



Government-Cheerleading Bias in Money and Banking Textbooks

Nicholas A. Currott¹, Tyler Watts², and Benjamin R. Thrasher³

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Market failure: The failure of the market to recover from a blow by intervention.
—Daniel McCloskey

Do undergraduate money and banking textbooks present a thorough and balanced overview of how commercial banks and central banks impact economic stability? We find that the textbooks are generally of high quality, but that they overemphasize the potential instability of unregulated commercial banks and underemphasize the potential for central banks and financial regulation to negatively impact the economy. The systemic slant amounts to a government-cheerleading bias.

We review the six leading undergraduate money and banking textbooks currently in print and offered for adoption by major textbook publishing companies:⁴

1. Ball State University, Muncie, IN 47304. We thank Thomas Hogan, Steven Horwitz, Jeffrey Rogers Hummel, James McClure, Lawrence H. White, four anonymous referees, and especially Kurt Schuler for helpful comments and suggestions. The financial assistance of the Institute for the Study of Political Economy at Ball State University is also gratefully acknowledged.

2. Ferris State University, Big Rapids, MI 49307.

3. Undergraduate student, Ball State University, Muncie, IN 47304.

4. To test whether universities use textbooks other than the six offered by major textbook publishers we conducted an informal survey. We were able to find online syllabi for money and banking classes for seven of the universities ranked in the top ten undergraduate economics programs by *U.S. News and World Report*. Of these, two used Hubbard and O'Brien, one Ball, one Cecchetti and Schoenholtz, one Mishkin, and two didn't use a standard textbook. Of the *U.S. News and World Report* top ten public universities we found seven syllabi, and all used Mishkin. We also looked at the ten largest universities in Indiana by enrollment and found six with online syllabi. Of these, four used Hubbard and O'Brien, one Cecchetti and Schoenholtz, and one Mishkin. The difference between the prestigious public universities, which are mainly located on the coasts, and the less prestigious Midwest universities in Indiana is interesting and likely reflects underlying ideological differences. Notably, we didn't find a single instance of a textbook being used that was not one of the six included for review in this paper. This gives us confidence that these six textbooks

1. Laurence M. Ball, *Money, Banking and Financial Markets* (2012)
2. Michael W. Brandl, *Money, Banking, Financial Markets & Institutions* (2017)
3. Steven Cecchetti and Kermit Schoenholtz, *Money, Banking & Financial Markets* (2021)
4. Dean Croushore, *M & B* (2015)
5. Glenn Hubbard and Anthony Patrick O'Brien, *Money, Banking, and the Financial System* (2018)
6. Frederic Mishkin, *The Economics of Money, Banking, and Financial Markets* (2019)

We address seven topics related to the roles that commercial and central banks play in macroeconomic stability: (1) the inherent stability of banks, bank runs, and panics; (2) The historical origins of central banks created before the Fed; (3) the fragility of U.S. banks during the National Banking Era and the origins of the Federal Reserve System; (4) U.S. bank panics during the Great Depression; (5) deposit insurance; (6) monetary policy and the Great Recession of 2008–2009; and (7) the performance of the U.S. economy before and after the Federal Reserve Act of 1913. Each of these topics is significant for monetary theory or for regulatory policy.

Our selection of topics is based, first, on the consideration that these topics cover the bulk of historical information offered by the textbooks as applications of the basic economic theory of money and banking, and second, on the concern that what students learn about these topics can strongly influence their underlying worldviews. For each topic we survey the academic literature and then compare it to the information presented in the textbooks. In each case we find the textbook presentations leave out important historical details or present them in a way that systematically favors one view over another. Near the end of the paper, Table 1 summarizes the textbook views. Every textbook provides a narrative biased in favor of government intervention. We ask whether this might be attributable to consensus bias or status quo bias.

Fortunately, the bias on the seven topics can easily be mitigated by adding a few sentences or altering a paragraph here or there. We recommend that on matters where economists disagree, textbooks should, if possible, present the findings of surveys of economists' views, a practice already adopted in N. Gregory Mankiw's (2015) *Principles of Microeconomics* textbook. We also suggest that author(s) candidly communicate their own political leanings.

have a very large market share.

The inherent stability of banks, bank runs, and panics

There is a spectrum of views about the inherent stability of banks in the academic economic literature. On one end of the spectrum there is the view, which we call the ‘inherent fragility hypothesis,’ which holds that banks are inherently run-prone and that a run on one bank is contagious to other banks, causing a panic. On the other end of the spectrum there is the view, which we call the ‘regulatory weakening hypothesis,’ which holds that, but for interventions, private banking is generally auto-corrective and normally stable in the absence of poor management, and that the source of banking panics is ill-conceived government policies, interventions, or regulations (Selgin 1989).

Advocates of the inherent fragility hypothesis often base their case on the highly influential and abstract mathematical model of Douglas Diamond and Philip Dybvig (1983). Diamond and Dybvig’s basic argument is that a run can be self-justifying from the “me first” problem that depositors face.⁵ It is in the interest of an individual depositor to run on a bank if he suspects other depositors might run, because if the suspicion proves correct there won’t be enough funds to go around to pay every depositor. Therefore, any event can trigger a run, even if it is otherwise irrelevant to solvency. Whatever makes depositors anticipate a run will in fact cause them to run, validating the anticipation. Banks are inherently unstable because bank runs can be triggered by any random event, such as sunspots appearing on the sun. These runs cause pre-run solvent institutions to incur losses from hasty liquidation of assets and may lead to bankruptcy.⁶

Advocates of the inherent fragility hypothesis also claim that a run on one bank can create suspicion in the minds of customers at other banks, initiating further runs and causing a contagion (Allen and Gale 2000). Asymmetric information prompts depositors unsure of the soundness of their own bank’s assets to run if they observe a run on another bank. A run on one bank therefore creates a negative externality that spills over onto other banks. Runs that weaken or destroy

5. In this paragraph we draw on White’s (1999, Ch. 6) excellent summary of the Diamond and Dybvig model.

6. The “sunspot” theory was formalized by Diamond and Dybvig in 1983, but the core idea is old. Thomas Jefferson (1813), for instance, made similar arguments: “It is said that our paper [currency] is as good as silver, because we may have silver for it at the bank where it issues. This is not true. One, two, or three persons might have it; but a general application would soon exhaust their vaults ... Nothing is necessary to effect it but a general alarm; and that may take place whenever the public shall begin to reflect on, and perceive the impossibility that the banks should repay this sum.”

solvent banks constitute a market failure that requires government intervention in the form of a central bank and financial regulation. According to this view, an unregulated banking system would subject the economy to fire-sale losses, unexpected contractions of the money supply caused by recurring bank panics, and frequent recessions.

Advocates of the inherent fragility hypothesis point to the large number of historical bank failures and panics as evidence for the theory. The historical record shows that banking panics were particularly frequent in England in the early nineteenth century and in America during the pre-Federal Reserve period in the nineteenth and early twentieth centuries.

Advocates of the regulatory weakening hypothesis, in contrast, argue that the Diamond and Dybvig model is theoretically unsound, both because there are problems with the formal model and because the model posits relationships that do not accurately reflect the institutional characteristics of real-world banks (Wallace 1988; Dowd 1992a; 1996, Ch. 9; 2000; White 1999, Ch. 6; McCulloch and Yu 1998).⁷

Advocates of the regulatory weakening hypothesis also argue that the historical evidence shows bank runs are not random or linked to irrelevant events or rumors. Rather, real-world runs happen when depositors receive bad news indicating that their bank might already be pre-run insolvent (Schuler 1992, 30).⁸ Depositors run because knowledge indicates that the bank's net assets are likely already too low to repay all depositors. Bank failures reflect fundamental deterioration in bank health rather than spontaneous panics which cause viable

7. Most notably, the conclusion of the Diamond and Dybvig model—that it is in the interest of an individual depositor to run on a bank if he suspects other depositors might run, because if the suspicion proves correct there won't be enough funds to go around to pay every depositor—assumes that (a) the bank's short-term assets are less than its liabilities payable on demand (such as demand deposits or on-demand repurchase agreements), and (b) the bank cannot impose a notice of withdrawal clause to delay the redemption of deposits. Critics of Diamond and Dybvig note that if either of these assumptions does not hold then the inherent instability posited by the model does not exist. Therefore, banks can eliminate the incentive for the public to run on solvent banks either by maintaining adequate capital or by introducing an "option clause" that gives banks the option to delay redemption of demand liabilities for a pre-specified length of time. For further details and a review of the literature on contractual solutions to the supposed inherent instability of banks see Selgin and White (1994b, 1727–1730).

8. Historical evidence suggests bank failures are caused by news of a negative shock to banks' assets (see, e.g., Gorton 1988; Mishkin 1992; Kaufman 1994). These studies provide evidence that bank panics are not random events or self-confirming equilibria in a situation of multiple equilibria, as in the Diamond-Dybvig model. These studies also cast doubt on the existence of contagion effects. However, in many cases the authors argue bank panics can occur due to asymmetric information. If depositors observe a shock that will likely render some banks insolvent, but they cannot observe whether any individual bank is solvent or not, they may run on all banks, both solvent and insolvent. This leaves open the question of whether government intervention is necessary to solve the asymmetric information problem or if it can be solved by private institutions.

banks to fail (Calomiris and Mason 1997). Asymmetric information does not cause runs on solvent banks because large depositors have an incentive to monitor their banks' investments and because market institutions such as clearing houses and rating agencies can provide this information at low cost, even for small depositors (Selgin and White 1987; Selgin 1993). Runs that destroy solvent banks are so rare as to be negligible in practice and contagion affects are absent in a system that is not hampered by legal restrictions.⁹

Advocates of the regulatory weakening hypothesis also point to the absence of panics consisting of runs on many pre-run solvent banks in countries with relatively free banking systems as evidence that banks are not inherently unstable and panic prone.¹⁰ They argue that the frequently recurring panics in other countries were caused by bad banking laws, regulations, or interventions, such as restrictions on branch banking and bond collateral requirements for banknote issue. Bank panics were common in countries such as the United States, where banks were subjected to these inefficient government restrictions, but were uncommon in countries such as Scotland and Canada, where banks were not.¹¹

Between the limits of inherent fragility and regulatory weakening lies a spectrum of more moderate views that hold banks are potentially fragile along one or

9. Historical evidence of contagion effects is mixed. Surveys show that countries outside the United States have rarely suffered genuine banking panics (Bordo 1986; Schwartz 1986; 1988a; b). In many instances these countries avoided panics even while they lacked central banks or other public lenders of last resort (Selgin 1994).

10. *See* Dowd (1992b) for case studies on nine historical episodes of free banking. Dowd assesses the historical record of these systems: "most if not all can be considered as reasonably successful, sometimes quite remarkably so" (1992, 2). A possible notable exception would be the so-called Free Banking Era in United States history from 1837–1862. However, whether this episode constitutes a genuine example of free banking is disputable. In the words of Freixas and Rochet (1997, 261): "Although the period from 1837 to 1864 in the U.S. is often referred to as the Free Banking Era, the term is something of a misnomer, for it refers not to a general system of 'free' banking in the literal sense described previously, but rather to various state banking systems based on so-called 'free banking' laws, which, though they made it unnecessary for new entrants to secure charters (each of which was subject to a vote by the state legislature), nonetheless restricted their undertakings in important ways. Most importantly, U.S. 'free' banks were denied the right to establish branch networks, and had to 'secure' their notes by purchasing and surrendering to state banking authorities certain securities those authorities deemed eligible for the purpose. The securities in many cases included bonds of the authorizing state governments themselves; and it has been determined that the depreciation of these very securities was the chief cause of 'free bank' failures, and indeed of bank failures generally, during the period in question. The lack of branch banking, in turn, caused state-issued banknotes to be discounted at varying rates once they had traveled any considerable distance from their sources. In short, the shortcomings of banks and bank-supplied paper currency during the so-called 'free banking era' in the U.S., far from establishing the need for special regulation of banks, testifies to the dangers of unwarranted or unwise regulation."

11. *See* White (1995) for details about free banking in Scotland. On the stability of the Canadian system, see Bordo, Rockoff, and Redish (1994). Briones and Rockoff (2005) discuss several historical cases of lightly regulated banking systems that worked well, including Canada.

more dimensions, and that certain bad regulations make them more so. Moreover, many scholars subscribe to the more nuanced view that contagion effects do exist and have been found to weaken banks even if not all bank runs are evidence of irrational behavior or lead to the bankruptcy of solvent banks.

Textbook coverage

The academic literature contains a healthy debate about the inherent stability of banks. Solid theoretical arguments are made both for and against, and detailed historical analysis and institutional investigation finds evidence of instances of successful self-regulating systems, contagion effects, and regulatory weakening. In contrast, the textbook coverage of this topic only presents arguments and evidence clustered toward the inherent-fragility end of the spectrum. Therefore the textbooks fail to provide students with all of the historical information crucial for understanding episodes of banking instability. Since the textbooks only present one side of the story, students are unable to sharpen their analytical understanding of the inherent-fragility view or critically assess its tenets.

Hubbard and O'Brien (2018, 389–393) present an inherent-fragility view under the heading *The Origins of Financial Crises*. The first subheading, titled *The Underlying Fragility of Commercial Banking*, claims that banks are inherently fragile due to the liquidity risk caused by maturity mismatch. The second subheading, titled *Bank Runs, Contagion, and Bank Panics* presents the “me-first” problem facing depositors and states:

In other words, in the absence of deposit insurance, *the stability of a bank depends on the confidence of its depositors*. In such a situation, if bad news—or even false rumors—shakes that confidence, a bank will experience a run. (Hubbard and O'Brien 2018, 390, emphasis in original)

Hubbard and O'Brien also claim contagions are inevitable in an unregulated banking system due to asymmetric information:

The underlying problem in contagion and bank panics is that banks build their loan portfolios on the basis of private information about borrowers, information banks gather to determine which loans to make. Because this information is private, depositors can't review it to determine which banks are strong and which are weak. (ibid.)

