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The Origins of a Capital Market Union in the United States

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April 2018

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Abstract

EU policy-makers have focused on the creation of a “Capital Market Union” to advance the economic vitality of the EU in the aftermath of the Global Financial Crisis of 2007-09 and the Eurozone crisis of 2011-13. The hope is that EU-wide capital markets will help remedy the limitations in the EU’s pattern of bank-centered finance, which, despite the launch of the Banking Union, remains tied to Member States. Capital market development will provide alternative channels for finance, which will facilitate greater resiliency, more economic integration within the EU, and more choices for savers and firms. This chapter uses the origins of the US capital market union to explore how law can advance the creation of a CMU. The chapter shows the importance of expanding the focal lens beyond investor protection to reveal the full array of ways that the legal choices of repression, substitution, and facilitation shape the private funding of economic activity. Central to the US story was a mismatch between growing enterprises and a stunted banking system. Political choices led to a banking system populated primarily by small local banks that were ill suited to provide financing in the amounts, or with the risk, needed to fund the railroads and the follow-on industrial film expansion. The bond market stepped in, creating national and international channels for debt and then equity finance. Depression-era legal enactments strengthened these markets, through a strong disclosure regime, a powerful market regulator and enforcer (the SEC), and, through the separation of commercial and investment banking (“Glass-Steagall”), the creation of a set of private actors, investment banks, with strong incentives to develop ever more robust capital markets. These developments also helped deter states from interfering excessively in the issuance of debt or equity securities, a core challenge for any capital market union. In arguing for a richer understanding of “financial structure law,” the chapter makes some EU-specific suggestions. These focus on facilitating the growth of EU-wide asset managers, which can engage in credit intermediation similar to banks but with lower systemic risk. In marshalling individuals’ retirement savings, the asset managers can provide a funding supply side to CMU.

Keywords: Capital Market Union, banking fragmentation, Glass-Steagall, Blue Sky Laws, railroad bonds

JEL Classifications: G21, G23, G28, N21, N22

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The Origins of a Capital Market Union in the United States

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forthcoming in CAPITAL MARKET UNION AND BEYOND (Franklin Allen et al., eds. (MIT 2018).[3]

ABSTRACT

EU policy-makers have focused on the creation of a "Capital Market Union" to advance the economic vitality of the EU in the aftermath of the Global Financial Crisis of 2007-09 and the Eurozone crisis of 2011-13. The hope is that EU-wide capital markets will help remedy the limitations in the EU's pattern of bank-centered finance, which, despite the launch of the Banking Union, remains tied to Member States. Capital market development will provide alternative channels for finance, which will facilitate greater resiliency, more economic integration within the EU, and more choices for savers and firms. This chapter uses the origins of the US capital market union to explore how law can advance the creation of a CMU. The chapter shows the importance of expanding the focal lens beyond investor protection to reveal the full array of ways that the legal choices of repression, substitution, and facilitation shape the private funding of economic activity.

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The Origins of a Capital Market Union in the United States

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> The free flow of capital was one of the fundamental principles on which the EU was built. Despite the progress that has been made over the past 50 years, Europe's capital markets are still relatively underdeveloped and fragmented.
>
> EU Commission, 2015 CMU Action Plan

Creation of an EU-wide "Capital Market Union" is one of the institutional efforts to advance the economic vitality of the EU in the aftermath of the Global Financial Crisis of 2007-09 and the Eurozone crisis of 2011-13. The ambition of CMU is to produce greater growth, greater economic integration across the EU, and greater resiliency within the EU to local economic shocks. The hope is that EU-wide capital markets will help remedy the limitations in the EU's pattern of bank-centered finance. Robust capital markets can enhance resilience by allowing funding to flow around rather than through damaged bank balance sheets after a financial shock. This is critical because, despite the launch of the EU's Banking Union project, banks remain tied to specific Member States and thus to local central banks and national governments. A more integrated capital market should also enhance efficiency, providing savers a wider array of investment opportunities and offering firms greater access to financing. Given the present Member State-focus of EU banking, cross-border funding will flow more smoothly through securities market issuances than bank debt financings.

The CMU project has unleashed a large regulatory undertaking steered by the Directorate-General for Financial Stability, Financial Services, and Capital Markets Union ("DG FISMA") with the goal of having the regulatory pieces in place by 2019. The nature of this undertaking requires asking whether and how law can bring about the desired end of a more robust and integrated capital market. In the course of writing this chapter, we have come to believe that the "law and finance" literature, with its focus on "investor protection," offers too narrow a frame to understand the interaction between law and the development of a financial system. Rather, we need a broader understanding of "financial structure law" – the way that the legal choices of repression, substitution, and facilitation shape the environment for the private funding of economic activity. Investor protection is surely among the key ingredients for a thriving CMU but much more is required, an architecture for a particular sort of financial system.[2]

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[1] Special thanks to Andres Rovira for excellent help with difficult data problems.
[2] This is similar to the implicit claim in Mark Roe's work that equity ownership diffusion (and thus managerial empowerment) in the US followed from politically-inspired repression of financial

Law should have great potency in this undertaking. A financial system is a product of rules; it is not a "natural" system. As the rules change, the financial system will inevitably restructure itself. On the other hand, the relationship among law, financial system design, and financial development is complex and iterative. Law's greatest impact is often indirect and context dependent; its repressions can be more important than its explicit permissions. Law matters, but not necessarily in the ways lawmakers intend.

Forming a "Capital Market Union" is a project of transnational institution-making and transnational behavioral change. The only way to understand the myriad mechanisms through which law can help achieve (and try not to hinder) these ambitions is to dig into the details. For an American observer, there is no better place to start than the world's largest and most successful "Capital Market Union," the capital market of the US. Despite the initial allocation of power among the several states of the United States, which included jurisdiction over the state's banks and the state's securities markets, the US ended up with a national system of finance, a Capital Market Union from sea-to-shining-sea.

Central to the story is the mismatch between the growing demand for capital from increasingly large and risky enterprises in the late 19th and early 20th centuries and banks' limited capacity to provide this funding. Rules separating banking from commerce, prohibitions on bank branching, and the absence of a central bank resulted in a stunted US banking system that lacked capacity to fund large-scale enterprise.[3] The consequence was first, the growth of bond markets that could access both national and international capital markets, and then second, the growth of equity markets. The role of law here was largely repressive, facilitating the growth of capital markets by limiting bank capacity.

But the law also came to play an important role in facilitating the ongoing growth and vibrancy of these markets. Market-based credit intermediation and public equity markets in the United States were buttressed by the Depression-era securities laws, which greatly strengthened the disclosure regime for the public issuance of debt and equity securities. Robust disclosure reduced the banks' advantage in credit assessment and monitoring; and, it added depth and liquidity to equity markets. The federal securities laws also established a single federal securities regulator, the Securities Exchange Commission, which side-lined potentially inconsistent state regulatory regimes not so much through straightforward pre-emption but through a broad mandate to facilitate a national system and a large budget.

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intermediaries rather than from the status of investor protection. See Mark Roe, STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE (1994).

