Mobilizing Savings, Shaping Regions: The Financial Geography of U.S. Life Insurance*

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Abstract

This paper uses newly digitized firm-level data from 1883 to 1940 to examine the role of life insurance companies in reshaping the geography of American finance. I document the rapid expansion and structural transformation of the life insurance industry, as firm formation spread from established financial centers in the Northeast and Midwest to the South and West. Despite broader market participation, over 85 percent of premiums continued to flow to out-of-state firms for much of the period, underscoring the persistence of regional asymmetries. I introduce a new measure of inter-state capital transfers based on "excess cash" (premiums minus losses paid) and show that although the total volume of interregional flows increased, the share generated through out-of-state operations declined after 1905 but rose again during the Depression. These findings challenge the view of insurance as a static oligopoly and demonstrate how regulatory differences and political pressure shaped both the distribution of firms and the flow of financial resources across regions.

JEL Classification: N21, N22, G22, G52
Keywords: life insurance, capital mobility, market concentration, household saving

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1 Introduction

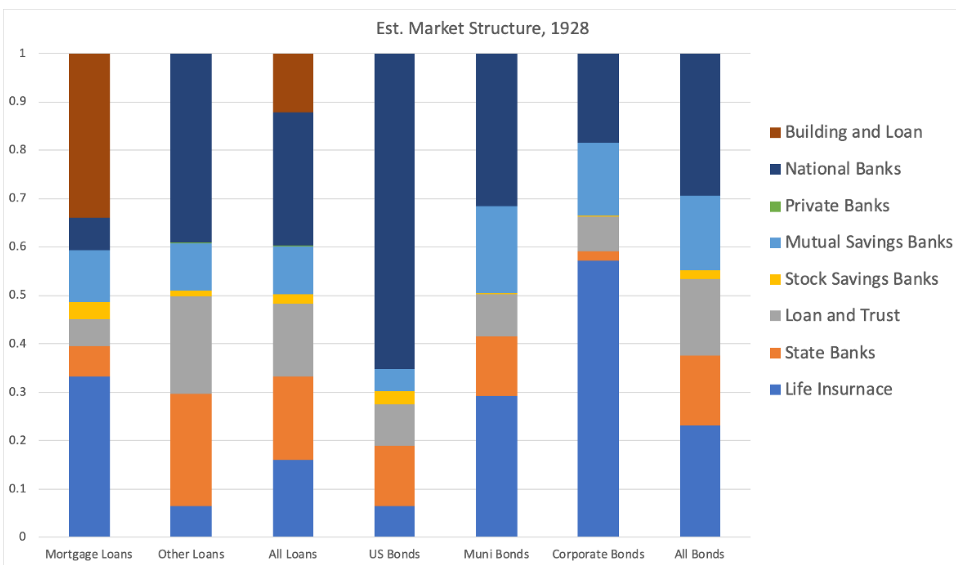
The insurance industry has played a prominent role as a financial intermediary in the United States for over 150 years, mobilizing household savings into long-term investment in a national market. For example, the mortgage debt held by life insurance firms in 1928 was three times that of state and national banks combined. Their municipal debt holdings were on par with nationally chartered banks, and they were among the first and largest institutional investors in corporate bonds (Figure I). Yet, in the 1800+ pages of Stanley Engerman and Robert Gallman's *The Cambridge Economic History of the United States* on the long nineteenth and twentieth centuries, insurance markets are discussed on only 18 pages (Engerman and Gallman (1996)).[1] One potential explanation for why the economic history of U.S. insurance is relatively understudied is the perception that life insurance was dominated by an oligopoly of a few large firms (e.g., New York Life), with long-run stability and limited variation of interest to economists and economic historians. It may seem that the economics boil down to a handful of firm-level decisions in a few states: a lack of spatial or temporal variation and small sample sizes could make the topic less appealing for quantitative study.

I show that this is not the case - while a few large firms do indeed dominate the national market, both the spatial and temporal variation of the 700+ other firms is significant. This paper uses newly digitized annual firm-level data on the universe of insurers from 1883 to 1940 to shed light on the evolution of life insurance market structure before Social Security. While this is not the first attempt at quantifying the impact of life insurers on the broader U.S. economy, it builds upon earlier work that has largely focused on aggregate trends or case-studies. Most prominently, Sharon Ann Murphy documents the origins and the development of the life insurance industry up through Civil War (Murphy (2010)).

[1] Banking and securities markets, on the other hand, are discussed in multiple chapters and over 100 pages.

Pritchett (1970), in an unpublished Ph.D. dissertation from Purdue under the guidance of Lance Davis, was the first to collect comprehensive firm-level data to study capital mobilization in the nineteenth century, but the data are no longer available. Kenneth Snowden has argued that insurance companies in the late 19th and early 20th century came to dominate the national mortgage markets because they were regionally dispersed - used local agents in many parts of the country - while most other intermediaries were concentrated in local markets (Snowden (1995)). Lance Davis and Douglass North showed that life insurance companies, as an industry, became the most important nonbank intermediary after the Civil war, with assets increasing more than twenty-fold between 1869 and 1914 (Davis (1965); North (1954)).

Figure I: Net holdings (%) of various financial instruments (1928)



Sources: Data for national and state banks, loan and trust, stock savings, and mutual banks come from the Office of the Comptroller of the Currency annual reports. 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.

This paper makes three main empirical contributions. First, using newly digitized firm-level data, I document the rapid geographic expansion and structural transformation of the U.S. life insurance industry between 1883 and 1940, showing how firm formation spread from traditional financial centers in the Northeast and Midwest to the South and West, though unevenly and with persistent concentration. Second, I show that despite broader market participation, most states remained heavily reliant on out-of-state firms, with over 85 percent of premiums flowing to insurers headquartered elsewhere for much of the period. Third, I introduce a new measure of inter-state capital transfers based on "excess cash" (premiums minus losses paid) and map how these flows evolved over time. While total and out-of-state capital volumes grew substantially, the share of excess cash generated from outside a firm's home state declined after 1905, suggesting partial success of state-level reforms aimed at retaining capital locally. Yet by 1940, major financial centers like New York continued to attract disproportionate surpluses, indicating the enduring structural asymmetries in the geography of financial intermediation.

2 Background and Historical Narrative

This section summarizes the key features and historical context of the U.S. life insurance industry in the late 19th and early 20th centuries, providing background for the descriptive results that follow. I draw on, and refer interested readers to, the works of Zartman (1906) and Pritchett (1970) on insurance investment policies in the 19th century. For the development of the insurance industry in the first half of the 19th century and its role on household savings, see Murphy (2010). For a comparison of life insurance with Social Security, see Arthi et al. (2025).