They conclude the section with the statement: “So, bad news about one bank can raise fears about the financial health of others, resulting in a bank panic” (ibid.).

In a section titled *Government Safety Net* Mishkin (2019, 217–222) likewise

presents an inherent fragility argument, citing the problems of asymmetric information and the fact that banks operate according to a “sequential service constraint” (i.e., first-come, first-served for depositor withdrawals), which he argues makes the banking system inherently susceptible to bank panics in the absence of a government safety net. Mishkin gives an example of an adverse shock to the economy that causes 5 percent of banks to become insolvent:

Because of asymmetric information, depositors are unable to tell whether their bank is a good bank or one of the 5% that are insolvent. Depositors at bad *and* good banks recognize that they may not get back 100 cents on the dollar for their deposits and will want to withdraw them. (Mishkin 2019, 218, emphasis in original)

Ball (2012, 286–292) similarly presents an inherent-fragility viewpoint in a section titled *Bank Runs*. In answer to the question of what causes runs, Ball says that some runs are caused by news of pre-run insolvency, but that other runs can happen on pre-run solvent banks: “This happens if depositors lose confidence in the bank, which can happen suddenly and without good reason” (ibid., 286). Ball concludes the subsection titled *How Bank Runs Happen* by invoking the theory of self-fulfilling expectations: “if people expect a run, then a run occurs. This can happen even if nothing is wrong at the bank before the run” (287).

Brandl (2017, 152–153) presents a simple inherent-fragility view of bank runs that does not include a discussion of contagion effects in a subsection titled *Banks Are Subject to Bank Runs*:

One of the biggest problems with bank runs is that they can be self-fulfilling prophecies. If people believe that their money is safe in the banking system, and they leave their money in the banks, then their money is safe—the system works as it is designed. If, however, people begin to question the safety and soundness of the banking system, and they respond to this uncertainty by pulling their money out of the banking system en masse, they can trigger a bank run. They can cause the banking system to become unsafe! (Brandl 2017, 152)

Cecchetti and Schoenholtz present an inherent-fragility view in a section titled *The Sources and Consequences of Runs, Panics, and Crises*:

Banks not only guarantee their depositors immediate cash on demand; they promise to satisfy depositors’ withdrawal requests on a first-come, first-served basis. This commitment has some important implications. Suppose depositors begin to lose confidence in a bank’s ability to meet their withdrawal requests. They have heard a rumor that one of the bank’s largest loans has defaulted, so that the bank’s assets may no longer cover its liabilities. True or not, reports

that a bank has become insolvent can spread fear that it will run out of cash and close its doors. Mindful of the bank's first-come, first-served policy, frenzied depositors may rush to the bank to convert their balances to cash before other customers arrive. (Cecchetti and Schoenholtz 2021, 360)

They then go on to describe a hypothesis about contagion effects:

If people believe that a bank is in trouble, that belief alone can make it so. When a bank fails, depositors may lose some or all of their deposits, and information about borrowers' creditworthiness may disappear.... But that is not their main worry. The primary concern is that a single bank's failure might cause a small-scale bank run that could turn into a system-wide bank panic.... Information asymmetries are the reason that a run on a single bank can turn into a bank panic that threatens the entire financial system. (ibid., 361)

Croushore (2015, 179–180) presents a simple inherent-fragility view in the form of a narrative about how fractional reserve banking and the sequential service constraint can cause a bank run, but without using technical terms. Croushore then says:

The worst feature of bank runs is that they tend to spread from one bank to another, a condition known as a contagion. If depositors engage in a run on one bank, depositors at other banks may worry that their bank will be next. If their worry translates into action and each depositor tries to get his funds out before everyone else, the result will be another run on another bank. Before long, every bank may suffer a run, and many will close their doors. (Croushore 2015, 179)

All six textbooks present an inherent-fragility view of banks and tell nearly identical stories about the causes of bank runs. Regardless of which textbook is assigned, students who merely read the textbook will come away with the impression that economists are agreed that banks are inherently unstable, and that bank runs and panics are historically common occurrences in economies where banks are not regulated by government. But economists are not agreed on either of these points. The problem is worsened by the fact that all six textbooks point to the instability of banks in the U.S. in the late 19th and early 20th century as evidence of the inherent instability of banks in the absence of government regulation, but do not mention the legal restrictions that contributed to that instability, nor the examples of stable free-banking systems without any financial panics. We explore this issue separately below.

The origins of central banks created before the Fed

Just as there is a range of views on the inherent stability of banks, there are various explanations for why the first central banks came into existence.¹² One view, which we call the ‘market failure hypothesis,’ is that central banks are created to stabilize the banking system and protect the macroeconomy from disruptions inherent in free monetary and financial markets. According to the market failure view, the proliferation of central banks across the globe is straightforward evidence of the institution’s efficiency. Charles Kindleberger (1994, xi), for instance, says that anyone who questions the market-failure view “has to explain why there seems to be a strong revealed preference in history for a sole issuer.” Charles Goodhart (1988, 1) has notably argued that “the role and functions of central banks have evolved naturally over time” for the theoretical reason that a government central bank is needed to provide efficient supervision of banks and to provide an effective lender of last resort to the financial system during a liquidity crisis.¹³

A second view, which we call the ‘government-interest hypothesis,’ is that central banks first came into existence not to correct for market failure but for fiscal motivations, either to obtain revenue through seigniorage or to fund deficit spending through subsidized borrowing (Selgin and White 1999). Adherents of this view argue the spread of central banks demonstrates their political expedience and not their efficiency-enhancing properties.

According to the government-interest hypothesis, central banks did not develop naturally as a product of market forces. Rather, the first central banks developed unintentionally out of a process by which the government would grant a commercial bank unique legal privileges that other banks did not enjoy. As a result, the privileged bank would grow larger and more central to the financial system, and eventually take on the roles of bankers’ bank and lender of last resort.¹⁴

12. For a thorough discussion of the market failure and government-interest hypotheses see White (1999, ch. 4), who we rely upon here.

13. See also Goodhart (1987; 1994). In a similar vein, Giannini (2011, xxvi–xxvii) argues central banks are the evolutionary institutional solution to the public good of monetary stability: “Any attempt to move beyond commodity money, even in its most advanced form of coinage, must entail an intermingling of money and credit circuit. . . . The intermingling of money and credit circuit thus set in motion a long and somewhat tortuous process of institutional adaptation centered around the figure of the central bank.”

14. See White (1999, ch. 4) for a critique of the view that central banks develop naturally to deal with market failures. In White’s view private clearinghouses could, and historically did, provide the economic roles of commercial bank regulation and lender of last resort. As for central banks, he concludes “The

The historical details regarding the origins of the earliest central banks largely conform to the government-interest hypothesis.¹⁵ The Bank of England, for instance, was granted monopoly privileges for explicitly fiscal reasons. In Walter Bagehot's (1877, 92) words, the Bank of England "was founded by a Whig Government because it was in desperate want of money." In 1694 the bank of England was granted an exclusive charter in exchange for loaning £1,200,000 to the Treasury in order to fund the War of the Grand Alliance. Shortly thereafter Parliament granted additional privileges enjoyed by no other bank, including limited liability for shareholders and denying the right to issue notes to any other bank with more than six partners.¹⁶ Over time a series of further legislation, culminating in Sir Robert Peel's Bank Charter Act of 1844, enabled the Bank of England to secure a monopoly of note issue in England and Wales and to take on the role of bankers' bank. With the passage of Peel's Act, the Bank of England arguably acquired all the characteristic functions of a central bank.

The Bank of France was likewise established for clear-cut fiscal reasons. After the turmoil of the French Revolution, there was a brief period of relatively free banking between 1796 and 1803 that operated well (Nataf 1992). Then the Bank of France was created in 1803 to finance Napoleon Bonaparte's military campaigns (Smith 1990/1936, ch. 4). Both Napoleon and the French government were significant shareholders. Napoleon's government granted the bank a monopoly of banknote issue, and in return the bank gave prodigious loans to the government.

Adherents of the government-interest hypothesis argue fiscal considerations likewise predominated in the majority of instances of central banks created before the outbreak of World War I, at which date the gold standard operated in most countries without a central bank.

World War I brought about the demise of the classical gold standard as combatant nations suspended specie payments so that central banks could create

development is then 'natural' in the same sense that comedian Steven Wright suggests that it counts as 'dying a natural death' when one is hit by a train: 'You get hit by a train, *naturally* you die.' The standard meaning of 'natural' in economics—as in the phrase 'natural monopoly'—is however, 'brought about by market forces rather than by government intervention'" (White 1999, 72 n.3). On the central banking role of private clearinghouse associations, see Timberlake 1984; Mullineaux 1987; Gorton and Mullineaux 1987.

15. See Smith (1990/1936) for a detailed account of the origins and development of central banking in England, Scotland, Belgium, France, Germany and the United States.

16. For details, see Smith (1990/1936, ch. 2). In Smith's words, "The early history of the Bank was a series of exchanges of favours between a needy government and an accommodating corporation" (ibid., 12). Fiscal motivations likewise pervaded the rechartering of the bank over the subsequent 150 years. The charter was renewed in exchange for a variety of services including low interest or interest free loans to the Crown, direct payments, and loan term conversions for British trade companies (Clapham 1945, ch. 2, ch. 5).

money to finance wartime expenditures. Widespread international adoption of central banking institutions occurred in many countries after the creation of the Federal Reserve System in the United States and the rise of the new international monetary order that formed after the end of World War I.

Besides market failure and government interest there are many other hypotheses, including the hypothesis that at least some central banks may have come into existence: 1) in an effort to correct instability in the banking system that was created by previous inefficient government policies; 2) because of improving technological or economic knowledge; 3) because of the desire of politicians in less advanced economies to copy the institutions in more developed economies; 4) network effects; or 5) because central banking is the result of a natural evolutionary process in financial markets.

Textbook coverage

With the exception of Cecchetti and Schoenholtz (2021), none of the textbooks discuss the factors that motivated the creation of central banks before the establishment of the Federal Reserve System in the United States in 1913, which we discuss in the next section below.

Cecchetti and Schoenholtz discuss the creation of the Bank of England and the Bank of France in a section titled *The Basics: How Central Banks Originated and Their Role Today*. They begin by stating: “The central bank started out as the government’s bank and over the years added various other functions” (2021, 394). In a subsection titled *The Government’s Bank*, Cecchetti and Schoenholtz go on to write: “Governments have financial needs of their own. Some rulers, like King William of Orange, created the central bank to finance wars. Others, like Napoleon Bonaparte, did it in an effort to stabilize their country’s economic and financial system” (ibid., 394). They then provide further details in a footnote:

The Bank of England was chartered in 1694 for the express purpose of raising taxes and borrowing to finance a war between Austria, England, and the Netherlands on one side and Louis IV’s France on the other. The Banque de France was created in 1800 in the aftermath of the deep recession and hyperinflation of the French Revolutionary period. For a more detailed discussion, see Glyn Davies’ *A History of Money: From Ancient Times to the Present Day* (Cardiff: University of Wales Press, 2002). (Cecchetti and Schoenholtz 2021, 394 n.2)

We commend Cecchetti and Schoenholtz’s inclusion of some historical information about how the first central banks originated. However, we believe the statement that Napoleon created the Bank of France to stabilize the economic and

financial system is historically inaccurate.¹⁷ As explained above, the economic and financial system was already stabilized by 1796, and Napoleon created the Bank of France for fiscal reasons. Almost immediately afterward Napoleon pressured the bank into an over-issuance of paper currency that destabilized prices by causing inflation.¹⁸

We agree with Cecchetti and Schoenholtz that it is important for students to understand that central banks are linked to the financial needs of government and that early central banks were created explicitly to finance war. Such information gives historical context for discussions of debt monetization and the 1951 Treasury–Federal Reserve Accord, the seigniorage temptation for governments to create inflation, and central bank independence.

Students unaware of the reasons surrounding the origins of central banks besides the Fed are left with the impression that all central banks came into existence to end bank panics. They also tend to assume all central banks are created out of the public interest and operate to serve the public interest. When presented with the facts about the origins of the earliest central banks, students learn about both market failures and government failures that have happened in different places in different times, and how similar issues might be at play in our own country or in other countries around the world today.

The fragility of U.S. banks during the National Banking Era and the origins of the Federal Reserve System

Bank panics were frequent during the National Banking Era, from the National Banking Act in 1863 until the creation of the Federal Reserve System in 1913.¹⁹ There is a spectrum of views about the causes of these panics. On one

17. On this point, see Rouanet (2019).

18. It is a matter of debate among historians whether Napoleon was motivated to create the Bank of France in order to stabilize the economy or for mainly fiscal interests. The work by Davies (2002) that is referenced by Cecchetti and Schoenholtz only provides a brief description of the origins of the Bank of France and never explicitly says that it was created for the purpose of stabilizing the economy.

