Introduction

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The early 1990s saw a resurgence of interest in studies relating financial development and financial systems to modern growth within and across countries (King and Levine 1993; Demetriades and Hussein 1996; Rousseau and Wachtel 1998), and a vibrant literature now brings a wide range of regional and firm-level information to bear in exploring relationships between financial and real activity as well as the underpinnings of financial development itself. The success of this literature is undeniable, yet a less sanguine undercurrent continues to question whether the policy prescriptions informed by such studies are too simple and whether a "one-size-fits-all" approach to financial development can be as harmful to growth in some cases as it can be helpful in others (Rioja and Valev 2004; Rousseau and Wachtel 2011).

Interestingly, economic and financial historians made these same observations decades ago. Raymond W. Goldsmith's 1969 book *Financial Structure and Development*, for example, while often receiving only passing mention in reference lists of research articles using modern data and techniques, is deeply representative of the economic history tradition that views a balanced combination of data and narrative as the path to better understanding of not just whether but how financial factors influence growth. Other pioneers such as John G. Gurley and Edward S. Shaw (1955), and later Ronald I. McKinnon (1973), taking viewpoints primarily from development economics, emphasized how institutional change can loosen bottlenecks that impede the smooth flow of credit that is so crucial for modernization.

Prior to these contributions, research in financial history and in financial economics preceded along largely independent tracks. Business historians devoted attention to institutional history and particularly the role of banks, whereas earlier economists interested in development paid relatively little attention to financial institutions. Rather, studies of economic growth emphasized resource availability, trade, and technological change. For example, U.S. economic growth was traditionally attributed to the abundance of land and the immigration of talented human resources. The role of institutions generally and financial institutions specifically was just not part of the discussion.

The integration of financial and economic history emerged in the research of Richard Sylla and a few others. Sylla's work on post-colonial American economic growth demonstrated how important the early emergence of financial institutions was for the gradual acceleration of growth in the United States. In particular, the financial innovations envisioned and implemented by Alexander Hamilton, the nation's first Secretary of the Treasury, created an institutional structure that allowed the United States to become the world's dominant economic power by the time of World War I (Sylla 1998). Earlier scholars underestimated the complexity, modernity, and size of the early U.S. financial system.

From the very start of his career, Sylla put a research spotlight on the role of banks in American economic growth (Sylla 1969, 1972). A broad explanation of the role of the financial sector in the modernization and development of economies is found in Sylla (2002); Rousseau and Sylla (2005) provide an econometric demonstration of the finance-growth nexus in the early United States that shows that the American growth spurt started with the financial reforms of the 1790s and not much later (i.e., in the 1820s or even after the Civil War), which was the generally accepted view among historians. Although Sylla's scholarly contributions are largely on the American experience, his research introduced the next generation of economic historians to a new paradigm.

The essays in this volume range in topic from the American colonial experience to important twentieth-century financial sector institutions and contemporary issues. In every instance, the essays echo the ideas about the role of the financial sector introduced by Richard Sylla. The title of this book – *Financial Systems and Economic Growth* – reflects both the subject of the contributions collected here and the theme of Sylla's career and his influence on the economics profession.

The chapters were prepared for a conference held at the Stern School of Business, New York University, on March 27–28, 2015. The occasion for the conference was the retirement of Richard Sylla, the Henry Kaufman Professor of the History of Financial Institutions and Markets. Dick Sylla is in many respects the godfather of much contemporary research on the history of American financial institutions and the role of finance in the historical development of the American economy, the subject of many of the papers in this volume. The influence of his seminal work on the historical role of finance in American development can be seen in all of the contributions to this volume, which we briefly summarize here.

In Chapter 1, Michael D. Bordo and Christopher M. Meissner start with a review of the incidence of financial crises around the world from the time that reliable data begin to become available early in the nineteenth century to the present. "Growing Up to Stability? Financial Globalization, Financial Development and Financial Crises" also provides in-depth case studies for four nineteenth-century emerging markets: Argentina, Australia, Canada, and the United States. Their central question is why some countries learn from experience (i.e., grow up to stability) and others do not. The importance of the question is self-evident in light of the evidence that relates financial stability and development to economic growth. Some nations are able to access international capital markets and harness the funds for development while others are prone to repeated financial crises, which inhibit development and increase economic volatility.

