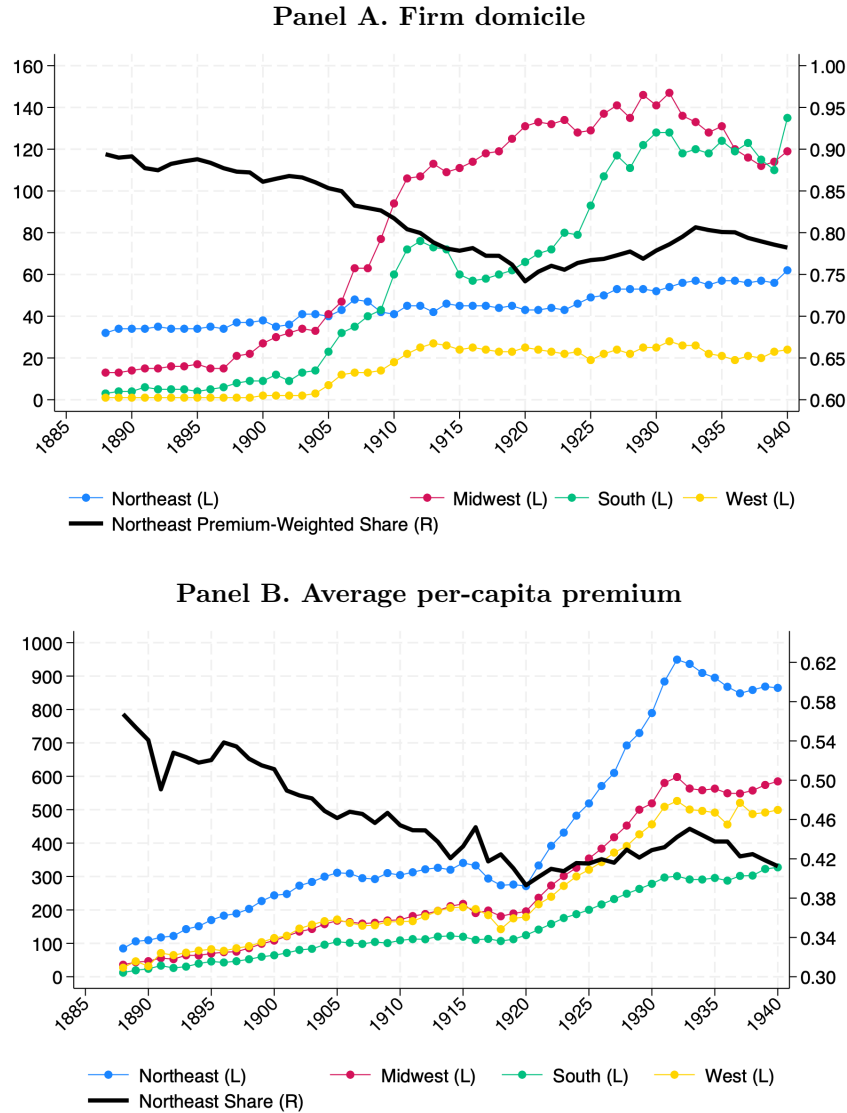


Panel B. Firm expansion across states



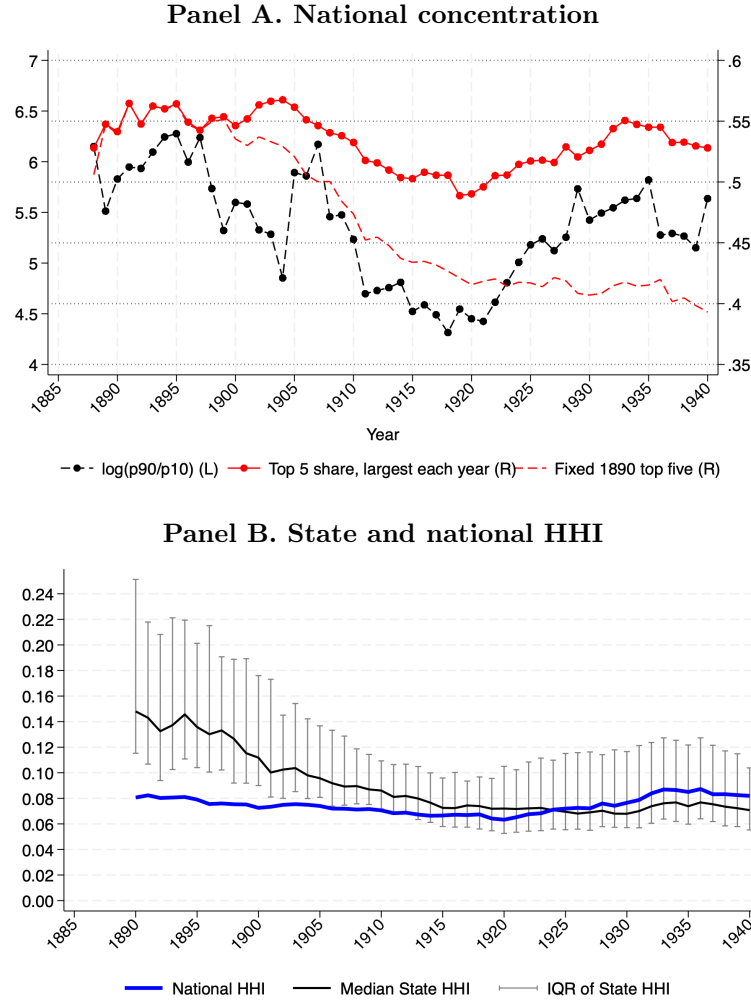
Sources: Author's calculations from the *Spectator Insurance Year Book*. Panel A shades states by total premium (ordinary, industrial, and group) collected in 1890 (top) and 1940 (bottom), in 2024 dollars. Panel B shows the evolution of firms' geographic scope, measured by the number of states of operation of the median, unweighted mean, and 90th percentile of firms (left axis). The black line denotes the total number of firm-by-state observations in the *Insurance Year Book* (right axis).

Figure V: Firm domicile across regions



Note: Both panels use all premium (ordinary, industrial, and group); Appendix Figure A1 repeats the figure for ordinary premium only. Panel A shows the number of firms incorporated in each region over time (left y-axis). The black line denotes the share of aggregate premium collected by firms incorporated in the Northeast (right y-axis); this is the share collected *by Northeastern firms*, and differs from the share collected *in Northeastern states* in Panel B. Panel B plots the average per-capita premium collected in each region across time deflated to 2024 dollars. The solid black line plots the share of all premium collected in Northeast states.

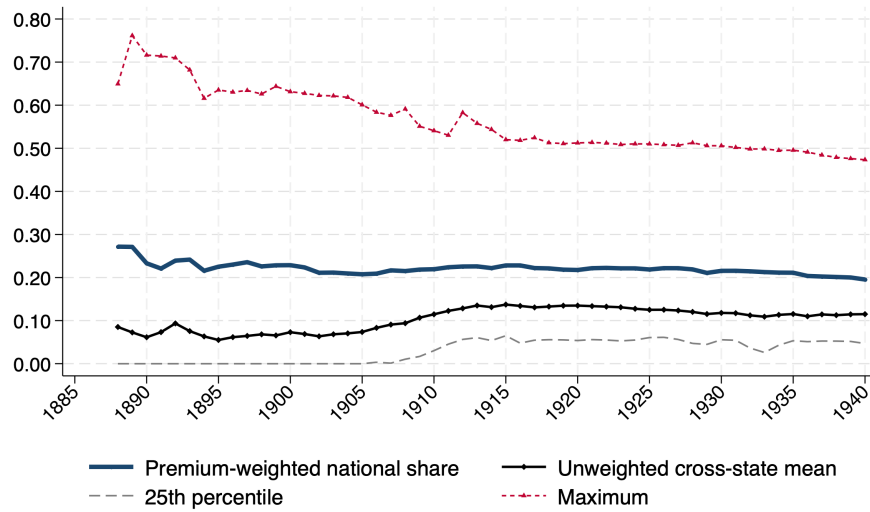
Figure VI: Concentration of premium collection



