Does Civil Law Tradition and Universal Banking Crowd out Securities Markets? Pre-World War I Germany as Counter-Example

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This article poses three main questions: Does the civil-law tradition favor large, concentrated, universal banking systems? Does this sort of legal system work against the development of active securities markets? Do powerful universal banks (whether or not legal tradition lies at the root of bank power) replace securities markets or prevent them from operating efficiently? Based on evidence from Pre-World War I Germany, this paper argues that the answer to all three questions is ''no.''

Conceptual dichotomies are attractive. They boil down complex phenomena to neat categories. The trouble is that they may eliminate crucial variety, the cases that fit neither side of the dichotomy but

doi:10.1093/es/khm068

Advance Access publication August 3, 2007

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I am grateful first and foremost to Gary Herrigel for his several rounds of editorial advice and comments. I also thank Jeff Fear and an anonymous referee for extensive and helpful input on earlier drafts as well as to seminar participants at the 2006 SASE meetings in Trier, Germany and at the Board of Governors of the Federal Reserve. My thanks go as well to Tobias Brünner, Thomas Gehrig, and Steffen Reinhold, who have co-authored two studies reported on extensively in this article, and to John Latting. This research has been funded by the U. S. National Science Foundation.

which may in fact reflect reality. Conceptual dichotomies pervade scholarly thinking about financial systems. As I argue, this has evaporated away much essential institutional detail.

The literature classifies national financial systems into either ''bank-based'' or ''market-based.'' Those broad terms have come to encapsulate many institutions and institutional features that make up the financial system, such as scope of banking services (universality), engagement in relationship banking (in itself comprising a range of possible features), corporate governance mechanisms, markets for corporate control, or capital structure of corporate firms. More recently, the law and finance literature has tied these financial system dichotomies to additional dichotomies in legal and political systems.[1] This line of thought places the bank-based systems under the civil law category and the market-based systems under the common law category.

Too often, this scholarship has implied a tight casual relationship between legal system and financial sysetm. Civil law is said to cause bank domination and suppress markets. Centralized political systems concentrate financial power in large institutions such as universal banks and limit the use of markets. Such causal reasoning creates the misperception of mutual exclusivity—that having institutions of

1. See Helmut Dietl, *Capital Markets & Corporate Governance in Japan, Germany, & the United States: Organizational Responses to Market Inefficiencies* (New York, 1998); Caroline Fohlin ''Economic, Political, and Legal Factors in Financial System Development: International Patterns in Historical Perspective,'' California Institute of Technology, Social Science Working Paper no. 1089 (May 2000) and *Financial System Design and Industrial Development: International Patterns in Historical Perspective*, (New York, forthcoming); Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, ''Law and Finance,'' *Journal of Political Economy* 106 (Dec. 1998): 1113–55; Raghuram G. Rajan and Luigi Zingales, ''The Great Reversals: The Politics of Financial Development in the Twentieth Century,'' *Journal of Financial Economics* 69 (July 2003): 5–50; and Daniel Verdier, *Moving Money: Banking and Finance in the Industrialized World* (New York, 2002). On the ''banks versus markets'' question, see Ross Levine, ''Bank-Based or Market-Based Financial Systems: Which is Better?'' *Journal of Financial Intermediation* 11 (Oct. 2002), 398–428. Also see Franklin Allen and Douglas Gale, *Comparing Financial Systems* (Cambridge, Mass., 2000) for a more theoretical treatment of financial systems. Though the finance-oriented literature focuses on common-law versus civil-law tradition, one could add the liberal versus nonliberal government or coordinated versus liberal market capitalism to the list of false dichotomies. On the question of capitalist variety, see Richard Deeg and Gregory Jackson, ''Towards a More Dynamic Theory of Capitalist Variety,'' *Socio-Economic Review* 5 (Jan. 2007): 149–79. Another recent contribution in favor of a deeper and more complex view of capitalist and legal variety is Curtis J. Milhaupt and Katharina Pistor, *Law and Capitalism: What Corporate Crises Reveal about Legal Systems and Economic Development around the World* (Chicago, 2008).

a particular type means a system will not develop certain other kinds of institutions. The sharp contrast some scholars draw between bank-based and market-based systems has led to the idea that universal banks are incompatible with active securities markets. In the extreme, this notion of incompatibility leads to the idea that universal banks hinder the development of securities markets.

In practice, however, the categories that we use to differentiate financial systems are not mutually exclusive, and we cannot show a causal relationship among the various legal, political, and financial system characteristics. Careful empirical analysis over extended periods of time reveals a great deal of complexity in the design of financial institutions and systems. Many systems evolve as hybrids and support a mix of different institutions, some of which oppose each other in the conceptual framework of dichotomies. Most countries have at times possessed some but not all of the characteristics of a given idealized system, and more often than not, their institutions have defied precise classification. For example, a country may have universal banks operating alongside specialized commercial banks. Moreover, institutions and systems evolve and sometimes change substantially enough to warrant reclassification of a country's system, or part thereof, from one era to another.

The United States, for example, has a common law legal tradition and is also commonly described as a ''market-based'' system. It also has a long history of decentralized, federal government. Yet until the Glass-Steagall Act of 1933 forced commercial banks to cleave off their investment banking and brokerage services, the United States had a universal, or at least quasi-universal banking system. Before 1933, commercial banks, such as J. P. Morgan, provided investment services within the bank (for state banks in states that allowed it) or through state-chartered affiliates (in the case of national banks). Shortly before the onset of the Great Depression, nearly 500 commercial banks engaged in such practices.[2] Moreover, at least by the 1870s, a prominent segment of U.S. banks became heavily involved in corporate control. Bankers' representatives sat on boards of directors and banks held equity stakes in some corporations, while controlling

2. The term ''affiliates'' refers to two entities owned by the same parent, so in the case of these banks, the quasi-universal bank refers to the parent. See Randall S. Kroszner and Raghuram G. Rajan, ''Is the Glass-Steagall Act Justified? A Study of the U.S. Experience with Universal Banking Before 1933,'' *American Economic Review* 84 (Sept. 1994): 810–32, citing evidence from W. Nelson Peach, *The Security Affiliates of National Banks* (Baltimore, Md., 1941).

others indirectly. The system therefore would also fall squarely under the category of 'relationship banking,' until the Clayton Act of 1914.[3]

So, the combination of common law, market-orientation, banking specialization, and arms-length finance that makes up one side of the classic financial system dichotomy came into being in the United States sometime after 1933. The phenomenon was short-lived by historical standards. Since the liberalization of U.S. banking law in the 1990s, American banking institutions have expanded their scope of services and returned at least partly to their quasi-universal roots. Yet it would be difficult to imagine that financial institutions in the United States ever impinging on securities markets or internalizing market functions, no matter how large they grow. The new version of American universal banking may even enhance market functioning, if the system can hold the oligopoly power of these institutions in check.

Germany provides another counterexample to the notion of system dichotomies, and particularly to the idea that civil law systems—or universal banking systems for that matter—crowd out securities markets. Germany has frequently been described as fundamentally bank-centered: a system in which the financing of industry flows primarily through banks, to the exclusion of securities markets. This perception stems primarily from the post–World War II experience, when the banks did indeed play an unusually large role in corporate finance, and securities markets lagged those of some other highly industrialized economies. These observations have in turn created an overly general view that treats banks and markets as substitutes rather than complements. Observers extrapolating from Germany's more recent experience often conclude that markets naturally languish or perform poorly when working within systems incorporating universal banking.[4]

3. The Act prohibited banks from sitting concurrently on the boards of firms that competed with one another. See Miguel Cantillo Simon, ''The Rise and Fall of Bank Control in the United States: 1890–1939,'' *American Economic Review* 88 (Dec. 1998): 1077–93, for an analysis of this law's impact on stock returns. For a sweeping survey of the evolution of corporate blockholding in the United States more generally, see Marco Becht and J. Bradford DeLong, ''Why Has There Been So Little Blockholding in America,'' in *A History of Corporate Governance Around the World: Family Business Groups to Professional Managers*, ed. Randall Morck (Chicago, 2005), 613–66.

4. This thinking appeared commonly in the 1990s, especially in the finance literature, as in William J. Carney, ''Large Bank Stockholders in Germany: Saviors or Substitutes?'' *Journal of Applied Corporate Finance* 9 (Winter 1997), 74–82; Helmut Dietl, *Capital Markets*; Gary Gorton and Frank A. Schmid, ''Universal Banking and the Performance of German Firms,'' *Journal of Financial Economics*

The apparent lack of importance of markets in the post WWII period may have also colored study of Germany's pre-WWII economic and financial history. Until quite recently modern scholars paid little attention to Germany's prewar securities markets and emphasized—even celebrated—the role of the universal banks. This imbalance left the impression that markets played little role in the industrialization period. With several new studies in the past few years, research on prewar markets has begun to catch up with that on banking.[5] This newer work has revealed that before World War I the German corporate financial system looked very different from its post-WWII form. Over the half century or so before World War I, securities markets appeared and prospered and worked in conjunction, perhaps symbiosis even, with universal banks. The largest of those banks earned a substantial share of their profits from securities business and worked to see that markets functioned well. The growing body of work on the German markets in the nineteenth and early-twentieth centuries resoundingly rejects the notion of the dichotomy of banks versus markets, showing instead a great interdependence of the two

58, nos. 1–2 (2000): 29–80. See Allen and Gale, *Comparing Financial Systems* for a thorough examination of comparative financial system design. See also Georg Rich and Christian Walter, ''The Future of Universal Banking,'' *Cato Journal* 13 (Fall 1993): 289–313, comparing German and Swiss financial institutions.

