

Central Banks, Global Shocks, and Local Crises: Lessons from the Atlanta Fed's Response to the 1920–21 Recession

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Summary:

During late 1920, the president (then called “governor”) and board of directors of the Federal Reserve Bank of Atlanta were confronted with an unexpected, devastating collapse in the price of a commodity whose global production was concentrated in their district—cotton. Their judgment was that the fall in cotton prices was temporary and that its effects could be lessened with generous credit policies that did not conflict with the Federal Reserve Act. Other officials within the Federal Reserve System did not agree with this judgment, however, leading to a contentious policy debate and an eventual rollback of the Bank’s policy accommodation.

This article describes the policy actions undertaken by the Atlanta Reserve Bank over the course of the 1920–21 recession and the intra-Fed debate over these policies. It notes that the policies pursued by the Federal Reserve Bank of Atlanta during this period anticipated the later (1932) addition of Section 13(3) to the Federal Reserve Act, giving the Fed broad powers to lend in “unusual and exigent circumstances.”

Key findings:

1. The Federal Reserve Bank of Atlanta independently engaged in widespread emergency lending during the 1920–21 recession, one of the first instances of such lending in the history of the Federal Reserve System.
2. This policy led to a threat by the chair (then called “governor”) of the Federal Reserve Board to forcibly downsize lending by the Federal Reserve Bank of Atlanta.
3. The intra-Fed debate over the Federal Reserve Bank of Atlanta’s emergency lending anticipated Great-Depression era debates that would lead to the 1932 passage of Section 13(3) of the Federal Reserve Act.

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1. Introduction

The plot may sound familiar to readers in 2020. An economy is hit with a shock of global origin and unknown duration. A central bank responds by providing ample credit on generous terms. Although its beneficiaries welcome the credit infusion, it ignites a furious debate: is this an appropriate policy response to a devastating but likely temporary shock, or does such accommodation only reward excessive risk taking and undermine the central bank's credibility?

This storyline is not from 2020, however, but a century earlier, and describes the dilemma faced by the Federal Reserve Bank of Atlanta during the recession of 1920–21. The severe recession in the southern United States came as a result of a 70 percent drop in cotton prices that followed a wartime commodities boom. The cotton crash experienced in late 1920 was an event of local, national, and even global significance. In the early twentieth century, the majority of the world's cotton was grown in the southern United States and, conversely, cotton was of paramount importance to the economies of many southern states.

The Atlanta Reserve Bank enjoyed considerable leeway in its initial response to the 1920 price shock, because policymaking by the Federal Reserve System was decentralized in its early years, with much autonomy granted to individual Reserve Banks.¹ While Federal Reserve policy at the national level during this era has been well documented,² the history of actions undertaken by individual Reserve Banks is an area of active research.³ The policies of the Atlanta Fed during this period have recently been reconstructed by White (2015, 2017), and this article reviews this research and draws on a newly published history of the Atlanta Fed (Garrett undated).⁴

The Federal Reserve's chief monetary policy instrument during this era was the discount rate, the interest rate charged by Federal Reserve Banks on collateralized credit (discounts) to member banks.

¹ The Banking Act of 1935 (https://www.federalreservehistory.org/essays/banking_act_of_1935) concentrated responsibility for monetary policy in the Federal Open Market Committee and the Board of Governors of the Federal Reserve System.

² On this history see, for example, Friedman and Schwartz (1963), Wicker (1963), Wheelock (1991), Eichengreen (1992), Meltzer (2003), Bordo and Wheelock (2013), and Hetzel (2020).

³ Some recent studies that focus early Federal Reserve history at the district level include Jalil (2014), Carlin and Mann (2019), Rieder (2020), and Tallman and White (forthcoming).

⁴ Franklin M. Garrett, an eminent Atlanta historian, compiled this history in the 1960s under commission from the Atlanta Fed. Garrett's history has recently become available through the St. Louis Fed's FRASER website (<https://fraser.stlouisfed.org/>). A second Atlanta Fed official history, by Richard Gamble (1989), draws extensively on the Garrett history.

Discount rates were set by individual Reserve Banks' boards of directors, but these decisions were subject to Board approval and, in practice, were coordinated between Reserve Banks (divergences within 1 percent did occur). Where the Reserve Banks had more discretion was in determining the eligibility and valuation of discount window collateral, which allowed them control over the quantity of credit they dispensed. The overall volume of credit supplied by the System was constrained, however, by provisions of the Federal Reserve Act that were meant to enforce the gold standard (which we discuss in section 3 below).

As the drop in cotton prices persisted, conflicting views on Fed policy at the national (Federal Reserve Board⁵) and district (the Atlanta Fed, in this case) levels led to strident disagreements regarding the appropriate level of accommodation by the Atlanta Fed. The Board's view was that Systemwide restrictive policies (high discount rates and stringent limits on collateral) were necessary to counteract postwar inflation and maintain System liquidity (sufficient gold reserves to meet statutory requirements). This view derived from contemporary central banking doctrine, which emphasized adherence to the gold standard as the mechanism by which a central bank could commit to stable monetary value (Meltzer 2003, chapter 2).

The Atlanta Reserve Bank's more "interventionist" view, similar to the one famously expressed by Walter Bagehot (1873), was that while high discount rates might be appropriate, generous collateral policies were necessary to forestall a collapse of credit during a systemic crisis. This policy disagreement culminated in a December 1920 letter from the Board governor (or chair, as the role was then known) William P.G. Harding to Atlanta Fed governor (president) Maximilian B. Wellborn, in which Governor Harding threatened a forced downsizing of the Bank's discount credit.⁶

A series of tense communications then ensued between Harding and Wellborn, from which an awkward truce emerged. The truce allowed both sides to claim a degree of victory: the Atlanta Fed's accommodation of Sixth District banks was reduced over 1921, which helped the Board attain its goals of counteracting inflation and maintaining adequate gold reserves. The Bank's accommodation was reduced only gradually, however, which lessened pressures on Sixth District banks while cotton prices

⁵ The Banking Act of 1935 changed the Board's official name from "Federal Reserve Board" to "Board of Governors of the Federal Reserve System."

⁶ The Banking Act of 1935 also changed the title of the "Governor" of the Federal Reserve Board to "Chairman" (now Chair), and the titles of the heads of the Reserve Banks were changed from "Governor" to "President."

slowly recovered to more normal levels.

This article will describe the Atlanta Fed's actions during 1920–21 and will argue two points. The first point is that history has been kinder to Wellborn's policy position than Harding's. The postwar drop in cotton prices proved to be indeed temporary, and the liquidity provided by the Atlanta Fed's discount credit helped prevent widespread bank failures and snowballing bankruptcies that would have otherwise followed. The second point is that while Harding had legitimate concerns about the Wellborn's policy choices, the true subject of the Board-Atlanta debate was how to fill gaps in the original (1913) Federal Reserve Act (which we refer to throughout this article as the Act).

Because the founding of the Federal Reserve was thought to make bank panics impossible, the Act did not envision a role for the Fed as a provider of liquidity during panics. Since panics were seen as zero-probability events, the Act also did not try to specify a boundary between emergency liquidity provision and the monetary stability benefit that gold reserves conferred. Lacking legislative guidance as to the location of this boundary, Harding and Wellborn were left to determine it for themselves. Their improvisatory approach may have been adequate for the 1920–21 recession but would foreshadow deeper problems to be experienced a decade later.

2. The Pre–World War I Cotton Economy

The period preceding the first World War was a time of growth for the U.S. cotton industry. Annual U.S. cotton production quadrupled from 4 million bales (1 million tons) in 1870 to 16 million bales by 1914 (figure 1). Expanding domestic and, especially, foreign demand drove the growth; during the immediate prewar years, about two thirds of the U.S. cotton crop was exported, most of it to Europe (table 1). During this period, cotton exports had a large impact on the U.S. balance of trade. Immediately following the Civil War (1870), cotton accounted for as much as 60 percent of U.S. exports. Cotton's export share declined as the U.S. industrialized but was still at 26 percent in 1914.⁷ American cotton fueled the world's textile industries: in 1910, the United States supplied 54 percent of the world's cotton, more than double the share of its nearest rival, India (U.S. Bureau of the Census 1910, p. 39).

⁷ Cotton exports were about 2.9 percent of U.S. gross domestic product in 1870 and 1.6 percent in 1914 (Measuring Worth 2020).