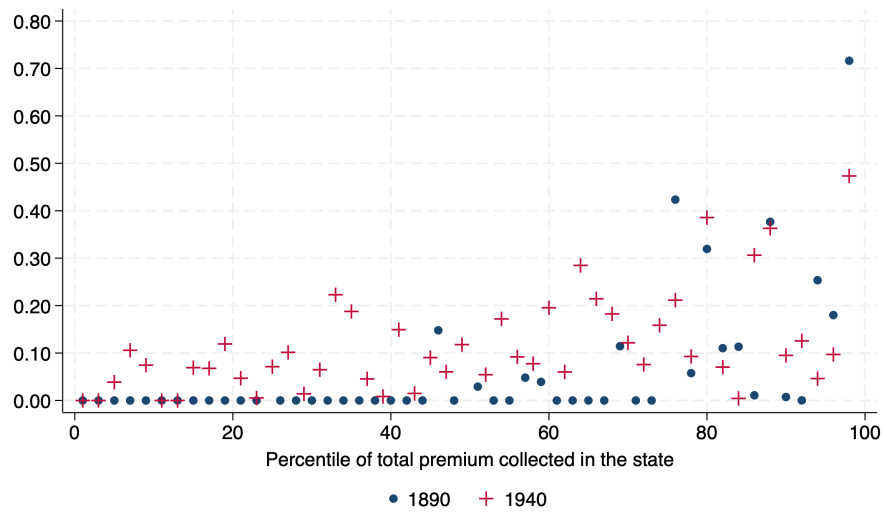
Note: Panel A plots the logarithm of the 90th/10th percentile ratio of firm-level total premium collected and the share of premium collected by the five largest firms in each year (solid red line, right axis), together with the share collected by the five firms that were largest in 1890, New York Life, Mutual, Metropolitan, Equitable, and Northwestern Mutual (dashed red line, right axis). Panel B plots the median, 25th, and 75th percentile of the state-level HHI, and the national HHI. Both panels use all premium (ordinary, industrial, and group).

Figure VII: Premium share of in-state firms

Panel A. Cross-state distribution of in-state share

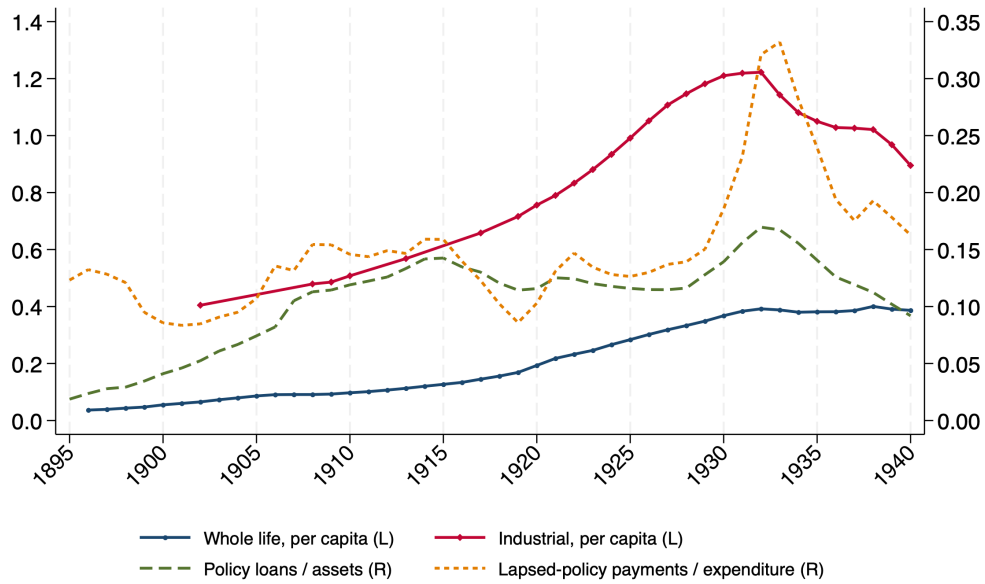


Panel B. In-state share and market size, 1890 and 1940



Note: Panel A plots the premium-weighted and unweighted means, 25th percentile, and maximum across states of the share of premium collected within each state by firms domiciled in that state (“in-state”). Panel B plots state-level in-state premium shares in 1890 (blue dots) and 1940 (red pluses) against the percentile of total premium collected in the state. Both panels use all premium (ordinary, industrial, and group).

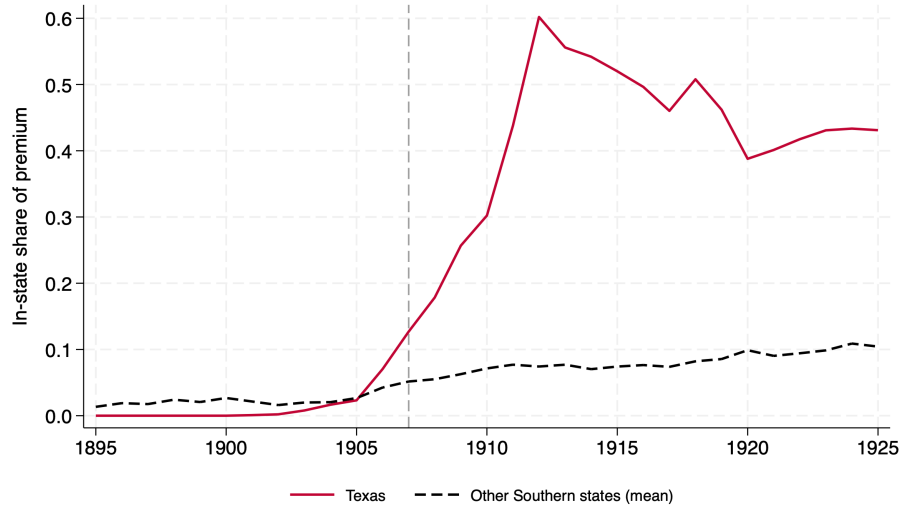
Figure VIII: Policies outstanding and drawdown in New York



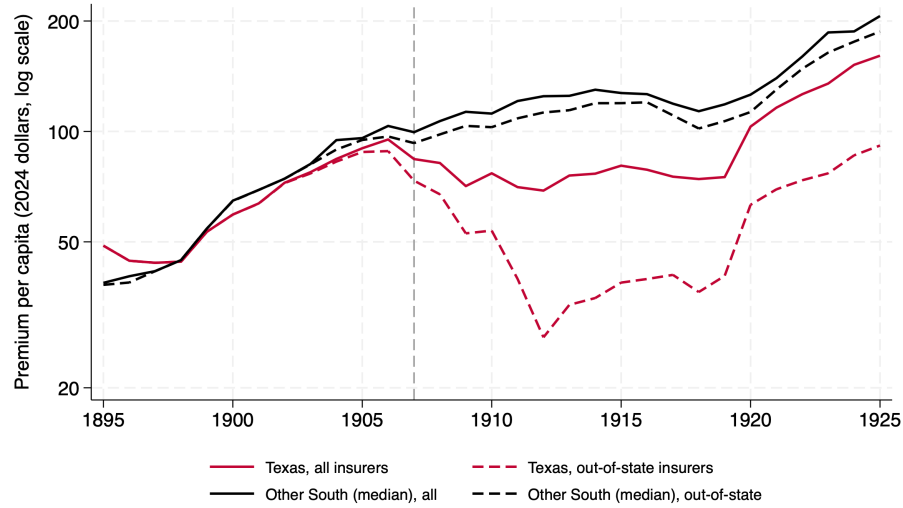
Note: The left axis plots the number of whole-life and industrial policies outstanding in New York per resident. The right axis plots policy loans as a share of total admitted assets, and lapsed-policy payments as a share of total expenditure. Both shares are industry aggregates, formed as a sum across firms operating in New York.