19. Banking crises were also frequent in the U.S. before the National Banking Era. The market failure view of this earlier period holds that the money and banking system was relatively more stable during the eras of quasi-central banking under the First Bank of the United States (1791–1811) and the Second Bank of the United States (1816–1836) than during the interbank period (1812–1815) and the so-called Free Banking Era (1837–1862). The government failure view is that the instability of the U.S. money and banking system was due primarily to weakening legal restrictions such as the prohibition against branch banking, and holds that business cycle booms and busts were initiated by the monetary expansion of the First Bank (Currott

end of the spectrum, the market-failure view suggests that the series of panics in 1873, 1884, 1890, 1893, and 1907²⁰ are evidence of the instability that results from the absence of the government fail-safes of a central bank and deposit insurance. The recessions caused by these banking panics are cited as the primary factor that convinced the American people that a central bank was necessary. The reduction in the frequency of bank panics in the period immediately after the creation of the Federal Reserve System in 1913 is offered as evidence of the efficacy of central banking.²¹

On the other end of the spectrum, adherents of the government-failure theory (Champ, Smith, and Williamson 1989; Calomiris and Haber 2014, 153–184) argue the weakness of the U.S. banking system prior to the creation of the Federal Reserve System was a result of legal restrictions. They point out that financial crises were mainly a U.S. phenomenon during the late 19th century.²² The reason, they argue, is that two government policies greatly weakened the U.S. banking system. The first was branching restrictions that limited the size of banks and their ability to diversify assets. During this era, most banks were unit banks with a single location. Under the dual banking system created by the National Currency Act, federally chartered banks were largely unable to branch.²³ State-chartered banks were not permitted to branch across state lines and were subject to state banking laws that in most instances either prevented or restricted branching. Furthermore, state-chartered banks were subject to a punitive federal tax on note issuance, which inhibited their ability to issue currency. Because of these restrictions, most U.S.

and Watts 2018) and Second Bank (Rothbard 1962; Timberlake 1993/1978, 28–42).

20. Jalil (2015) provides a detailed examination of contemporary financial reporting and suggests that only the panics of 1873, 1893, and 1907 were widespread throughout the United States, whereas the events of 1884 and 1890, along with numerous additional financial panic episodes, were localized events that should not be counted as major, or economy-wide, banking panics. Wicker (2006) also indicates only the 1873, 1893, and 1907 episodes count as major, widespread banking panics.

21. On this point see Miron (1986), who provides evidence that the regime shift from the National Currency System to the Federal Reserve System dampened seasonal interest rate fluctuations and diminished bank panics.

22. According to Calomiris (2010, 5) there were only 10 banking crises worldwide between the years 1875 and 1913, and five occurred in the United States. This fact alone suggests the high frequency of bank crises in the U.S. before 1913 cannot be explained by the contracting structure of banks per se. The contracting structure of banks—borrowing short-term to provide opaque long-term loans subject to a first-come, first-served constraint—has been essentially the same since the earliest beginnings of commercial banking. Yet some countries have experienced frequent bank crises, whereas some countries have only had one bank crisis, and others have had none at all. Moreover, the countries with frequent panics were the ones with the most severe regulatory restrictions, and the countries without any crises were regulated the least.

23. The text of the National Banking Act did not expressly prohibit branching by national-chartered banks. Some scholars have argued that Hugh McCulloch, the first Comptroller of the Currency and thus chief regulator of national banks, established de facto prohibition on branching through an overly strict interpretation of the National Banking Act (see Selgin 2016, 4–5; McCulley 1992, 13–14).

banks were tiny, undiversified, and prone to failure.²⁴

The second government policy was bond collateral restrictions on note issue. Any federally chartered national bank during this era was permitted to issue paper banknote currency. To issue notes national banks were required to buy and deposit at the Treasury federal government bonds equal in value to ten-ninths of the value of the banknotes they issued.²⁵ The reasons for imposing bond collateral requirements were to provide a uniform currency with sound backing and to help finance the government's deficit spending during the Civil War.²⁶ But the unintended consequence was that the supply of paper currency in the U.S. tended to vary with bond prices and became limited by the value of outstanding government bonds available for purchase.²⁷ The bond collateral requirement created an inelastic national currency supply because the national banks that issued the currency could not easily adjust the volume in circulation to cope with seasonal changes in the demand (Selgin and White 1994a).²⁸

Adherents of the legal restrictions view argue that it was the inability of U.S. banks to satisfy the seasonal demand for currency that led to recurring panics (Laughlin 1898; Horwitz 1990; White 1987; Lowenstein 2015, 49–55; Selgin 2016). During the harvest season farmers had an increased need for currency to pay

24. For instance, in 1910 there were over 19,000 banks, but only 292 banks operated branches and the total number of branches was 548 (Federal Reserve Committee on Branch, Group, and Chain Banking 1931, 123).

25. State-chartered banks were subject to a prohibitive 10 percent tax on banknote issue, which was designed to encourage banks to seek a national charter. This tax effectively curtailed the issue of notes by state banks and contributed greatly to the prevalence of unit banking. For a review of the motives that led to the 10 percent tax and its effects, see Selgin 2000.

26. The mix of fiscal motivation and public interest justification for the National Currency Act affords both a market failure and a government failure interpretation. See Rockoff (1974; 1975a; b; 1985) for details about the institutional arrangements that existed during the 1837–1862 U.S. “Free Banking” Era and for an evaluation and explanation of the economic performance of American banks during that period. Rolnick and Weber (1983, 1090) find little evidence of contagion effects even during the U.S. Free Banking era, stating: “Our preliminary conclusion from this evidence is that it is misleading to characterize the overall free banking experience as a failure of laissez-faire banking.”

27. For instance, the upward limit on the quantity of paper currency that could be printed in the U.S. when the National Banking Act was passed in 1863 was approximately \$300 million. The quantity of government-issued United States Notes, known as ‘greenbacks,’ which were the only other form of paper currency in circulation at that time, was fixed and would be gradually reduced in the postbellum period. Therefore, when the federal government began retiring the national debt after the end of the Civil War the limit on the size of national currency decreased as the face value of outstanding bonds decreased. This led to a further problem of a paper currency shortage because the currency supply was forced to shrink at the same time that the demand for currency was increasing due to a growing U.S. economy.

28. Two of the main difficulties that banks faced were buying suitable bonds at prices that made it profitable to issue banknotes and avoiding delays before new notes could be put into circulation. These problems were exacerbated during panics. James (1976) and White (1987) provide details concerning currency shortages during the National Banking Era.

farmhands. Since national banks could not easily or profitably increase the quantity of paper banknotes in circulation, farmers withdrew gold and silver coins from their deposit accounts to pay farmhands instead. The reserve drain on banks led to yearly credit contractions, seasonally high interest rates, and full-fledged financial panics in 1873, 1884, 1890, 1893, and 1907.²⁹ During these panics there were widespread bank runs and suspensions. Advocates of the regulatory weakening hypothesis argue the susceptibility of U.S. banks to runs and panics during the National Banking Era were policy inflicted. They point out that during these same years there were zero bank failures and far less banking system distress in Canada, which also featured a relatively large agricultural sector and the same seasonal shifts in currency demand. Canadian banks were allowed to branch and were therefore much larger, more diversified, and fewer in number than American banks. Canadian banks also did not have bond collateral requirements on note issue, and would simply issue a larger amount of paper banknotes to meet seasonal needs, and withdraw the extra notes from circulation when they were no longer needed.³⁰ Finally, adherents of the legal restrictions view point out that the defects of the dual banking system in the United States during National Banking Era were not lost on contemporary banking experts. During the latter part of the nineteenth century an Asset Currency Movement gained traction, and multiple bills were introduced into Congress that would have abolished the existing bond-secured currency and replaced it with currency that was backed by general bank assets, while at the same time allowing for nationwide branch banking (Lowenstein 2015, 55).³¹ Adherents

29. These panics were typically triggered by the failure of a large New York bank, a tightening of the New York money market, and a fall in stock prices that exacerbated the New York banks' seasonal liquidity problems by making it impossible for them to call in loans and prompting suspensions. The problems of the New York banks were caused by the pyramiding of liabilities in New York banks during the National Banking Era.

30. It is worth noting that even during the unstable National Banking Era in the U.S. there is not much evidence of contagion effects. In the words of Selgin and White (1994b, 1726): "of the five or six major panics (1873, 1884, 1890, 1893, 1907; perhaps also 1896) during the National Banking era, only three involved suspensions of payments. Among them, failure statistics suggest that only the 1893 panic involved a nationwide contagion (George Kaufman 1988, 566; 1994). Runs against National Banks appear to have been triggered by news indicating probable bank insolvency, contrary to the theory that depositors stage runs simply out of fear that others might run (Gorton 1985; 1988). Furthermore, bank customers in the National Banking era panics attempted to redeem deposits for currency, but generally did not attempt to redeem banknotes for gold or other legal tender (R. Alton Gilbert 1988, 137–138 n.3); in Northern states holdings of Canadian banknotes also increased. These facts suggest that fear of currency shortage (banknote issue was legally restricted) rather than fear of bank failure was at work."

31. For more details regarding the fate of asset currency reform movements, see Wicker 2005; McCulley 1993, 42–75. The most notable attempt at reform was the Indianapolis Monetary Commission's 1898 proposal. In addition, multiple Asset Currency bills were introduced into the House of Representatives by Charles N. Fowler, the Chair of the House Committee on Banking and Currency. After making their way through the House these bills were ultimately rejected in the Senate.

of the regulatory weakening hypothesis argue these proposals were economically sound but blocked for political reasons by a rent-seeking coalition comprised of large New York banks, small unit banks, farmers, and the political machinations of Senator Nelson Aldrich. They claim the National Monetary Commission, which ultimately led to the Federal Reserve Act, was a façade behind which Aldrich set aside the sounder asset currency proposals in favor of an alternative proposal that benefited agrarian debtors and preserved the dominance of New York banks but did not address the restrictions on branching that was the root cause of bank instability (Selgin 2015).

Textbook coverage

We see three shortcomings in the textbooks. First, none clearly explain that the restrictions on U.S. banks during the National Banking Era were unusual restrictions. Second, every textbook presents the recurring banking panics in the U.S. as straightforward evidence that banks are inherently unstable and prone to frequent panics in the absence of a government safety net. Presenting the U.S. experience in this light is questionable considering U.S. banks were subject to unusual restrictions and that bank panics were very infrequent in most other advanced economies by the late 19th century and many of those countries did not have a central bank. It is an error of omission that none of the textbooks mention these facts. And third, the creation of the Federal Reserve System is presented as the only option for stopping bank panics in the U.S., when in fact there was another viable alternative, namely, the asset-currency movement that was blocked for political reasons.

Brandl (2017, 79–81) specifically addresses the causes of the Panic of 1907 and presents the most information on the topic:

In their 2007 book titled *The Panic of 1907: Lessons Learned from the Market's Perfect Storm*, Robert Bruner and Sean Carr state the Panic of 1907, like all financial crises, was not caused by one single event. Rather, they state the Panic of 1907, like most financial crises, was caused by the culmination of a number of bad things happening at once. The Panic of 1907 was triggered by wild speculation in the stock market; excessively loose lending by banks and trusts ...; a need to divert cash to San Francisco for rebuilding after the 1906 earthquake; and a lack of effective oversight of financial markets. (Brandl 2017, 79)

Under the *Lessons Learned* box at the end of the chapter under the caption *The Need for a Central Bank*, Brandl summarizes the chapter as follows:

As the dust cleared from the Panic of 1907, the lessons to be learned from the experience became clear. The US banking system had become so large and so important to the rest of the economy that it needed a 'lender of last resort' during a time of crisis. In addition, to avoid financial crises, the United States needed a single currency used nationwide instead of thousands of different bank notes. Simply put, the United States needed a central bank. (Brandl 2017, 81)

Brandl does point out in a section titled *The Bank of Canada* (ibid., 179–181) that “The private, large, countrywide banks had branches in rural areas as well as urban areas, with few bank failures or bank runs.” However, he does not relate this to the U.S. experience.

In discussing the dual banking system, Mishkin (2019, 238) says: “To eliminate the abuses of the state-chartered banks (called state banks), the National Bank Act of 1863 (and subsequent amendments to it) created a new banking system of federally chartered banks (called national banks).” He goes on to state: “This legislation was originally intended to dry up sources of funds to state banks by imposing a prohibitive tax on their banknotes while leaving the banknotes of the federally chartered banks untaxed.” Later on, in a section titled *The Origins of the Federal Reserve System*, Mishkin says:

The termination of the Second Bank's [Second Bank of the United States] national charter in 1836 created a severe problem for American financial markets, because there was no lender of last resort that could provide reserves to the banking system to avert a bank panic. Hence, in the nineteenth and early twentieth centuries, nationwide bank panics became a regular event, occurring every twenty years or so, culminating in the Panic of 1907. The 1907 Panic resulted in such widespread bank failures and such substantial losses to depositors that the public was finally convinced that a central bank was needed to prevent future panics. (Mishkin 2019, 295)

Hubbard and O'Brien (2018, 389) state the U.S. banking system was unstable in the pre-Fed era due to the lack of a government safety net: “For most of the nineteenth and early twentieth centuries, ... neither federal deposit insurance nor the Federal Reserve existed. As a result, banks were subject to periodic bank runs.” In a subsection titled *Government Intervention to Stop Bank Panics* they do not mention the pre-Fed panics specifically by date or provide historical details, but merely say:

Congress reacted to bank panics by establishing the Federal Reserve System in 1913. Policymakers and economists argued that the banking industry needed a “bankers' bank,” or *lender of last resort*. (Hubbard and O'Brien 2018, 390, emphasis in original)

As noted above, Ball (2012) endorses an inherent-fragility view of banks. He presents the instability of U.S. banks during the National Banking Era as evidence:

Nationwide bank panics were once common in the United States. Between 1873 and 1933 the country experienced an average of three panics per decade. Bank panics occur because a loss of confidence is contagious. A run on one bank triggers runs at others, which trigger runs at others, and so on. (Ball 2012, 290)

Ball (2012, 16) makes note of unit banking and says that it results in less efficiency and lower economic growth, but he never explicitly draws the connection between unit banking and the unusual instability in the U.S. banking system. Ball also makes note of the political opposition to branch banking: “Many unit banks were happy with the status quo, which gave them local monopolies. The American Bankers Association lobbied against branching” (ibid., 227). Finally, Ball presents a fairly balanced discussion of Abraham Lincoln’s motivations behind the National Bank Act:

As president, Lincoln proposed the National Bank Act, which Congress passed in 1863....Lincoln was motivated partly by episodes of fraud at state banks. In addition, like Alexander Hamilton, he hoped to unify the nation’s currency....Finally, national banks helped finance Union spending on the Civil War, because they were required to purchase Treasury Bonds. (Ball 2012, 227)

Cecchetti and Schoenholtz (2021, 398–400) do not give the dates of pre-Fed panics or provide any details about them. Rather, in a section titled *Stability: The Primary Objective of All Central Banks* they merely say:

The rationale for the existence of a central bank is equally clear. While economic and financial systems may be fairly stable most of the time, when left on their own they are prone to episodes of extreme volatility. Prior to the advent of the Fed, the U.S. financial system was extremely unstable. It was plagued by frequent panics. (Cecchetti and Schoenholtz 2021, 398)

Croushore (2015, 180) discusses the restrictions on branch banking but does not relate them to bank runs and instability:

From 1864, when the national banking system was established until 1927, when the McFadden Act was passed, commercial banks with a national charter from The Comptroller of the Currency were forbidden to have any branches. The economic impact of the restrictions was to keep most banks inefficiently small. The restriction also prevented well-run banks from expanding to compete with poorly managed banks. (Croushore 2015, 180)

Later, Croushore says:

Bank runs, which occurred frequently in the late 1800s and early 1900s, have been eliminated almost completely. Financial crises that led to severe recessions were commonplace before World War I; such crises are now much less common and have far less impact on the economy. (Croushore 2015, 184)

The textbooks present the straight-line narrative that the recurring bank panics before 1913 are evidence of the inherent instability of commercial banks. The Federal Reserve Act is presented as the necessary and only logical solution for ending these panics. This narrative is incomplete and potentially misleading. Most of the textbooks mention that the U.S. had unit banking, but none of the textbooks explain why lack of branching factored into the instability of the U.S. banking system prior to the Fed. Nor do they mention the problems inherent in the bond collateral requirement or the asset-currency alternative to a central bank.