Figure 1: U.S. Cotton Production, 1870–1929

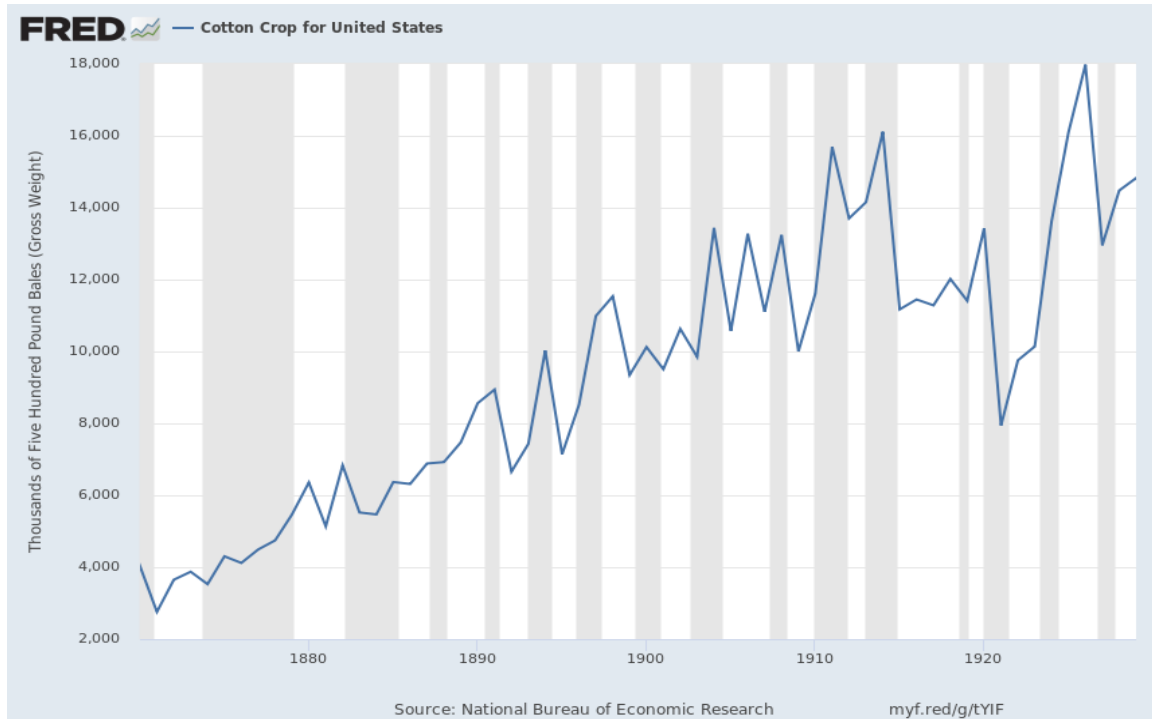


Table 1: U.S. Cotton Exports for Selected Years

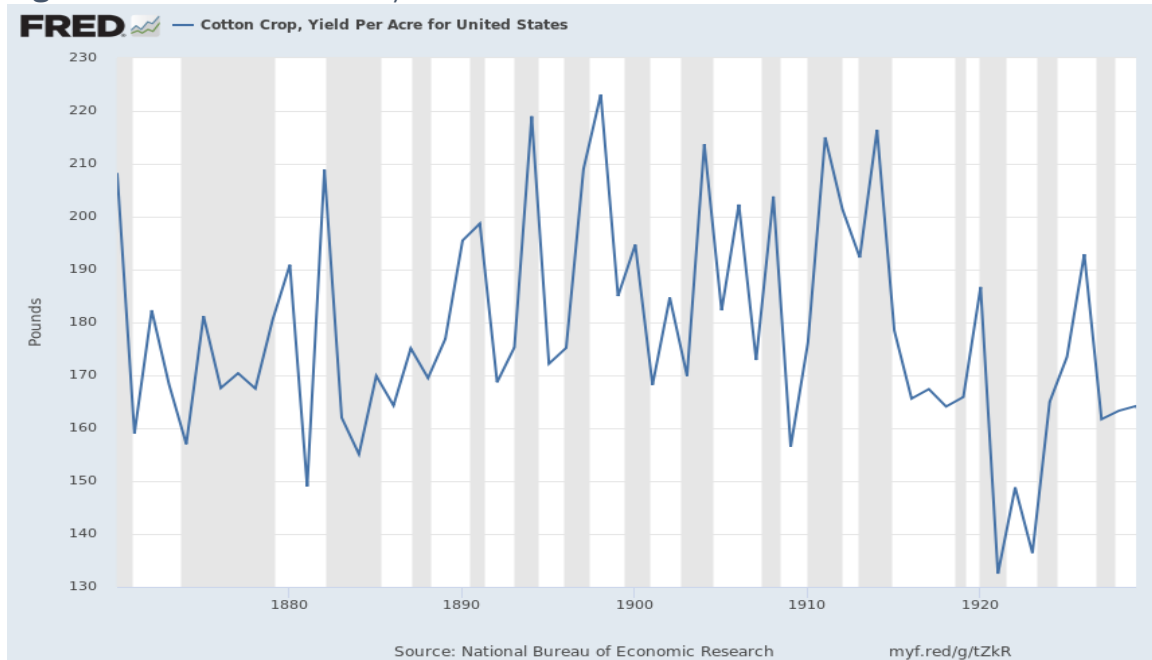
Year	Bales Exported (Millions)	Value of Cotton Exports as a Percentage of All Exports	Percentage of Cotton Crop Exported
1870	2.9	60.3	72.6
1900	6.8	17.6	66.3
1910	8.2	26.3	66.8
1914	8.9	26.2	52.5
1915	6.4	13.8	52.8
1916	5.9	8.8	46.6
1917	4.6	8.7	36.9
1918	5.6	11.4	43.7
1919	6.7	14.7	56.2
1920	6.0	14.0	43.4
1921	6.4	12.2	77.5

Source: *Federal Reserve Bulletin* (May 1923, p. 567)

The manner in which cotton production grew prior to World War I has some relevance to subsequent events. Mechanized production was only starting to be developed, and little trend improvement in productivity was occurring (figure 2), so production was instead expanded by shifting ever more land into cotton monoculture (figure 3) along with the necessary farm labor (Parker 1979,

Olmstead and Rhode 2001).⁸ Large-scale crop irrigation was not yet developed, and production was concentrated in areas whose natural climate could support cotton cultivation (figure 4). The expansion of cotton acreage was nonetheless sufficient to keep prices stable, in the range of 5 to 15 cents per pound (figure 5) despite steady growth in world demand. Five states in the Sixth (Atlanta) Federal Reserve District (Alabama, Florida, Georgia, Louisiana, and Mississippi) grew about 39 percent of the U.S. cotton crop—one quarter of the world's production—in 1910.⁹

Figure 2: U.S. Cotton Yields, 1870–1929



⁸ Cotton agriculture during the early twentieth century was still highly labor-intensive. Parker (1977, p. 237) estimates that in eastern portions of the cotton belt, 0.679 hours of labor were required to produce a pound of cotton in 1920, or about double the labor required to produce a pound of corn or oats. Cotton's labor intensity contributed to the need for credit to finance this labor.

⁹ Portions of Louisiana and Mississippi are in other Federal Reserve districts. Eastern Tennessee is also in the Atlanta district, but little cotton was grown there.

Figure 3: U.S. Cotton Acreage, 1870–1929

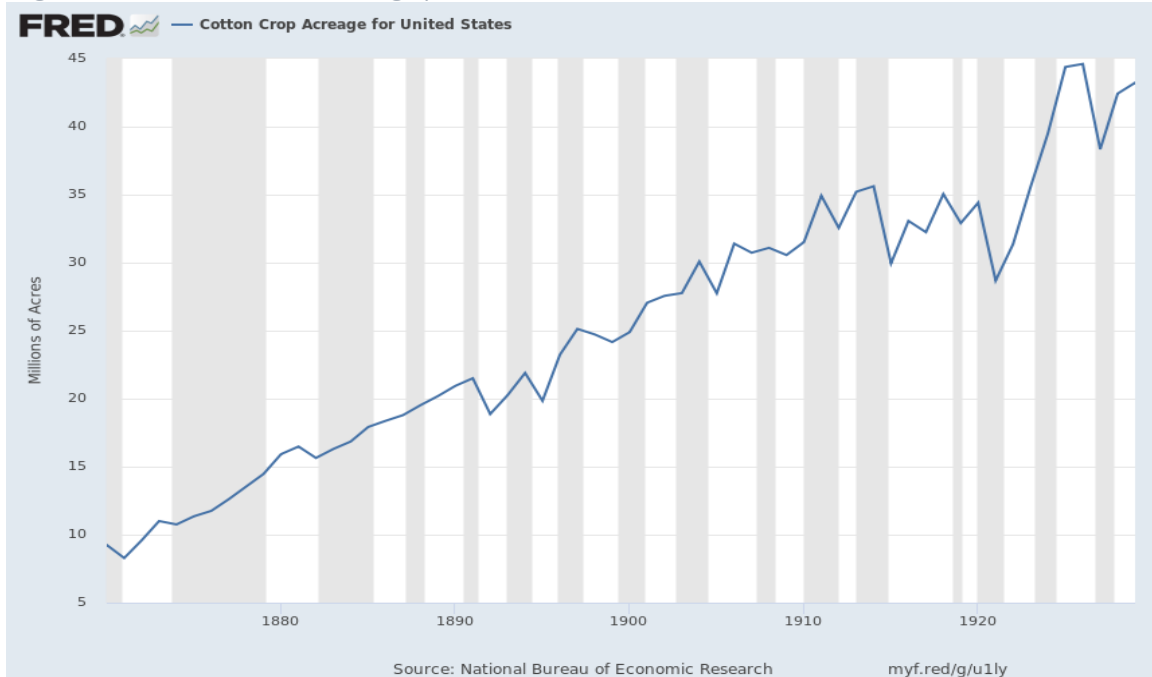
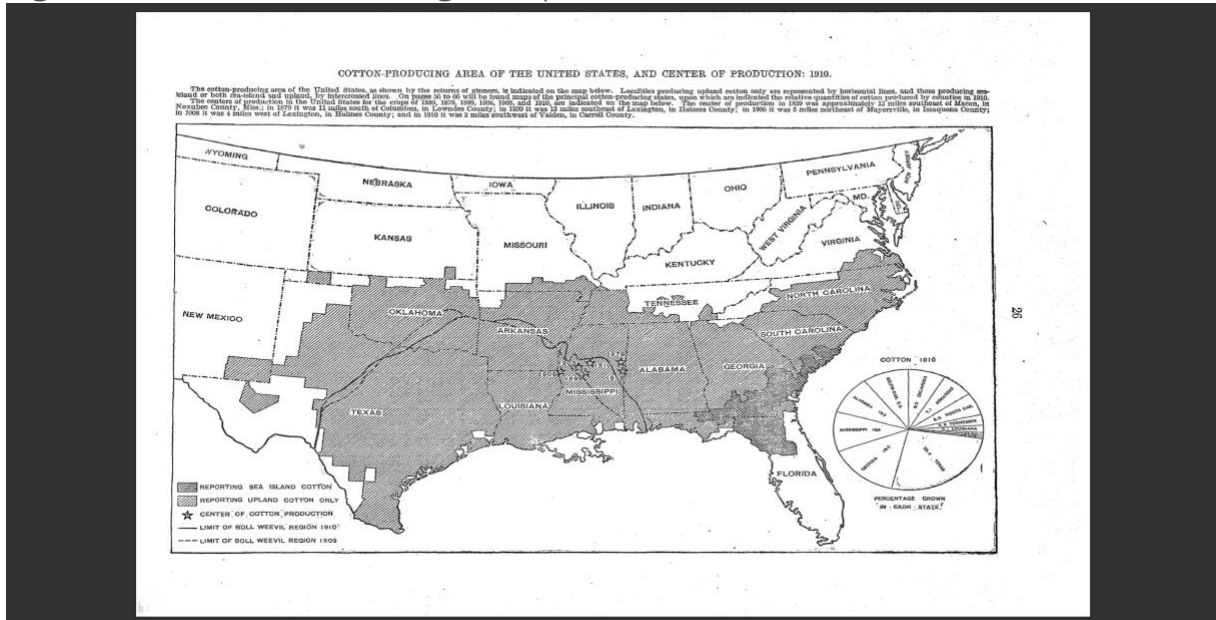
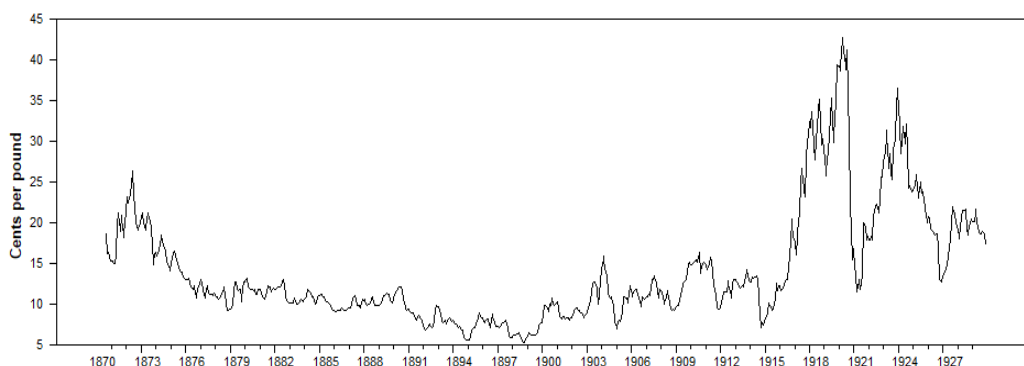