Bordo and Meissner examine the crisis experiences of countries with available data and active participation in international markets, and place them into three groups. The first are the "leaders," which exhibited financial stability and development early on. This group includes Belgium, France, Germany, the Netherlands, Switzerland, and Great Britain. Countries in the second group, the "learners," were often colonial offshoots that experienced bumps in the road but learned from their crisis experiences to develop stable financial institutions. This group includes Australia, Canada, New Zealand, and the United States, as well as Denmark, Japan, Norway, and Sweden. Finally, a third group of countries are the "non-learners" or "repeat offenders," which experience repeated crises over long periods of time that inhibit financial development and economic growth. This group includes Argentina, Brazil, Chile, Greece, Italy, Portugal, and Spain.

In the golden age of globalization – the period from 1880 until World War I – the leaders had the deepest financial markets and highest growth rates. The learners had more frequent crises but experienced deepening financial markets and rapid growth as compared to the non-learners, which tended to bounce from boom to bust and experience periods of secular decline. Later in the twentieth century, the learners grew more rapidly than the leaders, and the non-learners lagged far behind. Countries in all three groups experience financial crises, but the likelihood of crisis experience declines the longer a country goes without a crisis. Thus, the learners use the crisis experience to develop stable financial systems whereas the non-learners experience frequent crises throughout their history.

Among the case studies, U.S. financial history is particularly revealing. The nation came into existence with a debt crisis and the first of many banking crises. Banking crises, some large, others small, occurred first in 1792 and most recently in 2007–2009. Currency crises stemmed from the operations of the bimetallic standard and later the gold standard, and persisted until the gold window was closed in 1971. Throughout these crisis experiences, Bordo and Meissner show a continued history of government responses and innovation in policy making that remedied problems without inhibiting private sector financial development. That is not to say that the United States did not make institutional mistakes, such as the Federal Reserve's repeated missteps during the Great Depression.

The United States was not the only distinguished learner. Bordo and Meissner suggest that Canada was the most successful in institutional learning with respect to banking crises. It adopted early on a model of nationwide branch banking and responded to problems with successive pieces of banking legislation that improved the soundness of the system and avoided any incidence of systemic banking crisis.

It is not easy to take general lessons away from Bordo and Meissner about why certain countries are learners and others are repeat offenders, as a dense nexus of factors seem to come into play in generating financial stability. Yet their contribution, by drawing heavily upon on the literature on institutions, suggests that the countries with successful financial development also saw greater political stability, adherence to the rule of law, well-defined property rights, and more democratic political systems.

Their discussion is complemented by the econometric analysis in Chapter 2 by Peter L. Rousseau and Paul Wachtel. In "Episodes of Financial Deepening: Credit Booms or Growth Generators?" we explore the influence of economic crises on the finance-growth nexus with historical data for seventeen countries from 1870 to 1929. This is the period when banks and other financial institutions developed rapidly in many countries. Earlier work (Wachtel and Rousseau 1995; Rousseau and Wachtel 1998; Rousseau and Sylla 2003) shows that financial deepening in this period was associated with economic growth. Yet it is also a period when many countries experienced financial crises, including serious banking and debt crises, which affected the operation of the financial system.

The main theme of Chapter 2 is that financial deepening has a dual role: it can provide the financial sector impetus for growth or it can lead to credit booms that sometimes end in systemic crises and economic downturns. These dual roles – the Jekyll-and-Hyde nature of credit deepening – have usually been discussed in separate strands of the literature. There is a literature on the finance-growth nexus (King and Levine 1993; Rousseau and Wachtel 1998) and an historical literature on crises (Reinhart and Rogoff 2009; Schularick and Taylor 2012). A connection between the two strands was suggested in Rousseau and Wachtel (2011), which examines data for the last fifty years. We found that the strength of the finance-growth nexus weakened in the last decade of the twentieth century and suggest that the reason might be the increased incidence of financial crises. The long-term impact of financial deepening on economic growth is muted when a country experiences a financial crisis. In this chapter, we examine the relationship between episodes of financial deepening and systemic financial crises.