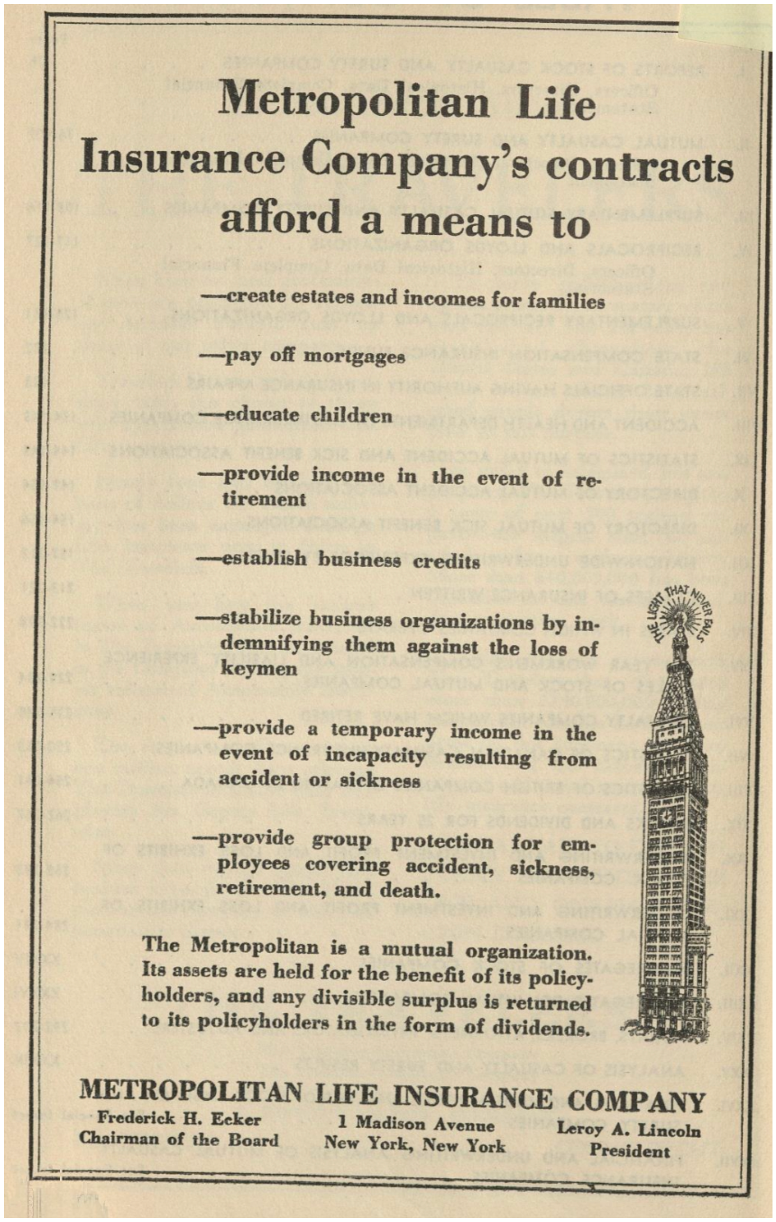
2.1 What, why, and how of life insurance

Ordinary life insurance was the primary old-age savings vehicle for American households before the advent of Social Security. Life policies served a dual purpose: they functioned as both a payment upon death and a savings vehicle. These policies typically promised to pay either a lump sum or an annuity to the policyholder if they lived to a specified maturity age—commonly 95—or to their beneficiaries if they died earlier. This structure allowed households to hedge against two major life uncertainties: dying too young to support one's dependents, or living long enough to outlast one's savings. As such, ordinary life policies effectively combined insurance and investment in a single financial product.

The contractual structure of these policies was well-defined. Policyholders made fixed periodic premium payments and were guaranteed a fixed payout upon death or maturity. In addition to these benefits, policies accrued an equity value representing the insured's ownership stake. Policyholders could borrow against it—as many did during the Great Depression—or convert their policy to a paid-up contract requiring no further payments, switch to a term insurance policy, or cash out entirely. Benefits were exempt from income tax (after 1913) and estate tax, and were not subject to probate. This made them a convenient and efficient way to transfer wealth. Policies were assignable and could be used as collateral, for example, to secure a mortgage. Typical policy returns were steady, averaging around 3.5 percent nominally.

The popularity of ordinary life insurance was broad and widespread. It was heavily used by working- and middle-class households, and particularly embraced by Black Americans, who often faced exclusion from other forms of financial institutions (Arthi et al. (2023)). It was primarily sold through door-to-door sales with local agents, who played a critical role in explaining the product and guiding potential customers through the purchasing process. Figure II shows a typical print advertisement and the various benefits touted by the Metropolitan, such as financial literacy ("educate children"), estate planning, and mortgage liquidity.

Figure II: Advertisement for Metropolitan Life, *The Insurance Year Book* (1920)


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.

2.2 Regulation

Insurance companies were (and still are) regulated at the state level.[2] In the 1869 Supreme Court decision *Paul v. Virginia (1869)*, the Court ruled that insurance was not

[2]During World War I, the War Risk Insurance Act of 1917 established government-sponsored life insurance for servicemen, temporarily introducing a federal role in providing coverage.

"“commerce" under the Constitution, thereby affirming that regulation was the responsibility of individual states, not the federal government.

This precedent, which held until 1944, meant that each state established its own insurance laws and regulatory bodies. By the late 19th century, many states had created insurance departments or commissioner offices (New Hampshire was the first, in 1851) to license companies, monitor solvency, and protect policyholders. These state regulators required annual financial statements and set minimum capital and reserve requirements to ensure companies could honor claims. The first restrictive regulation on insurance investment occurred in 1836, when Massachusetts passed a law authorizing local municipal bonds as suitable investments of insurance assets. Other states followed suit in the second half of the 19th century and early 20th century, often allowing firms to invest in “riskier” securities. For example, Wisconsin initially allowed investments in mortgages within—but not outside—the state, while Texas and Washington mandated that a certain percentage of all assets be set aside for government securities and mortgages within their respective states.

A watershed in insurance regulation came with the Armstrong Committee investigation in New York. Spurred by scandals at major life insurers (notably Equitable Life, where a 1905 exposé revealed corruption and extravagant misuse of funds), New York legislators launched an inquiry into life insurance companies' practices. The Armstrong Committee's findings in 1906 uncovered dubious accounting and excessive executive perks to risky investments and conflicts of interest. In response, the committee recommended sweeping reforms, which were swiftly enacted as eight new statutes tightening control over life insurers. These laws, and similar measures soon adopted by other states, placed limits on insurers' operations: for example, they banned certain speculative investment practices, capped the size of agents' commissions and operational expenses, and outlawed the sale of controversial policies like tontines with long deferred payouts.The reforms also forced greater transparency and solvency: companies had to maintain higher reserve ratios and file more detailed financial reports—requirements that ultimately produced a key component of the archival data used in this paper.

2.3 Investment and Capital Flows

Public outrage at the insurance scandals—exemplified by the Armstrong investigation—reflected a broader Progressive Era movement to rein in large financial institutions at the turn of the 20th century. Political rhetoric of the time often cast elite insurers, especially the major New York companies, as part of a "money trust" centered on Wall Street. Populist leaders and agrarian interests in the South and West frequently accused Eastern financial firms—including insurers—of draining wealth from the hinterlands. A common grievance was that life insurance premiums paid by farmers and small-town residents in places like Alabama or Kansas ended up financing New York skyscrapers and railroads, rather than being reinvested in their local economies. Insurers pooled policyholder premiums from across the country and reinvested them in loans and securities, often far from the places where the premiums were collected. By the early 20th century, life insurers had become the nation's largest interregional lenders, supplying long-term credit to the developing South and West (Snowden (1995)).

Snowden documents how firms like Northwestern Mutual (Wisconsin) and several Connecticut companies built lending networks that placed agents in distant states to originate and service loans. These networks created a direct pipeline for Eastern savings to flow into Western farms and Southern enterprises, with life insurers as intermediaries. A striking insight from Snowden is the extent to which state regulations shaped these capital flows. For example, New York restricted its domestic life insurers from making mortgage loans outside the state for many years. Given New York's dominant share of industry assets, this rule kept a substantial amount of insurer capital locked in the Northeast. Snowden estimates that had New York insurers been allowed to invest like their Connecticut counterparts, they would have held an additional \$82 million in interregional mortgage loans by 1890.

This growing discontent with capital outflows spurred state-level efforts to promote local insurance companies. Many states passed laws to encourage the creation of "home companies." Some imposed higher taxes on out-of-state insurers or required them to deposit securities in-state as a condition for doing business. These measures aimed to incentivize the formation of local firms. Texas Governor Charles Culberson, for instance, noted that between 1886 and 1897 Texans paid about \$25 million more in premiums than they received in claims, attributing this imbalance to capital shortages in Texas and surpluses in New York (Zartman (1906)). Zartman further estimated that by 1903, residents of Southern states had paid an estimated \$50 million in premiums to Northern companies. In response, several state legislatures enacted laws compelling insurers to invest a portion of their reserves locally or imposed special taxes to discourage the export of savings.