Figure 4: U.S. Cotton-Producing Areas, 1910



Source: U.S. Bureau of the Census (1910, 26).

Figure 5: Monthly Wholesale New York Cotton Prices, 1870–1929



Source: National Bureau of Economic Research, Macrohistory Database

3. Enter the Federal Reserve

The pre–World War I cotton economy, like the rest of the U.S. economy at the time, was repeatedly buffeted by financial shocks. The United States experienced eight financial crises during the period between the end of the Civil War and the outbreak of World War I.¹⁰ These crises differed in their details but were all characterized by a loss of confidence in banks and a scramble for gold assets. Many of these crises were primarily Wall Street events, but the Panic of 1907 was an especially severe, nationwide shock that led to numerous proposals for banking reform.¹¹

Spearheading the reform movement was Paul Warburg, a German-born banker who moved to the United States in 1902 and became a naturalized citizen in 1911.¹² Warburg believed that banking crises could be prevented by an appropriately structured central bank. In November 1910, Warburg and four other financial experts met with Senator Nelson Aldrich of Rhode Island on Jekyll Island, Georgia, to draft a plan for central bank for the United States (<https://www.federalreservehistory.org/essays/jekyll-island-conference>). Congress rejected this plan, known as the Aldrich Plan, but most of its provisions were later incorporated into the Federal Reserve Act, which was signed into law in December 1913 (<https://www.federalreservehistory.org/essays/federal-reserve-act-signed>).

Many features of the Federal Reserve System were inspired by Warburg’s knowledge of the leading European central banks of the day, including the Bank of England, the Banque de France, and

¹⁰ Financial panics occurred in 1873, 1884, 1890, 1893, 1899, 1901, 1907, and 1908. See <https://www.federalreservehistory.org/essays/banking-panics-of-the-gilded-age>.

¹¹ See <https://www.federalreservehistory.org/essays/panic-of-1907> for a review of the Panic of 1907.

¹² See https://www.federalreservehistory.org/people/paul_m_warburg. Warburg would go on to serve as a member and later vice governor (vice chair) of the Federal Reserve Board.

Germany's Reichsbank. The Fed differed from its European counterparts in at least two important respects, however. One was that, in deference to American political tradition, the Federal Reserve Act delegated credit and open-market policy decisions to the twelve district Federal Reserve Banks. The Federal Reserve Act set these up as private institutions to be capitalized by member banks in their districts and overseen by member-elected boards of directors. Membership in the Federal Reserve System became mandatory for national (federally chartered) banks and was optional for state-chartered banks.

The Act did attempt to maintain policy coherence by creating a national governing body for the Federal Reserve System—the Federal Reserve Board—and by placing what were seen as hard limits on the Reserve Banks. Eligible collateral for discount window credit was generally restricted to short-term debt (debt of three- or, sometimes, six-month terms) in support of industrial, agricultural, or import-related activity—collectively known as “real bills.” Loans against stocks, bonds, and other investment securities were expressly prohibited, with the exception of U.S. Treasury obligations. Reserve Banks were able to make discretionary, open-market purchases of any eligible securities, but district boards' discount rate decisions had to be approved by the Federal Reserve Board. Each Reserve Bank was given the task of maintaining its gold reserve ratios above the legal minimum levels. More precisely, the overall volume of credit supplied was constrained by a rule that required 35 percent of reserve deposits (accounts held by member banks at the Reserve Banks) and 40 percent of Federal Reserve notes be held as gold reserves.¹³ This requirement applied to individual Reserve Banks and to the System as a whole.¹⁴

A second way in which the Fed differed from contemporary European central banks was that the original Federal Reserve Act offered no guidance on what is traditionally viewed as a critical central banking function: that of lender of last resort (LOLR). The theoretical case for central-bank LOLR interventions was famously laid out by Walter Bagehot (1873). In essence, Bagehot argued that a central bank could accommodate crisis demands for money without compromising monetary stability, so long as it provided this emergency credit at a high interest rate. When a crisis subsided, Bagehot argued, so

¹³ In practice, because reserves could be redeemed for notes, the Federal Reserve maintained a 40 percent reserve requirement, both for member bank deposits and for Federal Reserve currency. This requirement applied to individual Reserve Banks and to the System as a whole.

¹⁴ Neither the Reserve Banks nor the System were assigned any explicit responsibility for macroeconomic stabilization. Instead, the widespread belief at the time was that limiting Fed credit to real bills and requiring the Reserve Banks to hold sufficient gold reserves would automatically generate favorable macroeconomic outcomes. A major theme of Friedman and Schwartz (1963) and the subsequent literature is that this approach backfired and imparted a procyclical bias to monetary policy.

would the extraordinary demand for high-priced money. At a more practical level, major European central banks had already accepted some degree of LOLR responsibility by the time Bagehot wrote his famous treatise (Bignon, Flandreau, and Ugolini 2012).

The founders of the Fed, however, did not believe a European-style LOLR would be needed in the United States (Bordo and Wheelock 2013). Instead, the American banking system's vast holdings of gold assets were to be concentrated at the Reserve Banks, where they could then be efficiently routed to places that most needed them. The nationwide scope and technical superiority of this system would head off any mass scramble for gold as had occurred in 1907 and earlier banking panics. An efficient sprinkler system would forever eliminate the need to call the fire department.

Eventually, the Act's omission of a LOLR role for the Fed would be widely recognized as a serious shortcoming, but only after the onset of the Great Depression. In 1932, Federal Reserve Act was amended to incorporate Section 13(3), which allows the Federal Reserve broad discretionary authority to lend in "unusual and exigent circumstances," or in other words, the power to act as a LOLR.¹⁵ However, such authority did not exist during the 1920–21 recession.

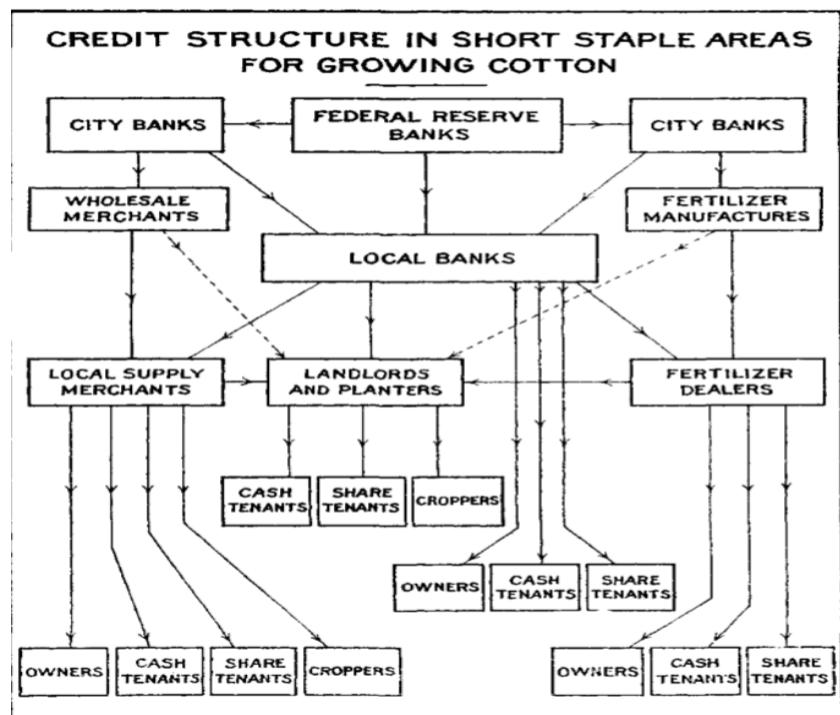
4. Cotton Finance

Cotton's journey from a seed planted in the United States to finished cloth in the hands of a typical (most often, European) consumer involved extensive supply chains and elaborate financing arrangements. The early twentieth century cotton-finance cycle often began literally at planting time, since much production was in the hands of tenant farmers with insufficient resources to plant and sustain a crop.¹⁶ The diagram in figure 6, taken from a 1923 issue of the *Federal Reserve Bulletin*, gives a hint of the intricacy of contemporary cotton finance.

¹⁵ For a history of the circumstances leading up to this amendment, see Sastry (2018). Mehra (2010) reviews subsequent revisions to Section 13(3). We provide some additional discussion of Section 13(3) below.