U.S. bank panics during the Great Depression

Scholars have identified numerous factors that may have contributed to the length and severity of the Great Depression. These include the monetary policy of the Federal Reserve in the 1920s, the stock market crash of 1929, an autonomous collapse of investment spending, tariffs and declining international trade, the shock-amplifying mechanism of the gold standard, various New Deal policies, and monetary contraction and banking failures. The largest concentration of bank suspensions in U.S. history occurred between 1930 and 1933. More than 9000 banks failed during those years, representing approximately 30 percent of banks that had been in business at the end of 1929. Economists disagree about whether and to what extent these bank failures played a causal role in worsening the depression. Economists also disagree about whether and to what extent contagions of panic played a role in causing banks to fail.³² We identify three main views that are prominent in the academic literature.³³

One view that has been prominent since John Maynard Keynes's (1936) publication of *The General Theory of Employment, Interest and Money* is that the bank failures were panics caused by a decline in income and interest rates. So according

32. See Mitchener and Richardson (2019), who find evidence of network contagion.

33. Our classification of views as 'Keynesian,' 'Monetarist,' or 'fundamentals' is useful for discussion purposes but an oversimplification and permits of combinations. For instance, Temin's (1976; 1989) influential work combines some aspects of both Keynesian and Monetarist views while rejecting other aspects of both views. There are also many heterodox views as well.

to what we'll call the 'Keynesian panic view,' the banking panics did not cause a decline in income, interest rates, and the money supply, but instead were caused by them. The decline in income, interest rates, and the money supply were caused by an autonomous drop in investment spending and a collapse in confidence after the stock market crash in 1929. On this view, the Depression is evidence of macroeconomic failure inherent in the free market and the banking crisis did not play an exogenous causal role.

A second view, which we call the 'Monetarist panic view,' has been prominent since Milton Friedman and Anna Schwartz (1963) published *A Monetary History of the United States: 1867–1960*. On this view, panic-induced deposit withdrawals caused the currency-deposit ratio to rise and provoked waves of bank suspensions. The money supply therefore decreased independently and caused an exogenous decline in aggregate demand that caused unemployment to rise and output to fall. The bank suspensions are offered as evidence of contagion effects that played a causal role in propagating the depression. According to this view the Federal Reserve had sufficient power to cut short the process of monetary contraction and banking collapse. The Depression is presented as an example of government failure by the central bank in which the banking crisis played a key role.

A third view, which we will call the 'fundamentals' view, holds that fundamental shocks to bank solvency, such as increased default risks to banks' loan portfolios or a fall in the value of bonds held by banks, caused banks to become insolvent (Calomiris and Mason 1997; Boughton and Wicker 1979; 1984; Wicker 1980; 1996; Ramirez 2003). According to this view, bank failures before 1933 were mainly the result of local shocks that proved fatal to many banks weakened by legal restrictions such as those on branching. These were not genuine panics in the sense that illiquidity caused by unwarranted deposit withdrawals caused many solvent banks to become insolvent.³⁴ Rather, the vast majority of the banks that failed during the Great Depression were tiny unit banks that could not branch or diversify their assets, leaving them prone to failure. According to the fundamentals

34. While the fundamentals view agrees with the Monetarist panic view that bank failures contributed to the length and severity of the Great Depression, it sharply contrasts with the Monetarist panic view that these bank failures were caused by waves of panics that caused solvent banks to become insolvent. In the Monetarist view panicking by the public was an exogenous source of instability unrelated to banks' asset conditions and could have been prevented by correct action by the Federal Reserve. The fundamentals view holds that bank failures were endogenous. On this point see Calomiris (2007, 6), who says: "Endogenous contractions of deposits and loans, just like unwarranted contractions, will limit the supply of money and credit, and thus they will exacerbate the macroeconomic decline that caused them. Thus, according to the fundamentals view, banking distress can magnify economic downturns even if banks are not the originators of shocks; banks will tend to magnify macroeconomic shocks through their prudential decisions to curtail the supplies of loans and deposits in response to adverse shocks, even if banks are passive responders to shocks and even if depositors avoid engaging in unwarranted runs or panics."

view, neither the proliferation of unit banks nor the large number of bank failures were natural features of a free-banking system, but were the result of nation-wide restrictions on branching. Adherents of the fundamentals view point out that California was one of the few states that allowed branching, and California banks were more efficient and had lower rates of bank failures in the 1930s than other states (Carlson and Mitchener 2009). Likewise, in Canada, where most banks had nation-wide branching, there was not a single bank failure.³⁵

Contagion effects appear to have played a limited role in bank failures prior to 1933.³⁶ It has even been argued that the one genuine banking panic in the U.S., in February/March 1933, was not caused by random or irrelevant events, nor by a general fear amongst the public, nor by a mistrust of banks. Rather, it was not a run on banks at all. Rather, it was a run on gold caused by the perception that Franklin Roosevelt would devalue gold after his impending inauguration.³⁷ This perception soon proved to be correct, validating the anticipation.

The fundamentals view sees the bank failures during the Great Depression as primarily the result of the government failure of imposing harmful legal restrictions that left banks susceptible to insolvency after real economic shocks—and not a result of unwarranted panics. It argues that the collapse of deposits and loans reduced the money supply and caused a contraction of credit, which exacerbated the economic decline of the Great Depression.

Textbook coverage

Hubbard and O'Brien (2018, 397–403) provide an entire section on *The Financial Crisis of the Great Depression*. After addressing several initial factors, a subsection entitled *The Bank Panics of the Early 1930s* presents an outline of the

35. Grossman (1994) offers details about the stability of the Canadian banking system and ten other countries during the Great Depression. Grossman finds that “macroeconomic policy—especially exchange-rate policy—and banking structure, but not lenders of last resort, were systematically responsible for banking stability” (1994, 1).

36. See Selgin and White (1994b, 1726–1727): “Contagion effects also appear to have played a more limited role than is usually supposed during the ‘Great Contraction’ of 1930 to 1933. Prior to 1932, bank runs were confined mainly to banks that were either pre-run insolvent themselves or affiliates of other insolvent firms (Elmus Wicker 1980). Serious regional contagions erupted in late 1932, but these were aggravated if not triggered by state governments’ policy of declaring bank ‘holidays’ in response to mounting bank failures (George J. Benston et al. 1986, 52).”

37. Wigmore (1987) provides evidence that the banking crisis of 1933 was caused primarily by a gold drain due to a speculative attack on the dollar. The anticipation that Franklin Roosevelt would devalue the dollar provoked a sharp increase in foreign and domestic demand for gold that exhausted the gold reserves of the Federal Reserve Bank of New York. The drain on gold reserves of the banking system that led to the Bank Holiday of 1933 was a currency crisis precipitated by government currency manipulations and was not caused by domestic hoarding or a contagion of fear.

Monetarist panic view: “Many economists believe that the series of bank panics that began in the fall of 1930 greatly contributed to the length and severity of the Depression. The bank panics came in several waves” (ibid., 399). Without identifying the root cause—unit banking—they go on to state: “The large number of small, poorly diversified banks—particularly those that held agricultural loans as commodity prices fell—helped fuel the panics” (399). In a section on *The Failure of Federal Reserve Policy During the Great Depression* they give four reasons why the Fed worsened the depression: “No one was in charge”; “The Fed was reluctant to rescue insolvent banks”; “The Fed failed to understand the difference between nominal and real interest rates”; and “The Fed wanted to ‘purge’ speculative excess” (400–401).

Brandl, too, provides a Monetarist panic view, and says: “Many also blame an increase in the amount of cash held by the nonbank public as contributing to the Great Depression of the 1930s” (2017, 156). Brandl does not provide detailed information about the bank panics. In a subsection titled *Financial Markets during the Great Depression* he provides details about the stock market crash and castigates the Fed: “Where was the Federal Reserve in all this? Wasn’t it established in 1913 in response to the Panic of 1907 to avoid just such a financial and economic meltdown?” (ibid., 84). He pins this failure to act on “a weak leader” (82) and “the Burgess-Rifler [i.e., Real Bills] doctrine” (84). He says: “What was really needed was expansionary monetary policy to get the economy going again” (84).

Ball (2012, 290–292) in a section titled *Bank Panics in the 1930s* also presents a Monetarist panic view:

Major trouble began in 1930. Failures rose at rural banks in the Midwest, and this made depositors nervous about other banks in the region. ... A psychological milestone was the failure of the New York-based Bank of the United States in December 1930. ... Other events eroded confidence further. ... In the 1932 election campaign, Democrats publicized banking problems to criticize the Republican government. The stream of worrisome news produced a nationwide panic. (Ball 2012, 291)

Ball says that the bank panics ended after Roosevelt’s bank holiday because of a restoration of confidence [for unspecified reasons]: “President Roosevelt understood the psychology of panics. His famous statement that ‘we have nothing to fear but fear itself’ referred partly to banking. It captures the fact that panics result from self-fulfilling expectations” (ibid., 292), and directs the reader in a footnote to Friedman and Schwartz (1963) for more details.

Cecchetti and Schoenholtz alone among the textbooks present a mainly endogenous view of bank failures during the Great Depression: “The next series of bank panics occurred during the Great Depression of the 1930s, when output fell

by roughly one-third. Bank panics usually start with real economic events or their prospect, not just rumors” (2021, 363), and direct the reader to Gary Gorton (2012) in a footnote. Cecchetti and Schoenholtz later say:

The series of three bank panics that occurred during the Great Depression of the 1930s is one example of the failure of a lender of last resort. While the Federal Reserve had the capacity to operate as a lender of last resort in the 1930s, it chose not to do so. In effect, policymakers acted as if the “fire” would burn itself out. Instead, the conflagration spread and intensified. The result was the worst financial disaster in the 100-plus-year history of the Federal Reserve. (Cecchetti and Schoenholtz 2021, 365)

Mishkin (2019) presents a Monetarist panic view with a touch of the fundamentals view. In an application he titles *The Mother of All Financial Crises: The Great Depression*, Mishkin says:

What might have been a normal recession turned into something far worse, however, when severe droughts in the Midwest led to a sharp decline in agricultural production, with the result that farmers could not pay back their bank loans. The resulting defaults on farm mortgages led to large loan losses on bank balance sheets in agricultural regions. The general weakness of the economy, and of the banks in agricultural regions in particular, prompted substantial withdrawals from banks, building to a full-fledged panic in November and December of 1930, with the stock market falling sharply. For more than two years, the Fed sat idly by through one bank panic after another, the most severe spate of panics in U.S. history.... With a greatly reduced number of financial intermediaries still in business, adverse selection and moral hazard problems intensified even further. Financial markets struggled to channel funds to borrower-spenders with productive investment opportunities. The amount of outstanding commercial loans fell by half from 1929 to 1933, and investment spending collapsed, declining by 90% from its 1929 level.... The ongoing deflation that accompanied declining economic activity eventually led to a 25% decline in the price level. This deflation short-circuited the normal recovery process that occurs in most recessions. The huge decline in prices triggered a debt deflation in which real net worth fell because of the increased burden of indebtedness borne by firms and households. The decline in net worth and the resulting increase in adverse selection and moral hazard problems in the credit markets led to a prolonged economic contraction in which unemployment rose to 25% of the labor force. The financial crisis of the Great Depression was the worst ever experienced in the United States, which explains why the economic contraction was also the most severe ever experienced by the nation. (Mishkin 2019, 273–275)

Croushore (2015) does not provide any detailed information on the bank failures during the Great Depression.

The five textbooks that address the topic present a panic view of 1930s bank failures. All of those except Cecchetti and Schoenholtz present the bank failures as an exogenous causal factor that contributed to the severity of the Great Depression, and blame the Federal Reserve for significantly worsening the Great Depression (albeit in the wake of an exogenous market panic)—and notably so, as this is the only topic surveyed where the textbooks generally present a government-failure view. And as we show next, all the books say that the banking disturbances finally ended in 1933 partly due to the introduction of deposit insurance and partly due to the improved performance of the Fed, which learned from its mistakes of the 1930s.