[3] The claim here is that the demand for capital exceeded banks' lending capacities. This does not deny that banks also contributed to industrialization and enterprise growth in the United States during this time, nor does it ignore the role banks played in facilitating debt financing prior to the Glass-Steagall Act. For further insight into the role of banks, see Eric Hilt, Banks, Insider Connections, and Industrialization in New England: Evidence from the Panic of 1873 (working paper, 2018); Howard Bodenhorn, A HISTORY OF BANKING IN ANTEBELLUM AMERICA: FINANCIAL MARKETS AND ECONOMIC DEVELOPMENT IN AN ERA OF NATION-BUILDING (2000); Vincent P. Carosso, THE MORGANS: PRIVATE INTERNATIONAL BANKERS, 1854–1913 (1987); Naomi R. Lamoreaux, Banks, Kinship, and Economic Development: The New England Case, 46 (3) Journal of Economic History 647 (1986).

Subsequent legal changes further diminished the advantages that banks often enjoy. The Trust Indenture Act of 1940 (along with the 1939 Chandler Bankruptcy Act) further reduced the need for bank monitoring by protecting bondholders from expropriation by insiders in debt restructurings. The 1940 Investment Company Act provided a regulatory license for the mutual fund industry, which eventually made large sums available to buy all grades and maturities of debt issuances, in addition to equities. A new vehicle, the open-ended mutual fund, meant that retail investors could acquire a share of diversified credit portfolios while retaining liquidity, reducing yet another advantage of bank-based finance.

Legal developments outside the financial sector also played an important role in the rise of the US CMU. State mandates to pre-fund pension promises of state and local governments and a national similar requirement for private employers (through adoption of the Employee Retirement Security Act of 1974 ("ERISA")) produced vast sums to fund credit issuances outside of the banking system. The size and sophistication of these pension fund investors also helped make equity capital a viable source of financing for start-ups and resource-constrained mid-stream firms.

As even this brief account illustrates, the history of the US CMU is a mixed story for the capacity of lawmakers to create a CMU. The good news is that law matters. The creation of an expert regulatory body with the power to enforce the law, help it to evolve, and suppress state-based efforts that might threaten the union, for example, is core. The less-good news is that motivated private actors are also critical. In the United States, the law helped promote the growth of powerful investment banks and institutional investors, but these legal interventions had real costs and were often motivated by distinctly American political concerns.[4]

This chapter addresses three critical elements of the origins of Capital Market Union in the US. Part I provides the requisite background, using history and some figures to develop a stylized account of the difference between capital markets in the US vs. the EU. Part II sketches the historical basis for the fragmentation of the US banking system and the absence of a central bank. Part III shows how the advent of the railroads and the greater concentration among US industrial firms created credit demand that the fragmented banking system could not provide, especially in the absence of a central bank that could serve as a lender of last resort ("LOLR").

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[4] A number of scholars have explored the ways that the limits imposed on banks for much of American history continue to shape today's financial and business landscape. Mark Roe, as noted above, shows how such constraints meant that financial intermediaries could not become powerful corporate stakeholders, thus clearing the path to dispersed owners and powerful managers. Mark Roe, STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE (1994). Our colleague Charles Calomiris (with co-authors in several papers) has described how banking fragmentation limited US banks' financing capacity and the synergies that would derive from an alternative universal banking model. Charles Calomiris & Carlos Ramirez, The Financing of the American Corporation, 1800-1990, in THE AMERICAN CORPORATION TODAY, at 126 (Carl Kaysen, ed., 1996); Charles Calomiris, The Costs of Rejecting Universal Banking: American Finance in the German Mirror, 1870-1914, in THE COORDINATION OF ECONOMIC ACTIVITY WITHIN AND BETWEEN FIRMS at 257 (Naomi Lamoreaux & Daniel Raff, eds., 1995); Charles Calomiris & Daniel Raff, The Evolution of Market Structure, Information, and Spreads in American Investment Banking, in ANGLO-AMERICAN FINANCE: FINANCIAL MARKETS AND INSTITUTIONS IN 20TH-CENTURY NORTH AMERICA AND THE U.K., at 103 (Richard Sylla & Michael Bordo, eds.,1995). Our account builds on these and others to show how repression of the banking system was an important factor in the growth of capital market alternatives.

This led to national securities markets, first for bonds and then, as firms merge using stock as consideration, for equities. Part IV discusses the importance of the Glass-Steagall Act in the rise of the US CMU. By separating investment banking and commercial banking, Glass-Steagall created a set of financial firms that had strong incentives to develop securities market-based alternative to bank-based finance. Part IV also discusses how the creation of the SEC and the implementation of far-reaching federal securities laws forestalled and pre-empted state-based securities regulation, which could have resulted in a less unified regime.

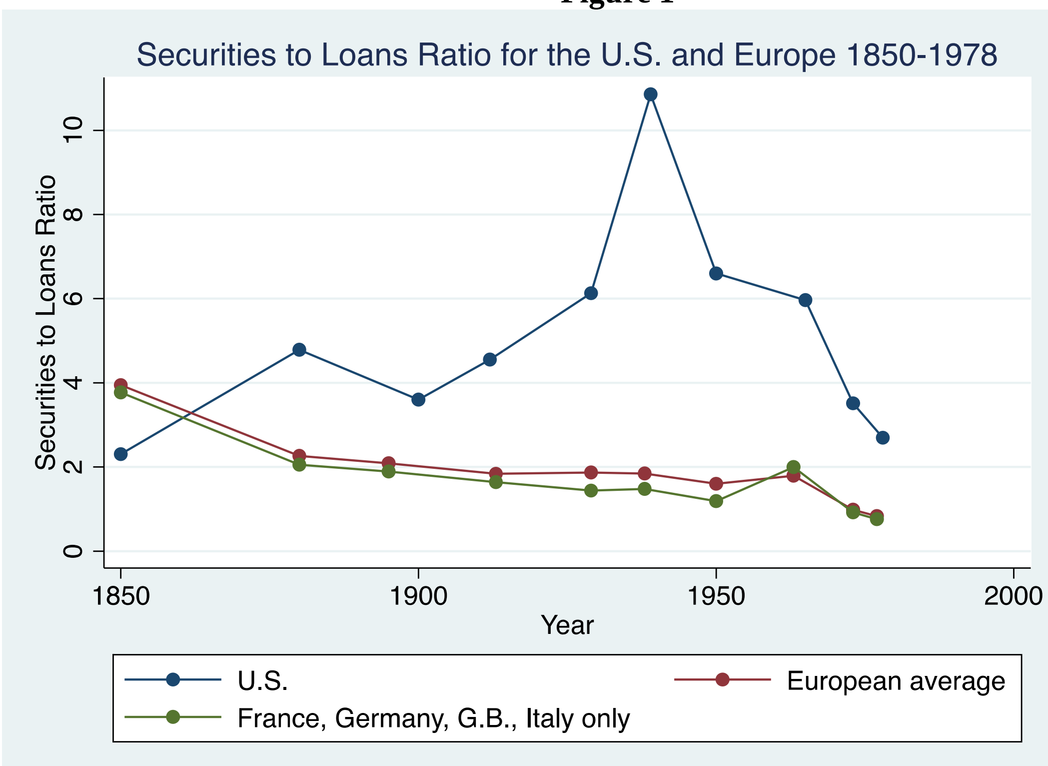
Part V reflects on current EU efforts to create a Capital Market Union in light of the US experience. One challenge for the EU is to find an appropriate pattern of federal regulation over the EU's capital market that will facilitate EU-wide issuance of debt and equity securities. A main source of resistance will be "regulatory embeddedness" among the Member States and the notable forces of path-dependency, both the short-term efficiency-based as well as the protectionist rent-based. The US experience suggests this can and must be overcome. An important opportunity for the EU's efforts to create a meaningful CMU is to foster the development of asset managers (which include for these purposes the insurers and the pension funds), the funding supply side for CMU. Asset managers can screen potential borrowers and assemble diversified portfolios of credit claims without the help of banks. Moreover, because they engage in far less liquidity transformation, they are less fragile than banks and could function as a "spare tire," helping to provide financing to the real economy when the banking system breaks down.[5] The chapter concludes with specific guidance for ways to promote the growth of EU asset managers.