¹⁶ In 1923, 60 percent of the cotton produced in Sixth District cotton-growing states was grown by tenants (*Federal Reserve Bulletin*, March 1923, p. 321).

Figure 6: Stylized Flow Chart of Cotton Finance, Circa 1923



Note: “Short staple” refers to the variety of cotton usually grown in the United States at this time. Arrows represent both bank loans and various forms of nonbank credit, such as promissory notes or store credit.

Source: *Federal Reserve Bulletin* (March 1923, p. 321)

Tenant farmers would typically obtain seed, fertilizer, and other planting supplies from their landlords, often through sharecropping arrangements, under which credit would be repaid by allocating a portion of the tenant’s crop to the landlord. Landlords and independent farmers would borrow from their suppliers, who borrowed from wholesalers and textile manufacturers, who borrowed from local banks, who borrowed from banks in larger cities. As the figure implies, after passage of the Federal Reserve Act, commercial banks that were members of the Federal Reserve (national banks and state member banks) could in turn borrow from their district’s Reserve Bank.

Despite its complexity, figure 6 omits three noteworthy aspects of the cotton-finance system. One is that, before World War I, the center of gravity for this system was not in the United States but in London. Exports of cotton to Europe were generally paid for with bills of exchange drawn on a U.K. counterparty, sometimes a cotton importer but most often a bank (*Federal Reserve Bulletin*, May 1923, pp. 569–71). The latter type of bill was called a banker’s acceptance. Before World War I, the London acceptance market was the world’s most liquid money market, so this arrangement allowed European

cotton importers to borrow at favorable rates.¹⁷ To convert U.K. acceptances, payable in pounds sterling some months hence, into immediate and local dollars, U.S. wholesale cotton merchants required the services of a New York correspondent bank dealing in sterling bills and a local respondent bank.

A second noteworthy detail that figure 6 omits is the increasing financialization of cotton finance in the early decades of the twentieth century. As the footprint of the banking system expanded in cotton-producing states (table 2), traditional nonbank forms of trade credit granted by landlords, general stores, and suppliers were gradually supplanted by cash loans made through banks, although nonbank credit remained an important part of cotton finance (*Federal Reserve Bulletin*, March 1923, pp. 326–27). This shift enhanced the flow of funds from their ultimate source, European and American consumers, through the London and New York markets to American producers, but it also transferred risk to local banks in cotton-producing areas.¹⁸ Before the Federal Deposit Insurance Corporation was created in 1933, these banks were highly exposed to risk, lacking deposit insurance and having undiversified portfolios dominated by cotton loans. However, after 1914, banks that were members of the Federal Reserve System had access to a safety net in the form of discount window credit. Such access was, however, limited to national banks (for whom Fed membership was mandatory) and the small minority of state banks that opted for Fed membership.¹⁹

Table 2: Banks in Cotton-Producing States, 1890–1920

Year	Total Number of Banks	National Banks	State Banks	Aggregate Size (Millions of Dollars)
1890	855	429	426	322
1900	1,367	529	838	472
1910	5,170	1,428	3,742	1,566
1920	7,001	1,754	5,247	5,247

Source: *Federal Reserve Bulletin* (March 1923, p. 326)

¹⁷ Another advantage of London was that prior to the 1913 passage of the Federal Reserve Act, U.S. national banks were prohibited from entering the acceptance business.

¹⁸ For the larger players in figure 6, it was possible to hedge against movements in cotton prices through futures markets that existed in New Orleans and New York. It is unlikely that most smaller players such as country banks, landlords, sharecroppers, etc. made use of futures hedges.

¹⁹ As of June 1920, there were almost 29,000 commercial banks in the United States, including 8,025 national banks and 1,374 state member banks (Board of Governors 1943, p. 16). The high number of banks resulted from laws that restricted the number of locations a bank could operate in, often to only one. The Fed membership count for the Sixth District in January 1920 was 375 national banks and 87 state member banks, as compared to about 1,600 state banks in the District (*Federal Reserve Bank of Atlanta 1920*, 15).

A third important detail that may not be apparent in figure 6 is that virtually all the loans depicted in the figure were collateralized. While this collateral took nominally different forms (warehouse receipts, agricultural land, or sometimes even farm tools), its value was tied to one commodity—cotton.

5. Wartime and Postwar Price Shocks

The net effect of prewar developments sketched above was to increase the exposure of U.S. cotton-producing areas to systemic shocks. Agriculture relied increasingly on cotton; cotton finance relied on fragile local banks; and local banks and other credit providers relied on the liquidity of cotton-backed securities in distant financial markets. These vulnerabilities would be tested during the first world war and its aftermath.

Cotton prices, which were running at 14 cents per pound in late 1913, fell to 7 cents in July 1914 as war approached (figure 5). Export demand collapsed (table 1) after European importers' market access became either restricted (as occurred for British cotton importers) or entirely cut off (as occurred for importers in Austria-Hungary and Germany). The principal U.S. cotton market, the New York Cotton Exchange, was forced to shut down from the end of July 1914 until mid-November of that year (Sprague 1915, pp. 515 and 532). London's financial markets were also disrupted, forcing a currency shift to the U.S. dollar for cotton exports and an eventual transplant of cotton's core financial infrastructure to New York.

The Federal Reserve was not indifferent to the collapse of cotton prices and the plight of the southern "cotton banks," but just having come into existence, its policy response was limited.²⁰ Emergency credit to banks was provided not through the Fed but instead through commercial banks' issue of emergency currency, a policy option that had been authorized under the Aldrich-Vreeland Act of 1908 (Meltzer 2003, p. 82). Some \$308 million in emergency currency was issued (15 percent of the U.S. currency stock), \$22 million of this in the Sixth District (Garrett undated, p. 70).

It was also recognized that emergency currency by itself might not be sufficient to stave off further decreases in cotton prices and mass failures of cotton banks. At the behest of the Federal Reserve Board, groups of commercial banks in the larger cities agreed to subscribe to pools that would lend against cotton collateral at a backstop price of 6 cents a pound (Sprague 1915, p. 533). This move may have halted the slide in prices, even if actual take-up of backstop credit was virtually nonexistent

²⁰ The Federal Reserve Banks opened for business in November 1914.

(\$28,000 in total). Prices started to recover in early 1914 and reached 10 cents later that year. American cotton producers also drastically cut back their production, from 16 million bales in 1914 to 11 million by 1915, a lower level of production that would be maintained throughout the war (figure 1). By 1916, the combination of reduced production and robust domestic demand allowed cotton prices to recover to prewar levels of about 14 cents.

The price of cotton then began a remarkable ascent, driven upward by wartime domestic demand (the United States entered the war in April 1917), demand from a new export market (Japan), and a general inflation (discussed in the next section). Prices hovered in the 30–35 cent range from late 1917 through 1918 and only briefly fell back to the 27–28 cent range during the immediate postwar recession (see figure 5; the National Bureau of Economic Research, or NBER, dates this recession from August 1918 until March 1919). Prices then resumed their upward journey, reaching a record 41 cents by mid-1920. This figure was 215 percent higher than cotton's market price in late 1913, whereas wartime inflation had increased general consumer prices by "only" 109 percent over the same period (Measuring Worth 2020). In other words, the real price of cotton had doubled within seven years.

U.S. cotton producers, acting on this price signal and on expectations of a postwar recovery of export demand, responded by expanding their 1920 crop production to 13.4 million bales from 11.4 million during the previous year (figure 1)—in hindsight, a serious mistake. Export demand stagnated and domestic demand was weakened by a second postwar U.S. recession (NBER dates: January 1920–July 1921). By the autumn of 1920, the mismatch between anticipated and realized demand became apparent to the markets, and by early 1921, cotton prices were running at less than 12 cents a pound, a 70 percent falloff from levels of the previous summer. Postwar optimism had led to a worse price collapse than the fall experienced at the start of the war.

By then, more was expected of Fed policy than in 1914. Commercial banks' ability to issue emergency currency had vanished when the Aldrich-Vreeland Act expired in 1915. Nor was there any Fed-led effort to form private cotton-lending pools, as had occurred in 1914. Emergency lending, if it were to occur, would have to come through the Federal Reserve Banks. As noted in section 3, this was not a role that had been anticipated in the initial design of the Federal Reserve.

Figure 6 suggests the situation facing the Atlanta Fed in late 1920. An entire chain of Sixth District creditors—landlords, general stores, suppliers, wholesalers, and especially banks—had advanced credit during the 1920 growing season with the expectation that cotton would sell at close to 40 cents a

pound. After harvest, cotton was selling at less than half its peak price, and large stocks of it were sitting unsold in warehouses. (Page 7 of the Atlanta Fed's 1920 annual report estimated that these stockpiles tallied 4 million bales of low-grade "export" product.) Forced liquidation of this inventory at depressed prices would provoke widespread bank failures and the collapse of the credit chains on which cotton production depended. Should the Atlanta Reserve Bank, then only six years in existence, risk its credibility by expanding its loans against cotton-backed collateral? If the answer was yes (as it was), then the question confronting Bank management was how to reconcile this action with Fed policy at the national level, which from December 1919 had entered a distinct tightening phase. Attempts to resolve the latter question would draw the Atlanta Fed and the Federal Reserve Board into a bitter policy dispute.

6. Federal Reserve Policy at the National Level, 1914–21²¹

Price stability was not a characteristic of the Federal Reserve System's early years. Between 1913 and 1920, consumer prices rose at an average annual rate of 11 percent (Measuring Worth 2020). Two chief causes were behind this inflation. One was that large amounts of gold flowed into the United States during World War I to pay for war supplies, which expanded domestic liquidity. At the beginning of the war, the newly created Fed was too small to effectively regulate these inflows through sterilization (that is., to offset them through asset sales; Meltzer 2003, p. 83).

A second cause of inflation was the Fed itself. When the United States entered World War I in 1917, Secretary of the Treasury William Gibbs McAdoo sought to hold down financing costs by marketing Treasury bonds directly to the public. The governors (presidents) of the Reserve Banks were recruited to serve on local committees to help with marketing campaigns. More critically, the Treasury instituted a "borrow and buy" program under which banks were encouraged to lend funds to their depositors, often on installment terms, to buy Treasury bonds. The banks were then allowed to discount, at a preferential rate, the Treasury bonds with a Federal Reserve Bank (Meltzer 2003, p. 85; on the fiscal consequences of this policy, see Hall and Sargent 2019).