Importantly, differences in state regulatory regimes strongly guided where companies chose to incorporate and operate. Each state imposed its own capitalization requirements and investment rules for insurers, creating a patchwork of regulatory environments. Many entrepreneurs opted to found companies in states with more permissive laws or lower entry barriers. For instance, states that set low minimum capital requirements for mutual (policyholder-owned) insurers saw far more mutual companies form than states with stricter requirements. One study finds that in the early 20th century, "mutuals were formed in states that had low initial capital requirements for mutuals and differentially higher requirements for stock firms", whereas in states without that advantage, new mutual companies were rare (Zanjani (2007)). This indicates that insurance promoters took the path of least resistance by choosing states where regulations favored their desired organizational form. Conversely, New York's notoriously stringent regulatory regime (strengthened after the 1905 Armstrong investigation) may have deterred new incorporations and even prompted some insurers to relocate or form subsidiaries elsewhere (Zartman (1906)). By the 1930s, virtually every state had an insurance department and an array of laws governing insurance business, but the stringency and focus of these laws varied widely. Some states (e.g. Virginia, North Carolina, Alabama, Florida) still imposed almost no limits on how insurers invested most of their funds, whereas others tightly regulated all investments (Halaas (1932)). Such differences plausibly influenced both the expansion of insurers into new regions and their operations.

3 Data

This paper draws on newly digitized firm-level data on state-level premiums, losses paid, insurance written, and investments from two primary sources. The first is *The Insurance Yearbook* published by The Spectator Company. In the late 19th and early 20th centuries, this expansive annual reference book presented detailed statistics, financial data, and industry overviews for American insurance companies – both life and fire. It served as a comprehensive resource for industry professionals, regulators, and researchers, offering information on company assets, liabilities, premiums, claims, policy types, and organizational structure. In this paper, I focus on the data on firm-level premiums and losses paid in each state from 1883 to 1940, at (roughly) 5-year intervals: 1883, 1890, 1895, 1901, 1906, 1910, 1915, 1920, 1925, 1930, 1935, and 1940.

The second sources is the *Annual Report* of the Superintendent of Insurance of the State of New York. This comprehensive report detailed the financial condition, operations, and regulatory status of insurance companies that wrote at least one policy in the prior year in New York, published annually since 1860. Since 1872, it additionally reported the specific bonds, stocks, and policy loans issued by each company, and starting with the 1908 report, it further listed the mortgage debt and real estate owned by each company by state. The report includes these audited financial statements of both life and non-life insurers and it served as an important tool for transparency and oversight, providing policymakers, industry participants, and the public with authoritative data on the insurance industry's solvency, practices, and growth within the nation's largest insurance markets.

Summary statistics are presented in Table I. In total, the dataset comprises over 28 thousand firm-state observations, encompassing all 48 contiguous U.S. states and 754 unique firms.[3] Naturally, not all 754 firms are present in every cross-section, as firms enter and exit at various points. Likewise, not every state is listed in every cross-section– states such as Arizona, Idaho, Montana, New Mexico, North Dakota, Oklahoma, South Dakota, Utah, Washington, and Wyoming achieved statehood after 1883. As I describe in Section 4, not every firm operates in every state. The median firm wrote approximately 1.6 million (in 2018 dollars) in new ordinary life insurance and collected roughly 1 million in premium per state. Table I further reveals notable regional disparities in both where life insurance was sold and where the firms were headquartered: 81 percent of the firm-state observations, across the entire period, are attributed to firms incorporated in either the East or Midwest but over 52 percent of the observations come from firms doing business in the South and West.[4]

Table I: Summary Statistics, 1883 - 1940

	N	Mean	SD	Median	25 pct	75 pct
Insurance Written (2018 mil)	28,314	33.98	134.28	8.02	1.62	26.32
Premiums (2018 mil)	28,314	7.38	34.03	1.10	0.21	4.44
Losses Paid (2018 mil)	28,314	2.57	12.27	0.28	0.03	1.36
Business: I(East)	28,314	0.16	0.36	0.00	0.00	0.00
Business: I(Midwest)	28,314	0.32	0.47	0.00	0.00	1.00
Business: I(South)	28,314	0.33	0.47	0.00	0.00	1.00
Business: I(West)	28,314	0.19	0.39	0.00	0.00	0.00
Incorporated: I(East)	28,314	0.47	0.50	0.00	0.00	1.00
Incorporated: I(Midwest)	28,314	0.34	0.47	0.00	0.00	1.00
Incorporated: I(South)	28,314	0.13	0.33	0.00	0.00	0.00
Incorporated: I(West)	28,314	0.05	0.22	0.00	0.00	0.00
Firms	754					

Sources: *Insurance Yearbook*, various years (see text).

[3] Observations from Hawaii, Alaska, Puerto Rico, as well as Canada are available but were dropped for the purposes of this paper. Also not included, but available, are the premiums, losses, and insurance written for group and industrial insurance.

[4] Northeast: CT, ME, MA, NH, NJ, NU, PA, RI, VT. Midwest: IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI. South: AL, AR, DE, DC, 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.

4 Insurance Market Expansion and Regional Distribution, 1883–1940

This section explores how the expansion of the U.S. insurance market altered the geography of financial intermediation and demonstrates that life insurance firms played a key role in expanding financial access across the country—but this expansion did not necessarily translate into capital retention in the regions that generated savings. I ask: (1) Did firm expansion increase capital availability in historically underserved regions? (2) How did regulatory differences shape regional competitiveness? (3) What patterns emerge regarding market concentration and the persistence of financial centers?

4.1 National Expansion and Regional Penetration

The U.S. life insurance market from the late 19th century through the Great Depression experienced sustained expansion and regional diversification. Figures III through V document key trends in firm proliferation, regional firm growth, and the distribution of firm headquarters, highlighting both the phases of growth and structural constraints.