5. Recent studies of German securities markets include Carsten Burhop, ''Financial Development and Corporate Law: Historical Evidence from the German IPO Market, 1870–1896,'' University of Münster, Working Paper (Aug. 2006); Steffen Eube, *Der Aktienmarkt in Deutschland vor dem Ersten Weltkrieg—eine Indexanalyse* (Frankfurt, 1998); Caroline Fohlin, ''IPO Underpricing in Two Universes: Berlin, 1882—1892, and New York, 1998—2000,'' California Institute of Technology, Social Science Working Paper no. 1088 (May 2000); Fohlin, ''Regulation, Taxation, and the Development of the German Universal Banking System,'' *European Review of Economic History* 6 (Aug. 2002): 221—54; Fohlin, *Finance Capitalism and Germany's Rise to Industrial Power* (New York, 2007), chap. 7; Fohlin and Steffen Reinhold, ''How Anomalous are the Anomalies in Common Stock Returns? Fresh Evidence from Pre-World War I Germany,'' Johns Hopkins University, Working Paper (May 2007); Thomas Gehrig and Fohlin, ''Trading Costs in Early Securities Markets: The Case of the Berlin Stock Exchange 1880–1910,'' *Review of Finance* 10 (Dec. 2006): 587–612; Margaryta Korolenko and Jörg Baten, ''War, Crisis, and the Capital Market: The Anomaly of the Size Effect in Germany, 1872–1990,'' University of Tübingen, Working Paper (Aug. 2006); Zoltan Osterbach, Sergey Gelman, and Carsten Burhop, ''Taxation, Regulation, and the Information Efficiency of the Berlin Stock Exchange, 1892–1913,'' University of Münster, Working Paper (May 2006); and Christian Pierdzioch, ''Feedback Trading and Predictability of Stock Returns in Germany, 1880–1913,'' Kiel Working Paper no. 1213 (May 2004); and Christian Schlag and Anja Wodrich, ''Has There Always Been Underpricing and Long-Run Underperformance? - IPOs in Germany Before World War I,'' Center for Financial Studies, Working Paper no. 2000/12 (Nov. 2000).

main components of corporate financial systems. Universal banks expanded, branched, and concentrated more rapidly during and after the wars than before 1914.

Corporations followed a similar pattern, building up enormous concerns with complex ownership and control structures after World War I. During the interwar years, the banks also began to take more active and direct equity interest in nonfinancial firms than they had before the first World War, and the system of interlocking directorates among banks and firms (and among nonfinancial firms) proliferated.[6] The Nazi regime effectively dismantled the prewar corporate financial system, stopping market trading in private securities and stripping large numbers of shareholders of their ownership rights. This upheaval left an enormous problem of assigning ownership and control of corporations after the war, and the new postwar political order (certainly not unique to Germany) opened the door to extensive government ownership followed by widespread intercorporate ownership. The markets never fully recovered.[7]

In the following, I demonstrate that the German financial system of the prewar era supported large and vibrant securities markets that performed effectively. Moreover, I argue that universal banks and stock markets worked in concert throughout this period. This prominent historical example casts doubt on the traditional dichotomy drawn between banks and markets and on the notion that civil law tradition (or centralized political power) crowds out markets.

The German case raises the issue of treating financial markets and institutions as parts of an integrated system rather than a set of distinct components.[8] This ''system view'' need not contradict my ''anti-dichotomy'' argument, however. Actors may in practice innovate and change systems in ways that cannot be foreseen or deduced from the structure of existing rules. At its core, the system approach says that changes in one part of the system may hinge upon and may simultaneously set off other changes elsewhere in the

6. See the development of both German and U.S. networks in Paul Windolf, ''The Emergence of Corporate Networks in the United States and Germany 1896–1938,'' paper presented to the American Sociological Association Meeting, Philadelphia (Aug. 2005).

7. See Jan-Peter Krahnen and Reinhard Schmidt, eds., *German Financial System* (Oxford, U.K., 2004) for thorough analysis of the postwar German financial system. The penultimate chapter in Fohlin, *Finance Capitalism*, traces the changes in the system from World War I to the present.

8. For a discussion of ''system-ness'' of financial systems, see Reinhard Schmidt and Marcel Tyrell, ''What Constitutes a Financial System in General and the German Financial System in Particular?,'' in *German Financial System*, ed. Jan-Peter Krahnen and Reinhard Schmidt (Oxford, U.K., 2004), 19–69.

system. One should, however, resist the temptation to think that the interrelatedness of a systems parts requires a specific, prescribed set of institutions to exist simultaneously—as pieces in a puzzle—or suggests that a particular legal tradition leads to a predetermined path of financial system development. Germany's financial history supports both an anti-dichotomy view and a system interrelatedness hypotheses.

Germany's Civil Law Tradition and Financial Regulation

The law and finance literature draws a strong connection between legal traditions and regulation. Regulatory regimes in turn influence the shape of financial systems. Early contributions to this literature argued that civil law provides insufficient protection to investors, especially minority shareholders, to support active financial markets. Lacking legal protection, outsiders refuse to invest directly in firms controlled by others. The lack of investor protection not only undermines trading in formal securities markets, it could promote large blockholding, cross ownership among firms, and equity stakeholding by banks. The upshot of the early law and finance literature was that countries with civil law systems create financial systems in which markets are subjugated and banks dominate.

More recent additions to the literature reject the notion that financial systems differ due to legal tradition differences.[9] One prominent line of argument holds instead that political factors, in particular centralization of government power, undermines markets and promotes the use of concentrated banking institutions.[10] In this view, concentration of power within financial institutions serves the interests of the central government, as it facilitates greater national-level coordination and control over the economy. Such power may be exercised only at times of perceived need, such as war or economic crisis. Yet once power shifts toward the center it may prove difficult to reverse as the individuals and institutions benefiting from the centralization process become entrenched.

The specific manner in which legal tradition or political centralization suppresses markets or promotes concentration in

9. Several chapters in Morck, ed. *History of Corporate Governance* argue against the notion that legal tradition determined the shape of corporate ownership and control in the countries studied.

10. Rajan and Zingales, ''Great Reversals.''

financial institutions will differ from country to country. But the suppression of markets and concentration of financial institutions requires some sort of government action—laws and regulations, for example—that undermine dispersion of corporate control and concentrates resources into fewer, larger institutions.

Germany's political structure changed considerably over the nineteenth and early twentieth centuries, and even within the narrower window of the *Kaiserreich*. The Second Empire was neither fully autocratic nor truly parliamentarian. Perhaps more important to the debates surrounding financial system development: at no point would it be accurate to say that the *Kaiserreich* was centralized. The authority of the Kaiser was limited by the continuing power of the member dynastic states of the German federation—the Kaiser was a kind of *primus inter pares*. All national legislation had to be approved by the assembled dynastic representatives in the Bundesrat. This body also had the power to change the constitution, so it was in a position to block any efforts on the part of the Kaiser or his chancellors to impose institutional change that would undermine the interests of the member dynastic states. The monarch was also limited by a lower house, the popularly elected Reichstag, in which seats were allocated according to a complicated three class electoral system that favored the traditional aristocracy and land owners. The lower house debated all national law and had the power to alter and veto legislation coming from the Bundesrat. Thus, in the Wilhelminian Reich, the monarch and his chancellors could by no means act unilaterally. If the concentration of universal banking and the suppression of markets was to be politically imposed, it would have to be through legislation and regulation that had travelled through the peculiar representational structure of the Wilhelminian State.

During this period, Germany altered its company law, stock market regulation, and tax codes and the historical record shows that various groups with a stake in the outcome participated in active and often even rancorous debate in and out of the political process. But the key to understanding the connection between legal tradition and financial system design lies in determining whether these laws acted as catalysts that increased the power of the universal banks and simultaneously inhibited the use of the securities markets or interfered with the markets' efficiency in aggregating information or pricing risk. Did the application of civil law tradition, in other words, crowd out markets in Wilhelmine Germany?

Careful examination of the historical record suggests that it did not. The German government imposed few regulations on the universal banks, so they operated primarily under the same laws

applying to all joint-stock companies.[11] Still, the regulation of other components of the financial system naturally affected the universal banks, particularly via their investment banking business, and thereby played a role in the organizational change in that segment.

Debates over the relative impact of legal tradition or political systems on the spread of markets start from the perspective of late twentieth-century economies, in which corporations and equity ownership are standard components. The debate takes for granted the massive liberalization that allowed the use of limited liabilty and joint-stock corporations that, combined with rapid industrialization and increasing scale and scope, propelled the need for mechanisms to exchange stakes in those corporations. In fact incorporation restrictions were common until the mid-nineteenth century, and they kept entrepreneurs from using the joint-stock form and severely limited the number of shares in circulation or available for public trading. Debt securities made up the vast majority of exchange business in many places regardless of legal tradition. Equity securities played little role. Berlin, for example, traded mainly state bonds and other government paper for much of the nineteenth century.[12] Yet Germany appears to have adopted and institutionalized markets to at least as great an extent as competitor nations over the later decades of the nineteenth century. The primary stock exchange in the United States, the New York Stock Exchange, also listed relatively few industrial equities until the last decade of the nineteenth century. Nobody has argued that the increasing use of equity markets in

11. Several recent studies provide more detailed discussion of the various legal provisions. See, Fohlin, ''Regulation'' and *Finance Capitalism*. For general surveys of the stock exchanges, see, Georg Buss, *Die Berliner Börse von 1685–1913* (Berlin, 1913); Fritz A. Wiener, *Die Börse* (Berlin, 1905); and Otto Wormser, *Die Frankfurter Börse* (Tübingen, 1919). More recently, see, Rainer Gömmel, ''Entstehung und Entwicklung der Effektenbörse im 19. Jahrhundert bis 1914,'' in *Deutsche Börsengeschichte*, ed. H. Pohl (Frankfurt, 1992), 135–207. Other relevant literature includes Eube, *Der Aktienmarkt*; Johan Christian Meier, *Die Entstehung des Börsengesetzes vom 22. Juni 1896* (Munich, 1993); and Carsten Burhop, *Die Kreditbanken in der Gründerzeit* (Wiesbaden, 2004).