Financial deepening episodes are defined as years where the ratio of broadly defined money (M2) to gross domestic product (GDP) increases by at least 30 percent over the previous ten years. There are sixty-one such episodes in our sample (1870–1929) and forty-nine systemic financial crises during the same period. About one-half of the financial crises are associated with a deepening episode, and about two-thirds of the deepening episodes are not associated with a financial crisis.

We conduct the analysis using cross-country regressions similar to those found in earlier work on finance and growth. Our econometric specification distinguishes the effects of those episodes of financial deepening that end in a crisis from those that do not. Thus, the results illustrate how expansions in credit affect the operation of the finance-growth nexus. We find that episodes of financial deepening, if not taken to the excesses that end in financial crises, enhance links between financial depth and growth. That is, the effects of credit deepening on growth are enhanced during credit booms that are not associated with crisis and diminished in crisis-boom periods compared to other periods. Thus, episodes of credit deepening are beneficial except when they are associated with financial crises.

In addition to the econometric evidence, the chapter includes brief discussions of crisis and deepening episodes in some of the countries. The descriptions of historical experiences are consistent both with our econometric evidence and the narratives offered by Bordo and Meissner in Chapter 1, suggesting that countries can learn from crisis experiences and benefit from continued financial deepening.

Chapter 3 takes an in-depth look at several aspects of U.S. financial sector development. In "Financing U.S. Economic Growth, 1790–1860," Robert E. Wright begins by observing that historians did not develop a serious interest in early financial development until the 1970s. Late-twentieth-century changes in the global financial structure due to the erosion of Depression-era financial repression and the end of the Bretton Woods regime resulted in rapid change, which in turn piqued interest in earlier periods of rapid financial change. The United States entered the nineteenth century with six interconnected elements of a modern financial system in place due to the political stability that came with the adoption of the federal Constitution and with the financial innovations introduced by Alexander Hamilton in the early years of the republic (Rousseau and Sylla 2003). Consequently, the United States enjoyed a stable unit of account, a central bank, a banking sector, an insurance sector, securities markets and, finally, as Wright emphasizes, a for-profit corporate business sector. With these foundations in place, economic and financial institutions developed rapidly in the early nineteenth century.

Wright uses a publicly available database that he constructed with Richard Sylla on "U.S. Corporate Development 1790–1860" (http://repository.upenn.edu/7) to illustrate the extent of financial sector development in the antebellum period and its influence on economic development. The astounding feature of the U.S. economy was the rapid appearance of large numbers of chartered corporations in every industrial sector. From 1790–1860, charters were granted to 1,636 corporations in the extractive sector; 2,122 in insurance; 10,775 transportation companies; 3,566 manufacturing firms; 1,165 construction companies; and 692 service companies.

The importance of chartered companies is twofold. First, a charter facilitated the raising of capital on the nascent financial markets. Second, companies utilized the growing banking sector to conduct business. Going beyond the aggregate data, Wright cites many examples of the interactions between the financial sector and the business sector, which financed innovation and expansion in agriculture, manufacturing, and transportation. He argues that the complex financial structure allowed for risk sharing and diversification that resulted in high levels of capital formation and rapid economic growth. Despite some elements of financial fragility (i.e., more than occasional financial panics and the failure to renew the central bank charter twice), the financial infrastructure (payments mechanisms, capital markets, and others) was sufficiently resilient to serve the growing business sector. The antebellum United States had a surprisingly modern economy and sophisticated financial system.