Figure IX: Texas and the Robertson Law, 1895–1925

Panel A. In-state share of premium



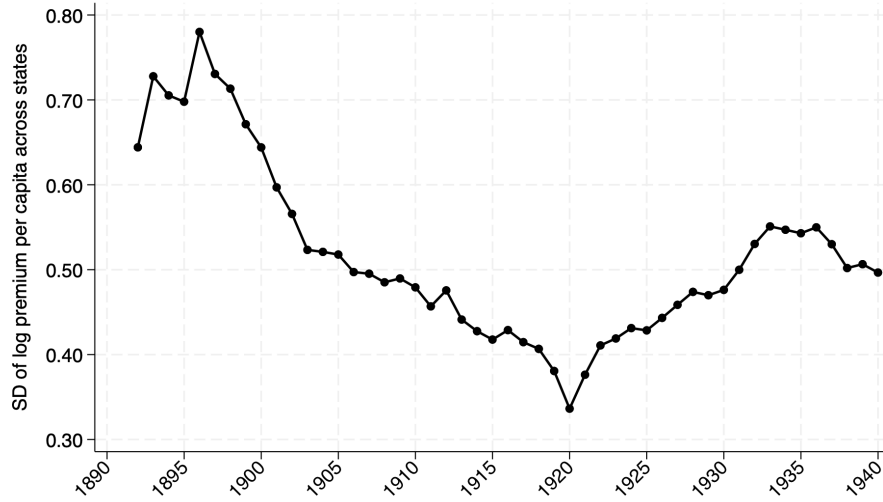
Panel B. Real premium per capita, all insurers and out-of-state insurers



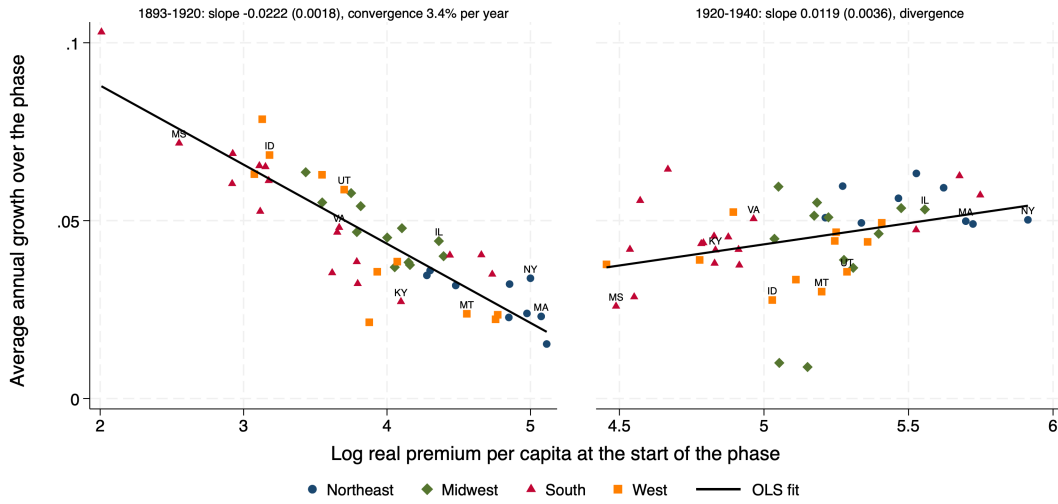
Note: Panel A plots the share of premium collected in Texas by insurers domiciled in Texas, and the unweighted mean of the same share across the other Southern jurisdictions (fifteen states and the District of Columbia). Panel B plots real premium per capita, in 2024 dollars on a log scale, collected by all insurers and by out-of-state insurers, in Texas and at the median of the other Southern jurisdictions. The vertical line marks 1907, the year of the Robertson Law. One-year reporting gaps, in which an insurer reports premium in a state in the years before and after but not in between, are interpolated as in Appendix Table A1; in Texas they include New York Life, Equitable, and ten other insurers in 1909 and six insurers in 1907. Appendix Table A9 reports difference-in-differences and placebo estimates.

Figure X: Convergence in per-capita participation, 1892–1940

Panel A. Cross-state dispersion



Panel B. Growth against initial level, 1893–1920 and 1920–1940



Note: Panel A plots the cross-state standard deviation of log real premium per capita in each year, for the states in Table V. The years 1888–1891 are omitted: incomplete state reporting by the largest insurers puts the standard deviation between 0.8 and 2.0 in those years. Panel B plots, for each phase, the average annual growth rate of real premium per capita against its log level at the start of the phase, 1893–1920 (left) and 1920–1940 (right), with markers distinguishing the four census regions and an ordinary-least-squares fit. Levels are three-year averages centered on 1893, 1920, and 1939. The slopes and robust standard errors above each graph are the sub-period rows of Appendix Table A3; the 1920–1940 slope is positive, so no rate of convergence is defined for it. Table V, column (1), reports the fit for 1893–1940 as a whole.

10 Tables

Table I: Summary statistics, 1888–1940

	Mean	SD	Median	25 pct	75 pct
Panel A. Firm $\times$ Year $\times$ State Premiums and Losses, 1888–1940					
<i>(150,070 firm-state-line-years, 847 firms)</i>					
Premiums (2024 mil)	10.54	48.71	1.53	0.31	6.16
Losses paid (2024 mil)	3.56	16.11	0.40	0.05	1.94
Business written in:					
Northeast	0.16	0.36	0.00	0.00	0.00
Midwest	0.31	0.46	0.00	0.00	1.00
South	0.36	0.48	0.00	0.00	1.00
West	0.18	0.38	0.00	0.00	0.00
Insurer incorporated in:					
Northeast	0.48	0.50	0.00	0.00	1.00
Midwest	0.31	0.46	0.00	0.00	1.00
South	0.14	0.35	0.00	0.00	0.00
West	0.05	0.22	0.00	0.00	0.00
Outside the United States	0.02	0.13	0.00	0.00	0.00
Years the firm appears in the panel	13.22	13.27	8.00	3.00	18.00
Panel B. New York Firm $\times$ Year Accounting Data					
<i>Balance sheet (2,406 firm-years)</i>					
Total assets (2024 bil)	4.10	10.57	0.70	0.17	2.86
Share of assets held in:					
Stocks and bonds	0.41	0.21	0.39	0.27	0.54
Mortgages	0.32	0.19	0.32	0.18	0.45
Policy loans	0.09	0.08	0.08	0.01	0.14
Real estate	0.07	0.08	0.04	0.01	0.10
Cash	0.04	0.05	0.02	0.01	0.04
<i>Income statement</i>					
Total revenue (2024 bil)	0.89	2.33	0.16	0.05	0.65
Share of revenue from:					
Premiums	0.73	0.13	0.74	0.69	0.80
Investment income	0.19	0.08	0.20	0.15	0.24
Non-life premiums	0.01	0.02	0.00	0.00	0.02
Total expenditure (2024 bil)	0.64	1.74	0.11	0.04	0.45
Share of expenditure on:					
Claims	0.39	0.13	0.40	0.33	0.47
Dividends to policyholders	0.10	0.08	0.10	0.03	0.16
Lapsed policies	0.13	0.08	0.13	0.08	0.18
Salaries	0.10	0.09	0.07	0.05	0.12
Commissions	0.12	0.08	0.10	0.06	0.15

Note: Panel A is at the firm-state-year level and describes the digitized Spectator *Insurance Year Book* data as a whole. “Years the firm appears” is summarized once per firm. The regional rows under “Business written in” and “Insurer incorporated in” are shares of firm-state-line observations, not of premium. Panel B is at the firm-year level, from the Annual Report of the Superintendent of Insurance of the State of New York; firms reporting ordinary and industrial business separately are collapsed to the firm-year before the shares are formed. Regions are: Northeast—CT, ME, MA, NH, NJ, NY, PA, RI, VT; Midwest—IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI; South—AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV; West—AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, WY.

Table II: Premium rates for Aetna policies at age 50 in 1893 and 1929

	1893	1929
Face amount giving equal real coverage	\$1,000	\$1,964
<i>Annual premium, dollars per \$1,000 of face amount</i>		
Continuous whole life	44.70	43.73
Ten-payment whole life	70.05	75.47
Twenty-payment whole life	49.37	52.05
Endowment, ten years	101.72	106.96
Endowment, twenty years	56.15	57.88
<i>Cash surrender value, dollars per \$1,000 of face amount</i>		
After three years	75.00	85.00
After ten years	328.00	359.00
<i>Cost in labor time</i>		
Average hourly wage in manufacturing	0.15	0.56
Hours of work per \$1,000 of 1893 coverage	296	153

Note: Premium rates and surrender values from the *Insurance Year Book*; the consumer price index from Williamson (MeasuringWorth); average hourly money earnings in payroll manufacturing industries from the NBER macrohistory database.