12. In 1800, only four joint-stock companies operated in all of Prussia, and in 1835, the number had only increased to twenty-five. Even by 1870, a cumulative total of approximately two hundred share corporations (*Aktiengesellschaften*) had formed in Prussia. See Hans Ulrich Wehler, *Deutsche Gesellschaftsgeschichte* (Munich, 1987), p. 103 for 1800, and Manfred Pohl, *Konzentration im Deutschen Bankwesen, 1848–1980* (Frankfurt, 1982), p. 171 for 1835. See Norbert Horn, ''Aktienrechtliche Unternehmensorganisation in der Hochindustrialisierung (1860—1920): Deutschland, England, Frankreich und die USA im Vergleich,'' in *Recht und Entwicking der Großunternehmen im 19. und Frühen 20. Jahrhundert*, ed. Norbert Horn and Jürgen Kocka (Göttingen, 1979), p. 136 for 1870.

the United States supplanted banking services there. Indeed, the expansion of equity trading in the United States may have stemmed from increasing demand for securities holdings by banks.[13]

Germany followed a seemingly typical pattern of liberalization followed by a wave of incorporations. It enacted a national company law and eliminated its cumbersome concession process for incorporation in 1870. More than a thousand companies incorporated in the next four years. As industrialization continued, the inherent risk of investments, coupled in many cases with a large minimum-efficient plant scale, encouraged entrepreneurs to seek outside equity investors and to limit their personal liability. In Germany, the number of public joint-stock companies (Aktiengesellschaften, or AG) exceeded three thousand by 1890 and stayed well over five thousand from the late 1890s until after World War I.[14] Nearly one-third of these joint stock firms were listed on the Berlin exchange for most of the 1890s and early 1900s. Several more exchanges began operations in the late-nineteenth and early-twentieth centuries as well.[15]

The liberalization of company law thoughout the industrialized world vastly increased stock market transactions but brought public demands for stock market regulations. Different governments responded differently to demands for regulation after 1870.[16] Germany's reaction stands out, as it imposed an array of constraints on market participants. But these constraints affected the makeup of the financial system less than may have been expected at the time or assumed since.

The 1870 company law nationally unified the regulation of share companies (*Aktiengesellschaften* and *Kommanditgesellschaften auf Aktien*).[17] Both the 1870 law and its 1884 revision required the full

13. Gene Smiley, ''The Expansion of the New York Securities Market at the Turn of the Century,'' *Business History Review* 55 (Spring 1981): 75–85.

14. Fohlin, ''The History of Corporate Ownership and Control in Germany,'' in *History of Corporate Governance*, 223–77, chronicles the post–World War I development of the German stock exchanges and gives numbers of incorporations and listings, both of which continued to increase rapidly during and after the war. It is difficult to compare numbers internationally, because the regulations and use (not always for functioning business entities) of corporations varied widely. In the U.S., for example, there were far more corporations than in Germany (or anywhere else, it seems). See George Heberton Evans, Jr., *Business Incorporations in the United States, 1800–1943* (New York, 1948).

15. See Rudolf Taeuber, *Die Börsen der Welt* (Berlin, 1911).

16. Germany developed exchanges in Hamburg and Cologne in the middle of the sixteenth century, but they traded mostly commercial paper.

17. See P. Barrett Whale, *Joint-Stock Banking in Germany* (London, 1930), 331–33, for a discussion of different company forms in Germany. On the related theme of corporate accounting standards, see Jeffrey Fear and Christopher Kobrak,

amount of an issue to be subscribed and at least 25 percent to be paid up before a new joint-stock company could be founded. For shares issued at higher than nominal value, 50 percent payment was required.[18] Companies had to publish a prospectus announcing the time period of sales. The opening general meeting of shareholders had to attract attendance of a minimum percentage of equity outstanding. The subscription process could take substantial time and opened up the possibly that the issuer (the firm) might miss the prescribed deadlines. Thus, the 1870 and 1884 company laws did increase the need for liquid assets among companies undertaking new securities issues, and it also gave issuers an added incentive to engage a well-connected universal bank to take over the new issue. The larger and more extensively networked the underwriter, the greater the chance that the issue would succeed.

The 1884 company law, as well as stock exchange regulations of 1881 and 1884, also worked to improve shareholder protections by tightening the rules on underwriting and stock exchange listing. Of great significance for shareholders, the 1884 law required that all share companies create a supervisory board (*Aufsichtsrat*) of elected representatives. Many joint-stock corporations already had supervisory boards, but the new law codified the system nationally and also increased the duties of these members. In particular, the new law made it a duty of the supervisory board to obtain information about the company, while the earlier law had simply made such information gathering a right of the shareholders' representatives.[19] The 1884 law also stipulated a formal division between the supervisory and executive boards, so that shareholder representatives had to come from outside the firm's top management.

The 1884 stock exchange regulations also addressed price setting on the Berlin exchange. For much of the nineteenth century, the exchanges employed private brokers along with official brokers (*vereidigte Maklern*). The 1884 law stipulated that the official brokers would be appointed for life terms but would be prohibited from trading on their own accounts or in conjunction with other

''Diverging Paths: Accounting for Corporate Governance in America and Germany,'' *Business History Review* 80 (Spring 2006): 1–48.

18. Text of share company law of 1884 [Gesetz, betreffend die Kommanditgesellschaft auf Aktien und die Aktiengesellschaften], Articles 209e and 210. See Peter Hommelhoff, *Hundert Jahre modernenes Aktienrecht* (Berlin, 1985).

19. Interestingly, though the 1870 law stipulated that supervisory board members must own shares of the firm on whose board they sat, the 1884 law made such equity stakes optional.

brokers.[20] These brokers set prices using a type of call auction, known as the unified price system, in which only one price was set for each trading day. The uniform price setting system arguably improved transparency and thereby investor confidence in securities transactions on the Berlin exchange.[21]

Parts of these laws do seem to have provided incentives for the universal banks to partially internalize securities markets and to take on a more concentrated industry structure. The laws primarily affected the segment of the industry that participated actively in the underwriting business—a fairly small group of the largest universal banks[22] In particular, large universal banks stood ready to help issuers cope with the changing regulations on new share issues, and a number of them (typically larger) needed to expand in order to provide additional or more extended underwriting-related services, such as paying up the amount of the new issue and holding shares in advance of operations. As it was, public issues of new securities in Germany already generally passed through universal banks, whether large, corporate ones or relatively small, private ones. By the later decades of the nineteenth century, the banks typically placed new issues by taking over the entire issue and then gradually selling the shares to the public (*Übernahmegründung* or simultaneous founding). Some observers attributed this practice to legal stipulations on new issues.[23]

The simultaneous founding was certainly not new, and some of the earliest universal banks had used the same approach. The new requirements on share issues probably also increased the need for banks to work together in consortia or underwriting syndicates, not only to support the sheer volume of some of the new issues, but also to spread the risk of individual placements and permit greater diversification by underwriting smaller portions of more

20. Whether this rule was enforced is less clear—apparently the brokers continued to trade on their own accounts. See Wolfgang Schulz, *Das Deutsche Börsengesetz. Die Entstehungsgeschichte und Wirtschaftlichen Auswirkungen des Börsengesetzes von 1896* (Frankfurt, 1994) and Wiener, *Die Börse*.

21. Schulz, *Deutsche Börsengesetz*, and Richard Tilly, ''The Berlin Securities Exchange in National Context: Actors, Rules and Reforms to 1914,'' University of Münster, Working Paper (Jan. 1995), make this point. Wiener, *Die Börse*, however, argued that bankers still influenced the exchange brokers.

22. According to the analysis of joint stock bank income statements in Fohlin, *Finance Capitalism*, a very high proportion of medium and small joint-stock universal banks provided no or very little investment banking services.

23. See Robert Liefmann, *Beteiligungs- und Finanzierungsgesellschaften: Eine Studie über den Modernen Effekten-Kapitalismus in Deutschland, den Vereinigten Staaten, der Schweiz, England, Frankreich und Belgien* (Jena, 1921), 476, and Whale, *Joint Stock Banking*, 40.

issues.[24] These syndicates increased the appearance of concentration in the universal banking industry. But the economies of scale and network economies of underwriting existed with or without the new regulations on securities issues, particularly as the scale of industry and the number of traded securities increased.

In the first decades of the newly formed government, then, the legislative trail provides little evidence of an effort to promote concentrated banking and suppress markets. The new laws improved investor protections and made it safer for smaller, outsider investors to buy equity shares (though the minimum share price of 1,000 marks would have kept really small investors out). In fact, meeting the information challenges posed by the rapid liberalization of incorporation, improvements in corporate governance may well have encouraged greater confidence in securities markets and a renewed interest in securities investing following the scandals and stock market crisis of the 1870s. The banks themselves profited, but they did so because they enabled companies to issue securities of greater quality.[25] Listings increased, trading volume expanded, and stock prices rose in the late 1880s.

The ensuing price declines and bank failures, especially in 1891, along with sensational embezzlement and malfeasance trials, aroused new concerns over speculation and corruption. Once again, the public demanded stricter protections for shareholders.[26] Responding to this political pressure, the legislature formed a stock exchange enquiry commission (*Börsenenquetekommission*) in 1892. After years of study and debate, the German parliament passed the *Börsengesetz* in 1896.[27] Most provisions of the new law aimed once again at improving shareholder protections.[28] Key to this goal were regulations working to insure the quality of new issues. In particular, the law tightened listing requirements and created new institutions to ensure closer scrutiny

24. For these services, the issuing firms paid a percentage of their proceeds to the underwriting bank or consortium.

25. See Burhop, ''Financial Development,'' on changing returns to IPOs before and after the 1884 law.

26. Buss, *Berliner Börse*, Meier, *Entstehung*, Schulz, *Deutsche Börsengesetz*, and Wiener, *Die Börse*.

27. See Max Weber's extensive analysis of the inquiry and the law collected in Knut Borchardt, with Cornelia Meyer Stoll, *Max Weber Börsenwesen: Schriften und Reden*, *1893–1898* (Tübingen, 1999). For a detailed contemporary account (in English but by a German) of the law's main provisions, see Ernst Loeb, ''The German Exchange Act of 1896,'' *Quarterly Journal of Economics* 11 (July 1897): 388–428.