Figure III: Firms and per-capita premia, 1883 - 1940

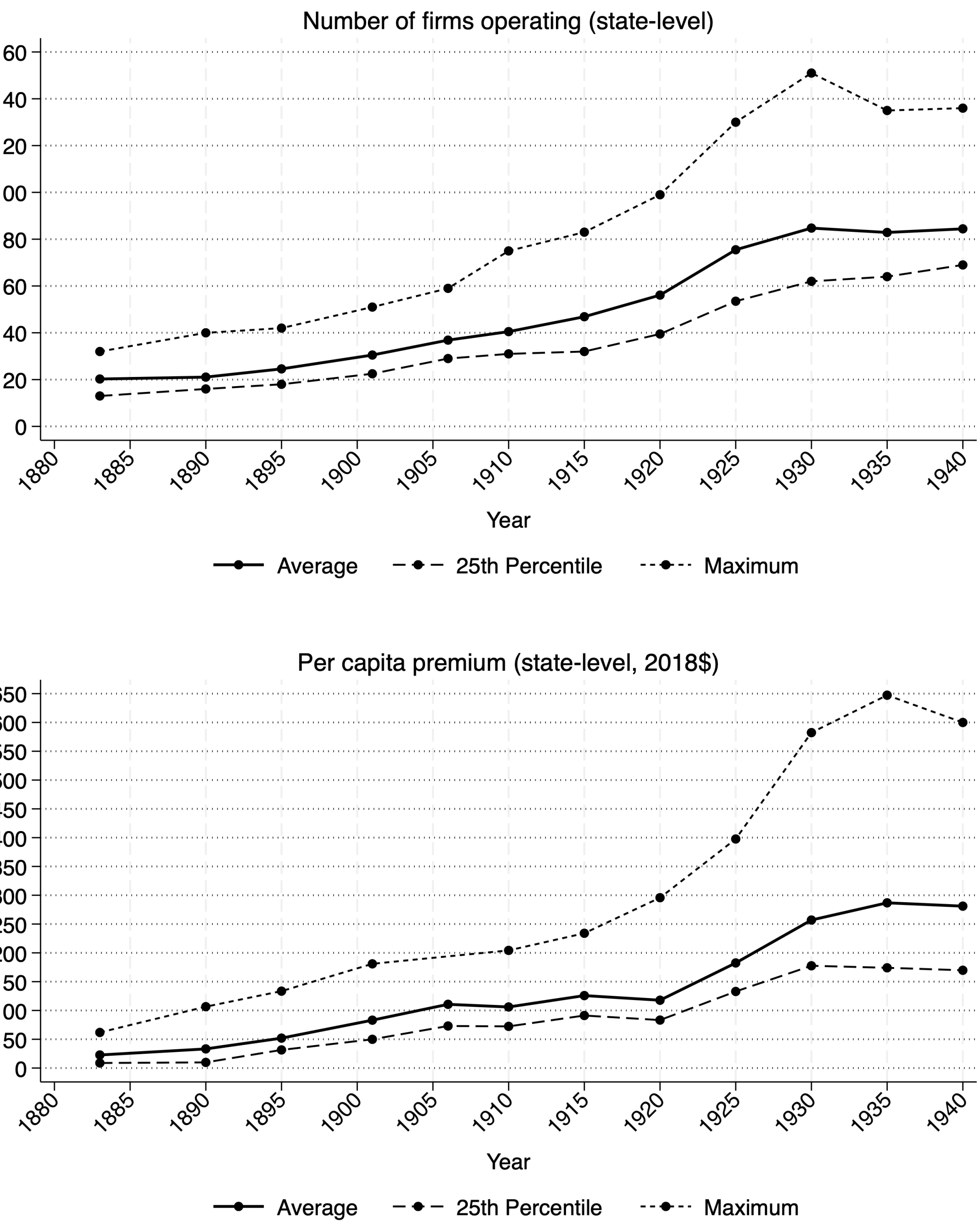
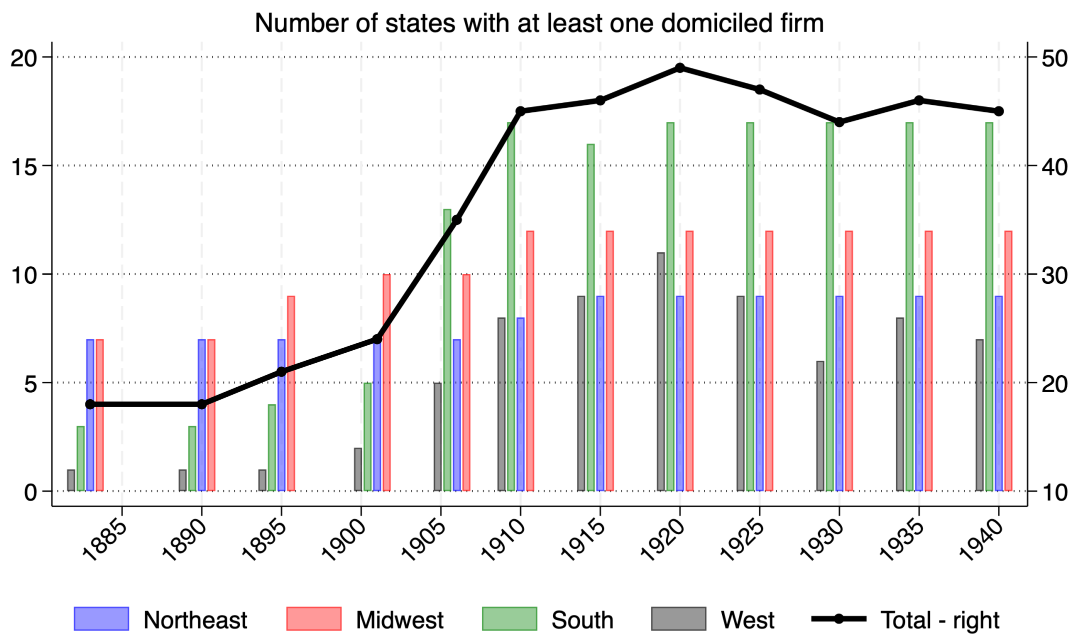


Figure III plots the rise in the number of insurance firms operating in individual states alongside the increase in per-capita insurance premiums. In 1883, the average number of firms writing ordinary life insurance per state was about 20, with a quarter of (mostly southern and western) states having fewer than 15 while Illinois and Pennsylvania having double the average. By 1930, this average had quadrupled (a 3% annual growth rate), though growth stagnated after the onset of the Great Depression. Firm counts remained stable at around 80 per state through 1940, reflecting broader economic distress and declining household incomes. Per capita premiums—adjusted to 2018 dollars—mirror this trajectory, rising more than tenfold from about \$20 in 1883 to over \$250 by the late 1930s. A stagnation between 1906 and 1920 suggests retrenchment due to financial shocks (e.g., the Panic of 1907) and regulatory constraints following the Armstrong investigation. Meanwhile, premiums doubled in high-premium states such as New York, Delaware, and Illinois between 1920 and 1935, signaling potential capital concentration during this period.

The premia, by 1940, were a large component of household expenditure. Considering that the there were approximately 5 million policies in New York out of a total state population of 13.5 million, the average New York premium for a policyholder was about $\$584 \times 13.5/5 \approx \$1{,}577$ (2018 dollars), or about 6.5 percent of average annual incomes.

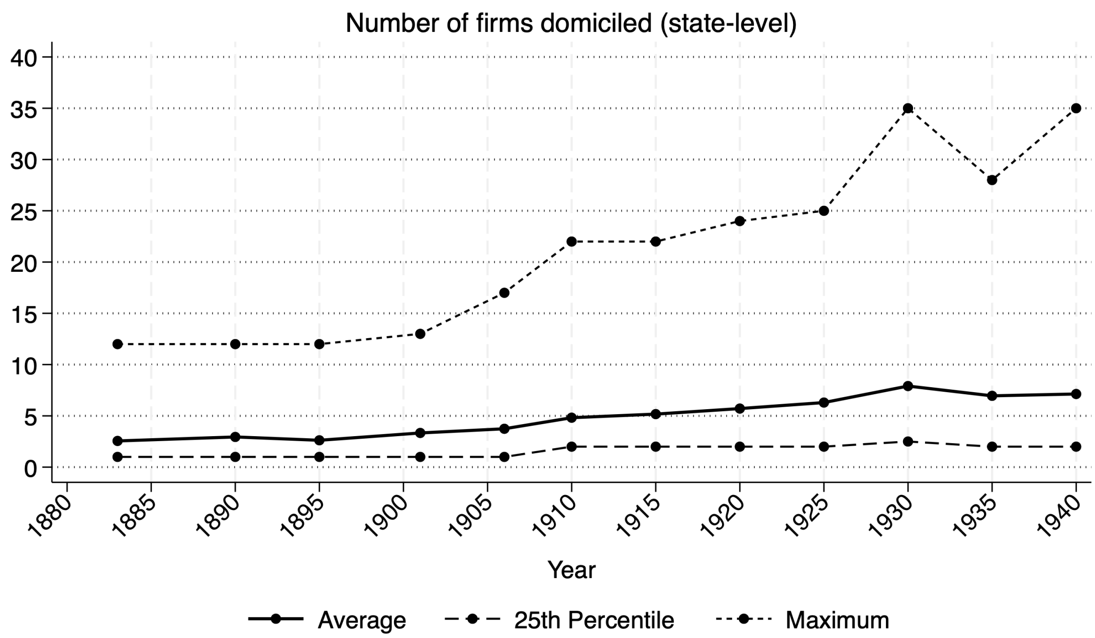
Figure IV: Firm growth across regions



Neither the initial industry nor the growth depicted in Figure III was equally spread across the U.S. Figure IV illustrates the sector's geographic expansion. Initially, of the 18 states with at least one firm incorporated under its laws, the vast majority was concentrated in the Northeast and Midwest.[5] However, the period from 1900 to 1910 saw substantial firm entry in the South and West, fundamentally reshaping the industry's national footprint away from one dominated by New York firms. The number of states with at least one domiciled firm increased to 45 by 1910, driven largely by new entrants from outside traditional financial centers. However, despite this broadening of the insurance landscape, there was notable retrenchment among Western firms after 1920. The South, on the other hand, maintained its newly established firm base through 1940, indicating more sustained market penetration in that region.

[5] Northeast: CT, ME, MA, NH, NJ, NU, PA, RI, VT. Midwest: IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI. South: AL, AR, DE, DC, 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.

Figure V: Distribution of firm headquarters



Besides in Texas, new West and South firms did not enter in large numbers. Figure V shows the average, 25th percentile, and maximum number of firms domiciled per state, conditional of a state having at least one domiciled firm. The bottom quartile of states remained largely unchanged, fluctuating between 1 and 3 firms throughout, meaning that the growth in state headquarters in Figure IV was driven by one or two new firms entering the West and South regions. Meanwhile, the average number of domiciled firms per state rose from 3 to approximately 8 over the same period. From 1883 to 1906, New York was the most prevalent headquarters for insurance firms. Between 1910 and 1940, that distinction moved to Illinois and Iowa (until 1930) and later to Texas (1935 and 1940). These patterns had important implications for capital flows, as the location of headquarters likely influenced where premiums were reinvested. The concentration of firm headquarters in financial centers was a frequent source of criticism during the period, as capital appeared to flow from poorer, policyholder-rich states to wealthier regions.