Table III: Domestic incorporation and the local retention of premium

	(1)	(2)	(3)	(4)	(5)	(6)
Log(domestic insurers + 1)	0.103*** (0.021)	0.082*** (0.013)	0.081*** (0.013)	0.081*** (0.012)	0.078*** (0.015)	
Domestic insurers, none omitted:						
One						0.067*** (0.011)
Two						0.086*** (0.010)
Three to five						0.123*** (0.014)
Six to ten						0.156*** (0.019)
More than ten						0.221*** (0.034)
Log(premium per capita)			0.009 (0.007)	-0.002 (0.009)	-0.002 (0.011)	-0.002 (0.009)
Log(manufacturing output per capita)				0.039** (0.016)	0.031* (0.016)	0.038** (0.017)
Urban share				-0.120 (0.096)	-0.072 (0.101)	-0.078 (0.088)
Log(out-of-state insurers)				0.010 (0.012)	-0.009 (0.014)	0.010 (0.011)
Domestic count enters as	Log	Log	Log	Log	Log	Dummies
State fixed effects	No	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	No	Yes
Region x year fixed effects	No	No	No	No	Yes	No
Mean of dependent variable	0.103	0.103	0.103	0.103	0.103	0.103
Observations	2,561	2,561	2,561	2,561	2,561	2,561
Adjusted R-squared	0.460	0.888	0.889	0.894	0.897	0.891

Note: The unit of observation is the state-year, 1888–1940. The dependent variable is the share of premium that is collected by insurers domiciled in that state. Population, the urban share of population, and manufacturing output per capita are built from the decennial censuses and interpolated log-linearly between census years. Standard errors, in parentheses, are clustered by state. *, **, and *** denote significance at the 10, 5, and 1 percent levels.

Table IV: Size and count decomposition of domestic insurers

<i>Panel A. Regional aggregates, 1888–1940</i>					
	In-state share (S)	Domestic share (C)	Relative size (R)	Domestic insurers	Percent with a domestic
Northeast	0.338	0.119	2.85	4.8	91.2
Midwest	0.113	0.107	1.05	6.9	90.3
South	0.144	0.069	2.09	3.4	73.3
West	0.092	0.033	2.76	1.3	51.9
<i>Panel B. Northeast minus South, in logs</i>					
	Gap in log share	Count margin	Size margin	Percent count	Percent size
1888–1899	2.381	2.111	0.270	88.7	11.3
1900–1909	1.981	1.152	0.829	58.2	41.8
1910–1919	1.048	0.487	0.561	46.5	53.5
1920–1929	0.828	0.445	0.383	53.8	46.2
1930–1940	0.711	0.230	0.482	32.3	67.7
Full panel	0.852	0.544	0.308	63.9	36.1
<i>Panel C. In-state share by region and decade</i>					
	Northeast	Midwest	South	West	All
1888–1899	0.390	0.072	0.036	0.047	0.233
1900–1909	0.367	0.096	0.051	0.066	0.214
1910–1919	0.344	0.137	0.121	0.129	0.223
1920–1929	0.339	0.133	0.148	0.107	0.219
1930–1940	0.330	0.099	0.162	0.080	0.208
Full panel	0.338	0.113	0.144	0.092	0.214
<i>Panel D. The two margins, Northeast and South</i>					
	Domestic share, NE	Domestic share, S	Relative size, NE	Relative size, S	Percent of S with a domestic
1888–1899	0.131	0.016	2.97	2.27	18.8
1900–1909	0.126	0.040	2.92	1.27	57.7
1910–1919	0.137	0.084	2.52	1.44	97.0
1920–1929	0.112	0.072	3.03	2.07	97.6
1930–1940	0.104	0.083	3.18	1.96	99.5
Full panel	0.119	0.069	2.85	2.09	73.3

Note: The unit of observation is the region-period, formed by aggregating over all state-years, 1888–1940. “Relative size” is the ratio of mean premium per domestic insurer to mean premium per insurer present. “Domestic insurers” in Panel A is the mean number per state-year. The final column of Panels A and D reports the percentage of state-years in which the region had at least one domestic insurer. Panel B decomposes the Northeast–South gap. Panel C reports the level of retention by region and decade, which separates a rising South from a falling Northeast. State-years in which no insurer wrote business are excluded.

Table V: Convergence in per-capita participation, 1893–1940

	(1)	(2)	(3)	(4)	(5)	(6)
Log premium per capita, 1893	-0.0093*** (0.0016)	-0.0094*** (0.0021)	-0.0103*** (0.0028)	-0.0154*** (0.0021)	-0.0160*** (0.0026)	-0.0175*** (0.0015)
Growth of manufacturing output per capita		-0.0106 (0.1315)	0.0002 (0.1397)	0.0980 (0.0828)	0.1081 (0.0829)	
Urban share, 1893				0.0304*** (0.0068)	0.0307*** (0.0068)	
Growth of income per capita, 1900–1940						1.0350*** (0.1359)
Log income per capita, 1900						0.0184*** (0.0032)
Region FE	No	No	Yes	No	Yes	No
Implied lambda (percent per year)	1.2	1.2	1.4	2.7	3.0	3.7
Implied half-life (years)	57	56	49	25	23	19
Observations	49	49	49	49	49	48
R-squared	0.510	0.510	0.541	0.708	0.736	0.811

Note: The unit of observation is the state. The dependent variable is the average annual growth rate of real premium per capita between 1893 and 1940, $(1/T) \ln(p_{1940}/p_{1893})$ with $T = 47$. The initial level is a three-year average centered on 1893 (1892–94) and the terminal level a three-year average centered on 1939. Premium includes ordinary, industrial, and group life insurance and is deflated to 2024 dollars, over state population. The implied annual rate of convergence λ solves $\beta = -(1 - e^{-\lambda T})/T$, and the half-life is $\ln 2/\lambda$. Growth of manufacturing output per capita is built from the decennial censuses over the same interval, and the urban share is measured in 1893. Column (6) uses state income per capita, the log level in 1900 from Easterlin (1960) and average annual growth from 1900 to 1940 using Bureau of Economic Analysis estimates for 1940; the District of Columbia has no 1900 value. Oklahoma enters because it reports premium from 1892; states whose covariates would be extrapolated behind their first census are excluded. Appendix Table A3 reports alternative initial years, samples, controls, and sub-periods. Heteroskedasticity-robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels.

Appendix: Robustness

Table A1: Regional retention under alternative constructions

	1888–1899			1930–1940			South’s share of closing	National	
	NE	South	Ratio	NE	South	Ratio		1890s	1930s
Baseline	0.390	0.036	10.8	0.330	0.162	2.0	0.90	0.233	0.208
Ordinary premium only	0.400	0.032	12.7	0.347	0.127	2.7	0.91	0.225	0.208
Ordinary and industrial (no group)	0.390	0.036	10.8	0.329	0.165	2.0	0.90	0.233	0.209
Excluding Texas	0.390	0.041	9.4	0.330	0.121	2.7	0.87	0.238	0.203
One-year reporting gaps interpolated	0.390	0.036	10.7	0.330	0.166	2.0	0.90	0.232	0.208
NY+NJ and MD+DC as single markets	0.476	0.036	13.1	0.477	0.167	2.9	1.00	0.279	0.272
Excluding border South	0.390	0.012	32.4	0.330	0.201	1.6	0.94	0.243	0.215

Note: In-state premium share, aggregated over state-years as in Table IV. “South’s share of closing” is the rise in log Southern retention divided by the fall in the log Northeast–South gap between the first and last periods. Interpolated gaps: a firm-state-type cell observed in years $t - 1$ and $t + 1$ but not t is assigned the mean of its neighbours. The border South comprises Delaware, Maryland, the District of Columbia, Kentucky, West Virginia, and Oklahoma.