28. See Fohlin, ''Regulation,'' for more detailed discussion.

of new issues.[29] The shares of joint-stock companies formed from pre-existing private firms could not be officially traded until one year after incorporation.[30] The law also required that these corporations publish a balance sheet and profit and loss statement for the year prior to stock exchange admission and stipulated that only fully paid issues could be officially traded. To reduce the potential for conflicts of interest, the new regulations limited participation in the body charged with listings (the *Zulassungstelle*).[31] It also mandated tighter enforcement of regulations and legal recourse to injured parties.[32] The new law also formalized the use of official, sworn brokers (*Kursmaklern*), institutionalized the unified price system nationally, and prohibited interested parties from participating in that price setting process.

The 1896 law is most famous for its prohibition on futures trading in the securities of mining and manufacturing enterprises, stocks of companies with a share capital under 20 million marks, and a wide range of commodities (grain and mill products).[33] This roundly-condemned provision overshadows the law's many protective regulations and has fueled suspicion that the central government aimed to quash market forces and promote the use of concentrated financial institutions instead. The banks themselves, along with academics (most notably Max Weber), opposed the

29. The new governing institutions for the stock exchanges were the *Staatskommissar*, the *Ehrengericht* (a judiciary body), and the *Börsenausschuss* (a committee of experts).

30. Conversions of existing private firms (*Umwandlungen*) increased rapidly over the late nineteenth century and, by the early years of the twentieth century, far outpaced newly created A.G.'s (*Neugründungen*). See Adolf Weber, *Depositenbanken und Spekulationsbanken* (Leipzig, 1915), 224–25, and Whale, *Joint-Stock Banking*, 41–42, for further details.

31. The law dictated that half the members must not be listed in the stock exchange register, a third must not be involved in securities trading, and nobody involved in a new issue be permitted any say in the acceptance of that issue to trading. See Wiener, *Die Börse*.

32. The 1884 law already contained liability clauses, but the new law reinforced the provisions—making underwriters liable for damages to investors stemming from false or misleading information provided in the prospectus for new securities that investors could not reasonably have known was incorrect.

33. The term ''futures'' refers to contracts for future delivery and might apply to products or assets, such as equity shares. Very often, the real purpose of futures is to profit from a price change, paying the difference between the contracted price and the spot price and never actually making a physical exchange of the good or asset. The Act stipulated that the Bundesrat could prohibit futures dealings and set conditions under which some futures dealing could persist. In addition, only individuals registered in the newly created Exchange Register, and that transactions for future delivery could only be legally binding if both parties registered in this book, including transactions done for commission. For an extensive overview of the law see Loeb, ''German Exchange Act.''

restrictions and provided expert testimony in the matter.[34] This time, the nature of Germany's political balance—one in which agrarian interests took center stage—played a key role in the legislative outcome. Prussia's conservative, landed aristocracy (the Junkers), wielded enormous influence, and Prussia, as the largest member state in the German empire, held considerable sway within the Bundesrat. The political structure of the Reich, in which Prussia took a dominant (though not outright controlling) position, enabled the Junkers to influence the legislature so that it was sympathetic to their agrarian concerns.[35] The agrarian lobby, which had also applied great pressure in the debates over foreign trade during this period, tied low grain prices to futures trading in commodities markets and therefore worked to influence exchange regulation.[36] The popular view held that forward dealing increased volatility, but it was also

34. See Knut Borchardt, ''Max Weber's Writings on the Bourse: Puzzling out a Forgotten Corpus,'' *Max Weber Studien* 2, no. 2 (2002): 139–62; Borchardt and Meyer-Stoll, *Max Weber Börsenwesen*, commentary in their collected works of Weber. In the sociology literature, see Guenther Roth, ''Max Weber: Family History, Economic Policy, Exchange Reform,'' *International Journal of Politics, Culture, and Society* 15 (March 2002): 509–20, and Richard Swedberg, ''The Changing Picture of Max Weber's Sociology,'' *Annual Review of Sociology* 29 (Aug. 2003): 283–306. See Henry Crosby Emery, ''The Results of the German Exchange Act of 1896,'' *Political Science Quarterly* 13 (June 1898): 286–320 for a contemporary American perspective on the German law. He points out that the German law was an example of a broader 'anti-option' sentiment prevalent in many countries, including the United States (where an anti-options law was debated but failed to pass).

35. Alexander Gerschenkron, *Bread and Democracy in Germany* (1943; Ithaca, N.Y., 1989), 25; Volker R. Berghahn, *Germany and the Approach of War in 1914* (New York, 1973), 10–11, cited in Paul A. Papayoanou and Scott L. Kastner (http://igcc.ucsd.edu/pdf/policypapers/pp40.pdf). Representatives to the Bundesrat were appointed by their respective state governments and could be recalled. The Reichstag was democratically elected via universal male suffrage but was dominated by the Bundesrat. See, for example, Markus Kreuzer, ''Parliamentarization and the Question of German Exceptionalism: 1867–1918,'' *Central European History* 36 (2003): 327–57, and Roland Vaubel, ''Federation with Majority Decisions: Economic Lessons from the History of the United States, Germany and the European Union,'' *Economic Affairs* 24 (Dec. 2004): 53–59.

36. The literature on German political history debates the strength, cohesiveness, and uniformity of the coalition between the Junkers (landed aristocracy) and industrialists, known as ''iron and rye.'' Whatever the shape of the coalition in the 1870s and 1880s, it is thought to have disintegrated in the 1890s. See Paul A Papayoanou, ''Interdependence, Institutions, and the Balance of Power: Britain, Germany, and World War I,'' *International Security* 20 (Spring 1996); Cheryl Schonhardt-Bailey, ''Parties and Interests in the 'Marriage of Iron and Rye,''' *British Journal of Political Science* 28 (April 1998): 291–330; and Geoff Eley, ''The British Model and the German Road: Rethinking the Course of German History Before 1914,'' in *The Peculiarities of German History*, ed. David Blackbourn and Geoff Eley (New York, 1984), 75–90.

argued that speculation in futures actually stabilized prices.[37] There was also an active academic literature on speculation in agricultural markets around this time, and it continued after the law.[38] Whatever the empirical or theoretical justification, Junker interests kept up the pressure and ultimately carried out their campaign to impose federal restrictions on the operations of the stock exchanges. As the agricultural powers prevaled, financial sector leaders came away surprised by the severe limits on futures trading.

The various provisions of the 1896 law could have altered demand not only for stock market transactions but for banking services as well. The ban on grain futures removed the core of the commodities exchange business and essentially closed down the commodities department of the Berlin exchange. It has been argued that prohibitions on securities futures also interfered with the functioning of the spot markets.[39] Implementation and prosecution of the futures ban apparently varied and permitted some futures trading to continue even for securities that should have been covered.[40]

37. Meier, *Entstehung*, and Willi Prion, *Die Preisbildung an der Wertpapierbörse* (1910; Leipzig, 1929).

38. See, for example, M. Kantorowicz, ''Die Wirksamkeit der Spekulation im Berliner Kornhandel, 1850–1890,'' *Jahrbuch für Gesetzgebung und Verwaltung* 3 (1891): 221; Julius Bunzel, ''Der Terminhandel, seine Volkswirtschaftliche Bedeutung und Reform,'' *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung* (1897): 385; D. Kohn, *Der Getreideterminhandel* (Leipzig, 1895), and Ruesch, ''Der Berliner Getreideterminhandel unter dem deutschen Börsengesetz,'' *Jahrbücher für National-Ökonomie* 33 (1907): 145. Max Weber argued against the law, but to no avail in the end. See Max Weber, ''Stock and Commodity Exchanges [*Die Börse* (1894)],'' *Theory and Society* 29 (June 2000), 305–38; ''Commerce on the Stock and Commodity Exchanges [*Die Börsenverkehr* (1896)], *Theory and Society* 29 (June 2000): 339–71; and the discussion in Borchardt and Meyer-Stoll, *Max Weber Börsenwesen*, as well as in Roth, ''Max Weber.''

39. See Buss, *Berliner Börse*, Meier, *Entstehung*, Schulz, *Deutsche Börsengesetz*, and Wiener, *Börse,* for further discussion. This view continues in recent legal scholarship, as in Mark Roe, ''Some Differences in Corporate Structure in Germany, Japan, and the United States,'' *Yale Law Journal* 102 (June 1993): 1927–2003, and John C. Coffee, ''The Rise of Dispersed Ownership: The Roles of Law and the State in the Separation of Ownership and Control,'' *Yale Law Journal* 111 (Oct. 2001): 1–82, who says ''the state ruled with a heavy hand and regulated its securities markets into oblivion'' (p. 59). Coffee, whose main point is to contribute to the ''law matters'' debate and to confront the simplified view of LaPorta et al., ''Law and Finance,'' also argues that the liberal lending policies of the Reichsbank encouraged the use of debt over equity and thereby discouraged use of equity markets.

40. Bund der Landwirte, *Das neue Börsengesetz* (Berlin, 1908); Buss *Berliner Börse*, and Loeb, ''German Exchange Act.'' The law left room for interpretation of precise business to be excluded, and the courts apparently enforced the ban inconsistently. Trusts, for example, did not fall under the definition of industrial companies and continued trading their shares in futures. Also, futures trading continued in companies with capital less than the prescribed minimum of

At the same time, the law encouraged universal banks to simulate futures contracts or provide close alternatives.[41] In addition, the lack of futures trading may have increased the demand for cash, and therefore for bank credit, for securities transactions. Both of these effects could have encouraged expansion of the banking sector, and because of their inherently larger networks, the largest banks could provide transactions services most efficiently. Thus, the law arguably provided yet another impetus for banking concentration.