Chapter 4, "Banks and Democracy" by John Joseph Wallis, also focuses on U.S. institutions. The essay discusses the political institutions governing banking in the United States as well as the larger interaction of political and economic development in the period from 1790 until the start of the Civil War. The antebellum period is characterized by rapid development of both economic institutions in the United States (as Wright demonstrates in Chapter 3) and by the emergence of a populist democracy. Wallis is very interested in banks and notes, particularly the connection between free banking and America's free-wheeling democracy that earlier historians have mentioned. Some attribute free banking to the constitutional era while others attribute it to Jacksonian populism. Wallis argues that the Jackson era unleashed an unfettered financial system that allowed almost anyone to establish a bank and, in the process, promoted economic development. He emphasizes the importance of egalitarian democracy (as opposed to elite democracy) in the development of the banking system. Thus, American economic development is not rooted in the ideas of the founding generation about a governmental system that balances the equality of different privileged groups, but rather is rooted in a system where rules are impersonal and opportunity is open to all. Free banking (and one would suppose the spread of the limited liability corporation described by Wright) is the economic manifestation of the development of American democracy. Populist democracy, banks, and economic growth go hand in hand in Wallis's interpretation.

Wallis emphasizes the importance of rules. There was extensive rule making about banking at the state level through the early nineteenth century, and many reforms came about because of problems in the banking sector. The rule making, however, was largely done in the context of free entry and other democratic sensibilities, which led to efforts to restrain and control groups privileged in the earlier system. As a result, the interaction of democracy and banking worked well to encourage financial and economic development.

The next chapter brings us forward to the twentieth century and another period when the interactions of political and economic institutions are of interest. Although far removed in time from Wallis's focus on the antebellum era, Chapter 5 also focuses on the influence of political developments on economic institutions and its impact on the economy. The cold war (1947–1991) has not yet been a subject of much interest to economic historians, but Niall Ferguson's contribution in Chapter 5 is likely to change that. In "Financial Systems, Economic Growth, and Globalization in the Era of the Cold War," Ferguson poses two puzzles about the world economy in this critical period. The first is why the United States continued to grow as rapidly as it did when defense expenditures were high and burdensome. The second is that while the world was under the cloud of potential Armageddon throughout this period, the U.S. economy grew rapidly.

Ferguson takes issue with the conventional view of the economic consequences of the cold war as epitomized by Paul Kennedy's *The Rise and Fall of the Great Powers*, which was published in 1987 as the cold war was drawing to a close. Kennedy argued that the burden of maintaining military prowess would crowd out productive investment, place a drain on America's finances, and ultimately lead to the eclipse of the great power. Importantly, Ferguson points out that the United States had uniquely deep and wide capital markets and access to global finance as well, which made it able to absorb the increases in defense spending in the later stages of the cold war under President Reagan. Indeed, the economy that did not benefit from a robust financial structure was the Soviet Union's, which sank under its military burden and inability to allocate capital efficiently. Ferguson suggests a parallel to the wars between Britain and France in the eighteenth century. The *ancient regime* fell because, like the Soviet Union, it did not have the financial wherewithal to compete.

To illustrate the nature of the cold war as an actual war, Ferguson draws attention to the "doomsday clock" that was published in the *Bulletin of the Atomic Scientists* and was widely followed at the time. It hovered around midnight throughout the period and came closest in the early 1950s and the mid 1980s. Many people expected that a world war with nuclear weapons employed (which would have been devastating to all involved) would occur. The paradox is that a golden age of economic growth occurred in the midst of these enormous risks. The implication is that once the risks were removed with the end of the cold war, individuals would have greater optimism about the future and saving should increase. Similarly, the chapter considers evidence that war risk or cold war politics affected asset allocations and interest rates and finds none to be compelling. Ferguson's answer to this puzzle is that the possibility of a third world war was an incalculable uncertainty so people naturally focused on imaginable and calculable risks.

To support this hypothesis, Ferguson turns to the writings of Siegmund Warburg, a British financier whose firm, S. G. Warburg, grew rapidly in the early postwar years. Warburg was a student of world politics who was thoroughly aware that the cold war brought the threat of societal disintegration. But he and his generation, according to Ferguson, conducted business as if the threat did not exist.

Twenty-five years down the road, the cold war has almost receded from memory. It was a period of unexpected economic prosperity because robust financial markets enabled Western nations to fight off cold war threats from the Soviet Union; indeed, Warburg's philosophy that one could lead an active business life despite those unimaginable threats seems to have prevailed.