Table A2: Within-state decomposition and leave-one-state-out ranges

	Northeast			South			Regional (Table IV), dropping one state		
	$\ln S$	$\ln C$	$\ln R$	$\ln S$	$\ln C$	$\ln R$	Log gap, range	Log gap, no NY	Size margin, range
1890s	-1.09	-1.67	0.59	-2.43	-2.83	0.40	[1.81, 2.92]	1.81	[-0.10, 0.51]
1900s	-1.22	-1.68	0.46	-3.16	-2.84	-0.32	[1.41, 2.17]	1.41	[0.57, 0.99]
1910s	-1.27	-1.59	0.32	-2.49	-2.58	0.09	[0.58, 1.39]	0.58	[0.30, 0.74]
1920s	-1.35	-1.74	0.39	-2.23	-2.69	0.46	[0.26, 1.08]	0.26	[0.09, 0.56]
1930s	-1.39	-1.84	0.45	-2.10	-2.52	0.42	[0.19, 1.00]	0.19	[0.24, 0.69]

Note: Columns 2–7 compute S , C , and R for each state-year with at least one domestic insurer and positive domestic premium, and average their logs with total-premium weights. The last three columns recompute the regional Northeast–South log gap and size margin of Table IV with each of the 26 Northeastern and Southern states (including the District of Columbia) dropped in turn, and report the range across the 26 drops and the gap with New York dropped. The states are the population rather than a sample, so the ranges describe how far each result depends on any one state; the lower bound of the log gap in the 1910s, 1920s, and 1930s is the value without New York.

Table A3: Convergence under alternative samples and periods

	β	(s.e.)	λ (%)	N	R^2
Baseline, 1893–1940	-0.0093	(0.0016)	1.2	49	0.51
Initial level 1889–91	-0.0120	(0.0011)	1.8	48	0.77
Drop 1890 territories (ID, UT, NM, AZ, OK)	-0.0078	(0.0013)	1.0	44	0.44
Drop ten lowest-coverage western/territorial states	-0.0072	(0.0010)	0.9	39	0.57
Control: growth and level of mfg.+farm value p.c.	-0.0130	(0.0020)	2.0	49	0.63
Sub-period 1893–1920	-0.0222	(0.0018)	3.4	49	0.78
Sub-period 1920–1940	0.0119	(0.0036)	–	49	0.13
Interpolated gaps, baseline	-0.0094	(0.0016)	1.2	49	0.52
Initial level 1896–98	-0.0107	(0.0024)	1.4	49	0.54
1893 level instrumented by 1896–98 level (2SLS)	-0.0087	(0.0019)	1.1	49	–
Excluding border South (DE, MD, DC, KY, WV, OK)	-0.0083	(0.0012)	1.0	43	0.46
Excluding border South, 1893–1920	-0.0214	(0.0015)	3.2	43	0.76

Note: Specification of Table V, column (1), unless stated, with the initial level centered on 1893. Levels are three-year averages centered on the years shown. The row with an 1889–91 initial level has 48 states because Oklahoma reports no premium before 1892. The 1896–98 row measures growth from 1896–98 to 1938–40 ($T = 42$). The two-stage least squares row instruments the log 1892–94 level with the log 1896–98 level (first-stage coefficient 0.93); R^2 is not reported for it. The border South comprises Delaware, Maryland, the District of Columbia, Kentucky, West Virginia, and Oklahoma. Heteroskedasticity-robust standard errors.

Table A4: Premium less losses paid, out-of-state insurers

	Northeast		Midwest		South		West	
	\$bn	Share	\$bn	Share	\$bn	Share	\$bn	Share
1890s	11.6	0.34	10.8	0.59	5.4	0.57	1.6	0.54
1900s	26.0	0.39	25.9	0.62	14.9	0.62	5.4	0.65
1910s	33.0	0.39	34.7	0.57	19.6	0.55	8.0	0.55
1920s	74.5	0.46	78.9	0.63	40.4	0.58	21.4	0.65
1930s	145.7	0.43	147.7	0.61	67.0	0.51	44.0	0.62

Note: Premium collected minus losses paid in each region by insurers domiciled outside the state of collection, summed over the decade, 2024 dollars; “Share” divides by all premium collected in the region. This is a gross flow before reserves, expenses, and investment in the region, and is not a measure of net capital export. For comparison with the figure cited by Culberson, the same calculation for all insurers in Texas gives \$16.8 million (current dollars) for 1888–1897.

Table A5: Contributions by state to the change in the national in-state share, 1888–99 to 1930–40

	Weight in national premium		Own in-state share		Contribution to the change		
	1888–99	1930–40	1888–99	1930–40	Within	Reweighting	Total
NY	0.204	0.196	0.657	0.491	-0.033	-0.005	-0.038
NJ	0.050	0.048	0.390	0.378	-0.001	-0.001	-0.001
CT	0.023	0.021	0.248	0.186	-0.001	-0.000	-0.002
MA	0.083	0.049	0.261	0.292	0.002	-0.009	-0.007
PA	0.135	0.097	0.167	0.098	-0.008	-0.005	-0.013
All other states	0.504	0.589	0.058	0.111	0.030	0.005	0.036
National	1.000	1.000			-0.011	-0.015	-0.026

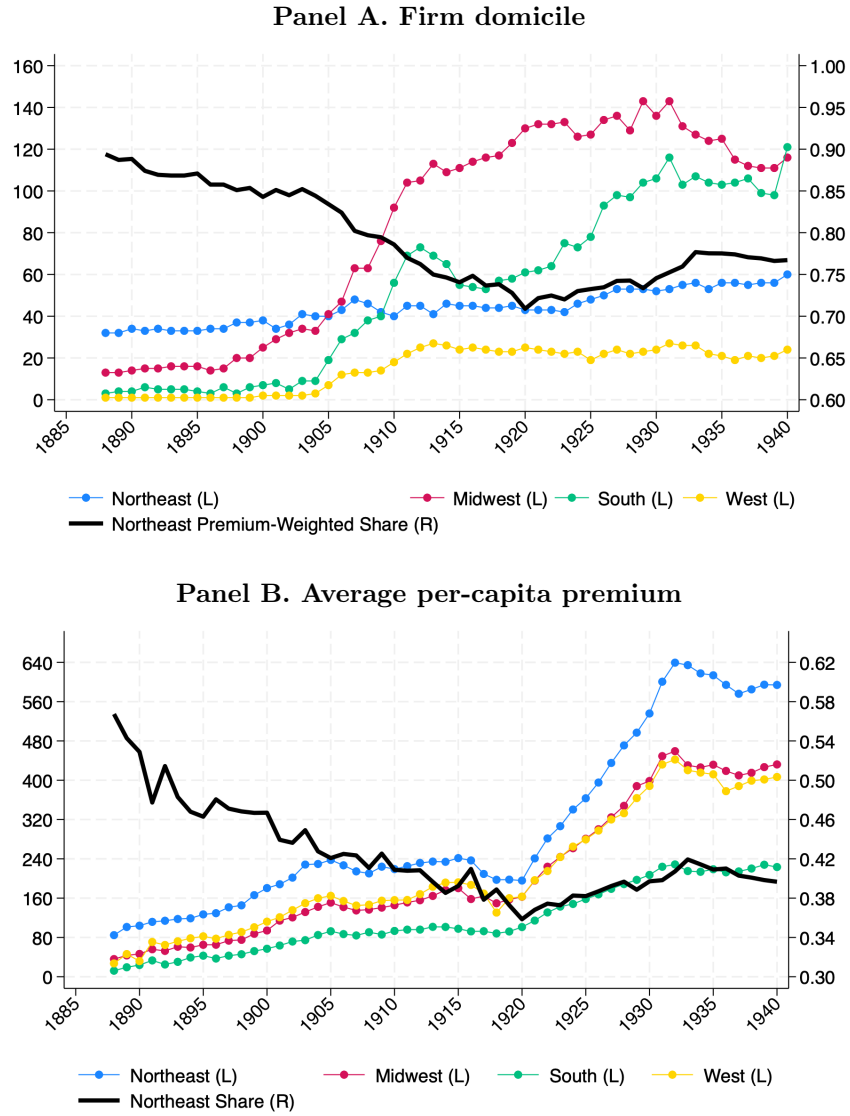
Note: The national in-state share in a period is $S = \sum_s w_s S_s$, where w_s is the state’s share of national premium and S_s its own in-state share, both computed over the period’s state-years as in Table IV. The change between the two periods is split exactly into a within-state part, $\bar{w}_s \Delta S_s$, and a reweighting part, $\bar{S}_s \Delta w_s$, where bars denote the average of the two periods. For groups, weights and contributions are sums over states and the own share is premium-weighted.