Still, it was not just through limitations on markets that the laws affected the structure of financial institutions. Ironically, the investor protection regulations may have produced incentives for bank expansion as well. By tightening admissions standards, the law clearly delayed the listing of all new share companies for the prescribed year and potentially eliminated some firms from gaining listing at all. The waiting period probably also increased demand for bank credit among firms planning to go public and may well have moved trading in these securities to the banks. Thus, the new law encouraged the largest banks that were most closely engaged in the securities business to expand their capital. As with the futures ban, the new business likely favored large, well-networked, Berlin-centered banks. To the extent that the largest universal banks' growth outpaced that of smaller banks, the law could be seen as promoting concentration in that segment of the banking industry.[42]

Despite the clear possibility that the stock exchange law favored bank-based securities transactions over market-based ones, the investor protection measures mitigated the anti-market effects. Some of these stipulations simply codified existing informal arrangements, and these parts of the law would have caused little change in behavior. But several measures were new and potentially effective. By reducing the information gap between insiders and outsiders, insuring a minimum level of quality of listed securities, and lessening the opportunity for conflicts of interest in new admissions and in

20 million marks that had listed prior to the law (Loeb, ''German Exchange Act,'' 408).

41. Loeb, ''German Exchange Act,'' 419–20, lists three methods of trading to substitute for futures dealing on the exchange. Emery, ''Results of the German Exchange Act,'' 317–18, explains that the brokerages and large banks agreed on a new method of trading that circumvented the prohibition on ''trading on account'' even before the law went into effect. The brokers did apparently lose business to the banks.

42. Emery, ''Results of the German Exchange Act,'' 315, suggests that the waiting period for conversions created the incentive for such firms to merge with an existing share company, and for that firm to undertake the new issue immediately. If so, the new law can be seen as a promoter of industry concentration as well.

price setting, the new law presumably improved transparency, raised confidence in the exchanges and increased willingness to invest in equities listed there.[43] The extension of the unified price system to all of the exchanges further promoted securities transactions on the exchanges and actually removed some portion of the universal banks' securities dealings as it closed the gap in prices for securities listed on multiple exchanges and thereby eliminated many of the banks' arbitrage opportunities.[44]

The Stock Exchange Law is also notable for a provision that it opted not to include, and that is a restriction on the membership in the various exchanges. Though some participants in the debate had argued in favor of limiting memberships, the proposal proved unpopular due to the perception that it would favor big firms over small brokers and ''increase the influence of the 'money power'.''[45] In stark contrast to the New York Stock Exchange, where the exchange tightly restricted membership via the fixed supply of ''seats'' and where these seats cost tens of thousands (millions in today's values) of dollars, the Berlin Stock Exchange permitted entry to all men of good standing (not bankrupt or stripped of certain civil rights).[46] The exchange charged nothing to members of the Merchant Corporation and only a nominal fee for access by others.

Complicating the issue of stock market regulations, and potentially more important to the actual functioning of the exchanges, the German government also imposed taxes on exchange business and increased their rates and scope over the three decades leading up to World War I.[47] Taxes appeared first in 1881, though the Prussian government had attempted unsuccessfully to impose taxes earlier. The tax combined a flat-rate stamp duty on trades with a proportional tax on new issues. After much further debate over the flat tax on transactions, it was

43. As an aside, bank involvement in price setting may have dampened volatility, so excluding bank intervention could have increased volatility.

44. The larger universal banks had earned significant income from arbitrage, so that part of the law cut into their income noticeably. Schulz, *Deutsche Börsengesetz*, provides figures for Deutsche Bank, which lost more than three-quarters of its arbitrage income between 1895 and 1900: from 404 million marks in 1895 to 94.3 million in 1900.

45. Emery, ''Results of the German Exchange Act,'' 305.

46. Ibid., 304, presumably not speaking for the half of the population that was excluded outright, suggests that ''this restriction can hardly be called onerous.'' He also notes that, while the Hamburg exchange maintained even looser standards (''every respectable person of the male sex''), smaller groups of traders in particular commodities had begun to create associations with official memberships, though still with relatively easy access.

47. Fohlin, ''Regulation,'' takes up the issue of taxes versus exchange regulations in greater detail.

changed to a percentage rate in 1885, assessed for every one thousand marks. In 1894, shortly before the stock exchange law passed, the government doubled the transaction tax and extended its application to all amounts over 600 marks. The stamp tax law of 1900 then eliminated the exemption for small trades, raised rates further, and also broadened the scope of the taxes to include mining stocks (*Kuxe*).

Like the corporate laws and stock exchange laws, the tax provisions created incentives for shifting securities transactions from the exchanges to the universal banks. The manner in which the government assessed the taxes favored large banks over small ones, and may therefore have worked to encourage banking concentration. Up until 1894, provincial banks that placed orders through their Berlin correspondents typically had to pay the transaction tax twice—once for the actual trade and again for the transaction between the provincial bank and its correspondent. In addition, because the larger banks could execute trades among their own customers and only place the net transaction on the exchange, they saved significantly on transactions taxes and could pass on some of the savings to customers in the form of lower commissions. The larger a bank's networks, the more trades could be transacted within the bank; and the higher the tax, the greater the savings from doing so. Using this enormous loophole, the largest banks gained a significant advantage over provincial banks, not only in the securities business, but in attracting customers more generally. The new tax law in June of 1900, closed the loophole for these compensatory transactions, but by then the largest banks had gained an advantage that was seen as insurmountable.[48]

Taken together, and viewed at the surface, Germany's legal interventions could easily be construed as anti-market and pro-bank. Over many generations of scholarship, these ideas have crystalized as truth and have led to conclusions about the inevitability of market-suppressing action on the part of civil-law governments or by those with centralized political power such as Germany had. A closer reading of the history, however, reveals greater complexity to the political context within which the German legislature enacted these laws and suggests that many of the legislative actions of the Kaiserreich aimed to improve market functioning or at least did not purposefully undermine markets or favor banks. Indeed,

48. See Jakob Riesser, *Die Deutschen Großbanken und ihre Konzentration* (Jena, 1910), 620. English translation: *The German Great Banks and Their Concentration* (Washington, D.C., 1911).

what we find is that the German government largely eliminated incorporation restrictions, strengthened shareholder rights and protections, standardized stock market microstructure, and improved transparency of information.

There were some significant areas in which legal changes did appear to undermine the markets and simultaneously encourage banking concentration. But the historical evidence indicates that the specific provisions that undermined the use or efficiency of market transactions (the futures ban and taxes) resulted from unlikely political alliances and possibly from the weakness of the federal government in relationship to the states.[49] Moreover, those parties commonly seen as benefiting from the regulatory changes stood staunchly in opposition to them, and politicians saw the laws as a means of preventing too much power from flowing to the ''moneyed'' interests. In fact, the most widely-cited anti-market measure, the 1896 ban on futures trading, appears to have been generated not by incumbent financial interests, but by vociferous agrarian interests. The law came into being against the strenuous protests of prominent bankers and economists and as a result of the particular organization of the German federal government that gave Prussia's landed aristocracy excessive power over the rest of the nation. Whether or not there was an ''iron and rye'' coalition in place during this period, there seems clearly to have been no analagous union of ''gold and rye.'' While the financial elite enjoyed prestige and significant power in government circles, when the two sets of interests diverged, as they did on the 1896 law, the banks' influence proved insufficient to overcome the Junker plurality.

Thus, even if the various laws were intentionally anti-market, it is not the centralization of power or the adherence to a civil-law system that yielded them but rather the accident of history that put a particular (and apparently rather unsophisticated) interest group in the position to heavily sway, if not outright determine, corporate and financial policy.

Even when ostensibly anti-market laws and regulations came into force, the outcomes were often short-lived or were suprisingly muted in their effects, possibly because their effects were offset by the rapid industrial and economic development of the time. Certainly the futures prohibition of 1896 eliminated a portion of the market's

49. Particularly in the case of taxation, the federal government kept little control. See Gary Herrigel, *Industrial Constructions: The Sources of German Industrial Power* (London, 1996), on the relationship between the Reich and the states (Länder).

securities business, but the ban ended in 1908. The imposition of taxes may have also deterred the use of markets and spurred banking consolidation. Still, much of the corporate governance reform seems to have been pro-market and neutral on banking concentration. Overall, the record shows a mix of initiatives that had an ambigous effect on the functioning of banks and markets. Thus, beyond the question of motivation and intent, we also need to assess the actual impact of the laws.

Evidence on Stock Market Development and Performance in Germany

Even if the German government did purposefully set about to enact laws to undermine the functioning of the securities markets and promote the concentration of the universal banking sector, those laws would only provide one part of the story. Legislative action provides just a link in the logical chain from civil law tradition or political centralization to market suppression and bank domination.[50] To complete that causal relationship, there needs to be evidence of poorly functioning markets and growing domination of banks. The latest work on German finance before World War I largely overturns the idea that legislative intervention propelled the expansion and concentration of the universal banks at the cost of suppressing the use of securities markets.

Before examining the data, it is worth making the simpler point that corporate firms clearly used the domestic stock exchanges during this time. Many private companies converted to joint-stock companies (Aktiengesellschaften) at least in part to diversify family holdings, and that trend—as evidenced by the number of conversions of private firms—accelerated from the last decade of the nineteenth century until World War I.[51] They also frequently used new issues of publicly traded share capital, both initial public offerings and secondary equity offerings, to finance investment.[52] Firms wishing to access the most

50. An alternative view holds that there is something cultural or societal in civil-law based systems that make the economic actors prefer centralized, relationship-based institutions over arms-length market transactions. In that case, however, the civil law tradition is not the causal factor but rather just a proxy for the underlying cultural and societal predisposition.