In sum, these figures reveal a nuanced trajectory of expansion, regional diversification, and persistent disparity within the U.S. insurance market from the late 19th century through the interwar period. Broad growth was punctuated by regulatory and economic constraints that shaped the geography of firm formation and capital accumulation.

4.2 Market concentration and competition

The structural evolution of the U.S. insurance industry not only altered firm distribution but also reshaped regional market dynamics. Figures VI through IX examine changes in firms' geographic reach, the distribution of premium collection, and market concentration, shedding light on evolving competitive structures.

Figure VI: Regional reach

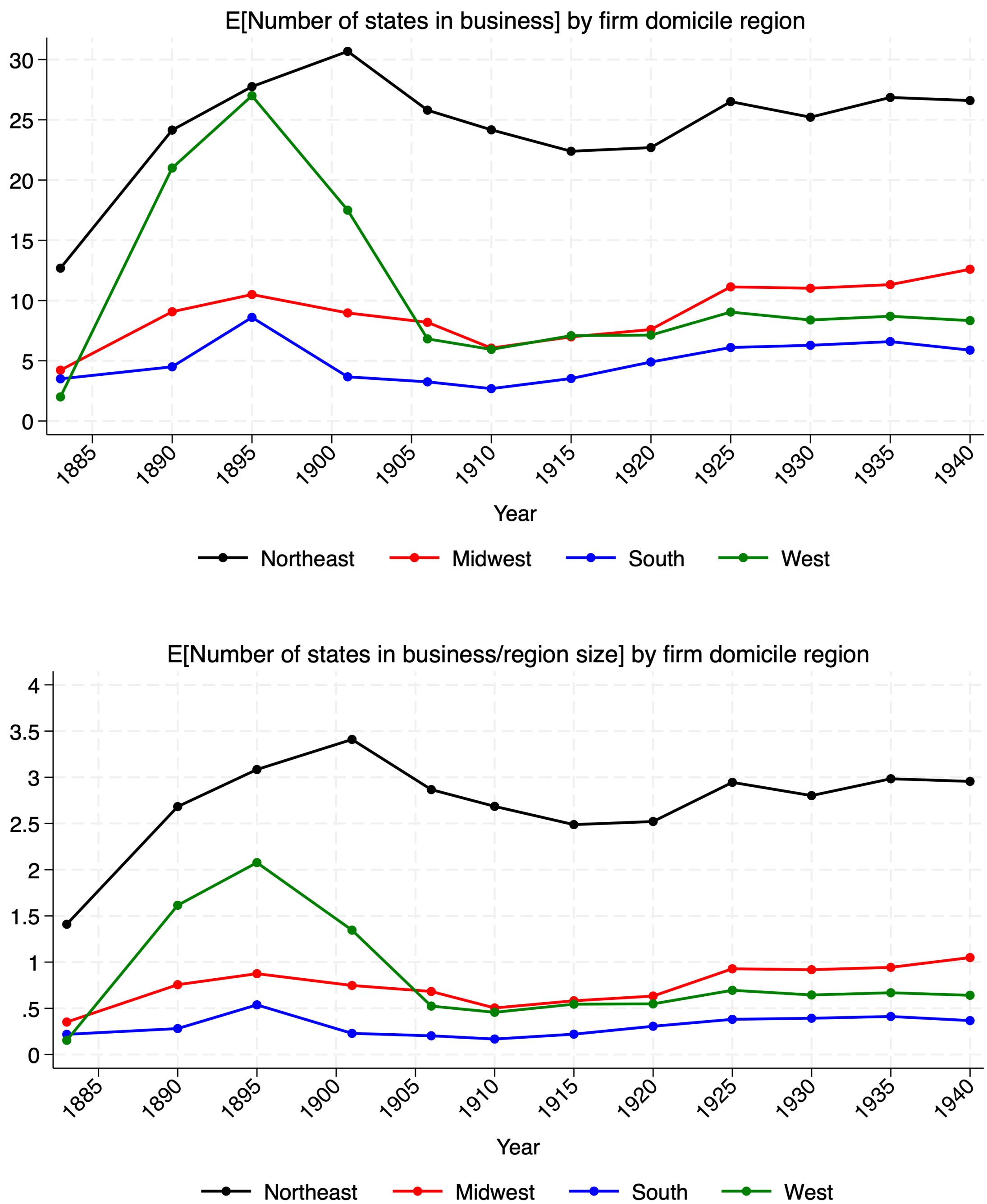


Figure VI presents the regional reach of insurance firms, measured by the average number of states a firm operated in, both in total and normalized by the number of states in its home region. The Northeast firms, on average, wrote insurance in 14 different states (approximately 150 percent of their region size of 9) starting in 1883. Their trajectory thereafter highlights their early expansion, as their geographic reach steadily increased from 1883 to 1901 before declining through 1920 and rebounding slightly in the 1930s. By contrast, the average firm headquartered in the West expanded their reach through 1895 - matching the 26 different states of the Northeast firms - but experienced a decline beginning in 1906, remaining relatively stagnant thereafter, mainly due to entry of small local firms. Firms domiciled in the South consistently exhibited the smallest regional reach, a trend that may reflect the prevalence of newly established firms operating in limited markets. The reach of Northeastern firms remained substantially higher, reflecting the sustained dominance of firms from historical financial centers.

The geographic expansion of firms observed in Figures IV, V, and VI reflects not only market demand but also the uneven regulatory landscape described in Section 2.2. States with more permissive incorporation rules and lower capital requirements—such as those in the Midwest and South—were more likely to see the formation of new, locally domiciled firms, especially mutuals. This helps explain the sharp rise in state-level firm counts in these regions between 1900 and 1910. Conversely, New York's stringent post-Armstrong regulatory regime, which imposed higher reserve requirements and stricter limits on asset allocations, likely discouraged new firm entry and may have even constrained the expansion of existing firms headquartered there. As Snowden (1995) emphasizes, states like Connecticut enabled aggressive out-of-state investment, which helped their insurers expand geographically; in contrast, New York's longstanding restrictions on out-of-state mortgage lending confined firms' market reach and likely contributed to the slower growth in regional penetration. These findings suggest that variation in regulatory openness played a central role in shaping not just where firms incorporated, but also how broadly they operated across the national landscape.