A comparison of the Fed's aggregate balance sheet at year end 1916 and 1919 shows the impact of "borrow and buy" (see table 3). The System balance sheet expanded in excess of 500 percent during this interval, driven by massive increase in discounts (almost 70 percent of which were Treasury

²¹ This section summarizes Federal Reserve policy at the System (national) level during this period, drawing largely on the account in Meltzer (2003). This is, however, a complex subject with a deep literature, including Friedman and Schwartz (1963), Wicker (1966), and Bordo and Wheelock (2013), to which we refer readers for more detail.

securities) and largely funded by a more than tenfold expansion of Federal Reserve notes. The founders of the Fed had imagined that the System's gold reserve ratio would constrain such expansions.²² This constraint proved ineffective during World War I, however, when foreign inflows and later wartime capital controls kept the United States and the Fed amply supplied with gold. The System's aggregate gold reserve ratio remained above 50 percent for the duration of the war and did not begin to stray towards statutory minimums until late 1919 (see figure 7).

Table 3: Federal Reserve Balance Sheet, Yearend 1916 and 1919

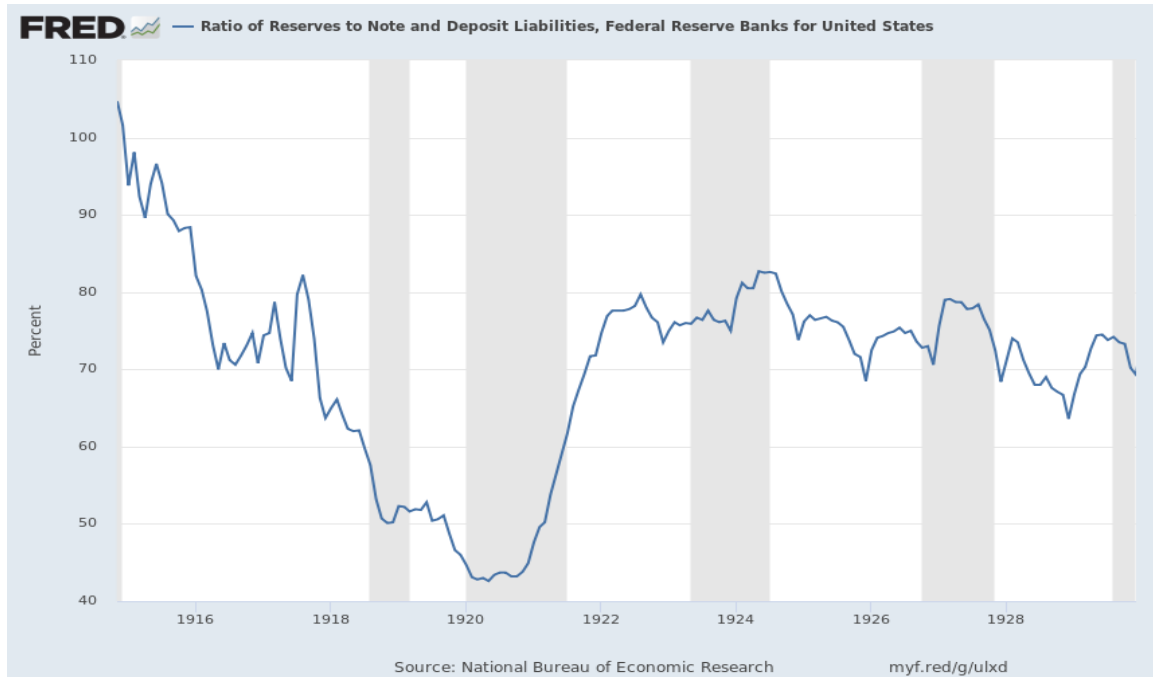
	December 31, 1916	December 31, 1919
Assets		
Gold	757	1,990
Discount credit	29	2,215
Bills purchased	129	574
Treasury securities purchased	55	300
Other assets	241	1,244
Total assets	1,211	6,324
Liabilities		
Currency in circulation	275	3,009
Reserve deposits	879	2,022
Other liabilities	2	1,085
Capital accounts	56	208
Total liabilities plus capital	1,211	6,324

Note: Figures represent totals for all 12 Reserve Banks and are in millions of dollars.

Source: Board of Governors (1943, p. 330)

²² The Act in its original form actually specified two reserve ratios against notes, 40 percent in gold and 100 percent in bills of less than 90 days maturity. In 1917, this reserve ratio was loosened to 100 percent bills or gold, and 40 percent gold exclusively, the latter constraint being the one that tended to bind (Meltzer 2003, p. 89).

Figure 7: Ratio of Fed System Gold Reserves to Its Note and Deposit Liabilities



Under pressure from the U.S. Treasury, the Federal Reserve Banks maintained low discount rates throughout the war and through most of 1919. Figure 8 shows the discount rate (averaged over all types of collateral) by the Federal Reserve Bank of New York, the lead bank in the Federal Reserve System. The New York Fed held its preferential discount rate on Treasury debt at 4 percent until November 1919. Other Reserve Banks charged a slightly higher preferential rate (4.25 percent), but this was still below the market interest rate on long-term Treasury debt, which was about 4.7 percent.

Figure 8: Discount Rates (New York Fed, Average Rate on All Eligible Collateral)

A dramatic unwinding of the Fed's wartime policies occurred during late 1919 and early 1920. The main force behind this development was that the System's gold reserve ratio had fallen below 45 percent, uncomfortably close to the minimum ratio for Federal Reserve notes (Meltzer 2003, 104). Beginning in November 1919, the Reserve Banks began hiking discount rates, at first somewhat tentatively after the new Secretary of the Treasury, Carter Glass, threatened to respond by asking President Woodrow Wilson to fire the governor of the New York Fed (Meltzer 2003, 102). Political pressure on the System eased up after January 1920, when the Treasury was able to float its last war bond issue at favorable rates (Meltzer 2003, pp. 102–3). By February 1920, discount rates had been hiked to 6 percent System-wide. This increase was followed in mid-1920 by a second round of rate hikes to 7 percent by several Reserve Banks, including New York (figure 8). The Atlanta Fed held off on this second hike until November of that year.

Many Fed officials saw the consequences of this reserve-driven tightening—deflation and recession—as regrettable but unavoidable collateral damage. The damage was in fact severe: unemployment jumped from 4 percent in 1920 to 12 percent in 1921 and industrial (agricultural) production indices fell by 23 (14) percent over the same period (Meltzer 2013, p. 109). Wholesale prices dropped by a whopping 37 percent, pushing real interest rates to punitive levels. Nonetheless, Reserve Banks kept their discount rates high in an effort to counteract what many officials saw as excessive

member bank discounts (White 2015, p. 11). Discount rates only began to be reduced in May 1921, following intense congressional pressure. By October 1921, the overall System reserve ratio had reached 69 percent, allowing the Reserve Banks to comfortably return their discount rates to 4.5 percent (compare figures 7 and 8).

7. Federal Reserve Policy at the District Level

Histories of the Federal Reserve have sometimes depicted System policy during 1920–21 as a unified, harmonious response to the circumstances observed in 1919 (see, for example, Eichengreen et al. 2015). An investigation of the historical record for the Atlanta district shows that harmony did not always prevail. The decentralized governance of the early Fed, conflicting policy objectives, and the extreme circumstances of the 1920 cotton crash combined to generate sharp disagreements between the Atlanta Reserve Bank and Board about the appropriate stance of policy.

The Atlanta Fed governor at this time was Maximilian (Max) E. Wellborn, a banker from Anniston, Alabama.²³ Having founded no fewer than five banks in his hometown, Wellborn was well versed in cotton finance and the vulnerabilities of the banks that provided it. Wellborn and other early leaders of the Federal Reserve Bank of Atlanta took it as their policy mission to safeguard the cotton finance system and, as figure 3 suggests, to use the powers of the Federal Reserve to reduce the region's dependence on New York.²⁴ This policy goal, though regional in focus, did not overtly conflict with the intent of the Federal Reserve Act, which set up the 12 Reserve Banks as private, semiautonomous institutions.

As we note in section 3, however, the Federal Reserve Act also contained provisions that attempted to control the Reserve Banks by means of gold reserve ratios and collateral requirements. One message of the Atlanta Fed's early history is that the Act's constraints were markedly less effective in practice than in theory. World War I and McAdoo's "borrow to buy" program opened a spigot of liquidity to Atlanta district banks and bolstered the profits of the Atlanta Fed, whose capital position

²³ Wellborn served as Atlanta Fed governor from 1919 through 1927 (https://www.federalreservehistory.org/people/maximilian_b_wellborn). Before that, he had served as chairman of the Bank's board of directors, a position he acquired through his acquaintance with Board governor Harding (Garrett undated, p. 40). Harding also hailed from Alabama and served as Board governor from 1916 to 1922 (https://www.federalreservehistory.org/people/william_pg_harding).

²⁴ In 1915, for example, Sixth District member banks who had not yet availed themselves of the Atlanta Fed's discount window received individualized invitations to do so (Garrett undated, pp. 71–2). There was disappointment when a number of them replied that they felt more comfortable dealing with their traditional New York correspondents.

grew from \$2.4 million at its founding in 1914 to \$8.1 million by yearend 1919 (*Atlanta Fed Annual Report*, 1920, p. 32). Nor did the Atlanta Fed's management hesitate to employ this capital in support of Sixth District banks, going so far as to rescue troubled banks in cases where a special examination showed there was hope for resurrection.²⁵ White (2015, pp. 13–15) documents multiple instances of bank rescues during the Atlanta Fed's first five years. In one such intervention, the Atlanta Reserve Bank (quietly) arranged for a country bank to be recapitalized by lending against its new equity issue, a quantitatively minor but symbolically defiant violation of the Federal Reserve Act. Discussions of moral hazard did not enter into these rescue operations, perhaps due to a general interventionist bias, or perhaps due to confidence in the Bank's business judgment.