Deposit insurance

In the economics literature deposit insurance has many defenders and many critics. The theoretical case for deposit insurance largely rests on the argument of Diamond and Dybvig (1983). In the Diamond and Dybvig model it is possible for the government to intervene with a policy they call deposit insurance that eliminates the bad bank-run equilibrium and allows the good, run-free equilibrium to dominate. By eliminating bank runs deposit insurance winds up costing the government nothing because the insurance never has to pay out. The more general argument for deposit insurance is that it removes the public's incentive to run on banks by convincing them that deposits are insured by the government. Advocates of deposit insurance therefore conclude that deposit insurance is desirable because at minimal cost it decreases liquidity risk in the banking system.

Critics of deposit insurance argue that deposit insurance increases insolvency risk within the banking system and leads to bad economic outcomes—the moral hazard problem. Deposit insurance protects depositors from the downside risk of the bank's investments not performing. Therefore, depositors have no incentive to shop around for a bank that meets their risk preferences. Instead, depositors have a perverse incentive to bank at the riskiest banks because these banks can share higher interest returns from riskier investments with depositors in the form of paying greater interest on deposits or other benefits desired by depositors.

Critics of deposit insurance also argue that deposit insurance eliminates the incentive for depositors to monitor their bank for changes to the riskiness of its investments (White 1999, Ch. 6). Without deposit insurance, depositors have an incentive to withdraw funds from banks that take on too much risk, and to run on insolvent banks. Insolvent banks close promptly, limiting the harm the managers might do by gambling for recovery and looting the bank's assets. But with deposit

insurance, the public relies on regulators to close down insolvent banks. Regulators are often worse monitors than depositors with skin in the game. During the Savings and Loan Crisis of the 1980s, thousands of insolvent thrifts were left open for years. The zombie thrifts cost the economy and the taxpayer billions of dollars, all under the watchful eye of the regulators.³⁸ Historical experience shows that regulators can often be asleep at the switch and practice too much forbearance. Deposit insurance does not, overall, protect the public from the risk generated by the avarice of bankers, as many of its supporters claim and most of the public believes. Rather, it subverts sound banking and results in costs for taxpayers.

Most defenders of deposit insurance point to the experience of the Great Depression to support the claim that banks are inherently unstable and prone to runs and panics. The Federal Deposit Insurance Corporation (FDIC) was established to oversee deposit insurance as part of the 1933 Banking Act, which was passed in the wake of more than 9000 bank failures between 1929 and 1933.³⁹

The critics of deposit insurance argue it is a widespread misconception that deposit insurance was implemented to protect the public. They claim deposit insurance was not created to protect small depositors or to make the banking system safer. Rather, it was created to maintain the economic interests of unit banks by preserving the unstable unit banking system that was then in place (Calomiris and Jaremski 2016).⁴⁰

Some critics of deposit insurance argue that the bank failures between 1929 and 1932 were not caused by liquidity panics but real economic shocks that left many legally restricted unit banks insolvent. Deposit insurance, which is meant to prevent liquidity panics, cannot address solvency shocks and would not have been a viable remedy for preventing those bank failures. The only effective solution would have been to repeal the legal restrictions that made banks vulnerable. During the debates leading up to the creation of the FDIC, many thoughtful reformers wanted to create a more stable banking system by allowing branch banking, instead of instituting deposit insurance. Scholars, the public, and many politicians at that time were still scarred by the experience of prior unsuccessful government deposit

38. Dotsey and Kurianov (1990) give historical details on how the Savings and Loan Crisis was perpetuated and worsened by regulatory forbearance. Dotsey and Kurianov provide evidence that regulators lacked the financial resources to pay to close insolvent thrifts and delayed closure, hoping that insolvent thrifts might return to profitability if action was forestalled (1990, 12–14). Additionally, Dotsey and Kurianov argue that regulators had perverse political incentives to preserve mismanaged and insolvent thrifts (*ibid.*, 20–23).

39. A companion deposit insurance entity for savings and loan institutions—the now defunct Federal Savings and Loan Insurance Corporation (FSLIC)—was created by the National Housing Act of 1934.

40. In the words of Calomiris and Haber (2014, 190): “Although the civics textbooks used by just about every American high school portray deposit insurance as a necessary step to save the banking system, all the evidence indicates otherwise: it was a product of lobbying by unit bankers who wanted to stifle the growth of branch banking.”

insurance programs in various U.S. states.⁴¹ But deposit insurance had a strong advocate in Representative Henry Steagall, the chairman of the House Committee on Banking and Currency. Steagall was motivated in part to protect the private interests of farmers and unit banks within his Alabama district and blocked all branch banking reforms and pushed through deposit insurance with the help of a powerful lobby that consisted mainly of rural farmers and unit banks.⁴²

Critics of deposit insurance also argue that contrary to widespread misperceptions, deposit insurance did not put an end to the banking panic in 1933—which was the last, and in their view only genuine Depression-era bank panic. Indeed, it could not have done so, because it was implemented after the panic was already over.⁴³ The panic came to an end after the end of the bank holiday on March 13, 1933. But the Banking Act of 1933 was not passed until June 13, 1933, and temporary deposit insurance was not put into effect until January 1934.⁴⁴

Critics of deposit insurance also claim that deposit insurance has high costs without providing any compensating benefits. From 1933 until the Savings and Loan Crisis of the 1980s deposit insurance cost the public hundreds of billions of dollars in welfare losses in the form of monopoly quasi-rents garnered by banks by paying depositors lower interest and charging customers higher interest on loans than would have been possible in the market without the existence of deposit insurance. During this period, the prohibition against paying interest on deposits—known as Regulation Q—largely prevented banks from sharing the proceeds from riskier investments with depositors. Regulation Q, combined with limits on the size of deposits covered by deposit insurance, kept a check on the moral hazard

41. President Franklin Roosevelt, the Secretary of the Treasury, and the Comptroller of the Currency all opposed deposit insurance, because they were familiar with the calamitous failures of state-level taxpayer guarantee plans. Roosevelt threatened to veto any bill that authorized government deposit insurance. Roosevelt backed off later to gain populist support for his other programs, but only after complaining “this bill has more lives than a cat” (“Roosevelt Hails Goal, He Calls Recovery Act Most Sweeping Law in Nation’s History, Johnson Administrator, Million Jobs by October 1, Employer’s Urge to Hire More Men with Government Stopping Unfair Competition,” *New York Times*, June 17, 1933, p. 1). See Flood (1992) on how the debate over deposit insurance in the early 1930s was informed by the moral-hazard problem and failures created by state taxpayer guarantee plans.

42. See Golembe 1960; Calomiris and White 1994; E. White 1998; Bradley 2000; Dehejia and Lleras-Muney 2007; Kroszner and Melick 2008.

43. Calomiris and Haber (2014, 190) remark upon how “the banking crisis of 1932–33 ended months before the establishment of FDIC insurance.”

44. The 1933 Banking Act authorized the Temporary Deposit Insurance Fund, which began coverage on January 1, 1934, and a permanent plan that was to take effect on July 1, 1934. The permanent plan was delayed and full deposit insurance was actually put into effect July 1, 1935 (FDIC 1998, 30). Moreover, only deposits up to \$2,500 were covered, which left approximately two-thirds of all bank deposits uninsured (Board of Governors of the Federal Reserve 1933, 28). It is difficult to see how deposit insurance could account for the banking calm as it was implemented after the crisis was ended and left most deposits uninsured.

problem for a time by preventing overly risky banks from offering high interest on deposits and thereby attract depositors at the expense of prudent banks and by leaving large depositors and most deposits uninsured.⁴⁵

High inflation in the 1960s and 1970s and mounting political pressure impelled regulators to begin to loosen the regulations that prevented paying interest on deposits. Meanwhile, the limits on deposit insurance were continually raised faster than the general rate of inflation. The combination of these factors unshackled the moral hazard problem and set the stage for the Savings and Loan Crisis of the 1980s.⁴⁶ Between 1986 and 1995, 1,043 out of the 3,234 U.S. savings and loan associations failed. The U.S. General Accounting Office (1996, 13) estimated the cost of the crisis at \$160.1 billion, approximately 4 percent of average annual GDP in the 1980s.

Canada was the next country to adopt deposit insurance, in 1967. Subsequently, many other countries followed suit, and today 146 countries have some form of government deposit insurance.⁴⁷ In none of these cases did a country adopt deposit insurance because of any preceding banking crisis. A growing empirical literature finds that deposit insurance leads to more frequent bank failures and also bigger losses (Demirgüç-Kunt and Detragiache 1998; 2002; Demirgüç-Kunt and Kane 2002; Barth, Caprio, and Levine 2004; Demirgüç-Kunt and Huizinga 2004).⁴⁸ The findings are supported by a large number of case studies on individual countries (Carr, Mathewson, and Quigley 1995; Mondschean and Opiela 1999; Beck 2002; Chernykh and Cole 2011). Empirical evidence also suggests that deposit insurance reduces overall economic growth by inhibiting financial development (Cecchetti and Krause 2005; Cull, Senbet, and Sorge 2005).⁴⁹

Critics of deposit insurance conclude that the costs of deposit insurance likely exceed the benefits. The primary purported benefit of deposit insurance, that it reduces liquidity risk within the banking system, can be achieved by other means. First and foremost, an effective lender of last resort is sufficient to prevent a liquidity crisis. A lender of last resort and deposit insurance are therefore substi-

45. How important statutory limits on deposit insurance were in containing moral hazard during this period is debatable given that regulators in practice acted to keep all depositors whole and it was generally known that deposits beyond than the size officially covered by deposit insurance were implicitly guaranteed.

46. Many studies find the high levels of risk taken by the S&Ls were primarily the result of moral hazard created by deposit insurance, e.g., Kane 1989; Barth 1991; Cebula 1993.

47. According to the International Association of Deposit Insurance ([link](#)).

48. According to Calomiris, banking crises worldwide were ten times more frequent and five times more severe in the period from 1980–2013 than they were in the period from 1874–1913. He argues that the widespread adoption of deposit insurance is a major factor contributing to the instability of the more recent period.

49. For a review of the recent literature on deposit insurance see Hogan and Johnson (2016).

tutes in the sense that they are two different institutions that exist to provide liquidity to the banking system. Moreover, private deposit insurance without mandated coverage is an alternative to the current system of government mandated deposit insurance.⁵⁰ A number of private insurance systems existed in the United States before the FDIC. Historical evidence suggests that private insurance can provide all of the same benefits to depositors and banks as government mandated insurance, but at a lower cost.⁵¹ More importantly, private insurers would have a profit incentive to structure the terms and conditions and charge an actuarially sound premium for coverage, mitigating moral hazard.⁵²

Textbook coverage

Whether deposit insurance creates net benefits is a hotly debated topic of academic research. And there is contention over whether deposit insurance helped end the banking panic of 1933. The burgeoning empirical literature generally finds that overall the spread of deposit insurance has led to more frequent bank failures and larger losses. All of this contrasts with much of what is presented in the textbooks.

Hubbard and O'Brien say:

As we will see in this chapter, the Fed failed to stop the bank panics of the early 1930's, which led Congress to create the Federal Deposit Insurance Corporation (FDIC) in 1934. By reassuring depositors that they would receive their money back even if their bank failed, deposit insurance effectively ended the era of commercial bank panics in the United States. (Hubbard and O'Brien 2018, 391)

50. Hogan and Johnson (2016) propose an array of alternatives to the FDIC, including privatization. They write: "Historical evidence of deposit insurance prior to the FDIC indicates that private mechanisms such as clearinghouses, coinsurance programs, and systems of self-regulation are likely to emerge to stem bank risk. The empirical evidence indicates that these proposals are likely to increase efficiency and stability in the U.S. banking system" (2016, 441–442).

51. See Calomiris (1990), who surveys both private and government insurance systems in the United States prior to the FDIC and finds: "In both the antebellum period and in the 1920s, insurance systems that relied on self-regulation, made credible by mutual liability, were successful, while compulsory state systems were not" (p. 283).

52. Part of the problem with government deposit insurance, and the main feature that contributes to the moral hazard problem, is that government deposit insurance providers do not charge premiums that are correctly adjusted for risk. For many years the FDIC charged a flat rate premium of one twelfth of one percent to all banks regardless of the riskiness of their investments, which was assessed against total deposits and not insured deposits. In the wake of the Savings and Loan crisis the FDIC was prompted to try to provide pricing with a sounder actuarial basis. Hogan and Luther (2014; 2016) provide evidence that premiums were substantially below the actuarially fair rate between 1999 and 2007, which contributed to the moral hazard problem and increased taxpayer losses due to bank failures between 2007 and 2010.

Later, in a subsection titled *The Bank Panics of the Early 1930s*, Hubbard and O'Brien say: "Of the 24,500 commercial banks operating in the United States in June 1929, only 15,400 were still operating in June 1934" (2018, 399).⁵³ They do also say: "The large number of small, poorly diversified banks—particularly those that held agricultural loans as commodity prices fell—helped fuel the panics" (ibid., 399). But they do not explain why there were so many small undiversified banks and that the situation was different in other countries. Hubbard and O'Brien mention in passing that deposit insurance may cause moral hazard, but don't elaborate (358). The Savings and Loan Crisis is mentioned but not discussed at length.