51. Weber, *Depositenbanken*, and Whale, *Joint-Stock Banking*.

52. Fohlin, ''IPO Underpricing,'' *Finance Capitalism*, and ''Corporate Capital Structure and the Influence of Universal Banks in Pre-World War I Germany,''

new equity capital listed on the exchanges, especially in Berlin. Listings increased from a small handful before the broad liberalization of incorporation in 1870, to several hundred thereafter, to well over 2,000 at the start of the war.[53] Moreover, listed firms with expanding equity were more likely to have a universal banker sitting on their supervisory board.

Addressing the issue of the relative use of banks versus markets turns out to be difficult. Because of missing data, analyzing patterns of trading between markets and banks proves virtually impossible for the prewar period. The banks themselves reported no data on internal trading, and the exchanges only reported secondary measures of tax receipts from which trading volume may be partially inferred. The universal banks' current account turnover, some portion of which related to brokerage services, provides a very rough proxy of the banks' business in securities. That measure at least captures the broader lending business of the banks, which itself is seen as increasing in response to regulatory restraints on the markets. Universal bank turnover itself rose rapidly throughout the period from 1884 to 1913, while implied stock market volume trended downward (see figure 1). The statistical estimate of negative trend in trading volumes, however, stems from an anomalous increase in volume in the late 1880s that then ended with the crisis of 1891, followed by drops in trading surrounding the subsequent crashes of 1900–01 and 1907–08. Even with these annual figures, the variability of trading volume becomes evident.

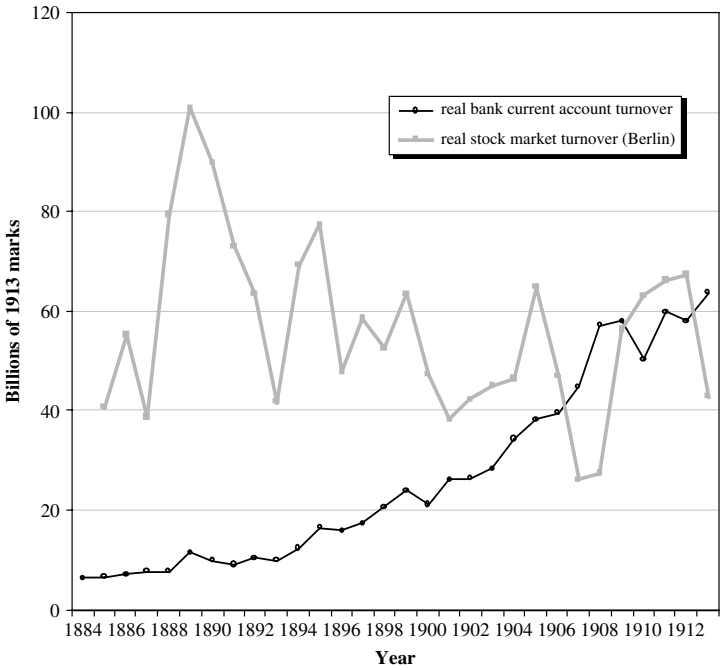
Putting the two measures together produces a ratio of universal bank turnover to stock market trading volumes, and that ratio did increase quite significantly, at a rate of about 10 percent per year.[54] Regulatory changes caused no significant increase in bank versus borse volume: there is no shift up in levels or acceleration in trend after the stock exchange laws in 1896 and 1900 or after the formation of the stock exchange commission in 1892.[55] Yet the ratio and its trend did

Jahrbuch für Wirtschaftsgeschichte 2 (2002): 113—34, as well as Burhop, "Financial Development."

53. Fohlin, "History of Corporate Ownership," also showing that incorporations burgeoned to 16,000 in the five years following the war but then rapidly declined again during the depression and Nazi regime.

54. Fohlin, "Regulation."

55. Because volumes are available in terms of real price times quantity, the regression analysis includes an index of stock prices to help control for that component of the changes. Interestingly, though, bank turnover relates much more to the stock price index than does trading volume. See Fohlin, "Regulation," for details.



Sources: Fohlin, *Finance Capitalism and Germany's Rise to Industrial Power* (New York, 2007), and included sources.

Figure 1 Real Turnover in Universal Banks and Stock Markets.

increase significantly after 1894, when the government doubled the taxes on exchange transactions. Thus, tax measures likely depressed exchange business somewhat, but the ban on futures trading and the other regulatory events show little impact.[56] The only marked increase in the ratio came in 1907 and 1908, when many stock markets worldwide encountered a severe crisis. During that time, volumes abated noticeably while bank activity continued its gradual expansion. The ratio dropped again in the following two years, before rising again with the lead-up to the war.

Business of the univeral banks clearly grew over this period, and the banks responded to new demands by raising additional capital and taking in more and more deposits. New banks also formed, and including these new entrants, the total assets (in real terms) of the universal banking sector rose nearly 7 percent per year on average

56. Fohlin, ''Regulation.'' Of note, Osterbach, Gelman, and Burhop, ''Taxation,'' come to a remarkably similar conclusion.

from 1884 to 1913. Assets per bank increased at slightly more than half that rate. While the growth rates of the banks naturally varied from year to year, the banking sector did not expand assets abruptly after any of the regulatory or tax measures of 1892, 1894, 1896, and 1900, nor did the rate of expansion increase markedly at those points. Measured continuously, however, rising tax rates do relate very significantly to bank expansion after controling for the positive effects coming from the (real) volume of new issues.[57] New issues volume itself says something about the use of the stock markets, and it increases rapidly over the period with a negative but statistically insignificant effect of tax hikes. Thus, new issues continued as an important financing instrument over the entire prewar period, and the underwriting of these issues provided reasons for the larger banks to expand capital.[58] This result reinforces the idea of inter-dependence between universal banks and securities markets.

The stock exchange laws and tax levies were thought to have disproprtionately benefited the largest banks, thus propelling greater concentration in the universal banking sector. The evidence does show increasing concentration, but not nearly to the extent portrayed in the older literature. Concentration was largely due to the slow growth of private banking assets relative to the larger, joint-stock banks.[59] Concentration did not increase significantly following the stock exchange law in 1896, but it did grow as tax rates rose, particularly following the tax increase of 1894.

The impetus for increasing concentration comes from a number of factors—most notably the steady growth of new issues, and the increasing average size of new issues—that likely would have existed in the absense of the newly enacted laws.[60] On the whole, provincial

57. In other words, the volume of new issues relates positively and significantly to banks' assets. So, when bank assets are regressed on the tax rate without controlling for the concurrent positive influence of new issues volume, the coefficient of taxes is insignificant—it appears as though there is no effect of tax rates, because the banks' assets are still growing. The overall growth of the economy worked to encourage banking growth as well. The regressions also include trend in order to control for remaining unobserved factors.

58. Riesser, *German Great Banks*, and Weber, *Depositenbanken*, estimate that securities underwriting accounted for about 30 percent of profits of the great banks. Fohlin, *Finance Capitalism*, provides new estimates that show considerably variability but certainly very high proportion of profits coming from securities commissions for some of the largest, Berlin-centered banks.

59. See, Caroline Fohlin, ''Banking Industry Structure, Competition, and Performance: Does Universality Matter?,'' California Institute of Technology, Social Science Working Paper no. 1078 (Oct. 2000) and ''Regulation'' for details.

60. The United States experienced a great merger wave around the same time, 1898–1902, and that phenomenon also increased new issues.

banks engaged less actively in securities underwriting, and neither tax hikes nor growing volumes of new issues influenced the size of that part of the universal banking sector. The differential incentives for growth between the largest banks and the rest help explain part of the observed concentration in the banking industry. More generally, though, the rationalization of the banking industry probably accounts for the most significant part of measured concentration growth. As the industry worked to create a national branch system in order to capture economies of scale and network economies, many of the provincial banks were bound to become branches of the largest banks. These patterns repeated themselves during this same period throughout the world, in many countries that had not enacted stock market laws or taxes as in Germany. Given this general move towards branching, particularly via absorption of smaller banks, it is difficult to assign causality to the stock exchange law. Notably, concentration in Germany and elsewhere actually accelerated dramatically after 1913, without any legislative impetus.[61]

The issue of banking concentration and the clear connection of the largest banks to the underwriting business raises the related issue of bank involvement in corporate governance. These banking relationship almost surely did relate to certain parts of German law, but doubtfully to the stock exchange laws. Banks gained considerable voting rights over corporate equity through a string of circumstances in the German system. Firms typically issued unregistered bearer shares that granted rights to whomever held the shares. This encouraged shareholders to deposit their equity holdings for safekeeping with banks, especially with the development of the safety deposit box business in the 1890s. Banks took proxy voting rights for most shares deposited with them. While the 1884 law required the equity owner to sign over control to the proxy holder (often a bank), the banks easily circumvented the provision by inserting a proxy transfer agreement into their preprinted deposit contracts. In effect, then, the active use of securities markets and increasing dispersion of equity ownership fed the increases in voting power of banks.

61. Also, the German commercial/investment banking sector was not exceptionally concentrated by European standards and followed a concentration trend similar to that taking place in the U.K.—one that accelerated after 1913. See, Forrest Capie and Ghila Rodrik-Bali, ''Concentration in British Banking, 1870–1920,'' *Business History* 24 (Nov. 1982): 280–92, for U.K. concentration measures, and Fohlin, ''Banking Industry Structure,'' for comparison with German and U.S. ratios.