Gold reserve requirements could also be circumvented at the district level through a practice known as *rediscounting* or, in System jargon, *interdistrict accommodation*. A Reserve Bank facing a potential deficit of gold reserves could borrow from another Reserve Bank with a surplus of gold, receiving credit in the System's Gold Settlement Fund. The "rediscounted" collateral for such transactions was the collateral held by the first Reserve Bank against its discount credit. Requests for interdistrict accommodation were, in principle, subject to regulation by the Board, but by tradition were almost always honored on request. Referring to rediscounts, the Board's 1919 *Annual Report* (p. 6) portrayed their use as a seamless mechanism for pooling the System's reserves: "There has been such a spontaneous spirit of cooperation between the Federal Reserve Banks that all transactions suggested by the Federal Reserve Board have been made voluntarily"

The quasi-autonomy of the Reserve Banks was somewhat obscured during the System's first five years but came into full view in 1920, when the Board and Reserve Banks in agricultural districts began to pursue divergent policy goals. As noted above, discount rate increases implemented the Board's policy, and they attempted to improve the System's reserve position by discouraging discount window use and encouraging international gold inflows. By February 1920, all the Reserve Banks had conformed to this policy by hiking their discount rates to 6 percent. Some Reserve Banks, Atlanta included, went a step further and charged member banks higher marginal discount rates for credit in excess of a Fed-specified quantitative limit. The marginal rate was increased 0.5 percent above the base discount rate for

²⁵ Federal Reserve Banks had no supervisory authority during this era but were allowed to perform occasional examinations when circumstances dictated.

every 25 percent a bank went over its credit limit.²⁶ But because the actual lending decisions were still in the hands of the Reserve Banks (so long as they did not violate the Federal Reserve Act), these high discount rates did not automatically translate into a tight monetary policy.

Particularly in the Sixth District, high and progressive interest rates did not slow down the demand for discount window credit or hinder the Atlanta Reserve Bank's accommodation of such demand. One Sixth District bank kept borrowing even at a marginal discount rate of 81.5 percent (Meltzer 2003, p. 106). More commonly, member banks had lent at 10 percent or more against cotton collateral that they expected to have a market value of 40 cents a pound. By late 1920, these same banks preferred rolling over cotton loans to liquidating collateral at large losses, making the discount of such paper at 7 percent an attractive proposition. One Sixth District banker (J.R. Morgan, cashier of the Bank of Union Springs, Alabama) recorded a colorful description of the late 1920 cotton crash and the Atlanta Fed's actions during the crash:

It was plain, psychological panic. All we country bankers could do was endorse notes and send them to the Federal Reserve. Governor Wellborn met every legitimate demand. He had taken the position before the panic hit that the banks were over-extended, but when it did strike he said the shock would have to be cushioned, and he let the banks have the money necessary to see them through. ... Governor Wellborn broke it [the panic] by throwing the whole resources of the Federal Reserve behind the banks of the south.²⁷

A quantitative reconstruction of the Atlanta Fed's actions during this period, presented in White (2015, 2017) largely supports Morgan's description. The surviving data don't allow a full balance sheet reconstruction, but the Atlanta Fed's accommodative stance is clearly evident (table 4).

²⁶ Congress authorized the Reserve Banks to charge progressive discount rates in the Phelan Act of 1920. This authority was rescinded in 1923, following an outcry from rural banks; see Meltzer (2003, pp. 105–7).

²⁷ Quoted in Hopkins (1960, p. 88), cited in Garrett (undated, p. 167).

Table 4: Atlanta Fed Balance Sheet, Borrowings, and Reserves, 1919–21

Month	Total Assets (Millions of Dollars)	Bills Discounted and Purchased	Reserve Ratio (Percent)	Adjusted Reserve Ratio	Rediscounts for Other FRBs (Millions of Dollars)	Rediscounts from Other Reserve Banks
March 1919	206	89	45.7			
June 1919	203	93	43.7			
September 1919	224	104	41.4			12.3
December 1919	280	110	52.8	56.7	5.1	5.0
March 1920		116	48.3	50.0	3.4	
June 1920		120	40.6	36.1		7.9
September 1920		122	40.5	17.0		45.5
December 1920	275	139	40.7	24.8		33.7
March 1921	252	123	42.0	42.0		
June 1921	232	101	44.4	44.4		
September 1921	222	108	40.4	29.4		16.8
December 1921	215	95	42.6	42.6		

Note: Adjusted reserves are reserves net of rediscounts with other Federal Reserve Banks. Figures for months where adjusted reserves fall below 40 percent are shown in red.

Source: White (2015, p. 19)

Table 4 shows that, through discounting and open market purchases, the Atlanta Fed expanded liquidity available to Sixth District banks by \$50 million (from \$89 million to \$139 million) from March 1919 to December 1920, an increase of 56 percent (column 3 of table 4).²⁸ Much of this expansion (\$27 million) had already occurred by March 1920, perhaps in anticipation of a blockbuster cotton market; the Bank provided an additional \$23 million in liquidity between March and December 1920.

Table 4 also shows that in the panicked atmosphere of late 1920, the Atlanta Reserve Bank experienced pressure on its gold reserve but was able to maintain its reserve ratio above 40 percent (column 4) by rediscounting bills with other Reserve Banks (column 7). The amount of such rediscounts peaked in September 1920 at \$45.5 million. Simply stated, Morgan's assessment of the situation was right: the Atlanta Fed had pumped \$50 million into Sixth District member banks during 1919–20, with as much as 80 percent of this infusion funded from other parts of the Federal Reserve System.

8. The Policy Debate: Round One

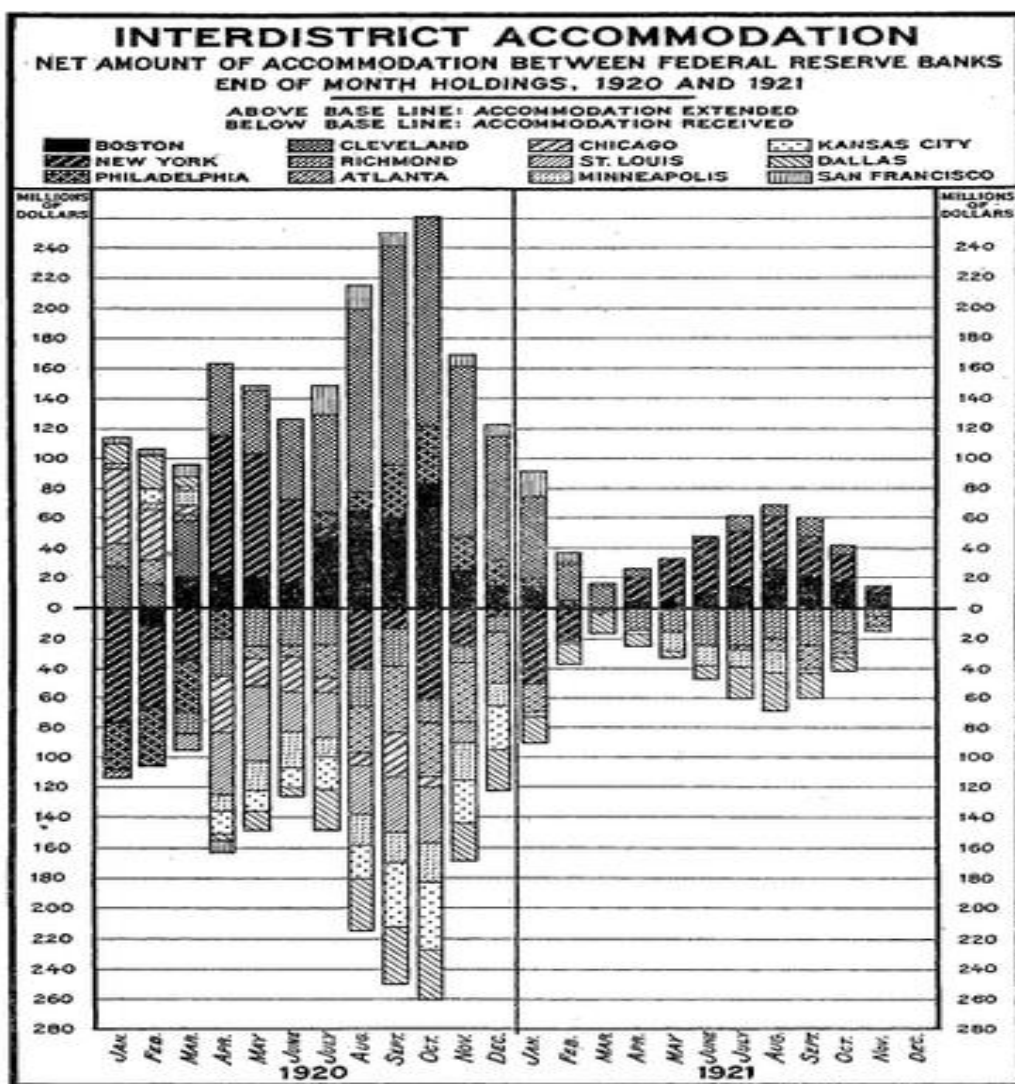
By late summer 1920, the policies of the Board and the Federal Reserve Bank of Atlanta were working at cross purposes. The Board, concerned about System liquidity, was attempting to shrink discount credit and accumulate gold reserves. The Atlanta Fed, more concerned about a collapse of cotton finance, was

²⁸ In nominal terms, the Atlanta Fed's 1919–20 credit expansion was more than twice the 1914 issue of Aldrich-Vreeland emergency currency in the Sixth District, which totaled \$22 million. Since the general price level in 1920 was roughly double that of 1914, however, the magnitudes of these two liquidity infusions were roughly equal in real terms.

expanding credit to member banks and drawing down reserves from elsewhere in the System.

These apparently conflicting policies were a source of concern to the Board, especially as other Reserve Banks were also making heavy use of interdistrict accommodation, as figure 9 shows. Rediscounting surged during 1920, in part due to international gold flows in New York but mainly because of demands from Reserve Banks in agricultural districts: in addition to Atlanta, Reserve Banks in the Richmond, Chicago, St. Louis, Minneapolis, Kansas City, and Dallas districts were all heavy rediscounters. Suppliers of gold reserves were the Federal Reserve Banks of Philadelphia, San Francisco, and (especially) Cleveland. Total interdistrict accommodation for the System peaked in November 1920 at \$260 million, or about 13 percent of System reserves, which totaled about \$2 billion.