Table A6: Share of premium collected by mutual companies

	National	Out-of-state insurers	Insurers domiciled in			
			Northeast	Midwest	South	West
1888–1899	0.568	0.588	0.549	0.765	0.402	0.000
1900–1909	0.506	0.523	0.501	0.616	0.264	0.006
1910–1919	0.557	0.577	0.605	0.508	0.107	0.025
1920–1929	0.622	0.624	0.718	0.431	0.145	0.032
1930–1940	0.611	0.607	0.696	0.463	0.134	0.042

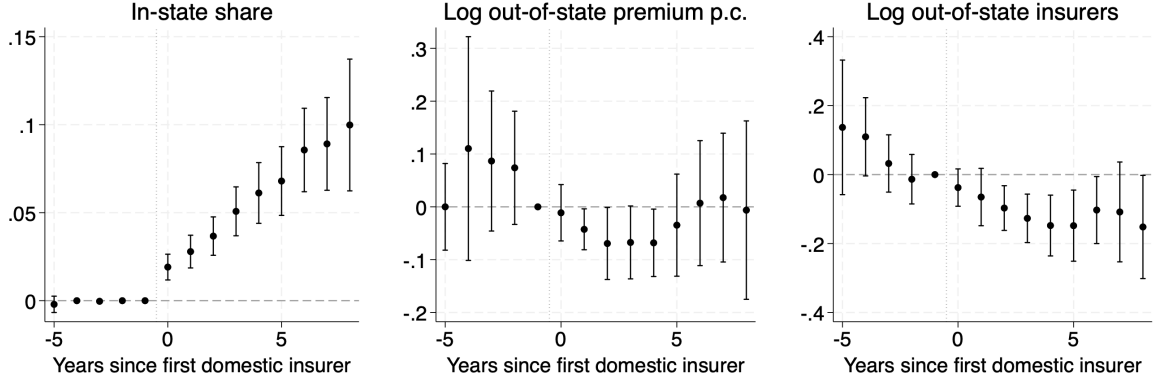
Note: Share of premium collected in U.S. states by insurers organized as mutual companies in the year of collection. Organizational form was compiled for each of the 902 insurers in the firm list built from the transcribed panel, which includes the 847 insurers of the final sample, from company histories, state insurance department reports, and the capital stock reported in the New York balance sheets, and follows changes of form during the panel (for example, Metropolitan from 1915, Equitable from 1917, Home Life from 1916, Provident from 1922). Companies in the process of mutualization (Equitable from 1917, Guardian from 1920) are counted as mutual; Prudential, whose mutualization was completed only in 1943, is counted as a stock company; assessment and fraternal associations and the few firms of unknown form are counted as not mutual. Firms carrying 89 percent of premium are classified from explicit sources and a further 6 percent from strong indirect evidence; the remaining small firms are classified from their names.

Figure A1: Firm domicile and per-capita premium, ordinary premium only



Note: As Figure V, using ordinary premium only. Industrial premium, sold mainly by Metropolitan, Prudential, and John Hancock, raises per-capita premium most in the Northeast and raises the share of premium collected by Northeastern firms.

Figure A2: Event study: the first domestic insurer



Note: Stacked event study for the 29 states whose first domestic insurer appears after at least four years of observation. Each treated state is compared with states whose first domestic insurer appears at least nine years later, over years -5 to $+8$, with state-by-stack and year-by-stack fixed effects; year -1 is omitted. Bars are 95 percent intervals, clustered by state. The in-state share is zero by construction before a state's first domestic insurer, so its pre-period coefficients are zero by construction.

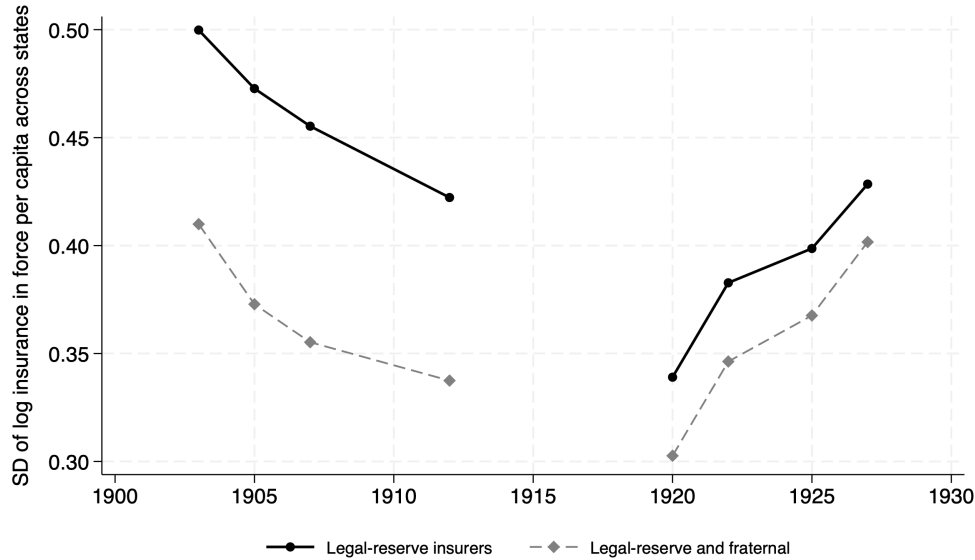
Table A7: Convergence controlling for fraternal insurance

	(1)	(2)	(3)	(4)	(5)	(6)
Log premium per capita, 1893	-0.0222*** (0.0018)	-0.0244*** (0.0020)	-0.0230*** (0.0017)	-0.0243*** (0.0019)	-0.0093*** (0.0016)	-0.0098*** (0.0018)
Log fraternal insurance per capita, 1907		0.0106*** (0.0034)		0.0090** (0.0041)		0.0008 (0.0034)
Change in log fraternal insurance per capita, 1907 to 1920–22			-0.0116** (0.0049)	-0.0036 (0.0050)		-0.0046 (0.0044)
Growth period	1893–1920	1893–1920	1893–1920	1893–1920	1893–1940	1893–1940
Implied lambda (percent per year)	3.4	4.0	3.6	3.9	1.2	1.3
Implied half-life (years)	20	17	19	18	57	53
Observations	49	49	49	49	49	49
R-squared	0.778	0.811	0.798	0.812	0.510	0.525