Thus, despite rising taxes and growing regulation (perhaps because of improved investor protections), the German stock exchanges increased listings and trading volumes, and they rebounded from the periodic crises that hit world markets in 1891, 1900–01, and 1907–08. By the start of World War I, the Berlin market ranked among the top in the world, lagging only London in overall size and liquidity.[62] Moreover, those banks that engaged in underwriting activities earned substantial fees and commissions on that business, amounting in some cases to half of their annual revenues.[63] Thus, some banks depended crucially on active securities markets for their prosperity and virtually all universal banks benefited from corporate growth and the resulting demand for outside securities-based finance.

It is safe to say that German stock exchanges expanded over the period, both in numbers of listings and market capitalization. Whether they functioned efficiently and with low costs is another question, and one that requires additional types of evidence to answer. One such piece of evidence comes from estimated costs of transacting on the Berlin Stock Exchange.[64] Part of the transactions cost of market exchange includes compensation for risk and information asymmetry. Typically, thin trading may allow more insider trading and raise trading costs as payment to market makers. Lack of competition in brokerage would also tend to raise trading costs. Thus, a system with poor investor protections may keep corporate ownership concentration high and market exchange of shares low, thereby tending to raise transactions costs. Moreover, if banks subsume a considerable amount of securities trading internally, or if they monopolize brokerage services, then we could expect to find relatively high transactions costs on securities traded in the market. In the German case, if weak investor protections or universal

62. See Fohlin, *Financial System Design*, and Rajan and Zingales, ''Great Reversals.'' See also Richard Tilly, ''Public Policy, Capital Markets and the Supply of Industrial Finance in Nineteenth-Century Germany,'' in *The State, the Financial System, and Economic Modernization*, ed. Richard Sylla, Richard Tilly, and Gabriel Tortella (New York, 1999), 134–57. Rajan and Zingales's estimates of market capitalization are seriously flawed, because they cover a different set of securities and markets for the key countries in the comparison, according to Richard Sylla, ''Schumpeter Redux: A Review of Raghuram G. Rajan and Luigi Zingales's Saving Capitalism from the Capitalists,'' *Journal of Economic Literature* 44 (June 2006): 391–404. These rankings also compare only the countries' top markets, and not the full set of traded share companies in those countries.

63. Fohlin, *Finance Capitalism*.

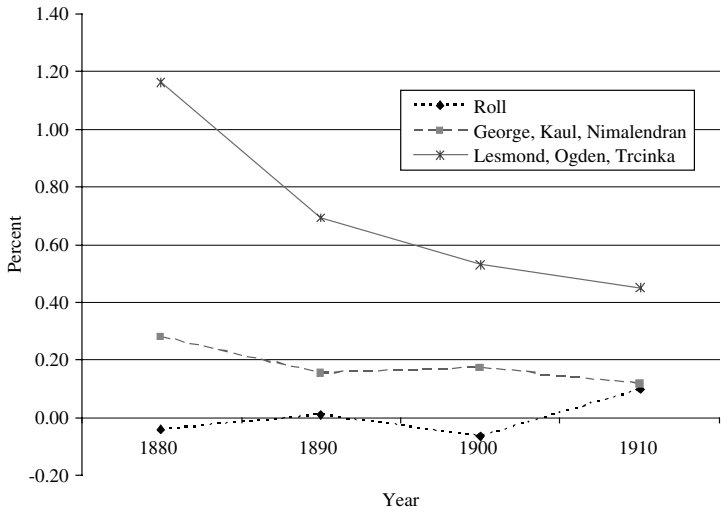
64. Gehrig and Fohlin, ''Trading Costs,'' using daily data. See also Anja Weigt, *Der deutsche Kapitalmarkt vor dem Ersten Weltkrieg—Gründerboom, Gründerkrise und Effizienz des Deutschen Aktienmarktes bis 1914* (Frankfurt, 2005), based on monthly data.

banks—particularly the great banks—suppressed market functioning and made for less efficient trading, then the equity markets should evidence higher estimated bid-ask spreads than more competitive systems with better investor protections.[65] If the laws of 1884 and 1896 failed to significantly increase minority shareholder rights, and if the growing concentration of the universal banking sector reduced competition in brokerage services, then trading costs should have risen over the years, all else equal. Certainly, with transaction taxes rising, we could expect to see total transactions costs increasing.

To determine whether these patterns appeared in practice, we need to measure transactions costs over an extended period, starting before the 1884 law and continuing up until World War I. Trading costs are commonly measured using bid-ask spreads. The price setting method at the German stock exchanges, however, did not produce bid-ask spreads. The finance literature has developed alternative methods to calculate transactions costs based on the closing prices for each day. Contrary to the expectations recent analysis shows that shares traded in the Berlin market bore relatively low trading costs, even by modern U.S. standards and certainly by recent German standards.[66] In addition, calculated spreads and total transactions costs fell between 1880 and 1910, particularly between 1890 and 1900 (see figure 2). Thus, informational efficiency appears to have increased after the 1894 tax law and the 1896 *Börsengesetz*, despite higher taxes, rising bank concentration, prohibitions on most futures trading, and other changes in the system that could have created inefficiencies. While costs might have fallen even further absent these conditions, it is clear that improvements in technology and expansion of trading or possibly growing competition outweighed the negative factors.

65. More recently, researchers have questioned the market activity and investor protection in the two major common law systems—the U.S. and the U.K.—in the pre-war era. See Rajan and Zingales, ''Great Reversals,'' and Julian R. Franks, Colin Mayer, and Stefano Rossi, ''Ownership: Evolution and Regulation,'' European Corporate Governance Institute - Finance, Working Paper no. 09/2003 (March 2005). Still, few would categorize either financial system as bank-dominated—especially not in comparison to Germany. Fohlin, ''Economic, Political, and Legal Factors,'' and *Financial System Design*, does classify the U.S. system prior to Glass-Steagall (1933) as quasi-universal and relationship-oriented. In addition, Fohlin, Tobias Brünner, and Thomas Gehrig, ''Asymmetric Information and the Costs of Trading in the New York Stock Exchange, 1900–1910,'' Johns Hopkins University, Working Paper (May 2007), estimate high transactions costs (effective spreads) and some evidence of anti-competitive pricing in the NYSE in 1900 and 1910.

66. See Gehrig and Fohlin, ''Trading Costs.'' For a large sample of firms traded on the Berlin stock exchange, we estimate effective trading costs, or spreads, along with measures of total transactions costs.



Notes: The three measures are described at length in Thomas Gehrig and Fohlin, "Trading Costs." The first two measure the effective bid-ask spread on a security transaction, while the third measures round-trip transactions costs, including taxes.

Source: Gehrig and Fohlin, "Trading Costs in Early Securities Markets: The Case of the Berlin Stock Exchange 1880-1910," *Review of Finance* 10 (Dec.2006): 587-612.

Figure 2 Measures of Transactions Costs in the Berlin Stock Exchange, 1880–1910.

To investigate more closely the causes of transactions cost patterns, we also analyze the determinants of spreads at the firm level and compare spread estimates by size quartile. The results indicate that total transactions costs relate negatively to firms' size. Trading shares of larger firms cost less than trading shares of smaller firms. Indeed, the costs averaged about four times higher for the smallest quartile of firms compared to the largest quartile. Notably, however, the cost reductions over time disproportionately benefited the small- and medium-sized firms. While the smallest firms still traded with the highest costs by the end of the period, the total ''round-trip'' transactions costs only declined significantly for the bottom three quartiles of firms. These costs actually increased from 1890 to 1900 for the largest firms, but then decreased very slightly from 1900 to 1910. This difference in differences could stem from a number of factors: trading was likely the most active and least information constrained for the largest firms to start out with, and the government may have more successfully collected taxes on trading in those firms as well.

From the standpoint of trading costs, therefore, Germany's principle prewar stock market performed remarkably well and increasingly so. This finding does not mean that the banks did not intervene in the markets as proposed. They may have done so, but if they possessed

superior information compared to exchange brokers and other market participants, their involvement as informed market makers could have reduced adverse selection costs. As time went by, however, bank-firm relationships became more complex and indirect so it is likely that the banks' informational advantage eroded at the same time.[67]

Information is also key to another measure of market efficiency, that based on assessment of the returns on traded securities. The efficient markets hypothesis, or at least one version of it, contends that asset prices reflect all available information, thereby making it impossible to consistently outperform the market on a risk-adjusted basis. In a poorly-functioning market, it could be expected that prices aggregate information more slowly and allow for exploitation of systematic mispricing. Thus, examining the predictability of common stock returns provides some insight into this question, and an enormous amount of research has gone into uncovering consistent patterns in stock returns, but primarily for the postwar era.[68] These studies begin with the capital asset pricing model (CAPM), according to which expected excess returns should be proportional to a stock's risk (typically measured by the covariance of the stock's return with that of the market—that is, the stock's beta).[69] Studies on the United States, however, have found that certain other characteristics provide greater explanatory power than beta itself does. In particular, smaller firms outperform larger ones, high book-to-market firms outperform low book-to-market firms, and highly profitable firms outperform less

67. Fohlin, ''The Rise of Interlocking Directorates in Imperial Germany,'' *Economic History Review* 52 (May 1999): 307—33. See also Volker Wellhöner, *Großbanken und Großindustrie im Kaiserreich* (Göttingen, 1989), for details on a few prominent cases.

68. The finance literature still debates the connection between statistical predictability and market inefficiency and also suggest that empirical estimates of risk (beta) are inaccurate. The famous works on stock returns are Eugene F. Fama and Kenneth R. French, ''Common Risk Factors in the Returns on Stocks and Bonds,'' *Journal of Financial Economics* 33 (Feb. 1993): 3–56, and Eugene F. Fama and J. MacBeth, ''Risk, Return and Equilibrium: Empirical Tests,'' *Journal of Political Economy* 81 (May–June 1973): 607–36. For recent research and surveys thereof, see O. Oyefeso, ''Literature Survey of Measurement of Risk: The Value Premium,'' *Journal of Asset Management* 5 (Dec. 2004): 277–88, and G. William Schwert, ''Anomalies and Market Efficiency,'' in *Handbook of the Economics of Finance*, ed. George Constantinides, Milton Harris, and René Stulz (New York, 2003), pp. 937–72. Burton Malkiel, ''The Efficient Market Hypothesis and its Critics,'' *Journal of Economic Perspectives* 17 (Winter 2003): 59–82, provides extensive commentary on the question of market efficiency.