Figure VII: National distribution of premia

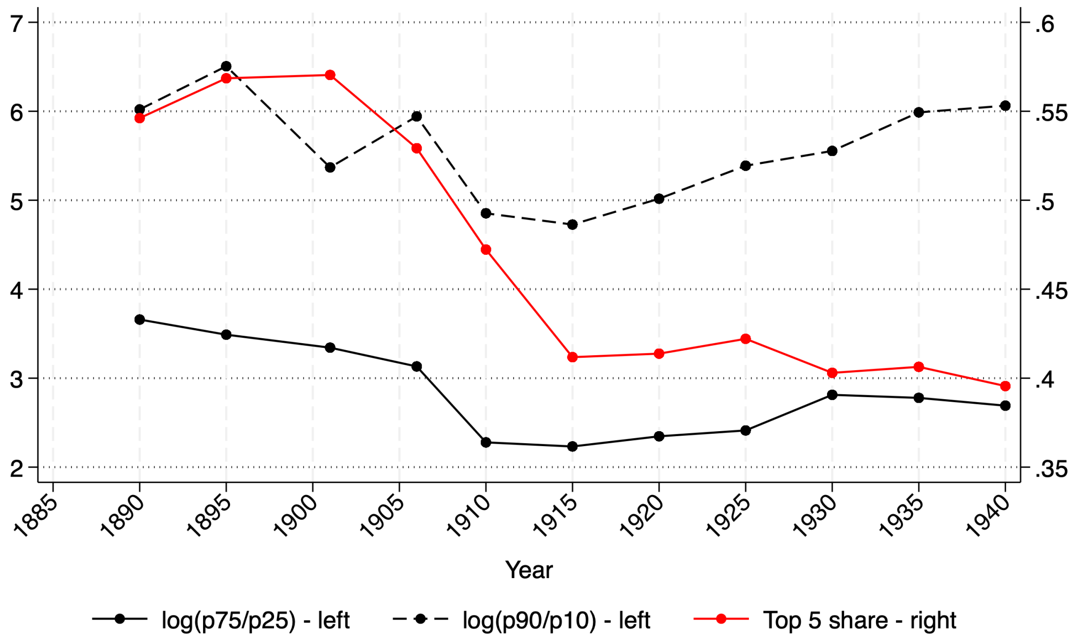


Figure VII tracks national concentration in premium collection using three measures: the log ratio of the 75th and 25th percentile, the 90th and 10th percentile, and the share of total premium collected by the five largest firms (New York Life (NY), Mutual (NY), Metropolitan (NY), Equitable (NY) and Northwestern Mutual (WI)). Between 1890 and 1915, industry concentration declined across all measures, coinciding with increased firm entry and greater market dispersion documented in the previous figures. However, after 1915, a steady rise in premium disparity emerged, primarily driven by a widening gap between the 90th and 10th percentiles. The top five firms' dominance also weakened over time, with their combined share of national premium collections declining from over 55 percent in 1890 to 40 percent by 1940. These trends suggest that while firm entry initially increased competition and reduced concentration, structural forces—possibly tied to economies of scale, branding, regulatory changes, or Depression-era consolidation—enabled larger firms to regain their relative advantage.

Figure VIII: Premium share

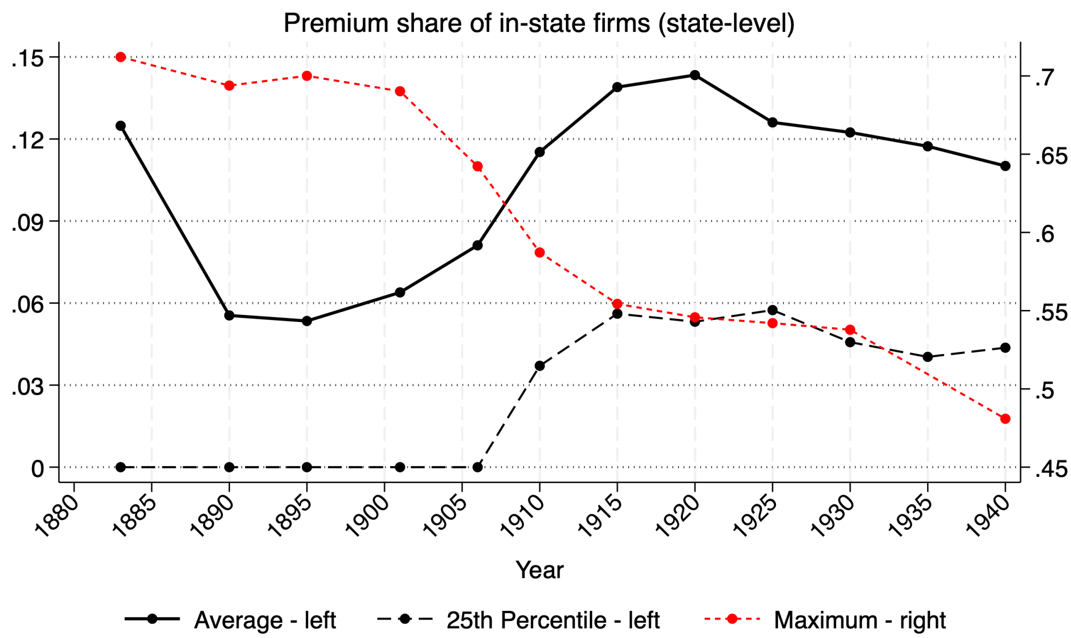
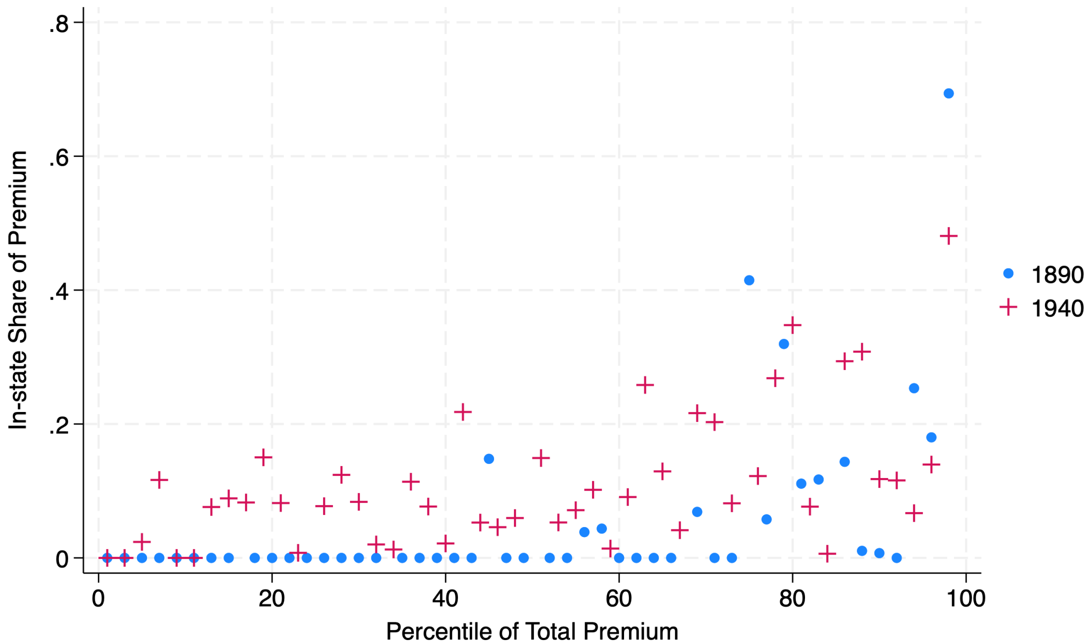


Figure VIII further dissects premium collection by distinguishing between firms domiciled within the state ("in-state") and those domiciled in another state ("out-of-state"). Across the entire period, the average state sees more than 85 percent of its ordinary life insurance premium go to out-of-state firms. However, the share of premiums collected by in-state firms rose steadily from 1890 to 1920, more than doubling from approximately 6 percent to 14 percent. This trend reflects a growing capacity for locally headquartered firms to compete for business within their own states. Yet, significant regional disparities persisted: in the lowest quartile of states, local firms collected no premiums at all until 1910, indicating that many markets remained entirely dependent on out-of-state providers. At the same time, the maximum in-state premium share—driven largely by firms headquartered in New York—declined over this period, signifying a compression in the state-level distribution of in-state premiums. The simultaneous rise in the lower quartile and decline in the maximum suggests a broadening of market participation but with persistent concentration in certain financial hubs.

Figure IX: Premium share vs. total premium, 1890 and 1940



Building on the previous figure, Figure IX compares the distribution of instate premium shares in 1890 and 1940, highlighting further shifts in market competitiveness. In 1890, a significant number of states exhibited zero in-state premium collection, represented by a clustering of blue dots along y = 0. By 1940, many of these states had developed instate insurance markets, increasing the share of local firms in premium collection. Conversely, states that historically dominated premium collection saw a decline in their relative share, with the highest-percentile states experiencing a downward shift in in-state premium collection. These trends indicate a more competitive insurance market by 1940, with the dispersion of firms leading to reduced dominance by a few key states and greater participation from emerging markets.