Mishkin in a subsection titled *Bank Panics and the Need for Deposit Insurance* presents the view that creation of deposit insurance in 1934 stabilized the banking system. He says:

With fully insured deposits, depositors don't need to run to the bank to make withdrawals—even if they are worried about the bank's health—because their deposits will be worth 100 cents on the dollar no matter what. From 1930 to 1933, the years immediately preceding the creation of the FDIC in 1934, bank failures averaged more than 2,000 per year. After the establishment of the FDIC in 1934, bank failures averaged fewer than 15 per year until 1981. (Mishkin 2019, 218)

In the section *The Spread of Government Deposit Insurance Throughout the World: Is This a Good Thing?*, Mishkin says: "The answer seems to be no under many circumstances. Research at the World Bank has found that, on average, the adoption of explicit government deposit insurance is associated with less banking sector stability and a higher incidence of banking crises" (2019, 219). But he goes on to qualify: "However, the negative effects of deposit insurance appear only in countries with weak institutional environments." In the subsection *Moral Hazard and the Government Safety Net*, Mishkin says: "Although a government safety net can help protect depositors and other creditors and prevent, or ameliorate, financial crisis, it is a mixed blessing. The most serious drawback of the government safety net stems from moral hazard. . . . Financial institutions with a government safety net have an incentive to take on greater risks than they otherwise would, because taxpayers will foot the bill if the bank subsequently goes belly up" (ibid., 220). Mishkin's

53. Hubbard and O'Brien's Figure 12.5 shows that with the establishment of the FDIC in 1934, bank suspensions fell to low levels. The caption to Figure 12.5 states: "Bank suspensions, during which banks are closed to the public either temporarily or permanently, soared during the bank panics of the early 1930s before falling to low levels following the establishment of the FDIC in 1934" (Hubbard and O'Brien 2018, 399). Notably, the graph in Figure 12.5 begins in 1920 and ends in 1940, reinforcing the idea that deposit insurance put an end to banking crises. Later on page 330 a graph shows bank failures in the U.S. between 1960 and 2016, which immediately draws the reader's attention to the 1980s.

discussion in an online appendix titled *The 1980s Savings and Loan and Banking Crisis* presents a fairly balanced overview that discusses prior financial innovations and deposit insurance, concluding: “As a result of these forces, commercial banks and savings and loans did take on excessive risks and began to suffer substantial losses.”

Cecchetti and Schoenholtz, in their subsection *Government Deposit Insurance*, say: “Congress’s response to the Federal Reserve’s inability to stem the bank panics of the 1930s was to create nationwide deposit insurance” (2021, 367). They go on to say: “Since its inception, deposit insurance clearly helped to prevent runs on commercial banks” (ibid., 368). In the subsection *Problems Created by the Government Safety Net* they elaborate on the moral hazard problem and say: “In protecting depositors, then, the government creates moral hazard” (ibid.). The solution to the moral hazard problem is said to be further regulation: “But this safety net causes bank managers to take on too much risk, leading to the regulation and supervision that we will discuss later in the chapter” (364). The Savings and Loan Crisis is not covered.

Brandl presents deposit insurance as a beneficial institution but is careful to mention that critics disagree. He says:

Since the 1930s the banking system has sought to instill confidence in depositors through government-sponsored deposit insurance. ... This insurance scheme seems to have worked well; the number of bank runs since the 1930s in the United States has fallen to essentially zero. As we will see later, however, deposit insurance is not a panacea. Critics of deposit insurance argue that the current system may cause as many problems as it solves. (Brandl 2017, 152)

In a subsection titled *The Savings & Loan Crisis*, Brandl says that the Savings and Loan Crisis was caused by the structure of the industry. He describes the financial deregulation and the role of deposit insurance:

As a result of these misaligned incentives, many Savings & Loans wrote very risky loans...If these loans were successful and did not default, the Savings & Loan would be very profitable and could share this increased profit with depositors through high interest rates on deposits. If these risky loans did not pan out and fell into default, causing the Savings & Loan to fail, the depositor could simply turn to the government, who insured the deposits through the Federal Deposit Insurance Corporation, for their money. (Brandl 2017, 97–98)

In the *Lessons Learned* box titled *Need to Address Causes of Problems, Not Symptoms*, Brandl concludes: “Finally, in 1989, Congress did address the cause of the problem—the structure of the industry—and closed down the failing Savings and Loans” (2017, 98). Brandl notes: “Others have argued that even FIRREA [the

Financial Institutions Reform, Recovery, and Enforcement Act] in 1989 did not address some of the deeper fundamental structural flaws in our financial system.”

Croushore says, in a subsection titled *Providing a Federal Safety Net to Prevent Bank Runs*: “Deposit insurance is a powerful method for preventing bank runs” (2015, 184). He also says: “Moral hazard arises from both deposit insurance and the lender-of-last-resort function. When a bank knows that its depositors do not care what the bank does because their deposits are insured by the government, the bank might make riskier investments” (ibid., 185). He then says: “To prevent these asymmetric-information problems the government must supervise and regulate banks” (185). In a subsection titled *The Savings and Loan Crisis* under the main section titled *Failures of the Banking System*, Croushore says the initial insolvency of the S&Ls was “...a classic case in banking in which a set of institutions based their decisions on historical behavior, in this case the behavior of interest rates” (162). He notes in 1980 the government enacted new laws including raising deposit coverage on accounts from \$40,000 to \$100,000 and says: “At this point the regulators and legislators created a moral-hazard problem. We now had a situation in which S&Ls were bankrupt but know that the regulators were not about to close them down” (163).

Ball, in a section titled *Deposit Insurance*, says: “Runs have occurred at individual banks but are rare, because the government has figured out how to solve the problem: deposit insurance” (2012, 292). Next, in a subsection titled *Misuses of Deposits*, Ball describes the moral hazard problems of excessive risk and looting of insolvent banks by bank management (ibid., 293–294). In a subsection *The Problems with Deposit Insurance* Ball says:

We saw that nervous depositors can cause bank runs. But they also have a positive effect: they discourage bankers from misusing deposits.... With deposit insurance.... A surge of failures can force the government to absorb part of the costs, as in the S&L crisis. Moral hazard and the absence of monitoring can end up hurting taxpayers. (Ball 2012, 296)

In a case study box titled *Deposit Insurance and Banking Crises*, Ball discusses the findings of Asli Demirgüç-Kunt and Enrica Detragiache (2002) and says:

Overall, the World Bank–IMF study found that the negative effects of deposit insurance outweigh the positive effects....However, there is an important qualification....The study found that deposit insurance makes crises more likely in countries with weak supervision but less likely in countries with strong supervision. (Ball 2012, 297)

All of the textbooks say deposit insurance is a necessary government safety

net. All give the impression or say outright that the 1930s bank failures were ended by deposit insurance. All also explain that deposit insurance causes moral hazard, and several books say it played a role in the Savings and Loan crisis. However, none question that the benefits of deposit insurance exceed the costs (although Brandl points out critics have this view and Mishkin and Ball note deposit insurance may destabilize less developed countries). Rather, they present moral hazard as an unfortunate consequence of necessary deposit insurance that must be monitored carefully by regulators. The textbooks present a similar view of too-big-to-fail policy, which we explore next.

Monetary policy and the Great Recession of 2008–2009

Beginning in the mid-1990s, rising housing demand combined with inelastic housing supply led to an unprecedented and sustained bout of home-price appreciation in the United States. Indices of home prices, especially in urban and coastal areas, peaked at historic highs in the summer of 2006 (Shiller 2015, 260). Home price inflation stalled and then reversed sharply in 2007. Declining home prices led to a near cessation of home construction activity in much of the country and diminished or eradicated many homeowners' home equity, leading to high rates of home mortgage default and significant negative wealth effects. A large decline in aggregate demand that began in the home finance and construction industries rippled throughout the US economy. The housing bust culminated in the financial crisis of 2008 and triggered the Great Recession of 2008–2009, the largest and most sustained economic downturn in the United States since the Great Depression of the 1930s.

What caused this economically devastating sequence of: (1) housing boom; (2) housing bust; (3) financial crisis; and (4) recession? And what, if any, role did central banks and monetary policy play in this chain of events? While details and points of emphasis differ among competing narratives, explanations of the crisis can be broadly categorized into two major lines of argument. The first view, which we label the market-failure position, centers on the culpability of inadequately regulated, profit-seeking bankers who put short-term profits above long-term stability and engaged in excessive risk taking. On this view, mortgage lenders, commercial banks, and investment banks overindulged in subprime mortgage lending and sowed the seeds of a credit crisis and recession that was mitigated by the Federal Reserve's responses. The second view, the government-failure position, locates the origins of the housing boom primarily in government policies

that encouraged home ownership and the erosion of lending standards. On this view, additional mistakes by monetary policymakers exacerbated the financial crisis and contributed to the length and severity of the recession that followed.

Advocates of the market-failure position are especially critical of what they term the ‘deregulation’ of financial markets during the 1990s and 2000s, which, they argue, blurred the lines between investment and commercial banks and led to excessive risk taking by both types of institutions. Advocates of this view claim that financial markets are inherently unstable and face the prospect of spontaneously emerging credit bubbles and financial crises. Regulators should have nipped excess mortgage risk in the bud during the housing boom, but they had been defanged by institutional changes over the past two decades, and then were asleep at the switch when the financial crisis was brewing (Stiglitz 2009, 332–333; Financial Crisis Inquiry Commission 2011, 53–56; Jeffers 2013; Duffie 2019). On this view, preventing solvency and liquidity crises requires strict government regulations that enforce adequate capital requirements and limit banks’ lending risk (Johnson and Kwak 2010, 205).

Advocates of the market-failure view further argue that market innovations in mortgage securitization contributed to the financial crisis by masking the apparent risks of subprime lending and reducing incentives for lender prudence. They argue that the eagerness of government sponsored enterprises⁵⁴ (GSEs) and investment banks to snap up loans made by mortgage originators for the express purpose of acquiring raw material for Mortgage Backed Securities (MBS) removed originators’ skin in the game, which eroded lending standards and heightened mortgage lending risk. Additionally, they argue investors’ appetite for highly-rated MBS, particularly those composed of higher-yielding subprime mortgages, created a massive conduit of funding for high-risk subprime mortgage loans, and resulted in the “financial alchemy” of turning risky loans into highly-rated mortgage securities (Lewis 2015, 72ff.).

Advocates of the government-failure position, in contrast, argue that perverse government policies, not deregulation, were the chief cause of the financial crisis.⁵⁵ While noting the role that securitization played in the financial crisis, they

54. The term ‘government sponsored enterprise’ refers to government-chartered mortgage banking institutions, which includes Fannie Mae and Freddy Mac. GSEs were created to channel additional funding into home mortgage markets and thereby encourage additional lending. Originally the GSEs issued investment-grade bonds which were funded by large pools of underlying ‘conforming’ (prime) mortgages. However, during the height of the housing boom, GSEs became significant participants in issuance of subprime mortgage backed securities (Financial Crisis Inquiry Commission 2011, 38ff.). GSEs mortgage investments carried an implicit government guarantee which was made explicit in the Treasury’s ‘bailout’ and takeover of the GSEs in 2008.

55. Advocates of the government-failure position also point out that deregulation can cut both ways. For instance, the partial repeal of the 1933 Glass-Steagall Act, which was one of the most significant

argue that GSEs dominated the secondary market for mortgages and that the U.S. Department of Housing and Urban Development guidelines eroded lending standards by requiring GSEs to extend more loans to low income borrowers, to accept smaller down payments, and to make larger loans relative to borrowers' income. And while advocates of the government failure position do not necessarily defend the actions of bankers vis-à-vis subprime mortgage investments, they do argue that their incentives were shaped largely by institutional rules and perverse government policies which were the root cause of the problems (Calomiris and Haber 2014, 256–277). Additionally, advocates of the government-failure position argue that the Federal Reserve and other financial regulators contributed to the financial crisis and the Great Recession of 2008–2009 in the following three ways:

1. Monetary policy: Monetary policy was too accommodative during the housing boom and then too tight during the recession. First, the Federal Reserve inflated the housing bubble by keeping interest rates “too low for too long” (Gjerstad and Smith 2009; Taylor 2009). Excessively low interest rates helped ramp up housing demand, and hence, home prices, as lower interest rates enable buyers to affordably finance more expensive homes. Next, during the financial crisis the Fed initially sterilized its emergency lending and then implemented the policy of paying interest on bank reserves. At that point the Fed's monetary policy was too tight to keep nominal GDP growing at its prior rate and caused deflation, high real interest rates, and an increase in cyclical unemployment (Hummel 2011; Sumner 2011; Selgin 2018, 67–97).

2. Lender of last resort and moral hazard: The existence and inconsistent application of the Fed's ‘too big to fail’ (TBTF) policy exacerbated the financial crisis. First, during the housing boom, investment risk already encouraged by the Fed's low-rate policy was greatly exacerbated by TBTF's ‘financial crisis insurance’ protection against catastrophic losses.⁵⁶ The implicit bailout guarantee encouraged

deregulation measures cited as encouraging banks' overindulgence in subprime lending, proved beneficial during the financial crisis. The Graham-Leach-Bliley Act of 1999 removed Glass-Steagall's separation of commercial and investment banks. The market-failure view holds that removing the firewall between commercial and investment banks led to mergers which exacerbated risk levels and the too-big-to-fail problem. While this instance of moral hazard is certainly worthy of discussion, it should be also noted that eliminating the commercial-investment bank barrier allowed failing investment banks to tap into Federal Reserve lending and rescue packages. This turned out to be a crucial factor in the stabilization of Morgan Stanley and Goldman Sachs during the financial crisis. White (2010) and McDonald (2016) provide detailed discussions of Glass-Steagall, its repeal, and its role in the financial crisis of 2008.