[5] Alan Greenspan popularized the notion that robust capital markets can function like a "spare tire" when a banking system goes into crisis. Alan Greenspan, Do Efficient Financial Markets Mitigate Financial Crises? Before the Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia (1999). For evidence regarding the recent crisis, see Ross Levine, Chen Lin & Wensi Xie, Spare tire? Stock markets, banking crises, and economic recoveries, 120 Journal of Financial Economics 81 (2016).

Part I: Some Introductory Evidence on US v. EU differences

The fact of significant differences between capital markets in the US and the EU is not news, but a graphical display of some of the differences, over time, is nevertheless revealing. Figure 1, drawn from the Goldsmith data over the 1850-1978 period, charts the "securities to loan ratio" for the US vs. Europe. (The US line is the top line throughout most of the period.) This ratio divides the sum of private debt securities and equity by bank loans. The ratio is narrowing by the end of the period but still significant.

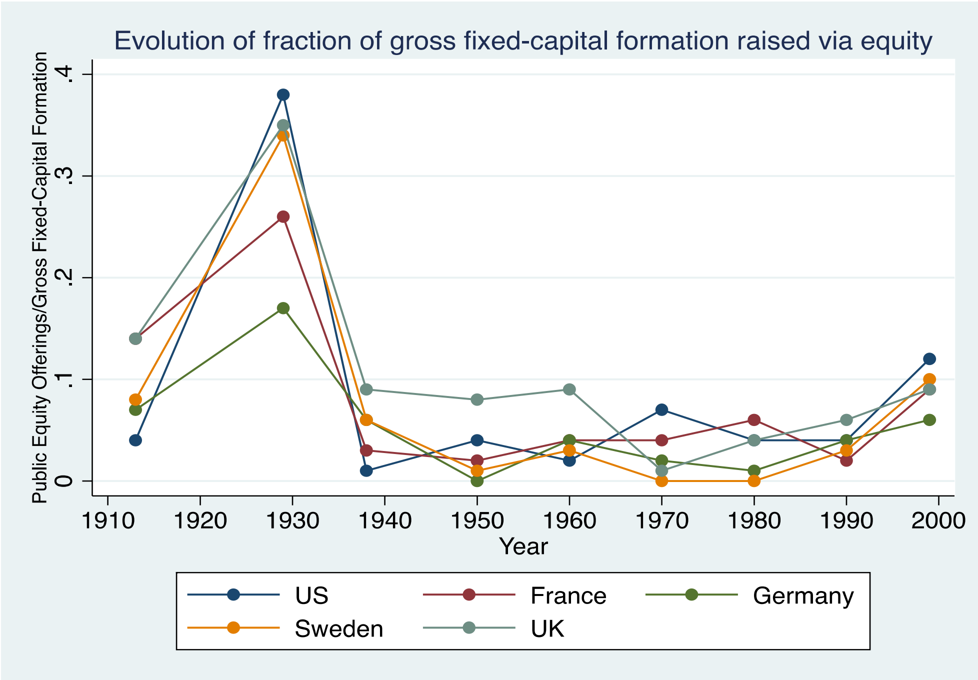
Figure 1



Source: Raymond Goldsmith, COMPARATIVE NATIONAL BALANCE SHEETS: A STUDY OF TWENTY COUNTRIES, 1688-1978.

Three comparative measures nicely capture the differences between the US and the EU and how each evolved over time. The first is a comparative measure of equity-funding in capital formation. Here the US and the EU are relatively similar, over a period that goes up to 2000. Indeed, the equity to GNP ratio for the US and European countries is very similar.

Figure 2



The "fraction of gross fixed-capital formation raised via equity" is the amount of fund raised through initial public offerings and seasoned equity issuances by domestic corporations divided by gross fixed-capital formation (a loose proxy for the total investments of domestic corporations).

Source: Raghuram Rajan and Luigi Zingales, THE GREAT REVERSALS: THE POLITICS OF FINANCIAL DEVELOPMENT IN THE TWENTIETH CENTURY (2003).

The differences show up in the fraction of debt that is financed through bank loans vs. securities markets. The figures below, drawn from the Goldsmith data (which seems to be the most current for comparable data) chart comparatively US vs. EU, bank loans to GNP and debt securities to GNP, over the 1850-1978 period. A gap opens up beginning before the turn of the century. Bank loans to GNP increase at a much lower rate in the US than in the EU. [Figure 3]. By contrast, debt securities to GNP escalates in the US [Figure 4] in part because of the explosion of debt securities issuance in the US to finance the railroads and enterprises that are reaching for national scale, as described below.