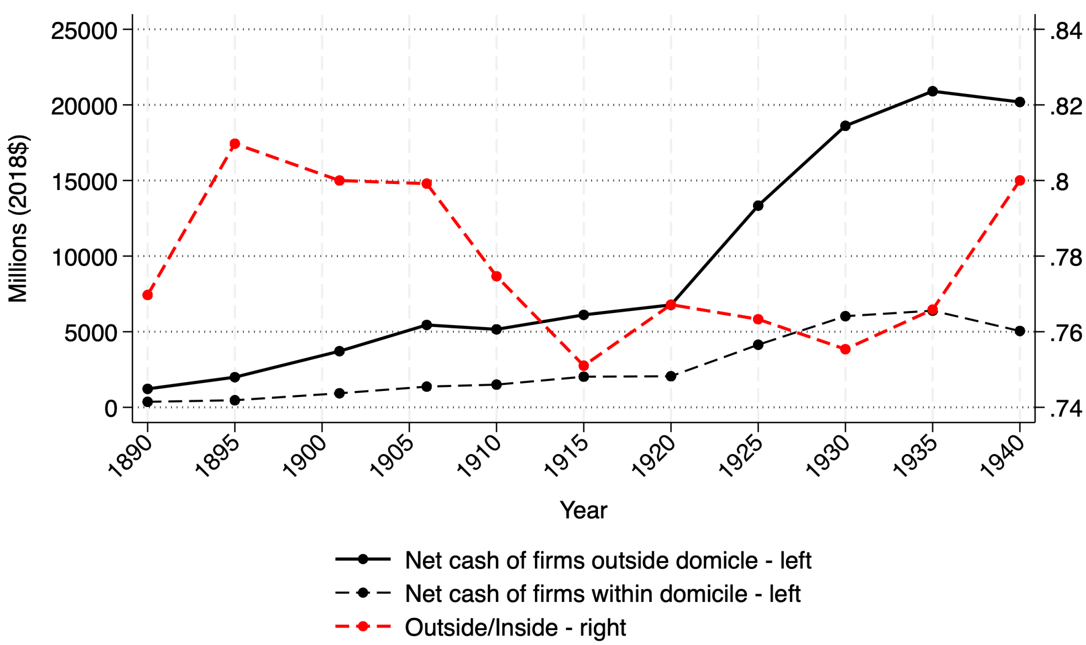
These findings underscore persistent structural imbalances in the spatial organization of the insurance market. While more states participated in the industry over time, and local firms gained modest ground, out-of-state firms continued to dominate most markets. These patterns raise a central question for the next section: Did geographic diversification lead to more equitable retention of capital, or did financial centers continue to siphon excess funds from the periphery?

5 Excess Cash Net Transfers Across States

While the preceding section documented the geographic expansion and structural rebalancing of the insurance industry, this section turns to the core economic question that animated many contemporary reformers and critics: where did the money go? In particular, I ask whether the expansion of local firms and broader market reach translated into more capital remaining in the regions where it was collected. To address this, I develop a new measure of inter-state capital transfers, based on "excess cash"—defined as premiums collected minus losses paid in each state-year—and estimate the extent to which that cash was retained by in-state versus out-of-state firms.

I begin by looking at national-level trends. Figure X presents inter-state cash transfers in the life insurance industry, measured as "excess cash" (premiums collected minus losses paid) by firms inside and outside their state of incorporation. The dashed black line shows total industry excess cash over time, while the solid black line captures the portion of that cash generated by firms operating outside their home state. The red dashed line plots the share of total excess cash that was generated through out-of-state business. To help illustrate the concept, consider a two-region (state) world with two companies, each incorporated in a either region. If both companies only conduct business in their states of incorporation, the dashed black line would denote the aggregate excess cash generated by the industry, and the solid black (outside domicile) and red lines (share of outside) would be zero. On the other extreme, if both write minimal insurance in their region of incorporation and conduct most of their business outside of it, the dashed black line would hover around zero, the solid black line would approximate the total aggregate excess cash in the industry, and the dashed red-line would be converging towards infinity. To be clear, this measure of excess cash does not include investment returns nor operational costs, and should be interpreted as a rough proxy for life insurance excess surplus available for reinvestment over this time period.

Figure X: Aggregate excess cash



While both total and out-of-state cash volumes increased from the 1880s through the 1930s, the red line declines between 1905 and 1915 and remains there until 1935 before rising back to its 1906 level by 1940. This indicates that a smaller share of insurers' retained earnings came from out-of-state operations after the turn of the century. This trend offers a quantitative lens on the political and regulatory shifts described in Section 2.3. In response to populist backlash against Eastern firms extracting wealth from the South and West, many states enacted laws to encourage local firm formation and require in-state reinvestment. The falling red line suggests that these policies had some success: capital remained more often where it was collected, and the grip of dominant Northeastern insurers on peripheral markets loosened slightly. Yet the fact that out-of-state business still made up a large and growing volume of excess cash by 1940 underscores the limits of these reforms. The figure thus reveals a dual dynamic—one of growing absolute interregional flows, but also of relative decentralization—as the U.S. insurance industry evolved from a hub-and-spoke system centered on New York to a more geographically distributed network of financial intermediation.

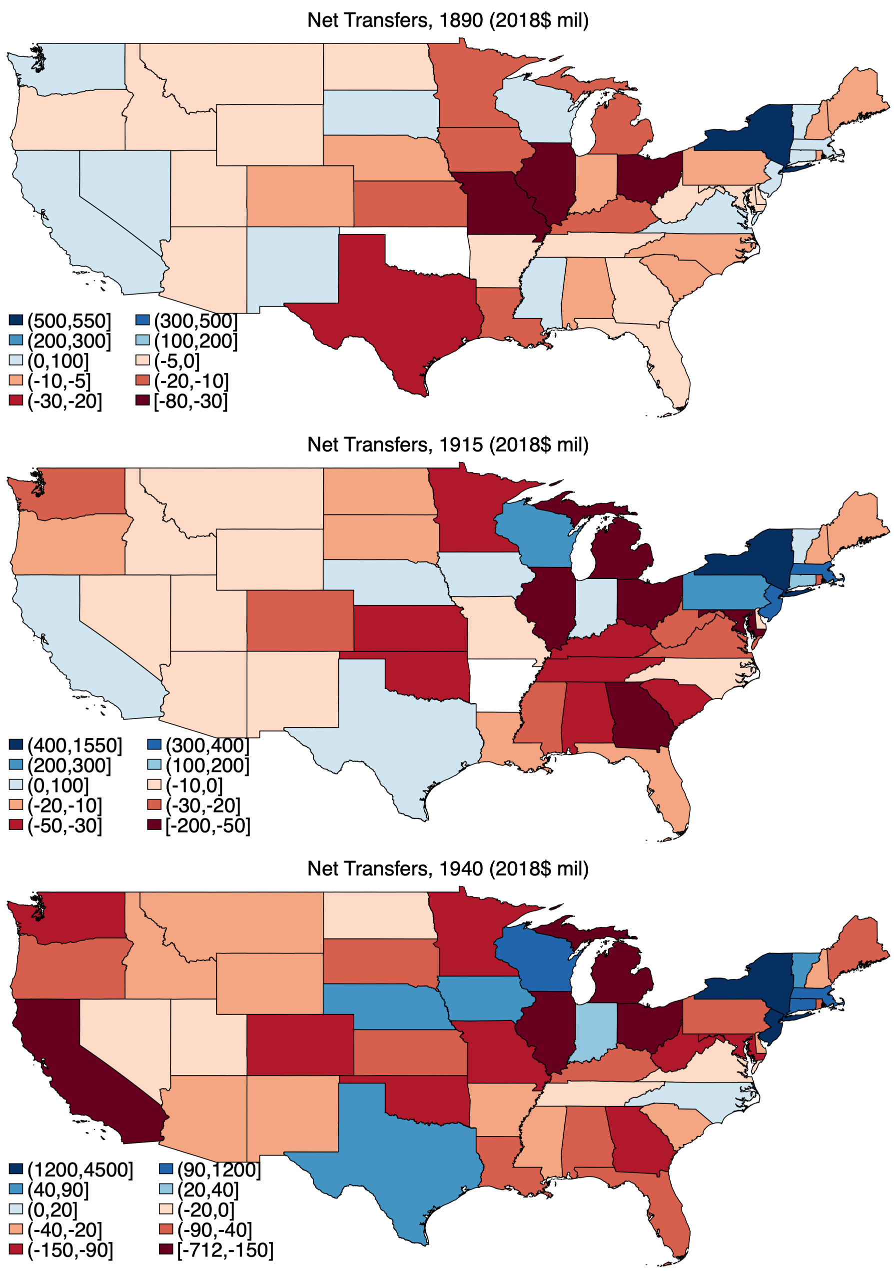
Which states experienced excess cash losses and which ones gained? In order to approximate net excess cash transfers across space, I make a more realistic assumption that 50 percent of excess cash of firms operating outside their state of incorporation is set aside to pay costs and make investments in those states. That is, firms do not transfer the full excess cash from one state into their state of incorporation, and, likewise, not all of the excess cash generated by out-of-state firms is transferred outside the state. From each state's perspective, then, the net excess cash is all the excess cash generated by in-state firms within its borders, plus 50 percent of the excess cash generated by its firm in other states, but minus 50 percent of excess cash generated within its borders by out-of-state firms:

$$\begin{aligned} transfer_{jt} = \sum_{\forall i \in j} ExcessCash_{it} \times I(instate = 1) + 0.5 \times \sum_{\forall i \notin j} ExcessCash_{it} \times I(instate = 1) \\ - 0.5 \times \sum_{\forall i \in j} ExcessCash_{it} \times I(instate = 0) \end{aligned} \tag{5.1}$$

where $i \in j$ denotes all firms i that operate in state j at time t, $i \notin j$ denotes firms that operate outside of state j, and *instate* is a binary that takes the value of 1 if firm i is domiciled in state j. Figures XI and XII provide spatially disaggregated view of $transfer_{jt}$ for all contiguous states j at t = 1890 (initial period), 1915 (the peak on in-state share), and

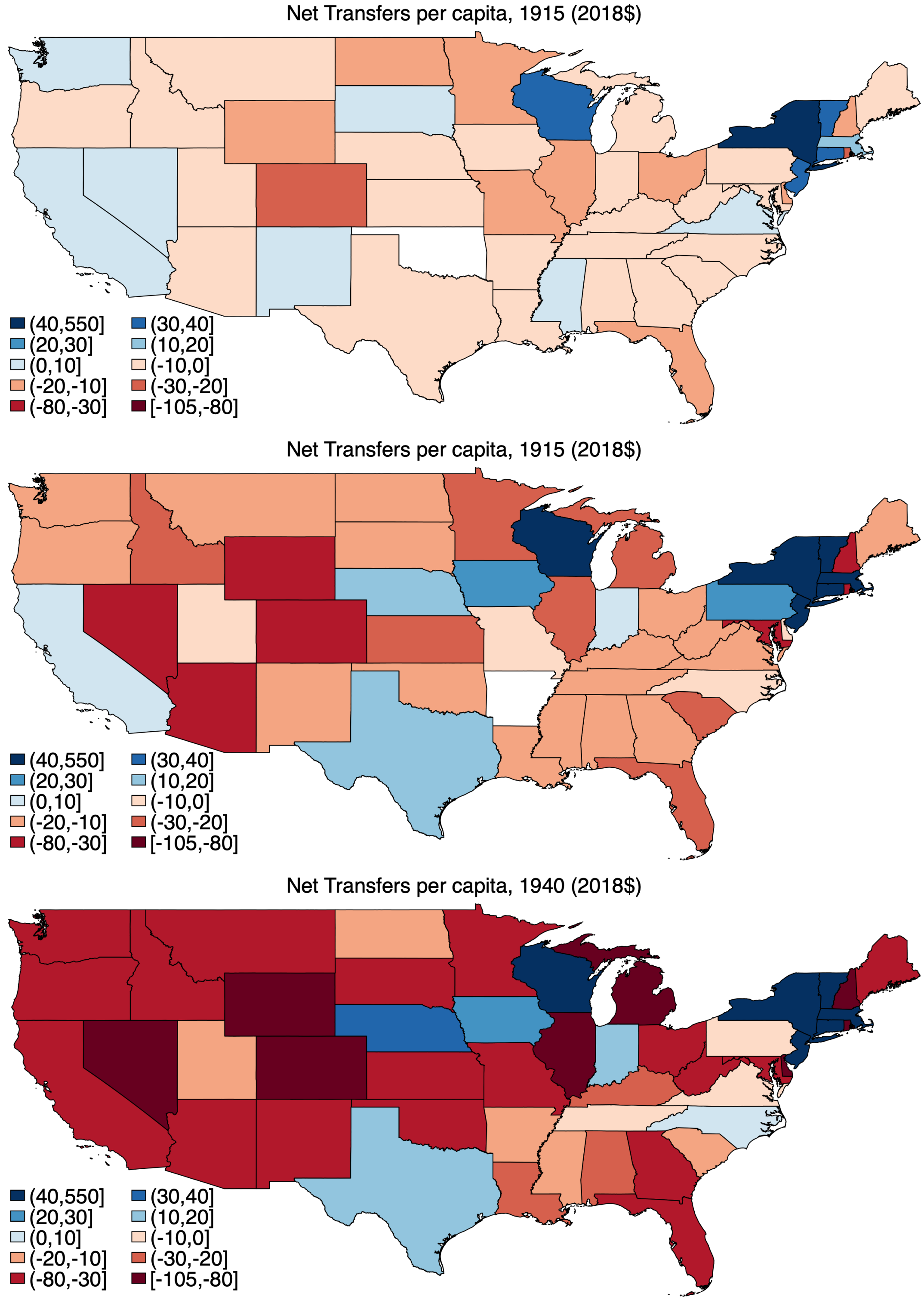
1940 (end of period) and show which states functioned as net contributors to, or recipients of, the net excess insurance cash.

Figure XI: State-level net excess cash transfers



Unsurprisingly, New York was by far the largest net-importer of capital in all three years, amassing \$500 billion, \$1.5 billion, and \$4.5 billion respectively. Connecticut, New Jersey, and Wisconsin were also large net recipients of excess cash, while many Southern and Midwestern states—such as Texas, Illinois, Missouri, and Ohio—were substantial net exporters. Most western states (with the exception of Colorado and Wyoming) in 1890, on the other hand, were neither large importers or exporters of excess cash, on total or per-capita basis. This pattern reflects the highly centralized structure of the insurance industry in its early phase, dominated by large Northeastern firms (and one especially large firm in Wisconsin, Northwestern Mutual) collecting the majority of premiums nationwide with little competition from locally-based firms. Governor Culberson's complaint about Texas exporting savings in the 1890s appears validated (Zartman (1906)). By 1915, although the core-periphery divide persisted, a handful of states, such as Texas, Iowa, Indiana, and Pennsylvania, reversed their capital outflows and became modest net gainers, indicating a shift in the geography of insurance capital partly away from New England. However, by 1940, the spatial concentration in the Northeast re-appeared, with every western state becoming a net exporter of surplus cash. Texas, Nebraska, Iowa, and Indiana retained their place as the only capital importers outside of the Northeast during the interwar period.

Figure XII: State-level net excess cash transfers per capita



Taken together, Figures X through XII reveal a dual narrative. On one hand, geographic diversification and institutional reform succeeded in increasing the local retention of capital. On the other, the persistence of large net transfers to a small number of financial centers underscores the enduring asymmetries in the geography of financial intermediation. In this sense, the legacy of the "money trust"—as decried by early 20th-century reformers—remained embedded in the structure of the U.S. insurance market well into the interwar period.

6 Concluding remarks

This paper documents the geographic expansion, regulatory transformation, and capital redistribution dynamics of the U.S. life insurance industry between 1883 and 1940. Using newly digitized firm-level data, I show that while the number of firms and the breadth of market participation grew markedly over this period, most states remained reliant on out-of-state insurers, and financial centers like New York retained a disproportionate share of premium surpluses. State-level reforms and the emergence of local insurers did shift some capital retention toward the periphery, suggesting partial success in counteracting historical imbalances.

At the same time, the study—at its current stage—does not account for where excess cash was ultimately reinvested. While I track where capital was collected, the destination of insurer investments remains a crucial element. Future work will link these flows to asset-level investment data to assess whether interregional transfers translated into localized economic development or simply reinforced existing patterns of capital concentration. This next step will further clarify the role of insurance firms as financial intermediaries—and potential agents of spatial inequality—in the evolution of the American economy.

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