56. Ironically, the problem of too little bank consolidation in the 1800s and 1900s that arose from restrictions on branching was turned on its head, giving way to too much bank consolidation in the 2000s. Calomiris and Haber (2014, ch. 7) argue political intrusion into bank regulation in the 1980s and 1990s led to increased market power of banks and too-big-to-fail financial institutions: “Chapter 7 drives that point home by examining how the U.S. banking system, freed of restrictions on branching and competition—a change that should have made the system more stable—became positioned during the 1990s for the

financial institutions to make highly leveraged, risky investments in MBS and other housing-related derivatives (Roberts 2010). Later, during the financial crisis in 2008, the leveraged buyout of Bear Stearns reinforced the bailout expectation, raising moral hazard in the financial system. Then, against expectations, the Fed allowed Lehman Brothers to fail, which caused a financial panic and a credit freeze. Finally, testimony in Congress on September 23rd by acting Fed Chairman Ben Bernanke and Treasury Secretary Hank Paulson created uncertainty regarding the Fed's policy response and the TARP bailout plan, and precipitated the stock market crash. These inconsistent, on-again off-again bailout policies worsened the financial crisis (Taylor 2010, 169–173; 2012, 1022–1030).

3. Regulatory inadequacies: In the case of subprime mortgage lending in particular, it was not “deregulation,” but rather adjustments to existing financial regulations that had the unintended consequence of increasing subprime mortgage risk. According to proponents of the “regulatory capital arbitrage” theory, changes in capital regulations had an unintended consequence of incentivizing banks’ investments in shaky subprime MBS. The Basel Accord capital requirements, first promulgated in 1988, were initially envisioned as a regulatory enhancement of banks’ capital adequacy. Yet when combined with the increase in mortgage securitization, the risk-weighted Basel capital requirements created an incentive structure that prompted increased subprime lending and ultimately led to the excessive subprime mortgage risk that blew up beginning in 2007. Complacent ratings agencies allowed junk-rated subprime mortgages to be packaged into putatively investment-grade securities. Banks eventually realized that, under Basel I, they could cut the capital requirement for home mortgage portfolios from 4 percent to 1.6 percent by switching from booking loans they originated to selling off their mortgages for securitization and then investing the proceeds into MBS and derivatives (Kling 2009, 22–28). Thus the Basel Accord changes to capitalization rules, rather than “deregulating” the banks, merely “re-regulated” them in ways that would prove to be destabilizing.

Textbook coverage

Given the complexity and interconnectedness of the arguments outlined above, few economists limit the cause of the financial crisis to just one of these factors. Indeed, many if not most adherents of the government-failure viewpoint draw on several or all of the elements listed. Some in the market-failure camp draw on certain of the government-failure arguments as well. The immense global impact of the financial crisis and recession has generated a rich field for academic

spectacular banking crisis of 2007–09” (ibid., 18).

study and given rise to multiple competing theories and vast literatures of supporting claims and evidence. To provide a balanced and complete treatment of this complex event for money and banking students, textbook authors should at least acknowledge and briefly outline the major competing arguments. However, all of the textbooks under review here omit discussion of at least one and often several possibly important causal factors that played into the financial crisis and recession.

Hubbard and O'Brien present a fairly balanced account, mainly descriptive but with some discussion of a few potential market and government failures. In a subsection titled *Did a Global Saving Glut Cause the U.S. Housing Boom?* Hubbard and O'Brien present the global savings glut explanation for low interest rates in the mid-2000s, but are careful to point out the following: "Some economists have argued that the Fed persisted in a low-interest-rate policy for too long a period, thereby fueling the housing boom." They also conclude the section by noting: "[John] Taylor argues that Federal Reserve policy, rather than a global saving glut, fueled the housing bubble in the United States" (2018, 136). Hubbard and O'Brien (*ibid.*, 73, 638–641) discuss the securitization of mortgages and its effects on the financial industry in descriptive terms, but note potential significant problems in the mortgage market, including political pressures that weaken mortgage standards for the GSEs. In a section titled *The Financial Crisis of 2007–09* Hubbard and O'Brien describe the rise and fall of housing prices and the bank runs at Bear Stearns and Lehman Brothers in largely descriptive terms without ascribing causal factors. The next section, *Financial Crisis and Financial Regulation*, discusses TBTF policy and notes the moral hazard problem created by Federal Reserve bailouts of insolvent institutions (*ibid.*, 408). Hubbard and O'Brien also question one aspect of the Fed's handling of the financial crisis in the section *Could the Fed Have Saved Lehman Brothers?*, which presents the view that fear of increasing moral hazard led the Fed to allow Lehman Brothers to fail, while noting Bernanke's claim that the Fed was legally prevented by the Federal Reserve Act from undertaking a bailout. Overall, however, Hubbard and O'Brien mainly present the view that Fed policy after the financial crisis helped shorten the recession, for example stating: "The economy started to recover in mid-2009 only after the risk premium began to decline to more normal levels. The Fed helped reduce the risk premium by undertaking unconventional policies such as buying mortgage-backed securities issued by Fannie Mae and Freddy Mac" (*ibid.*, 638). But in the concluding box of Chapter 12, titled *Answering the Key Question*, Hubbard and O'Brien note: "Some economists believe that policy errors by the Federal Reserve and policy uncertainty during and after the recession explain the severity of the recession and the weakness of the recovery" (*ibid.*, 421).

Mishkin presents an account of the financial crisis and recession that mostly

hews toward a spontaneous market-failure storyline, although he does include some nods to potential government-failure complications. In a section titled *The Global Financial Crisis of 2007–2009*, Mishkin states that “financial innovation in mortgage markets, agency problems in mortgage markets, and the role of asymmetric information in the credit-rating process” were the “three central factors” underlying the crisis (2019, 275). Mishkin says the housing bubble was driven by growth in the subprime mortgage market, with further stimulus coming from three sources: (1) low interest rates driven by large capital inflows from countries like China and India; (2) government mandates for the GSEs to invest heavily in MBS; and (3) Federal Reserve monetary policy that reduced mortgage interest rates (*ibid.*, 278).

Mishkin blames problems in the mortgage market on agency problems of market participants including investors, brokers, commercial banks, investment banks, and rating agencies. He notes that the rating agencies in particular were problematic, saying that they “were subject to conflicts of interest because the large fees they earned from advising clients on how to structure products that they themselves were rating meant that they did not have sufficient incentives to make sure their ratings were accurate” (2019, 277).

In another chapter Mishkin notes: “One problem with the too-big-to-fail policy is that it increases the moral hazard incentives for big banks” (2019, 221). In his expanded chapter on the financial crisis, Mishkin states that the TBTF problem “was an important factor that contributed to the global financial crisis” (*ibid.*, 286). In his Chapter 15, *The Tools of Monetary Policy*, Mishkin presents an unqualified view that the Fed’s monetary policy and lender-of-last-resort actions during and subsequent to the financial crisis were helpful (2019, 343–365). The *Inside the Fed* box titled *Fed Lending Facilities During the Global Financial Crisis* states: “During the global financial crisis, the Federal Reserve became very creative in assembling a host of new lending facilities to help restore liquidity to different parts of the financial system” (*ibid.*, 359).

Brandl does not provide any detailed overview of the Great Recession of 2008–2009, but does touch on some related topics. In a section called *The Mortgage Market, Government Policies, and the Global Financial Crisis* Brandl presents elements of both market and government failures that led to the housing bubble:

Certainly one of the major causes of the current crisis was the financial markets misuse of Gaussian copulas....Another thing driving the expansion of the CMO [collateralized mortgage obligation] market was the rapid relaxation of underwriting standards in the mortgage markets....Adding fuel to this housing asset bubble were policymakers in Washington. Both the Clinton and George W. Bush Administrations pursued increased home ownership as one of their important economic policy objectives. (Brandl 2017, 377)

Brandl presents a balanced discussion of TBTF, stating:

Many critics complain that the TBTF policies that date back to the 1980s are one of the fundamental causes of the global financial crisis that started in 2008....The debate over TBTF rages on: Do they reduce systemic risk or do they exacerbate a moral hazard that led to the worst economic slowdown since the Great Depression? (Brandl 2017, 299)

Cecchetti and Schoenholtz present mainly a spontaneous market-failure account, simply noting that lenders “relaxed their lending standards” and became “complacent” about the upward trend in home prices. They claim that the housing bust and increased defaults caught banks which had “bet the house” on subprime MBS flat-footed, leading to insolvency and a liquidity crisis (Cecchetti and Schoenholtz 2021, 161). Cecchetti and Schoenholtz do provide some details of the role of securitization in the crisis. They state that each party to the MBS chain was too reliant upon information from others and failed to perform due diligence in assessing subprime mortgage risk; the crisis thus represented a market-failure outcome involving asymmetric information and the free rider problem (*ibid.*, 280). Cecchetti and Schoenholtz do address the regulatory inadequacy component of the government-failure argument, noting that banks had learned to “evade or game” regulations, specifically by engaging in regulatory capital arbitrage, swapping booked mortgages for highly-rated MBS, in order to reduce the burden of regulatory capital requirements under Basel (*ibid.*, 375, 379).

Croushore offers primarily a market-failure view of the crisis, suggesting that excessive subprime mortgage risk emerged spontaneously due to myopic, under-regulated bankers who became “willing to extend mortgage loans to just about anyone who wanted one, making subprime loans (to borrowers who were high risks), and even making so-called NINJA loans (to people with No Income, No Job, or Assets)” (2015, 163). He further notes the role of extremely high leverage ratios in heightening banks’ susceptibility to negative shocks (*ibid.*, 163), but does not comment on the possible linkage between high leverage and the Fed’s low interest rate policies. Croushore does acknowledge the moral hazard argument as a contributing factor in the crisis, noting that, with the prospect of bailouts, investment banks “may make riskier investment decisions as a result” (*ibid.*).

Ball likewise presents mainly a market-failure view, noting that mortgage lenders were simply myopic in extending subprime credit and performed insufficient credit underwriting. Ball also notes the role played in the buildup of subprime mortgage risk by MBS, but does not link the growth in securitization to the regulatory structure (2012, 234–235).

All of the textbooks present primarily a market-failure view of the Great Recession of 2008–2009 and an endorsement of the Fed’s unprecedented actions

as lender-of-last-resort and implementation of unconventional monetary policy tools—although Hubbard and O’Brien and Mishkin note some competing theories. Some of the textbooks present one or another aspect of government failure, but none present a full and balanced overview of all aspects of the government-failure arguments.

The performance of the U.S. economy before and after the Federal Reserve

The Federal Reserve’s mandate for monetary policy is to promote the goals of maximum employment, stable prices, and moderate long term interest rates. The Fed also has the stated goal, as lender-of-last-resort, of containing financial disruptions and limiting their spread outside the financial sector. Whether and to what extent the Fed has or has not achieved its stated goals is a matter of much debate in the economics literature.

Merely looking at the standard Kuznets-Kendrick historical GNP series data sets shows that prices, output, and unemployment have been slightly less stable in the U.S. after the creation of the Federal Reserve System in 1913 than they were in the pre-Fed era. However, many economists prefer to exclude the early period under the Fed between 1913 and 1945 from this comparison on the grounds that this was a learning period during which the Fed had gained missing knowledge about how to conduct monetary policy successfully. Comparison between the pre-Fed era and the post-WWII Fed era formed the basis for the common claim in the 1960s and 1970s that the Fed had helped stabilize the macro-economy by reducing the frequency and duration of recessions.

Christina Romer’s (1986; 1989; 2009) influential research cast doubt on these earlier claims by arguing the seemingly greater stability in the post-WWII Fed era is merely an artifact of differences in the way the standard data sets measure output and unemployment for different time periods. Using revised data, Romer found that the volatility of output, the volatility of unemployment, and the rate of inflation were all higher in the post-WWII era than in the pre-Fed era. Romer’s findings provoked a large body of follow-up research in which some studies find the economy performed better during the pre-Fed era while other studies find the economy has performed better in the post-WWII Fed era.⁵⁷

57. See Selgin, Lastrapes, and White (2012) for an excellent and thorough review of the literature on the performance of the Fed.

Textbook coverage

By and large, the textbooks merely assert the goal of the Fed is to stabilize unemployment and inflation. While the texts generally demur when it comes to assessing the Fed's overall historical performance, they tend to be optimistic about the Fed's ability to learn from past mistakes and improve macroeconomic stability going forward.

Cecchetti and Schoenholtz do not offer a general assessment of the Fed's historical performance, yet are optimistic that the Fed and other central banks have learned from past mistakes. They cite the pre-Fed instability of the U.S. financial system as the main rationale for the creation of the Fed, but then note that “[t]he historical record is filled with examples of [central bank] failure, like the Great Depression of the 1930s... Economic historians blame the Federal Reserve for the severity of that episode” (2021, 398). They briefly note the US inflation crisis of the late 1970s but do not discuss the Fed's role in contributing to this episode. They do partly inculcate the Fed for the Great Recession of 2008–2009: “The Fed also bears considerable responsibility for the crisis of 2007–2009. It was largely passive as intermediaries took on increasing risk amid an unprecedented housing bubble, and it allowed the financial hurricane to intensify for more than a year after the storms began” (ibid., 402). However, they go on to praise the Fed's response to the crisis in 2008, saying: “the Fed used all its emergency authority in historically unprecedented ways to steady the financial system when the crisis peaked in 2008. The Fed's tenacity and flexibility helped promote a huge recovery of financial conditions in 2009 and avoid a second Great Depression” (ibid.). They close on a fairly sanguine forecast of central banks' ability to maintain economic stability in the future, stating: “Over the years, central bankers have learned from their mistakes” and are now well-positioned to engage in last resort lending during crises and deliver price stability for the economy (515).

Mishkin—a former member of the Fed's Board of Governors—likewise offers no general assessment of the Fed's performance. Mishkin does lay blame for the severity of the 1930s financial crises at the feet of the Fed, noting that “For more than two years, the Fed sat idly by through one bank panic after another, the most severe spate of panics in U.S. history” (2019, 273). Mishkin also documents the Fed's role in, and response to, the inflation of the 1970s (ibid., 575), another episode widely viewed as a Federal Reserve policy error.