In Chapter 6, Marc Flandreau draws our attention to an important interwar episode during which political and economic events interacted. "Reputation, Regulation and the Collapse of International Capital Markets, 1920–1935" analyzes the shift in financial power from London to New York in the 1920s and the influence of the New Deal in the 1930s on international finance.

After World War I, the center for underwriting in the global bond market moved from the merchant bankers in London to the investment bankers in New York. London markets suffered from the U.K.'s postwar economic situation – unemployment, balance of payments problems, and instability. As a result, in a short period of time, the New York underwriters gained the prestige and experience that enabled them to dominate the global markets. Nevertheless, the international issuance of bonds virtually disappeared in the financial and banking crises of the early 1930s. In a conventional view, the New Deal policy responses to the crisis were efforts to stem its spread with crisis interventions (such as the bank holiday) and legislative responses (such as the Glass-Steagall Act). Flandreau examines the tensions between the Roosevelt administration and the banking community and suggests that the New Deal might have been the cause of the shutdown of international markets rather than a response to it. In this view, policy changes inhibited the bankers and made it more difficult for them to use their prestige in risky underwriting activity. As a result, the bankers retreated and the foreign debt markets collapsed. These experiences shaped the development of the modern (post–World War II) bond markets where impersonal bond ratings supplanted the personal involvement of bankers.

The final two chapters return to specific episodes in U.S. banking history that are of particular interest because of the strong lessons that can be drawn for contemporary problems. In Chapter 7, Eugene N. White examines an earlier episode during which the Federal Reserve (or at least one of its regional banks, the Federal Reserve Bank of Atlanta) acted boldly to stem the spread of a systemic crisis. In Chapter 8, Charles W. Calomiris and Mark Carlson reach back to the national banking era and find many precursors to what we now call macro prudential regulation.

A full exposition of the "lender of last resort" function of a central bank dates back more than 100 years to Bagehot (1873), but for much of recent history it did not get much attention. Particularly in the United States, post–Great Depression reforms such as deposit insurance and institutional developments (e.g., the market for federal funds) made the lender of last resort function seem an anachronism. Of course, interest in the proper role and use of the Fed's lending facilities to the banking system came roaring back after the 2007–2009 financial crisis. Most observers agree that central banks should flood the markets with liquidity in a time of crisis, but whether there should be constraints on the support given to individual financial institutions is hotly debated.

Eugene White's chapter, "Protecting Financial Stability in the Aftermath of World War I: The Federal Reserve Bank of Atlanta's Dissenting Policy," describes an early episode in the Fed's history when one district bank used the lender of last resort function vigorously to maintain the stability of the banking system. In the 1920–1921 recession, the Federal Reserve Bank of Atlanta acted on its own and, contrary to the deflationary policies of the Federal Reserve Board, chose to lend to district banks that were severely affected by the decline in the price of cotton. The recessionary shock in 1920–1921 was particularly severe in the cotton-producing area of the Atlanta Fed district. Although the term *systemic risk* would not have been known to the board of the Atlanta Fed, White argues that they understood the concept. Declines in the value of collateral assets could lead to bank failures, fire sales, further declines in asset prices, and a systemic crisis. The Atlanta Fed responded by borrowing gold reserves from other district banks thus enabling it to increase its lending.

In the early years of the Fed, district banks managed discount lending individually, and often the discount rate would differ from district to district. However, the extent to which the Atlanta Fed adopted its own policy approach in this period was not known until White delved into the minutes of the board of directors of the Federal Reserve Bank of Atlanta, which clearly express the bank's intention to use its lending and rediscounting authority to assist weak banks and protect financial stability. We do not know whether other district banks considered the possibility of more aggressive lending or expressed similar concerns with financial stability because, with the exception of Atlanta, the minutes of the district banks boards are not available to the public.

The fifty years of the national banking era in the United States (from the Civil War to the founding of the Fed, 1863–1913) are often viewed as a period when a fragmented banking system was poorly regulated and