Figure 3

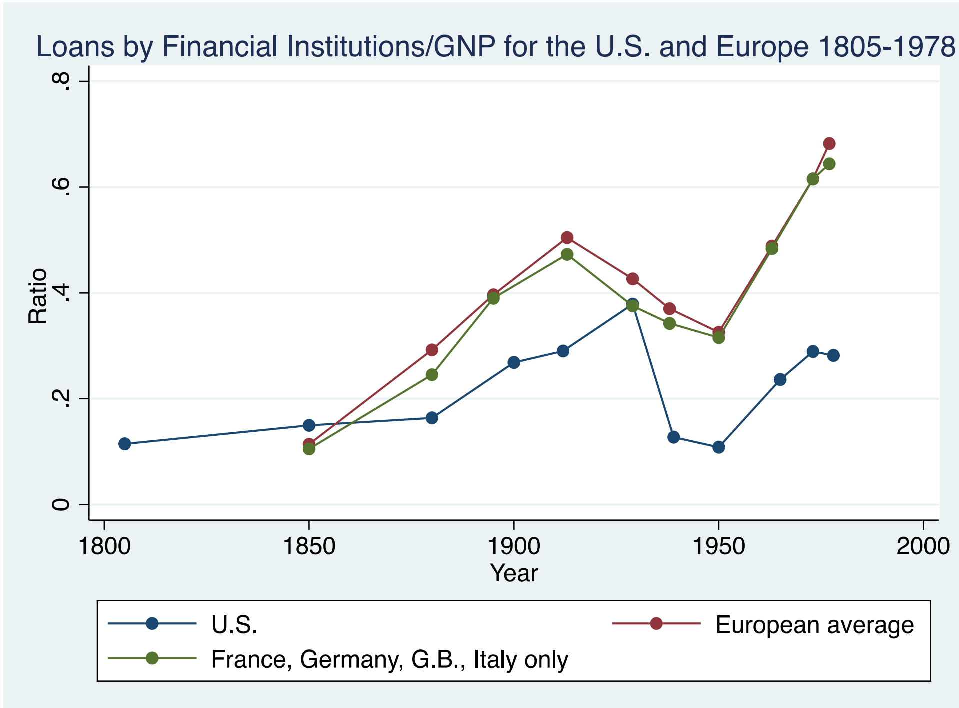
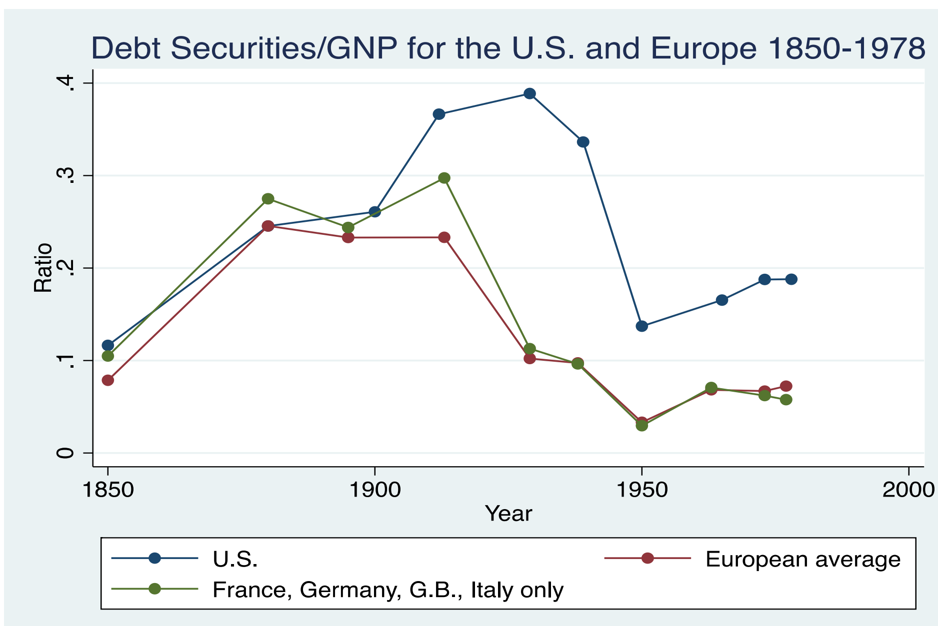


Figure 4



Source for Figs. 3 and 4: Raymond Goldsmith, COMPARATIVE NATIONAL BALANCE SHEETS: A STUDY OF TWENTY COUNTRIES, 1688-1978.

Part II: The Fragmented US Banking System

The banking history of the United States is distinctive and so the story should begin there. From the Founding, the US has been locked in a battle over the appropriate structure of its banking system, a debate on two distinct axes of state vs. federal power and concentrated vs. small banking institutions.[6] The US also followed the UK model of seeking to separate banking from commerce. Although this barrier has always been imperfect, even its permeable form prevented banks from exercising the kind of control rights commonly enjoyed by their European counterparts.

The first Secretary of the Treasury, Alexander Hamilton, successfully promoted a Bank of the United States (explicitly modeled on the Bank of England), a private bank with public functions. In light of concerns about Congress' constitutional authority to charter such a bank and disagreement over the centralization of banking activities, the Bank was chartered for a limited term, 20 years (1791-1811). Although the Bank successfully fostered economic development and monetary stability, the rechartering legislation failed, in part because of the opposition of state-chartered bankers seeking to eliminate a federal competitor.[7]

A general banking panic in the midst of the War of 1812 with the British (in which Washington, DC was burned) led to a push for the chartering of the Second Bank of the US, for a twenty year term, 1816-1836. As the twenty year term approached its end, leading the opposition was President Andrew Jackson, who vetoed rechartering legislation. His veto message sounded populist themes that typify the concerns that have long shaped and impeded the development of the US financial system: the Bank was a monopoly that exploited ordinary citizens in favor of its shareholders, who were either foreigners or the rich; such a Bank was beyond Congress' constitutional powers and was inconsistent with the protection of states' rights; the financial distress that might come with its unwinding was not a reason for its perpetuation. The core of his populist message was: "Many of our rich men have not been content with equal protection and equal benefits, but have besought us to make them richer by act of Congress." The end of the Second Bank of the US ushered in what is known as the "Free Banking Era," in which entrepreneurs were generally free to charter banks under state law, the period 1836-1863.

A distinctive feature of the US story is the role of the states. At times over the 1789-1863 period, states limited the chartering of banks to protect local market power, either because the state was a major stockholder in a bank or because of rent-seeking by local elites. Later in this period, the free-banking era, states insisted that banknote issuances required the backing of state bonds; i.e., that as a condition for operation, the banks had to help finance the state's public debt. Although a particular bank's notes might circulate throughout the country (subject to a discount based on an assessment of redeemability), the US Supreme Court sustained state efforts to limit the activities of out-of-state banks if explicitly prescribed in state legislation.

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[6] For a useful short history from which this account is drawn see Richard Scott Carnell, Jonathan R. Macey & Geoffrey P. Miller, THE LAW OF FINANCIAL INSTITUTIONS (2013), ch. 1; Charles W. Calomiris & Stephen H. Haber, FRAGILE BY DESIGN, ch. 6 ("Crippled by Populism: U.S. Banking from Colonial Times to 1990). See also the sources cited in note 4 *supra*.

[7] The competition was not just in commercial lending but in the issuance of bank notes, which functioned as currency. The state-chartered banks wanted more of the seigniorage.

The most important part of the US story is "unit banking," meaning a bank that could operate out of only one location. Even in states that permitted banks to open additional branches, branching was limited and under-developed. This unit banking/limited branching structure arose from state level decision-making, but it persisted even after the National Bank Act of 1863, which permitted the chartering of national banks. National banks were made subject to the restrictions on branching in the state in which they were chartered. The political economy focused on the interests of local elites in protecting rents from their banks and the general populist sentiment against the concentration of bank power.

The consequence was a highly fragmented and decentralized banking system.[8] Although some liberalization of state and federal branching rule occurred in the 1970s and 1980s, it wasn't until the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 that the barriers to interstate branching were comprehensively eliminated.[9] This triggered rapid consolidation in US banking. The relatively high concentration of US banking assets among the "G-SIBs" as of the time of the financial crisis of 2007-09 is thus a quite late addition to US financial development.

The original fragmentation of the US banking system and the dramatic rise in concentration following Riegle-Neal are illustrated by three figures showing the degree of concentration in the largest firms.[10] The progression goes from highly concentrated in the immediate post-independence period (when there were a handful of banks) to negligible concentration throughout the 19th century into the 20th century as the number of banks proliferates.[11] Then, relaxation of the interstate branch-banking constraints leads to successive bank merger waves and much higher concentration, rapidly accelerating in the 2000s. Crisis-era

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[8] For more on this history, see Charles W. Calomiris & Stephen H. Haber, FRAGILE BY DESIGN: THE POLITICAL ORIGINS OF BANKING CRISES AND SCARCE CREDIT, ch. 6 (2014).

[9] Among the drivers for interstate banking was the advent of the ATM, which opened the way to nationwide deposit gathering, and the banking crises of the 1980s, which underscored the fragility of undiversified unit banks.