Figure 9: Interdistrict Accommodation (Rediscounts), 1920-21



Source: *Federal Reserve Bulletin* (January 1922, p. 28)

Figure 9 also shows a steep contraction in rediscounts in late 1920 and early 1921. The experience of the Atlanta Fed suggests that this dropoff did not necessarily result from improving economic conditions, but instead from a purposeful campaign by the Board to curtail what it saw as excessive rediscounting by the agriculture-oriented Reserve Banks.²⁹ A December 3, 1920, letter from Board governor Harding to Atlanta Fed governor Wellborn left little room for interpretation: Wellborn and his board had been too easy with credit and had abused the privilege of interdistrict accommodation (Garrett undated, p. 168):

The Board, in reviewing the interbank rediscount situation, notices the increased restlessness of the Cleveland Federal Reserve Bank, to whom the bulk of your rediscounts are due. The Board agrees with the Cleveland bank that it ought not to be required to lend an amount over \$35,000,000 to a Federal Reserve Bank having a paid-in capital and surplus of only \$11,000,000

Harding went on to observe that the Cleveland Fed could not continue this pace of rediscounting without itself rediscounting from other Reserve Banks, a situation that the Board would not tolerate (White 2015, p. 23). The message to Wellborn, though couched in the polite language of the times, was clear: either shrink your rediscounts or the Board will do it for you. Given the dependence of the Atlanta Reserve Bank on rediscounting, this would have forced a sharp contraction in discount credit to Sixth District banks.

Wellborn responded in a December 9 letter that offered a forceful defense of the Bank's emergency lending. The letter began by arguing that the cotton crash was an extraordinary event and that his Bank's reserve demands would only be temporary (Garrett undated, pp. 168–69):

I wish to advise that the Atlanta Bank is not a borrowing bank by choice, but from a necessity which has been created by almost unprecedented conditions in this section.

... Through circumstances over which this section had no control, the money [i.e., cotton] crops were produced at unprecedented high cost, and upon a basis which contemplated the making of prices commensurate with the cost of production. At the very time the crop began to move, the most disastrous and radical slump began; within 90 days the great money crop of this District dropped 65 percent, and other staple commodities declined in the same or greater proportion. No section or country could stand the full unmitigated shock of such a disaster without ruin.

... This section is fundamentally strong and sound enough to react from the present situation if temporarily aided financially, in order that the full force of the shock may be mitigated.

²⁹ In the case of Atlanta, this pressure is exceptionally well documented. The extent to which other Federal Reserve Banks were compelled to shrink their rediscounts remains a subject of ongoing research. For a survey of the Reserve Banks' responses to the 1920-21 recession, see Tallman and White (forthcoming).

Wellborn's letter continued with a classic Bagehotian argument: central banks must lend when other parties cannot. Failing to do so would have systemic consequences. If the Cleveland Fed did not understand this principle, this was Cleveland's fault and not Atlanta's (Garrett undated, p. 169):

I submit, if this bank had failed to stand as a buffer between the business of this section and disaster, it would not only have failed in its duty, but it would have permitted a situation to develop which would have seriously affected all other sections of the country and every other reserve bank.

... The commerce of all the states is too closely knit together to permit the confining of the results of financial upheaval to any one particular state or group of states. The Cleveland District itself counts this section one of its principal markets... .

... In the present crisis, it seems to me it is not a time for individual reserve banks which are rediscounting for other reserve banks, to attempt to impose upon the borrowing bank onerous conditions. If the Cleveland Bank is "restless" on account of the credit which it has in the past, and must almost of necessity in the near future (on account of its high reserve position) extend to Atlanta, the Cleveland Bank simply takes a rather narrow and personal view of the situation.

The letter concluded with a cooperative if rather vague pledge that the Atlanta Fed's rediscounts would soon decline, but also with a warning of possible consequences if the Board should limit Atlanta's rediscounts (Garrett undated, p. 170):

With regard to your statement that your Board has an inclination to allow the Atlanta Bank to show a depreciation [i.e., force a reduction in its rediscounts], I do not question that your Board has a legal right to do this; but it is a responsibility that rests upon your Board, and in these perilous times I hardly think your Board would care to assume such a fearful risk. The mere publication of our actual reserve position might possibly have the effect of causing the failure of numerous banks—not only in this District, but in others as well—and bring on a panic of great magnitude.

In effect, Wellborn was saying that a Board-induced cutback of the Atlanta Fed's rediscounts, paired with news of the same, would lead to a nationwide bank panic.

9. The Policy Debate: Second Round and Resolution

Some of Wellborn's arguments may have resonated with the Board. Harding's next letter to Wellborn, dated December 15, backed off the threat of forced reductions in rediscounts and at times verged towards a conciliatory tone (Garrett undated, p. 171):

The Board notes the objections you raise against paying off your rediscounts entirely and operating at the present time on reserves below the legal requirement, and it is disposed, therefore, to use its influence with other Federal reserve banks having a larger reserve to continue to have them assist you in bearing your burdens, provided you will meet their reasonable requirements as to character of paper and security, and will make

consistent efforts to improve your own position by inducing extended banks to reduce their lines with you in an orderly way.

The letter did inform Wellborn, however, that the Cleveland Fed would now be requiring an additional 15 percent margin on collateral for rediscounts (White 2015, p. 25). Moreover, Harding's second letter reiterated the opinion expressed in the first, that the mess in the Atlanta district was primarily caused by the lax lending practices by the Atlanta Reserve Bank (Garrett undated, p. 171):

In [your December 9] letter, you do not express any opinion as to when your bank will be able to pay off its rediscounts without falling below its legal minimum reserve, and on the other hand you assume that it will be necessary for other Federal Reserve Banks to extend your bank accommodations for an indefinite period.

...This Board is of the opinion that your present experience should convince you that your lending policy has been rather too lenient and that in some cases credit was granted in such large amounts to banks when no emergency existed as to impair your ability to make loans out of your own resources when a real emergency did arise.

Harding also included advice on how to manage down the Atlanta Fed's credit exposure (*ibid.*, p. 171):

The Board would suggest that you refrain as a rule from issuing circular letters to be sent to banks generally throughout your district and that you adopt the policy of writing personal letters to those banks whose discount lines with you are too large ... and that you might indicate the particular loans which you desire to have paid in full or in part.

The patronizing language of this last passage may have been too much for a banker of Wellborn's experience. Wellborn's spirited response, recorded in a December 23 letter, again offered up Bagehotian arguments in defense of the Bank's policy. In particular, fire sales of unsold cotton, estimated at 25 percent of the harvest, had to be avoided (Garrett undated, p. 172):

Your Board, it seems to me, is laboring under an error in thinking that it is our policy "to carry loans indefinitely for member banks until cotton reaches a price that is satisfactory to the producers." You must remember that only about 60 days have elapsed since the bulk of the notes fell due, and our policy is merely to give them reasonable time to find a market in these disturbed times, in order to keep them from "dumping" their products on the market at one time. To do otherwise at this critical time would force a disaster upon our agricultural and business interests that might perhaps have the effect of bringing on a state of panic and bankruptcy.

Wellborn also noted that the Atlanta Reserve Bank's discount credit was not only supporting the Federal Reserve member banks, but downstream beneficiaries such as their nonmember respondents, who likewise would have been forced into fire sales of collateral and perhaps bankruptcy as a result.

This last letter marked the end of the war of words between Harding and Wellborn. To some

extent, hostilities may have died down because Harding's threats had achieved their desired result.³⁰ Wellborn soon pushed the Atlanta Reserve Bank's adjusted reserve ratio above 40 percent (table 4), and over the course of 1921, the Atlanta Fed reduced its credit to district banks to \$95 million, largely reversing the expansion of the previous two years. Atlanta did make some use of interdistrict accommodation during the 1921 harvest season, though at one third of the previous year's level. To achieve these reductions, moral suasion was applied along the lines suggested by Harding. Heavy users of discount credit each received an individualized letter from an Atlanta Fed director with an inquiry as to when such use would be cut back (White 2015, 26). Wellborn also exhorted member banks to refrain from nonessential lending, particularly for the purchase of frivolities such as "pleasure automobiles" (Garrett undated, p. 175).

Yet Wellborn could also claim victory. Stress on the cotton finance system was reduced by the fact that the Atlanta Reserve Bank's credit to member banks was contracted over the space of a year and not a few weeks, as Harding's first letter demanded. U.S. cotton production in 1921 fell to a 30-year low of 7.9 million bales, allowing leftover inventory from 1920 to be sold off without a further drop in prices. The cotton market then gradually recovered, with prices moving to 18 cents by late 1921 and 25 cents in 1922 (compare figures 1 and 5). These more favorable conditions would be sustained during the next three years as U.S. cotton production pushed beyond prewar levels.

The Atlanta Fed's interventionist policy slant also remained intact. Even as his Reserve Bank's discount credit contracted over 1921, Governor Wellborn continued to stretch the boundary of his legal authority by arranging bank bailouts and by engaging in Treasury bond repurchase agreements for amounts above the bonds' market value (White 2015, pp. 26–27). The Atlanta Fed's interventionist tradition persisted beyond Wellborn's tenure as governor, which ended in early 1928. Carlson, Mitchener, and Richardson (2011) describe another round of aggressive Atlanta Fed interventions during 1929, in response to a bank panic in Florida. In a similar vein, a comparative study of the 1930 banking crisis in the Atlanta and St. Louis Federal Reserve Districts (Richardson and Troost 2009) showed that lending by the Atlanta Fed allowed banks in its district to survive while nearby institutions in the St. Louis district did not.

³⁰ Another contributing factor may have been mounting congressional pressure on the Federal Reserve Board, discussed in the next section.