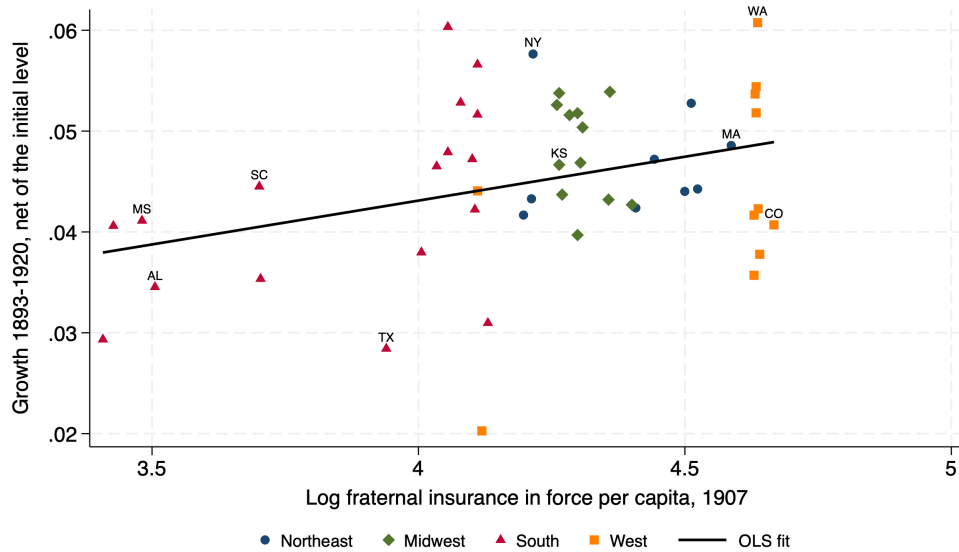
Note: The unit of observation is the state. The dependent variable is the average annual growth rate of real legal-reserve premium per capita between 1893 and 1920 (columns 1–4, $T = 27$) or between 1893 and 1940 (columns 5–6, $T = 47$), with levels measured as three-year averages centered on 1893, 1920, and 1939, as in Table V. Fraternal insurance per capita is the proxy described in the Data Appendix: each society's national insurance in force, from Fraternal Monitor (1912); Hamilton (1927), spread over the states of its stated jurisdiction in proportion to population. The change in fraternal coverage runs from 1907 to the average of 1920 and 1922. Column (1) is the 1893–1920 row of Table A3 and column (5) reproduces Table V, column (1). Heteroskedasticity-robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels.

Figure A3: Legal-reserve and fraternal coverage across states

Panel A. Dispersion of insurance in force per capita



Panel B. Fraternal coverage in 1907 and legal-reserve growth, 1893–1920



Note: Panel A plots the cross-state standard deviation of log insurance in force per capita (nominal dollars) held with legal-reserve insurers, and held with legal-reserve insurers and fraternal societies combined, in the years for which the fraternal proxy is available. The proxy covers 1903–1912 and 1918–1927; 1910 is omitted because a single society’s reported figure distorts Kansas, Nebraska, and South Dakota, and 1918 because the Pacific Jurisdiction of the Woodmen of the World reports only from 1919. Panel B plots the average annual growth of real legal-reserve premium per capita between 1893 and 1920, net of its log 1893 level (the residual from Table A7, column (1), plus the mean), against log fraternal insurance in force per capita in 1907, with an ordinary-least-squares fit, whose slope is 0.0087 (robust s.e. 0.0029). Because the proxy spreads each society’s business evenly over its jurisdiction, states covered by the same societies, notably in the West, take nearly identical values.

Table A8: Convergence under alternative measures of participation

	All premium	Ordinary premium	Insurance in force
Slope, 1893–1940	-0.0093 (0.0016)	-0.0100 (0.0018)	-0.0096 (0.0016)
Slope, 1893–1920	-0.0222 (0.0018)	-0.0248 (0.0019)	-0.0206 (0.0018)
Slope, 1920–1940	0.0119 (0.0036)	0.0131 (0.0039)	0.0086 (0.0034)
SD of log level, 1896	0.780	0.681	0.714
SD of log level, 1920	0.336	0.292	0.339
SD of log level, 1940	0.497	0.462	0.463
States, 1893–1940	49	49	48

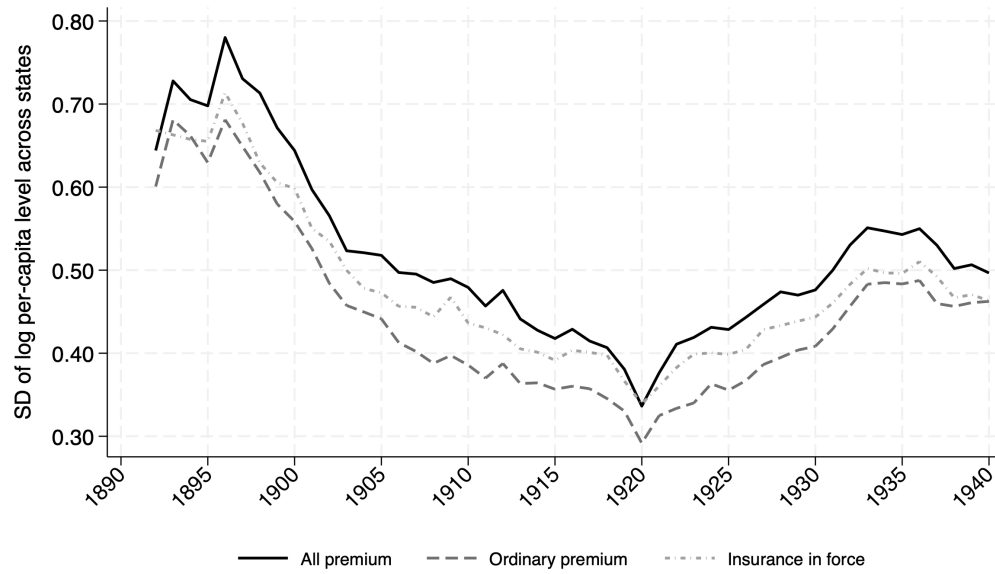
Note: Each slope is from a regression across states of the average annual growth of the per-capita measure on its log level at the start of the window, as in Table V, column (1), with levels measured as three-year averages centered on 1893, 1920, and 1939. All measures are in 2024 dollars per capita. Insurance in force is the face value of all policies outstanding at the end of the year, all lines combined; one state lacks insurance in force in 1892–94. The standard deviations are across states in the year shown (Appendix Figure A4). Heteroskedasticity-robust standard errors in parentheses.

Table A9: Texas after the Robertson Law: difference-in-differences and placebo estimates

	In-state share	Log out-of-state insurers	Log out-of-state premium p.c.	Log total premium p.c.
Texas $\times$ 1907 and after	0.350	-0.017	-0.858	-0.368
Placebo estimates, minimum	-0.033	-0.385	-0.401	-0.415
Placebo estimates, maximum	0.139	0.673	1.064	1.035
Share of placebos at least as large (absolute)	0.00	0.94	0.06	0.19

Note: State-year panel of the seventeen Southern jurisdictions, 1895–1925, with one-year reporting gaps interpolated (Figure IX). Each estimate is the coefficient on an indicator for the treated state in 1907 and after, from a regression with state and year effects. The first row treats Texas. The placebo rows treat each of the other sixteen jurisdictions in turn, with Texas excluded from the sample, and report the smallest and largest placebo estimates and the share of the sixteen whose absolute value is at least that of the Texas estimate. Premium per capita is in 2024 dollars. Insurers are counted when they report positive premium in the state and year, so companies that stopped writing new business but continued to collect renewal premiums are still counted.

Figure A4: Cross-state dispersion under alternative measures of participation



Note: Cross-state standard deviation of the log per-capita level of all premium, ordinary premium, and insurance in force, in 2024 dollars, for the states of Table [V](#), from 1892.

Table A10: Average annual growth of insurers licensed in New York, in recession and other years

	1881–1940	No recession	Recession	1929–33	1932–33
<i>Panel A. Real, 2024 dollars (% per year)</i>					
Assets	6.74	5.84	6.91	12.65	11.26
Liabilities	7.00	5.91	7.43	12.78	11.28
Revenue	6.80	6.71	6.57	9.00	5.50
<i>Panel B. Nominal (% per year)</i>					
Assets	7.21	7.49	7.22	5.02	2.57
Liabilities	7.48	7.57	7.75	5.16	2.60
Revenue	7.33	8.44	6.87	1.64	-2.74
Years	60	31	25	4	2

Note: Each cell is the mean annual percent change in the row’s aggregate over the years in the column heading. The aggregates sum the company-wide balance sheets of all insurers licensed in New York in each year; the sample is not balanced, so growth combines that of continuing firms with entry into and exit from the New York-licensed group. Assets, liabilities, and revenue are from the balance-sheet, liabilities, and income-statement tables of the Annual Report of the Superintendent of Insurance of the State of New York. Panel A deflates by the consumer price index to 2024 dollars; Panel B is in nominal dollars. Recession years are calendar years with at least six months of contraction in the NBER monthly chronology, excluding 1930–33, which form the 1929–33 column; “No recession” is every other year outside 1930–33. The last row gives the number of annual growth rates in each column. The 25 recession years and 31 other years between 1881 and 1940 follow the NBER monthly chronology, counting the months from the month after each peak through the trough; the short contractions of 1890–91 and 1918–19 fall short of six months in any one calendar year and are not counted. Growth of the balance sheet was largely insensitive to the business cycle; growth of revenue was not. In nominal terms assets grew 7.22 percent a year in recession years against 7.49 percent in other years and liabilities 7.75 against 7.57 percent, while revenue grew 6.87 against 8.44 percent. In real terms the ordering reverses for the balance sheet, at 6.91 against 5.84 percent for assets and 7.43 against 5.91 for liabilities, because recessions in this period were deflationary. Between 1929 and 1933 real assets and liabilities grew about 12.7 percent a year against nominal growth near 5 percent; revenue grew 1.64 percent a year in nominal terms across the window and fell 2.74 percent at the trough in 1932–33.