[10] A "5-firm concentration ratio" is the ratio of the assets/deposits of the 5 largest banks relative to total assets/deposits in the system. The figure on the historical ratio is found in Caroline Fohlin & Matthew Jaremski, Bank Concentration in the United States, 1800-1914 (Dec. 2015) (fig. 1). The figure showing the modern ratio was generated by the FRED system of the Federal Reserve Bank of St. Louis based on the World Bank's GFD data.

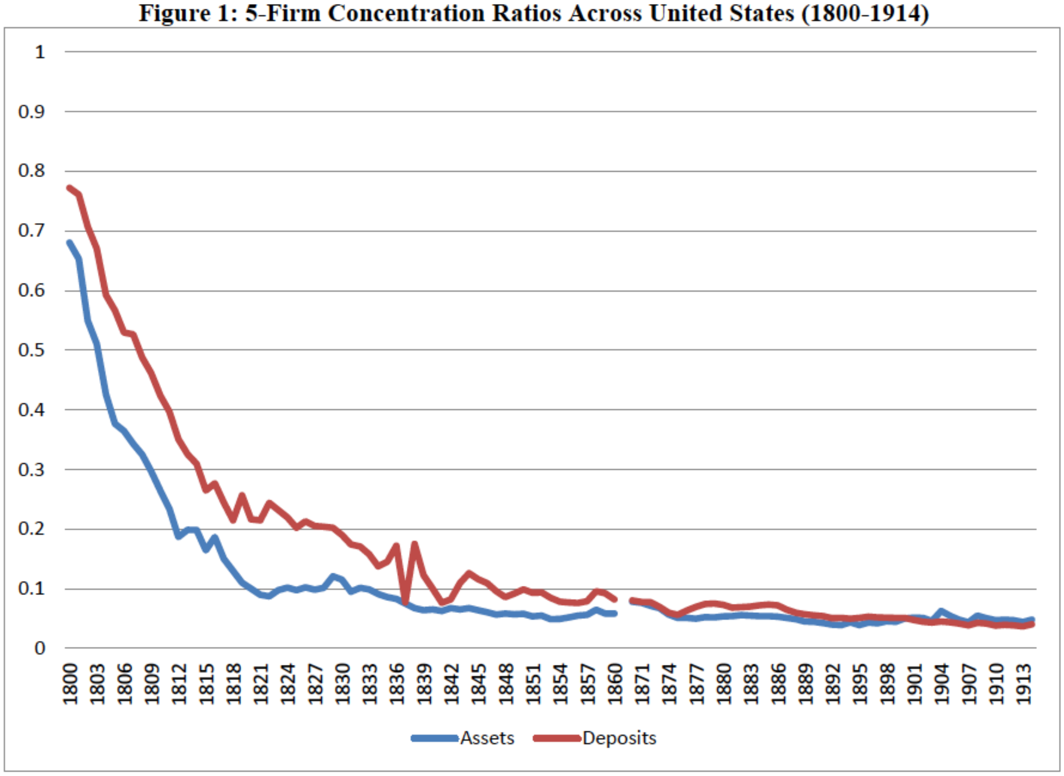
[11] This table, from Carnell et al, p. 13, shows the steady increase in the number of banks, which produces the low concentration ratios. The number of banks peaked at more than 30,000, shortly before the Depression, which over a five year period of closing and consolidation halved the number of banks. US Department of Commerce, Historical Statistics of the United States, Colonial Times to 1970, Washington D.C.

Year	Number of Banks
1865	1643
1880	2696
1890	5585
1900	8100
1914	22,030

mergers accentuated this trend, and the trend has now continued as a result of organic growth following the crisis.[12]

Figure 5

Figure 1: 5-Firm Concentration Ratios Across United States (1800-1914)



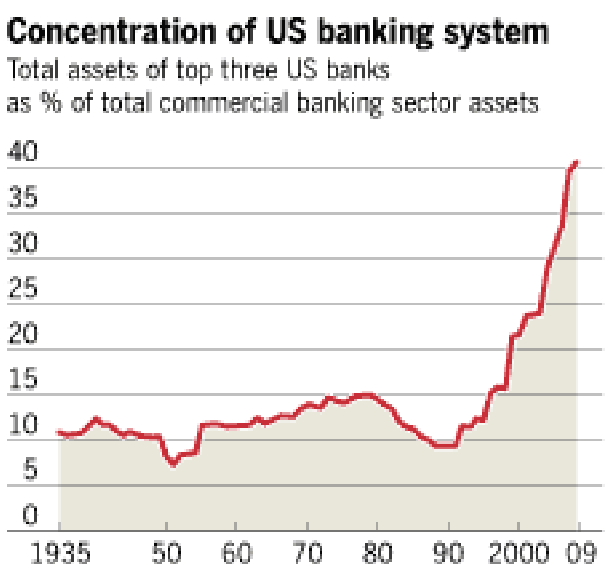
Notes: Figure displays the ratio of either assets or deposits at the largest 5 banks to the total at all other banks. See Appendix A for a description of the data sources.

[12] Rachel Louise Ensign, Biggest Three Banks Gobble Up $2.4 Trillion in New Deposits Since Crisis, Wall. St. J., March 22, 1918.

Figure 6

A "three firm" concentration ratio dating back to 1935 shows once again the recency of concentration in the US banking system and underscores the long-standing prior fragmentation.

Figure 7



https://www.ft.com/content/f2e4dbb0-4caa-11df-9977-00144feab49a

Part III: The Rise of the Railroads and Large Industrial Companies: the Financing Mismatch between Fragmented Banking and Concentrated Enterprise

The American hostility to large banks meant that until quite recently (the 1990s) individual banks were relatively small, even "Money Center" banks. Until the early 20th century, the US also lacked a central bank. Such fragmentation meant that large scale single bank loans were not feasible, which thus favored conditions for the development of market-based debt finance.[13] Debt finance for large scale enterprises would require loan syndication, formal or informal; this in turn entailed significant transaction costs. Indeed, part of the populist political economy disfavored out-of-state lending. "In the antebellum decades, a number of states actually passed laws prohibiting bank loans to persons living in other states."[14] By contrast, bond issuance could take advantage of regional, and even national and international, distribution networks to access national credit pools. Moreover, in the absence of a lender of last resort, US banks were disadvantaged as providers of long term credit because of the run risk. Credit intermediation through markets could mitigate such problems.[15]

At the same time that banks were proliferating and the banking system was fragmenting, industrial firms were concentrating. Precisely because the US was constituted as a "single market" in goods and services (fortified by the Commerce Clause in this regard), firms could grow to regional and then national scale to take advantage of scale and scope economies. This led to capital structures that "demanded" national scale to sustain.[16]

The first example was the railroads, the paradigm large industrial firms of the 19th century. Railroad development took place in successive waves beginning in the 1820s.[17] The level of investment in construction and equipment (measured in 1909 dollars) rapidly escalated

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[13] Charles Calomiris also observes the ramifications of limiting US bank capacity during this period, but his focus is on the way that the US decision not to allow universal banking increased the cost of financial intermediation across channels. Charles Calomiris, The Costs of Rejecting Universal Banking: American Finance in the German Mirror, 1870-1914, in THE COORDINATION OF ECONOMIC ACTIVITY WITHIN AND BETWEEN FIRMS, at 257 (Naomi Lamoreaux & Daniel Raff, eds., 1995).

[14] Lance E. Davis, The Investment Market, 1870-1914, 25(3) Journal of Economic History 355 (1969), at 372 (with sources).