Ball also does not offer an overall assessment of the Fed's long-run performance in achieving macroeconomic stabilization. Ball documents the Fed's causal role in the Great Inflation of the 1970s and early 1980s (2012, 373–374, 460), and briefly discusses the Fed's failure to engage in its lender of last resort function in the 1930s financial crises (ibid., 550).

Hubbard and O'Brien similarly do not offer an overall assessment of the Fed's long-run performance. They blame the Fed for bank failures during the Great Depression and point out that some economists think Fed policies exacerbated the Great Recession of 2008–2009. In discussing the *Factors that Motivate the Fed*, Hubbard and O'Brien say:

The record of persistent inflation since World War II, particularly the high rates of inflation during the late 1970s and early 1980s, undercuts the claim that the Fed has emphasized price stability. Other economists argue that the Fed's record on price stability is relatively good and that the high inflation rates of the 1970s were primarily due to soaring oil prices that took the Fed by surprise. (Hubbard and O'Brien 2018, 446)

Croushore also does not offer an overall assessment of the Fed's long-run performance in achieving macroeconomic stabilization. He does not discuss the Fed's role in the Great Depression or Great Recession of 2008–2009. Croushore does not present a detailed discussion of the Great Inflation of the 1970s, but in discussing inflation under the different Fed chairs says, "Perhaps the worst performance was turned in by Arthur Burns in the 1970s, under whose chairmanship inflation remained at a high level despite several recessions that helped to reduce it" (Croushore 2015, 321).

Brandl (2017) too does not offer an overall assessment of the Fed's long-run performance in achieving macroeconomic stabilization, nor does he provide a detailed discussion of the Fed's role in the Great Depression, the 1970s inflation, or the Great Recession of 2008–2009.

A thorough textbook on the subject of money and banking must address how well the Fed has achieved its mission. None of the textbooks provide this. Rather than making assertions about the Fed's goals, the textbooks should provide a brief and unbiased summary of the statistical findings of the post-Romer literature on the topic.

Summary table and discussion of possible biases

The following table summarizes the views that each textbook presents on the seven topics.

TABLE 1. The views of the textbooks on the seven topics

	Hubbard and O'Brien	Mishkin	Ball	Brandl	Cecchetti and Schoenholtz	Croushore
Bank Stability, Runs, Panics	All present only the sunspot hypothesis of inherent bank fragility; none presents regulatory weakening hypothesis or historical evidence comparing the stability of restricted vs. unrestricted banking systems					
Origins of Central Banks	Market failure	Market failure	Market failure	Market failure	Government interest and market failure	Market failure
National Banking Era; Origins of Fed	Strictly market failure—no coverage of legal restrictions that led to banks' fragility; No mention of alternative plans or proposals to Federal Reserve for preventing financial crises					
Great Depression Bank Panics	Monetarist panic view; government failure	Monetarist panic view; some fundamentals details; government failure	Monetarist panic view; government failure	Monetarist panic view; government failure	Endogenous view of bank suspensions; market and government failure	No detailed coverage
Deposit Insurance	Favorable view; mentions moral hazard in passing	Overall favorable view; presents both positive and negative aspects; cites critical literature	Overall favorable view; presents both positive and negative aspects; addresses moral hazard in S&L crisis; cites critical literature	Overall favorable view; presents both positive and negative aspects; addresses moral hazard in S&L crisis	Overall favorable view; presents both positive and negative aspects; no coverage of S&L crisis	Overall favorable view; presents both positive and negative aspects; addresses moral hazard in S&L crisis
Financial Crisis of 2008	Market failure and government failure; discusses low interest rate policy and role of moral hazard	Market failure view; notes some sources of government failure	Simple market failure view	No detailed discussion of the Recession; market failure and government failure in housing bubble	Market failure; details on securitization; mentions some aspects of regulatory inadequacy	Market failure; mentions role of moral hazard
U.S. Economy before/after Fed	No overall assessment of Fed performance; lengthy discussion of Fed policy failures in Great Depression; market failure and government failure views of 1970s inflation and 2007–2009 recession	No overall assessment of Fed performance; lengthy discussion of Fed policy failures in both Great Depression and 1970s inflation	No overall assessment of Fed performance; brief discussion of Fed's failure in 1930s; thorough discussion of Fed's role in 1970s inflation	No overall assessment of Fed performance	No overall assessment of Fed performance; mentions Fed failure in 1930s; no discussion of Fed's role in 1970s inflation; brief mention of Fed's contribution to 2008 crisis; generally positive take on Fed's current/future ability to stabilize	No overall assessment of Fed performance

Whichever textbook is used, students basically find the following narrative: Commercial banks are naturally and inherently unstable, so central banks are created to stabilize the banking system. The United States had frequent bank panics before the creation of the Fed. A central bank was needed to end these panics, so the Fed was created for this purpose. The Fed blundered in the 1930s and made the Great Depression worse, but it learned from its mistakes and that is also why a second safety net of deposit insurance was implemented. Deposit insurance put an end to the Panic of 1933 and has virtually eliminated bank runs. Deposit insurance creates moral hazard, but the benefits are worth the costs; government can effectively manage moral hazard risk through financial regulations, although sometimes lack of sufficient regulation has manifested in problems. The financial crisis of 2008 was the product of insufficient regulation of financial markets, but the Fed had the courage to act and pursue a too-big-to-fail policy and implement unconventional policy tools. Overall, the post-WWII Fed has made the economy more stable than it was in the pre-Fed era.

Every one of these claims is disputed by prominent economists in research articles published in top academic journals. However, the textbooks do not point out that a significant number of economists have alternative views. Additionally, the textbook narrative relies on a biased selection of facts. The cumulative effect of these oversights is an unbalanced textbook narrative that could potentially mislead student readers.

To put this in perspective and illustrate how biased the textbook narrative is consider the following opposite narrative that could be constructed based solely on arguments by prominent economists in top journals: Commercial banks are generally stable and there was historically an absence of bank panics in countries with free banking systems. Legal restrictions on banks made them unstable. Central banks came into existence to support the fiscal needs of government or deal with instability engendered by legal restrictions. The Fed was created after the Asset Currency Movement was blocked for political reasons. Legal weakening of banks and the Fed helped make a recession beginning in 1929 become the Great Depression by causing the banking system to collapse. The banking crisis was halted by Roosevelt's currency reforms but subsequently deposit insurance was unnecessarily implemented. Deposit insurance was costly but seemed to end bank failures for a while until moral hazard exploded in the Savings & Loan crisis. A combination of bad government policies and bad Fed policies created a financial crisis in 2008 and subsequently worsened the Great Recession of 2008–2009. Prices and unemployment have been less stable than they were before the Fed was created. Our desire is not for textbooks to champion one or the other of these narratives, but merely to lay out all possibilities discussed in the economic literature in a fair and balanced way and make students aware of them.

Here we suggest two underlying biases that may or may not be at play but could potentially account for the observed narrative:

1. False consensus bias. Textbook authors may simply be presenting views they perceive to be matters of general consensus in the economics profession. We believe a simple survey of economists would show there is no such consensus. A survey by Robert Whaples (1995) included questions related to two of the topics reviewed in this paper and found disagreement. When presented with the following proposition, 32 percent agreed, 43 percent disagreed, and 25 percent agreed with provisos: “Throughout the contractionary period of the Great Depression, the Federal Reserve had ample powers to cut short the process of monetary deflation and banking collapse. Proper action would have eased the severity of the contraction and very likely would have brought it to an end at a much earlier date.” On the proposition “The cyclical volatility of GNP and unemployment was greater before the Great Depression than it has been since the end of World War Two” Whaples found 54 percent agreed, 22 percent disagreed, and 24 percent agreed with provisos.⁵⁸

2. Status quo bias. At times the textbooks can almost read like an ex-post justification of whatever financial institutions or policies happen to exist at the time of publication. This suggests to us status quo bias may be at play. Taking a cursory look through out-of-print textbooks, and even at earlier editions of currently in-print textbooks, it appears to us that only matters currently under debate by the Federal Reserve’s Federal Open Market Committee are presented in the textbooks as actual matters of theoretical debate. As the status quo of the Fed shifts, so do the textbooks. For instance, the practice of central bank purchases of assets other than short-term treasury bonds is presented as inappropriate in older textbooks but appropriate in newer textbooks. This change coincides in time with the Fed’s changes to its own operating system. Status quo bias may also explain why other topics that are not matters of Fed consensus, such as rules versus discretion in monetary policy, are treated in a less biased way.⁵⁹

Another factor that may serve to reinforce the status quo bias is the Fed’s role in academic research in monetary economics (White 2005). Table 2 lists affiliations

58. It is worth noting the Whaples survey was conducted before the Great Recession, and that even during the height of the Great Moderation 22 percent of economists disagreed with the view that the Fed had made the economy more stable in the post-WWII era than in the pre-Fed era.

59. Scientism may help account for why economics textbooks in general tend to assume government intervention can successfully correct market failures because it leads to the hubris that technological knowledge alone is sufficient for government planners to successfully remold the social order of the marketplace. Scientism may also explain why textbooks tend to present a Whig view of history because it leads to the assumption that scientific knowledge is always progressing and the mistaken presumption that institutions that exist later in time, such as central banks or deposit insurance, must be superior to those that previously existed simply because they came later. On scientism generally, see Hayek 2010/1952.

that the textbook authors have had with central banks. We surmise that if the textbooks were written by authors previously employed by or affiliated with commercial banks instead of central banks the characterization of the stabilizing properties of commercial banks vis-à-vis central banks would be largely reversed.

TABLE 2. Central bank affiliations of the authors of the six textbooks

Hubbard and O'Brien	Hubbard: Panel of Economic Advisors, Federal Reserve Bank of New York (1995–2001, 2003–present); consultant for the Board of Governors; Former Associate Editor of the Federal Reserve Bank of New York Economic Policy Review. O'Brien: None known.
Mishkin	Economist, Board of Governors of the Federal Reserve System, Summer 1977. Academic Consultant for the Board of Governors Bank of New York. Visiting Scholar for the Bank of England, Bank of Australia, Board of Governors Division of International Finance, Executive Vice President and Director of Research, Federal Reserve Bank of New York, 1994 to 1997. Member of the Board of Governors 2006-2008,
Ball	Visiting scholar at Federal Reserve, Bank of Japan, Bank of England, and Reserve Bank of New Zealand.
Brandl	None known.
Cecchetti and Schoenholtz	Cecchetti: Former Executive Vice President and Director of Research at the Federal Reserve Bank of New York. Schoenholtz: Visiting scholar at the Bank of Japan.
Croushore	Former 14 Year Vice-President of the Federal Reserve Bank of Philadelphia.

Recommendations

Our main recommendation is that the textbooks treat the seven topics surveyed in this paper with the same balance that they treat other topics such as rules versus discretion in monetary policy or the debate over central bank independence. Specifically, all of the textbooks should mention: the stability of the Canadian banking system in the absence of a central bank; the fiscal motivations for the creation of the Bank of England and other early central banks; the role that legal restrictions played in creating an unstable banking system in the U.S. during the National Banking Era; the disagreement over whether panic is to blame for the banking failures during the Great Depression and over the causes of panics; the disagreement over whether deposit insurance in fact ended the Bank Panic of 1933 and whether deposit insurance creates net benefits; the role government regulations and policies possibly played in the subprime mortgage boom and subsequent recession, including monetary policy, the Basel capital requirements, creation of the ratings agency cartel, and various housing policies that specifically required or encouraged subprime mortgage origination; and Christina Romer’s findings about the performance of the economy during the pre-Fed and post-Fed eras. In most cases these changes can be made through the addition of a few sentences, or minor revisions to existing paragraphs. These small changes alone would make for improved textbooks. We encourage the textbooks to embrace

more detailed comparative institutional analysis informed by the experiences of historical and world central banks and banking systems. In sharp contrast to popular textbooks of the past, the current textbooks present too much pure macroeconomic theory and not enough pure monetary theory and especially not enough monetary history.

We also recommend that the textbooks be screened as much as possible for false consensus and status quo bias. On matters where economists disagree, the textbooks should inform the readers of that, perhaps by presenting findings of surveys of economists' views. Greg Mankiw (2015) has already adopted such a practice in his *Principles of Microeconomics* textbook, and it would make a nice addition to the money and banking textbooks. Moreover, we encourage authors to consider confessing their own ideological leanings.

The textbooks should embrace the complicated interpenetration of theory and history. Instead of ignoring the great debate of ideas in the economics profession, the textbooks should let students in on it. By presenting alternative views, when appropriate, textbooks would increase the analytical reasoning skills of students and improve their understanding of the issues. Also, in our own experience as teachers, we find that students enjoy the subject more when, instead of being treated like passive vessels of official knowledge, they are invited to question officialdom and to join an ongoing discussion.

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About the Authors



Nicholas Curott is an assistant teaching professor and the assistant director of student programming for the Institute for the Study of Political Economy at Ball State University, where he teaches macroeconomics and monetary policy, and coaches the Fed Challenge Team. His research focuses on the history, theory, and political economy of banking institutions. He holds a B.A. in Economics from the University of Colorado at Boulder and a Ph.D. in Economics from George Mason University. His email address is nacurott@bsu.edu.



Tyler Watts joined the faculty of Ferris State University in 2018. His research interests include monetary history, entrepreneurship, and institutional analysis. He has published articles in *Eastern Economic Journal* and *The American Economist*. He is originally from Colorado and prior to his academic career he worked in the residential construction industry. His email address is tylerwatts@ferris.edu.



Ben Thrasher is a student at Ball State University, studying to graduate with a B.S. in mathematical economics. He is a Buchanan Scholar with the Institute for the Study of Political Economy at the Miller College of Business. Aside from a focus on mathematics, his economic study is focused on the Federal Reserve System. His email address is bthrasher@bsu.edu.

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