Data Appendix

Sources

The state panel is transcribed from the life-insurance volumes of the Spectator Company’s *Insurance Year Book*. Each volume reports, for every legal-reserve life insurer, the premiums it received and the losses it paid in each state and territory in the preceding calendar year, together with new insurance written and insurance in force, separately for ordinary, industrial, and group business where the company reported them. Volumes are available for every year from 1888 through 1940. This paper combines the three lines unless stated otherwise; in the final sample ordinary business accounts for 75.2 percent of premium, industrial for 22.2 percent, and group for 2.6 percent. Fraternal benefit societies and assessment associations are not in these pages.

The New York accounting data are the balance sheets and income statements in the *Annual Report of the Superintendent of Insurance of the State of New York*, which cover every life insurer licensed in New York (171 firms and 2,406 firm-years); they are used for the balance-sheet and pricing evidence of Section 4. Because the Appleton rule discouraged smaller companies from seeking a New York license, this sample is weighted toward large insurers after the early 1900s.

State population, the urban share, and manufacturing output come from the decennial censuses of 1880 through 1940 (Haines and Inter-university Consortium for Political and Social Research, 2010), interpolated log-linearly between census years. State-years that would require extrapolation behind a state’s first census (1.3 percent of state-years) are dropped from the per-capita analyses. Nominal values are converted to 2024 dollars with the consumer price index of Williamson (2026). State income per capita for 1900 and 1940 is from Easterlin (1960) and the Bureau of Economic Analysis. Organizational form, used in Appendix Table A6, was compiled for each of the 902 insurers in the panel; its sources and confidence levels are described in the note to that table.

Transcription and checks

The panel is the one built for Janas (2026), and the two papers share its construction. The scanned state pages were transcribed by a text-recognition model that assigns each entry a confidence score. Every entry scored below 0.5 was re-keyed by hand, as were entries that failed two checks: the sum of firms’ entries in a state against the state totals printed in the volume, and each firm-state series against its own previous and following years. Firm names were then matched to a master list of companies, which assigns each insurer a single identifier. Remaining anomalies

are flagged in the build rather than silently dropped: a firm-year whose total premium collapses to near zero between two large neighboring years, or spikes to five times both neighbors, is set to missing; a firm-year whose number of states with positive premium falls to 40 percent or less of both neighboring years is excluded as incompletely transcribed; and firms observed in a single year before 1940 are dropped.

Domicile

Each insurer carries one identifier across years. The *Year Book* reports each company's home office and state of incorporation, which define its domicile. Domicile is constant over the panel for all but 4 of the 847 insurers in the final sample. Insurers domiciled outside the United States, chiefly Canadian companies such as Sun Life, collect 1.1 percent of premium in the final sample and count as out-of-state insurers in every state; British and other foreign companies collect a negligible share.

What a state cell records

Premiums are those received in the state and losses those paid in the state. The volumes do not say whether a death claim is charged to the state in which the policy was sold or the state in which the claim was paid, and the two differ when a policyholder moves. The premium-based measures that carry the paper's argument, the in-state share, concentration, and premium per capita, do not depend on this choice.

Geographic coverage

Business outside the states and the District of Columbia is dropped: Canada, the Philippines, Puerto Rico, Cuba, Mexico, the Canal Zone, and entries recorded as foreign or miscellaneous, which together account for 6.2 percent of positive premium (Canada alone for almost all of it), and the undivided Dakota and Indian territories, Alaska, and Hawaii, which account for 0.1 percent. State detail is incomplete in the earliest volumes and there are one-year gaps in some firm-state series; Section 3 describes both and how the analysis treats them.

Validity screen

A small number of cells report insurance in force that cannot be reconciled with the premiums or claims reported alongside it. The build sets `invalid_cell` to one when premium per \$1,000 in force exceeds 200 or falls below 5 (below 1 for group business, which is written as renewable term),

claims per \$1,000 in force exceed 200, or the loss ratio exceeds 10. Among the 151,438 cells with positive premium in the states and the District of Columbia, the rule flags 2,966 (2.0 percent), carrying 0.8 percent of premium: 854 with premium above 200 per \$1,000, 881 below the floor, 1,263 with claims above 200 per \$1,000, and 955 with a loss ratio above 10 (a cell can meet more than one condition). The share is between 1.0 and 2.5 percent in every decade and between 1.9 and 2.4 percent in each line of business. Flagged cells are concentrated in a market’s first year, 20 percent of them against 7 percent of all cells, when in force is small and an error in it has the largest effect. Every exhibit drops flagged cells before any total, share, or per-capita measure is built.

Sample

	Firm-state- line-years	Firm-state- years	Firm-years	Insurers	Share of premium
Transcribed panel, 1888–1940, all lines	161,125	136,745	13,019	905	1.000
Positive premium	157,118	133,774	12,910	903	1.000
States and the District of Columbia	151,438	128,916	11,313	848	0.937
Passing the validity screen	148,472	126,631	11,190	847	0.930

Table I, Panel A, counts 150,070 observations because it keeps cells with no premium and the undivided territories, Alaska, and Hawaii. The per-capita analyses further drop state-years whose covariates would be extrapolated, and individual exhibits state any other restrictions in their notes.

Validation against the New York statements

For the 75 insurers observed in both sources, the sum of a firm’s state premiums can be compared with the premium income in its New York annual statement. Across 2,015 firm-years from 1888 to 1940 the two series have a log-log slope of 1.04 and an R^2 of 0.93, and their correlation is between 0.94 and 0.98 in every decade. The median ratio of the state sum to statement premium is 0.93, consistent with statement premium including business outside the states, and 65 percent of firm-years lie within 10 percent of that median ratio and 83 percent within 25 percent.

Fraternal insurance by state

Appendix Table A7 and Figure A3 use a proxy for fraternal insurance in force per capita by state. Its sources are the 1912 and 1927 editions of *Statistics, Fraternal Societies* (Fraternal Monitor, 1912; Hamilton, 1927), which report each society’s insurance in force on January 1 of 1903–1912 and

1918–1927 together with the territory in which it operated. The series were parsed from the Internet Archive text of the two volumes. Misread dollar signs and spaces inside numbers were corrected, values more than three times or less than a third of both neighboring years were dropped, and gaps inside a society’s reported range were interpolated. Each society’s stated jurisdiction was mapped to states, with “United States” taken as all states and the District of Columbia and “except” clauses and regional descriptions applied. The Sovereign Camp of the Woodmen of the World was assigned all states outside the nine Western states of its Pacific Jurisdiction. Societies with no stated jurisdiction took the jurisdiction reported in the 1912 edition or, failing that, the census region of their home office; these account for 12 percent of insurance in force in 1920. Canada-only societies were dropped, and Canadian population entered the denominator for jurisdictions that included Canada. Each society’s insurance in force was then spread over its states in proportion to population. Accident and funeral societies (United Commercial Travelers, the Travelers Protective Association, the Railway Mail Association, and a funeral benefit department) are excluded. The societies included held \$6.4 billion in force in 1907 and \$7.9 billion in 1920. Because the proxy assumes that each society’s business was spread evenly over its jurisdiction, it understates differences between states, and states served by the same societies take nearly identical values.