[15] In the interest of space, this chapter does not address the distinct and important role of private placements of debt in facilitating the growth of market-based finance in the United States, particularly in the 1940s. Charles Calomiris & Daniel Raff, The Evolution of Market Structure, Information, and Spreads in American Investment Banking, in ANGLO-AMERICAN FINANCE: FINANCIAL MARKETS AND INSTITUTIONS IN 20TH-CENTURY NORTH AMERICA AND THE U.K., at 103 (Richard Sylla & Michael Bordo, eds., 1995).

[16] Lamoreaux describes the legal and other barriers to bank mergers (including the resistance of incumbent bank managers) that might have produced banks of such larger scale. Naomi R. Lamoreaux, Bank Mergers in Late Nineteenth Century New England: The Contingent Nature of Structural Change, 51(3) Journal of Economic History 537 (1991).

[17] Some of the detail in this account is drawn from the CAMBRIDGE ECONOMIC HISTORY OF THE UNITED STATES, Vol. II, (Stanley L. Engerman & Robert E. Gallman, eds., 2000), especially chapters by Albert Fishlow, Internal Transportation in the Nineteenth and Early Twentieth Century; Lance E. Davis & Robert J. Cull, International Capital Movements, Domestic Capital Markets, and American Economic Growth, 1820-1914; and Stanley L. Engerman & Kenneth L. Sokoloff, Technology and Industrialization, 1790-1914; and also Alfred D. Chandler, Jr., Patterns of American Railroad Finance, 1830-50, 28(3) Business History Review 248 (1954).

in successive decades from approximately $89 million (1828-38), to $927 million (1849-58), to $2 billion (1870-79), to $4.1 billion (1880-89), cresting at $5 billion (1900-09). Most of the finance was in bonds, and a substantial fraction, perhaps a third, came from foreign investors. Early in the period, state and local municipal bonds played an important role.

Indeed, the level of railroad finance, especially later in the period, suggests a separate, complementary theory to the growth of the US capital market union. The railroads may have been too risky to finance with bank loans. The high fixed costs and the potential for rate wars meant frequent defaults and frequent railroad reorganizations in which bondholders faced significant haircuts. The high rate of interest in light of these risks was part of the appeal to foreign investors, especially in the UK, the source of most of the foreign investment. In other words, the railroads issued the original "junk bonds."[18] No US bank at the time was large enough to diversify such risks in its loan portfolio. Especially in the absence of a lender of last resort, the presence of such risky loans on the balance sheet would unacceptably increase the run risks.

In sum, the fragmented, populist structure of the US banking system gave rise to three separate supply-limitations on railroad finance: The first was the "costly transacting" problem, in which the costs of organizing a large enough syndicate of small banks to provide and then monitor a large-scale loan would have been prohibitive. The second was the "junk debt" problem, in which the risky nature of railroad lending would have required either extreme diversification (extra-costly transacting in a fragmented system) or a substantial increase in capital to avoid a risk to bank solvency from a railroad default. The third was the "run risk" problem in the absence of a lender of last resort. The riskiness of railroad debt (reflected in frequent defaults) could easily produce panic runs against the lending banks, because in the absence of a LOLR they would be unable to borrow against the railroad debt on their balance sheets.

The inability of the banking system to support the burgeoning debt financing needs of railway expansion in the US was the imperative for the development of an alternative supply side channel in light of the intense demand for finance. Investment bankers of the time arranged for bond issuances that could funnel in financial resources from a national and international catchment area.[19] Eventually the issuance and trading of bonds became centered into a single venue, a national market "centralized and institutionalized" in New York City.[20] The use of national markets rather than local institutions to intermediate debt gave rise to a "capital market union." The demand for trading in railroad bond and equity issuances is also part of the rise of what became the dominant stock exchange, the New York Stock Exchange.[21] One would be

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[18] Snowden reports that the average annual nominal total return on railroad bonds was notably higher for the 1872-1899 period (6.87 percent) than for the 1900-1925 period (4.06 percent). Kenneth A. Snowden, Historical Returns and Security Market Development, 1872-1925, 27 Explorations in Economic History 381, 387, 389 (1990).

[19] For a thorough history of the rise of investment banks, their evolving role in shaping and maintaining the capital market channel, and theory supporting the same, see Alan D. Morrison & William J. Wilhelm Jr., INVESTMENT BANKING: INSTITUTIONS, POLITICS, AND THE LAW (2008).

[20] See Alfred Chandler, THE VISIBLE HAND: THE MANAGERIAL REVOLUTION IN AMERICAN BUSINESS 91-92 (1977).

[21] See Mary O'Sullivan, The Expansion of the U.S. Stock Market, 1885-1930: Historical Facts and Theoretical Foundations, 8(3) Enterprise & Society 489 (2007) ("122 out of the 151 stocks traded on the

remiss to discuss any of these developments without acknowledging the role played by a key financial system entrepreneur, J.P. Morgan, who facilitated the placement of railroad debt, brought about railroad consolidation to reduce the riskiness of that debt, repeated these patterns in other industries, and aided the design changes that enhanced the credibility of securities traded on the NYSE.[22]

The railroads dramatically reduced transportation costs, which in turn transformed the scale economies of production and distribution. This promoted the creation of regional and then national industrial companies, often achieved by roll-ups of smaller firms through holding company transactions and later mergers in which stock was the consideration.[23] The "demand side" for capital market union in the US came from the transformation of the US economy from one characterized chiefly by local manufacturers producing for local markets to one of national manufacturers producing for a national market. The canonical account is provided by Alfred D. Chandler: After the Civil War, "new methods of transportation and communication, by permitting a large and steady flow of raw materials into and finished products out of a factory, made possible unprecedented levels of production. The realization of this potential required, however, the invention of new machinery and processes." These forces led in turn to sharp increases in optimal plant size because they gave large plants substantial cost advantages over smaller ones and to larger enterprises both to pursue the emerging technologies and also as a result of the accompanying industrial consolidation.

These developments produced a demand for debt markets that could reliably supply large scale long-term debt finance. Indeed the mismatch between firm size and US bank fragmentation may have been a persistent feature contributing to a US bond market consistently larger than Europe's and a bank lending market consistently smaller, measuring both as a fraction of GNP, per Figures 3 and 4 above. These developments also produced the demand for equity markets that could provide an avenue for fund-raising, through preferred stock issuance as well as common, but also, importantly, to provide liquidity for the shareholders who had received stock in the industry-consolidating roll-ups.[24]

NYSE in 1885 were railroad stocks"). O'Sullivan and Richard Sylla, Schumpeter Redux, 44 Journal of Economic Literature 401 (2006) have shown that the US equity markets in the early 20th century were at least as large as European comparators, contrary to Raghuram C. Rajan & Luigi Zingales, SAVING CAPITALISM FROM THE CAPITALISTS (2003) and The Great Reversals: The Politics of Financial Development in the Twentieth Century, 69 Journal of Financial Economics 5 (2003). The distinctive element for the United States was the way that banking fragmentation led to a national market in debt securities.

[22] Vincent P. Carosso, THE MORGANS: PRIVATE INTERNATIONAL BANKERS, 1854–1913 (1987); Carlos D. Ramirez, Did J. P. Morgan's Men Add Liquidity? Corporate Investment, Cash Flow, and Financial Structure at the Turn of the Twentieth Century 50(2) Journal of Finance 661 (1995); Thomas K. McCraw, Thinking About Competition, 17 Business and Economic History 9 (1988).