69. A stock that has a high covariance with the broader market is riskier than one that moves less than the market. For a clear and straightforward presentation of the CAPM, see André Perold, ''The Capital Asset Pricing Model,'' *Journal of Economic Perspectives* 18 (Summer 2004): 3–24.

profitable ones. In addition, researchers have uncovered momentum effects, in which recent past performance positively predicts returns in the next period.

Although there is much work left to do on this topic, we do have some new evidence on stock returns for prewar Germany. These studies look for evidence of size and book-to-market effects, as well as earnings and momentum effects, in the monthly returns on common stock listed on the Berlin exchange in the period 1904–1910 as well as in annual returns over the period from 1881–1913.[70] In both studies, various measures of beta perform poorly. While this result might indicate that prices are not properly reflecting risk, the statistical difficulties of accurately estimating beta most likely explain the finding. More importantly, stock returns relate significantly to the book-to-market ratio but in exactly the opposite direction of recent long-run studies of U.S. stocks in which firms with high book value of equity relative to market value earned higher average returns than those with low ratios, *ceteris paribus*. This so-called ''value effect'' reversed during the U.S. stock market boom of the late 1990s. For that period, the picture looked more like that of Berlin in the run up to World War I. In addition, no size effect emerges for the Berlin market, and returns on the momentum portfolio are insignificant (see table 1). These results tell us that the Berlin stock exchange functioned at least as closely in line with CAPM predictions as recent U.S. markets. Perhaps most notably, the absense of a momentum effect suggests that investors could not profit from trading strategies based on predictability using recent past returns.

These models of stock returns do not address the role of banks in price setting and in corporate governance relationships with firms. In the world of financial system dichotomy, the correlation between civil law tradition and universal-relationship banking also implies activist banks that intervene in markets. In this line of thinking, universal banks actively manage share prices, particularly for firms in which they have a stake. One contemporary observer even claimed that

70. See Fohlin and Reinhold, ''How Anomalous,'' for a discussion of the literature and the monthly returns analysis. See Peter Bossaerts and Caroline Fohlin, ''Has the Cross-Section of Average Returns Always Been the Same? Evidence from Germany, 1881–1913,'' California Institute of Technology, Social Science Working Paper no. 1084 (July 2000) for the study of annual returns, 1880–1913. Both studies incorporate dividends into the calculation of stock returns.

Table 1 Correlation Coefficients

	Earnings (+)/income ratio	ln(book-to-market)	ln(market value of equity)	Dividend-adjusted return	Beta
Earnings(+)/	1				
Income ratio	3,000				
ln(book-to	−0.43	1			
market)	0.00				
	2,538	3,792			
ln(market value	0.17	−0.64	1		
of equity)	0.00	0.00			
	2,538	3,776	3,776		
Dividend-adjusted	0.08	−0.03	0.05	1	
return	0.00	0.06	0.00		
	2,517	3,767	3,751	3,767	
Beta	−0.02	−0.01	0.06	−0.01	1
	0.42	0.49	0.00	0.53	
	2,664	3,792	3,776	3,767	4,200

Notes: Significance level in italics. Number of observations is included below the significance level Beta is measured in an OLS regression of stock returns on the returns on an index of stock prices.
Source: Caroline Fohlin and Steffen Reinhold, ''How Anomalous are the Anomalies in Common Stock Returns? Fresh Evidence from Pre-World War I Germany,'' Johns Hopkins University, Working Paper (May 2007).

nearly all listed stocks had a *Schutzpatron* (literally, a patron saint), typically a bank, that influenced pricing by the exchange brokers.[71]

If this were the case, then we should be able to observe consistently different returns between firms with and without close bank relationships. The study of monthly returns does just this analysis—including an indicator for the presence of a bank director on the company's supervisory board to see if close bank relationships influence stock returns.[72] The analysis turns up differences between firms with bankers on their boards and those without: Firms with high book-to-market ratios and low betas are more likely to have this sort of formalized bank relationships. These corporate governance relationships, however, do not translate into superior stock returns. Whether the banks influenced all prices, even those for companies

71. Prion, *Preisbildung*. Marco Becht and J. Bradford DeLong, ''Excess Volatility' in the German Stock Market, 1876–1990,'' NBER Working Paper no. W4054 (April 1992), argue that bankers kept the volatility low in the prewar era and that excess volatility after World War II stemmed from the demise of the banks' role in the exchanges and the concurrent spread of speculators in the securities markets.

72. Naturally, we control for the selection bias due to the decision to engage in formalized relationships via supervisory board positions.

with which the banks had no formal ties, cannot be assessed with these results. The findings do support the idea that the securities markets, at least the primary market in Berlin, provided prices unaltered by bank or insider interests by the later stages of the period. To put it another way, we cannot support the notion that Germany's civil law tradition created a system in which securities markets failed to protect outside shareholders.

Contrary to the expectations set up within the ''system dichotomy'' view, the evidence that researchers have assembled so far reveals well-functioning and rapidly expanding markets in Germany in the three to four decades preceding World War I, as well as a banking industry that worked in concert with markets and that grew in line with banking systems elsewhere. The increasing concentration in the universal banking sector—whether or not it truly stemmed from the tax increases on stock market transactions—did not hamper the operation of markets. Indeed, banks took great care to protect the way that markets functioned.

Conclusion

Does civil-law tradition favor large, concentrated, universal banking systems and crowd out markets? Does centralized political power have these same effects? Do powerful universal banks prevent securities markets from operating efficiently? The latest research on Germany's nineteenth and early twentieth century financial system suggests not. The legislative history of the period indicates that this civil law, universal banking country mostly enacted laws that enabled markets to expand during this period.

Although the federal government banned most futures trading in 1896 and increased taxes over the period, the country's evolving regulatory system worked to protect shareholders through increased disclosure rules, tightened listing standards, and standardized pricing methods. Recent studies also offer very strong evidence that the universal banking sector grew rapidly during this period, but that bank size and industry concentration followed global trends that did not hinge on the legal and political changes taking place in Germany. Moreover, the legislative activity of the period did not suppress markets or create notable inefficiencies in their operations, as evidenced by their limited pricing anomalies and relatively low and declining transactions costs.

These findings come as some surprise largely because scholars paid scant attention to Germany's prewar securities markets for many

years following World War II. The neglect led to a sense that the markets had played little part in the prewar financial system. The few studies that appeared in the 1980s and 1990s argued that German secondary markets remained underdeveloped through the Kaiserreich era, but little hard evidence was gathered until recently.[73] The new evidence discussed in this paper, as well as other recent research on Germany's imperial-era financial history, has forced some rethinking of the common wisdom of bank domination and market suppression. The findings demonstrate that stock and bond markets thrived in Germany in the pre–World War I period, attracting thousands of companies to list their securities and many investors to trade in them.[74] The rapid growth in listings of equity shares on the stock exchanges offers direct evidence of their importance. These studies also detail how industrial companies (and banks) used the domestic stock markets for both equity and bond financing before World War I and have identified a strong link between listings in these markets and companies' use of equity capital and accompanying interlocking directorate relationships with the universal banks.

Taken together, the new research on German finance leads to a number of broader conclusions. First, banks and markets can work together, and systems that offer this sort of complexity may mobilize capital very efficiently.[75] Second, understanding the causes and consequences of financial system design benefits from a very long-term perspective. Constraining investigations to postwar data creates a skewed impression of at least some of the interactions among legal, political, and financial system characteristics.

This brings us back to the question of whether dichotomies are useful in understanding the evolution of institutions and their impact on national economic systems. The evidence surveyed in this paper suggests that the legal tradition dichotomy does not translate into a financial system dichotomy: Germany's pre-World War

73. See, for example, DeLong and Becht, ''Excess Volatility,'' William P. Kennedy, ''Portfolio Behavior and Economic Development in Late Nineteenth-Century Great Britain and Germany: Hypotheses and Conjectures,'' *Research in Economic History* 6 (1991): 93—130; and Ranald Michie, ''Different in Name Only? The London Stock Exchange and Foreign Bourses, c. 1850–1914,'' *Business History* 30 (Jan. 1988): 46—68.

74. Fohlin, ''Regulation,'' ''History of Corporate Ownership,'' and *Finance Capitalism*.

75. This point echos that of Fohlin, *Finance Capitalism*, based on an in-depth discussion of the evolution of the German corporate finance system prior to World War I, in particular emphasizing complexity as well as balance and even symbiosis among segments of the system—especially universal banks and securities markets.

I experience provides a counterexample to the strict and multiple-matching dichotomies. Thus, civil law tradition does not bring about a banking scope (specialized versus universal) dichotomy nor a banks-versus-markets dichotomy. Moreover, neither legal tradition nor the existence of universal banking necessarily crowds out well-functioning securities markets.

To understand the development and evolution of financial systems, we need not completely dispense with categories that help organize thinking about major lines of distinction. But we do need to move past the strict dichotomies that differentiate institutions and systems in too hard and fast a way and that fix specific sets of characteristics as irrevocably connected and even causally related. While it is probably true that a country cannot design a perfect financial system by mixing and matching individual institutions that appear to function particularly well within some other country's financial system, the history of financial development around the world—and the financial history of Germany in particular—shows that financial institutions change a great deal over time, and that systems do combine different sorts of institutions depending on myriad factors. In fact, systems may differ more within one country over time than they do across countries at a given time. Much of this variation and change stems from idiosyncratic factors and defies standardization. Perhaps most interesting to the larger question of how best to finance economic growth and societal well-being is the realization that a wide variety of systems may produce very similar end results.

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