[23] See Brian R. Cheffins, Mergers and Corporate Ownership Structure: The United States and Germany at the Turn of the 20th Century, 51 American Journal of Comparative Law 473 (2003); Brian R. Cheffins & Steven Bank, Is Berle and Means Really a Myth? 83 Business History Review 443, 449-450 (2009).

[24] Thomas R. Navin & Marian Sears, The Rise of a Market for Industrial Securities, 1887-1902, 29(2) Business History Review 105 (1955); Cheffins, and Cheffins & Bank, note 23 *supra*. Alfred D. Chandler, Jr., SCALE AND SCOPE: THE DYNAMICS OF INDUSTRIAL CAPITALISM, ch. 2 (1990).

From this perspective, the historiography that asks whether bank financial capacity precedes enterprise (or vice versa) misses the possible development of market-based finance (and financial institutions) that

The "law and finance" scholarship has told a story that implicitly assumes that capital market development is an add-on to bank finance, framed principally in terms of an equity channel. The focus on "investor protection" is a "tell" that public equity issuance is the main object of analysis. A closer look at the US story reveals the importance of public *debt* markets in capital market development. Public debt issuance to finance the railroads and industrial firms created the distribution channels; equity issuances followed. Indeed, the first regulatory protections in the early 20th century seem to be aimed at speculative and fraudulent debt as much, if not more, than equity.[25]

Part IV. Law Mattered to the US Capital Market Union

The prior two sections have argued that the origins of the US CMU are to be found in the clash between a longstanding feature of US political economy, suspicion of large financial institutions, and the funding needs of large scale enterprise. That might have been sufficient to get the capital market going, but a set of New Deal-era laws were critical to its further development. These not only provided better investor protection (the 1933 and 1934 securities acts),[26] but they also created structural conditions for further development of the US CMU. This Part discusses two particular instances of law-making that played critical roles. The first was the adoption of the Glass-Steagall Act, which separated commercial from investment banking. The second was the establishment of the SEC and the creation of an extensive structure of federal regulation, which suppressed what otherwise would have become increasingly potent state efforts to regulate securities markets. Thus, the law that mattered to the development and maintenance of a Capital Market Union in the US was not just investor protection law, the usual account of the 1930s "sec-reg" legislation, but "financial structure" law: law that set up the relevant set of competitive institutions and that tamped down the power of local regulatory authorities, which would be inclined to focus on local rather than national interests.

A. Glass-Steagall. The National Bank Act of 1863 articulated a regime of limited powers for a national bank, so as to keep it focused on the "business of banking." By historical tradition and law, US banks did not underwrite corporate securities and generally limited their holdings of debt securities to commercial paper. As securities markets became more robust, banks wanted to participate in securities markets activities, especially underwriting. This activity was generally pursued through an affiliate of the bank rather than the bank directly, both for

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requires less expensive infrastructure for establishment and expansion. Compare, e.g., Howard Bodenhorn, A HISTORY OF BANKING IN ANTEBELLUM AMERICA ch. 1 (2000).

[25] See Jonathan R. Macey & Geoffrey P. Miller, Origin of the Blue Sky Laws, 70 Texas Law Review 347, 352-359 (1991) ("speculative securities" were commonly bonds); id, at 359-77 & n. 137 (political economy of Blue Sky Laws; the Investment Bankers Association formed to resist Blue Sky Laws was composed of bond dealers).

[26] On the initial rise of US capital markets despite robust investor protection law, see John C. Coffee, Dispersed Ownership: The Theories, the Evidence, and the Enduring Tension Between "Lumpers" and "Spitters," in Dennis C. Mueller, THE OXFORD HANDBOOK OF CAPITALISM (2012), available at https://ssrn.com/abstract=1532922; John C. Coffee, , The Rise of Dispersed Ownership: The Role of Law and the State in the Separation of Ownership and Control, 111 Yale L. J. 1 (2001); Mary O'Sullivan, The Expansion of the U.S. Stock Market, 1885-1930: Historical Facts and Theoretical Foundations, 8(3) Enterprise & Society 489 (2007).

legal and reputation-protecting grounds.[27] In the wake of the Great Depression, various reformers concluded that securities activities by these affiliates in league with the bank itself had been a major contributor to the debacle. (Modern day economists are skeptical of that conclusion.) Part of the reform program was the Glass-Steagall Act, which forbad affiliation between securities firms and banks, taking banks out of the business of underwriting debt or equity securities for private firms, and trading securities for its own account.

As Gordon has elsewhere argued, Glass-Steagall insisted on free-standing investment banks, which could make their success only through securities markets, not through commercial banking. These investment banks quickly learned credit markets were more profitable than equity markets. Firms issue equity only infrequently but are constantly in need of credit, if only to roll over maturing indebtedness. Thus investment banks were powerfully incentivized to develop market-based mechanisms of credit intermediation, which became effective substitutes for bank-based credit. Because investment banks were blocked from conventional commercial banking, they had strong incentives to achieve functionally equivalent credit-provision and to pursue cost advantages relentlessly. By contrast, as European finance demonstrates, a universal bank with a strong commercial lending franchise would be reluctant to cannibalize its existing franchise by developing market-based alternatives.[28] Moreover, such universal banks would have strong incentives to protect their existing franchise by resisting the entry of banking institutions that might specialize in market-based finance.[29] Glass-Steagall cut off that path for US banks.

The arrival of free-standing investment banks interacted with post-World War II decisions in the US that both privatized retirement provisioning (beyond the social security baseline) and that led to pre-funding of such retirement obligations both by state/local governments as well as private industry. [30] Particularly by the 1950s and 1960s, this fostered the creation of deep capital pools that could fund credit issuances as well as equity.[31] Glass-Steagall had given the investment banks pole-position in deploying these funds. The national reach of the investment banks, including extensive national branching that facilitated retail securities distribution, furthered the development of a capital market union in the US.

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[27] For the history, see, e.g., Randall S. Kroszner & Raghuram Rajan, Is the Glass-Steagall Act Justified? A Study of the U.S. Experience with Universal Banking Before 1933, 84 American Economic Review 810 (1994) (with additional sources).

[28] Jeffrey N. Gordon, The Empty Call for Benefit-Cost Analysis in Financial Regulation, 43 Journal of Legal Studies S351 (2014); John Armour et al, PRINCIPLES OF FINANCIAL REGULATION (2016), at 438.

[29] Compare, e.g., Raghuram C. Rajan & Luigi Zingales, The Great Reversals: The Politics of Financial Development in the Twentieth Century, 69 Journal of Financial Economics 5 (2003).

[30] See Ronald J. Gilson & Jeffrey N. Gordon, The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights, 113 Columbia Law Review 863 (2013), at 878-888; ___, Agency Capitalism: Further Implications of Equity Intermediation, in RESEARCH HANDBOOK ON SHAREHOLDER POWER (Jennifer Hill & Randall Thomas, eds. (2015), available at https://ssrn.com/abstract=2359690 .

[31] Charles Calomiris & Daniel Raff, The Evolution of Market Structure, Information, and Spreads in American Investment Banking, in ANGLO-AMERICAN FINANCE: FINANCIAL MARKETS AND INSTITUTIONS IN 20TH-CENTURY NORTH AMERICA AND THE U.K., at 103 (R. Sylla and M. Bordo, eds.,1995).

B. A National Regulation and a National Regulator. Another critical element of the New Deal-era regulatory scheme was the suppression of state securities regulation. Central to this development was the creation of a federal securities regulator, the Securities and Exchange Commission, which had a mandate to establish an extensive disclosure system for both initial public offerings and the firm's on-going financial results. The SEC was also vested with an enforcement mandate to protect markets from fraud. More broadly, the sweeping adoption of national regulatory systems in the 1930s and 1940 in the US locked into place a "national" focus for the capital markets that were then developing and under-regulated. This national focus was an essential element in the US CMU.

Before the New Deal legislation, the states had begun to regulate securities activity, the so-called "blue sky laws." Beginning with the first adoption by Kansas in 1911, by 1931 all but one of the 48 states had adopted a blue sky law. There were two general types, ones that required pre-clearance, either on a "merit" review or a less-stringent "no fraud" test, and others that were aimed at *ex post* fraud. Roughly three-quarters of the states required pre-clearance, though the most stringent review was in the minority.[32] The 1933 Securities Act and the 1934 Securities Exchange Act each preserved the "jurisdiction" of state securities commissions and did not evince the desire totally to occupy the field of securities regulation, which might have produced "pre-emption" of state activity.[33] Why, in the aftermath of the Depression, did states not act more vigorously in the regulatory space? Certainly one reason was the vigor of the SEC, which under the guidance of energetic and knowledgeable leaders, rapidly promulgated extensive disclosure requirements and undertook enforcement actions.[34] The national law-making process that culminated in the New Deal securities regulation and the infusion of personnel and funding into the SEC largely froze state regulatory efforts in place.

Various actors recognized the need for federal-state coordination; these efforts were organized through a pre-existing quasi-official body that worked to promote coordination among disparate state regimes, the National Conference of Commissioners on Uniform State Laws.[35] Eventually these efforts culminated in the Uniform Securities Act of 1956, enabling most large corporate issuers to use their federal filings to satisfy state requirements. Nevertheless significant disparity has persisted among the different state schemes for smaller issuers, leading to ongoing efforts to widen federal pre-emption of state pre-clearance regimes.[36] The point is that a well-funded national regulator wielding broad authority to impose disclosure standards and to regulate securities markets suppressed what otherwise would have been strong regulatory

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[32] See Jonathan R. Macey & Geoffrey P. Miller, Origin of the Blue Sky Laws, 70 Texas Law Review 347 (1991); Paul G. Mahoney, The Origins of the Blue-Sky Laws: A Test of Competing Hypotheses, 46 Journal of Law and Economics 229 (2003)

[33] See Russell A. Smith, State "Blue-Sky" Laws and the Federal Securities Acts, 34 Michigan Law Review 1135 (1936); Hall v. Geiger-Jones Co, 242 U.S. 539 (1917).

[34] Joel Seligman, THE TRANSFORMATION OF WALL STREET: A HISTORY OF THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE (1982).

[35] See generally Louis Loss & Joel Seligman, SECURITIES REGULATION (3d ed 1989), at pp. 41-60; Daniel J. Johnedis, Current Legislation: Blue Sky Laws – Uniform Securities Act, 3 Boston College Industrial and Commercial Law Review 455 (1962).

[36] See, e.g., Rutherford B. Campbell, Jr., The Role of Blue Sky Laws after NSMIA and the JOBS Act, 66 Duke Law Journal 605 (2016).

impulses at the state level and in that way has helped to foster and sustain a US Capital Market Union.

Part V – Conclusion

Are there generalizations from this peculiarly American story? One takeaway is that where a banking system labors under constraints, a capital market channel can robustly support the flow of finance to large-scale enterprise in the real economy. For a certain segment of the financing spectrum, banks and capital markets can be substitutes. This is consistent with the EU experience of strong banks and relatively weak capital markets. A major barrier in the US to bank finance of national-scale enterprise was a state-based banking system. Capital markets institutions and channels, which are not so heavily reliant on support from the state, can funnel funds around such a barrier. This obvious analogy is a major reason why CMU is so promising and urgent for economic integration in the EU.

Separately, it may be that one reason US banks recovered more quickly from the crisis is that the alternative credit market channels provided a route for selling off troubled assets at a manageable discount. The availability of such channels may empower EU supervisors to insist on such strategies from troubled banks in the EU.

Other key issues are institutional competence, both public and private, and uniformity across Member States. The US experience highlights how a powerful federal regulator can help suppress costly diversity by instituting a credible disclosure and enforcement regime and by aiding evolution in the law in the face of new challenges and opportunities. One challenge for the EU is to find its own pattern of federal regulation over the EU's capital market that will facilitate EU-wide issuance of debt and equity securities. This is less a problem of the financial institutional architecture than the regulatory architecture. With MiFID II, the European Securities and Markets Authority has been forging ahead in ways that may well lay the groundwork for further harmonization and coordination. Elements of MiFID II, most notably the requirement that research services be charged separately from brokerage services, also suggest that the relatively weaker EU CMU may enable the EU to leapfrog over the US in areas where entrenched interests may be impeding the efficiency of the US regime.[37] Nonetheless, substantial challenges remain. A main source of resistance will be "regulatory embeddedness" among the Member States and the notable forces of path-dependency, both the short-term efficiency-based as well as the protectionist rent-based.

Another approach for the EU is on the "supply" side. The US experience illuminates the importance of private actors who stand to gain from producing robust capital markets. The increasing wealth of EU citizens and the flow into retirement savings is creating capital pools that can, with appropriate facilitation, flow through securities markets for investment throughout the EU. The key actors are asset managers (which include for these purposes the insurers and the pension funds) to fund the supply side. Asset managers can screen potential borrowers and assemble diversified portfolios of credit claims without the aid of banks. Institutions like asset

[37] See Howell E. Jackson, John Rady, & Jeffery Y. Zhang, Nobody is Proud of Soft Dollars: A Critical Review of Excess Brokerage Commissions in the United States and the Likely Impact of Pending MiFID II Reforms in the European Union (working paper, 2018) (on file with authors); Kathryn Judge, Intermediary Influence, 82 University of Chicago Law Review 573 (2015).

managers may also be particularly important in the EU where language differences may impede cross-border capital flows in ways the US never had to confront.

The systemic stability concerns that are among the reasons for the CMU also argue for permitting the growth of asset managers. Asset managers generally do not engage in a high level of liquidity transformation, making them inherently less fragile than banks. Robust capital markets have also long been viewed as potentially enhancing financial system resilience by serving as an alternative source of credit when banking systems face periodic distress. With due regard for systemic stability and the protection of a beneficiary's claims in the case of insurers and pension funds, regulation that permits use of these funds for market-based credit intermediation is a critical element for CMU in the EU. Thus attention should turn to various Directives with this objective in mind, including the Alternative Investment Fund Management Directive, the Solvency II Directive for insurers, and Directive on Institutions for Occupational Retirement Provision. With a sufficiently broad view of the range of actions that may be necessary to cultivate the conditions for a thriving CMU, the EU has the opportunity to write the next chapter in the role of law and regulatory architecture in shaping financial market structure.

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