10. Verdicts: Pro, Con, and Historical

During late 1920, the Atlanta Fed's governor and his board of directors were confronted with an unexpected, devastating collapse in the price of a commodity whose production was the lifeblood of their district. Their judgment was that this shock was temporary and that its effects could be blunted with generous credit policies that would not conflict with the monetary stability provisions of the Federal Reserve Act. Governor Harding of the Board and other officials within the Federal Reserve System did not agree with this judgment, leading to a rollback of the Atlanta Fed's accommodative policies during 1921.

The 1920–21 intra-Fed drama did not go unnoticed by outside parties, and it attracted mixed reviews. Unsurprisingly, the loudest applause for the Atlanta Reserve Bank came from elected officials in cotton-producing states. In July 1921, Congress set up a Joint Commission of Agricultural Inquiry to investigate causes of distress in the agricultural economy, including high interest rates (Meltzer 2003, p. 127). The commission's chair on cotton issues, Texas congressman Hatton W. Sumners, met on July 20 with a group of Fed officials including Reserve Bank governors from cotton-growing districts. Sumners's recollection of the meeting gushed with praise for Wellborn (Garrett undated, pp. 173–74):

There were two opinions represented at this meeting, one to the effect that the time and conditions called for the exercise of conservatism, the other—of which I was the spokesman—maintaining that the situation was desperate and demanding that the doors be thrown wide open to the cotton producers in the way of the most liberal credits possible. Governor Wellborn backed up my position whole-heartedly, and stated in substance that he was willing to pledge the support of the Federal Reserve Bank of Atlanta to save the situation in the south.

The Atlanta bank agreed to accept all cotton paper offered for rediscount ... and to join with the other Reserve Banks in making an appeal to the people to tell them that cotton was a good buy, and that for the cotton crop to be deliberately sacrificed at forced sales would be a monstrous thing for the nation to allow... . After a long discussion, the conference agreed with these views and sanctioned the attitude of the Atlanta bank. This was the final act which reversed the psychological attitude of the world in regard to cotton.

I regard Governor Wellborn's attitude at this trying time as of tremendous importance in swaying the sense of the meeting toward the proper position. If the conference had come to any other conclusion, it is my sincere belief that no power on earth could have saved the United States from the greatest financial crash in its history.

Acclaim for actions of the Atlanta Fed and the other agriculture-oriented Reserve Banks was, however, far from universal. None other than Paul Warburg, the greatest force behind the founding of the Fed, leveled some of the harshest criticism. Warburg's criticism came in a 1923 magazine interview, in which

he commented on the organization of the System. Problems such as those that occurred during 1920–21 could have never happened in a properly structured Federal Reserve, according to Warburg (1930, p. 847):

The basic idea of reserve banking is to make the idle money of one industry or section available for the seasonal requirements of another. An adequate reserve district must, therefore, include such a diversity of interest and such a volume of banking and private capital that the total reserves within the district will be adequate for its financial needs in all but times of special emergency, or of very heavy seasonal demands.

Warburg believed that districts such as Atlanta were simply too small and too dependent on agriculture to fully internalize tradeoffs between liquidity provision and monetary stability. Without such internalization, one could not expect responsible policy decisions. Interdistrict accommodation was a flawed substitute (*ibid.*):

Federal reserve districts which or “all cotton” or “all grain” were, therefore, foredoomed to fail as independent districts. They can indeed, secure, assistance through the somewhat clumsy procedure of rediscounting with other Federal reserve banks under the direction of the Reserve Board. But in practice, there is a tendency of reluctance to this course, since taking it emphasizes the weakness of temporary exhaustion of the borrowing districts.

Owing to the lack in these financially small districts of sufficient variety of minds and interests, local banking factions and self-centered provincialism from the very beginning have frequently had too large a part in the constitution of boards of directors, the management, and the policies of some of the twelve reserve banks. As a consequence, they showed an insufficient understanding of the broad national questions involved.

In the same interview, Warburg offered suggestions for improvement. These included centralization of the Reserve Banks’ open market operations (Warburg 1930, p. 852)³¹ and an emphasis on what might now be called macroprudential policy (“advising business when it is on the wrong track, and ... suggesting the best ways of avoiding approaching trouble”; Warburg 1930, p. 849).

Both the praise from Sumners and the critique by Warburg seem hard to reconcile. Warburg, and for that matter Harding, viewed the events of 1920 according to the classic principles laid down by Bagehot. Unless there was a true panic, an emergency increase in liquidity to halt runs on banks was unnecessary. Moreover, in their view, the structure of the Federal Reserve was strong enough to prevent

³¹ Centralization of Fed open market operations was already under way at this time, starting with the 1922 formation of the Committee of Governors on the Centralized Execution of Purchases and Sales of Government Securities (Meltzer 2003, pp. 146-148). Responsibility for open market operations was then further consolidated in the Open Market Investment Committee (1923) and later (1935) in the Federal Open Market Committee.

any nationwide crisis. For them, the collapse of cotton prices was primarily a solvency crisis for certain banks, not a liquidity crisis. In their framework, Wellborn was simply providing credit to banks that had overextended themselves to risk-taking borrowers. If these customers failed, so should their banks.

In real time, however, it can be problematic to distinguish between an illiquid and an insolvent bank, a difficulty that factored heavily into the 2008 global financial crisis. Instead of Bagehot's last-minute provision of credit on the day when a crisis erupts, Wellborn's chosen time frame was several months or a year, time for cotton prices to recover and avoid a fire sale of collateral that would have produced a regional or perhaps national panic. Although Wellborn displayed confidence, Harding and Warburg were skeptical that a central bank should exercise such discretion in forecasting whether a failing sector would recover.

In their disagreement, one can see the seeds of later debates over Section 13(3) of the Federal Reserve Act, which authorizes the Fed to lend in "unusual and exigent circumstances" against a broad range of collateral. While the events of 1929–32 persuaded Congress to give the Fed more discretion, it reversed its position after the crisis of 2007–8 and reined in the Fed's authority in the 2010 Dodd-Frank Act, specifying that 13(3) lending must be broad-based and subject to the prior approval of the Secretary of the Treasury.³²

Warburg's argument that the Atlanta District was too small and not sufficiently diverse reflected his concern that Reserve banks in its situation would be tempted to aid their dominant industry, whereas in a much larger, diversified district, a Reserve bank would be constrained by opposing interests from "bailing out" an individual industry and undermining monetary stability. Logically, this desire for larger districts and centralizing decision-making would have made the Fed a centralized central bank closer to the models of its European counterparts, institutions whose structure Warburg admired. The Federal Reserve reflects, of course, the American political system that created it, and its design has ensured that local and regional concerns would not be lost in policy making.

Although there has been a lively debate over some of the Fed lending programs during the Great Recession, leading to Dodd-Frank's new constraints on its discretionary authority, the Atlanta Fed's successful intervention in the recession of 1920–21 reveals the possibility of stabilizing a sector of

³² On the Dodd-Frank revisions to 13(3), see Mehra (2010, pp. 264–6). These revisions have been applicable to 13(3) facilities initiated by the Federal Reserve in response to conditions experienced following the outbreak of the COVID-19 pandemic. See Board of Governors (2020) for a description of these facilities.

the economy or region whose collapse might provoke a deeper recession. Wellborn's defense of the Atlanta Fed's locally focused emergency lending emphasized the need to contain negative spillovers, even as Warburg's critique dismissed such lending as unnecessary and dangerous.

This article has illustrated how the tensions between rules and discretion that inform policy today made their first appearance in the early years of the Fed, where a national contractionary policy was tempered by the local interventions of Federal Reserve Banks in agricultural areas. This credit expansion was halted by the Board, however, before it could provide an inflationary impulse that might have undermined confidence in System adherence to the gold standard. To respond to an unforeseeable shock, both sides had to show some compromise of cherished first principles.

References

Federal Reserve Sources

Note: For sources such as annual reports, the date of publication is after the date of the subject matter. For these sources, the subject matter date is given first and the publication date is listed in parentheses.

The Federal Reserve Act of 1913

https://fraser.stlouisfed.org/files/docs/historical/fr_act/1913_fedresact_publiclaw43.pdf.

Board of Governors of the Federal Reserve System (before 1935: Federal Reserve Board)

Annual Report for 1919 (1920). <https://fraser.stlouisfed.org/title/annual-report-board-governors-federal-reserve-system-117/1919-2477>.

Banking and Monetary Statistics, 1914-1941 (1943). <https://fraser.stlouisfed.org/title/banking-monetary-statistics-1914-1941-38?browse=1940s>.

Coronavirus 2019 (COVID-19): Funding, Credit, Liquidity, and Loan Facilities. April 30, 2020. <https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm>.

Federal Reserve Bulletin, January 1922. <https://fraser.stlouisfed.org/title/federal-reserve-bulletin-62/january-1922-20532>.

Federal Reserve Bulletin, March 1923. <https://fraser.stlouisfed.org/title/federal-reserve-bulletin-62/march-1923-20546>.

Federal Reserve Bulletin, May 1923. <https://fraser.stlouisfed.org/title/federal-reserve-bulletin-62/may-1923-20548>.

Federal Reserve Bank of New York

Sastry, Paranitha. 2018. The political origins of Section 13(3) of the Federal Reserve Act. *Policy Review*, September: 1–33. https://www.newyorkfed.org/medialibrary/media/research/epr/2018/epr_2018_political-origins_sastry.pdf.

Federal Reserve Bank of Atlanta

Annual Report for 1920 (1921). https://fraser.stlouisfed.org/files/docs/historical/frbatl/1920_frb_atlanta.pdf.

Gamble, Richard H. 1989. *A history of the Federal Reserve Bank of Atlanta, 1914-1989*. <https://www.frbatlanta.org/about/publications/atlanta-fed-history/first-75-years>.

Garrett, Franklin M. Undated. *A History of the Federal Reserve Bank of Atlanta, Sixth District*. <https://fraser.stlouisfed.org/title/a-history-federal-reserve-bank-atlanta-sixth-district-6028>.

Other Sources

Bagehot, Walter. 1873. *Lombard Street: A Description of the Money Market*. London: King and Company.

Bignon, Vincent, Marc Flandreau, and Stefano Ugolini. 2012. Bagehot for beginners: The making of lender-of-last-resort operations in the mid-nineteenth century. *Economic History Review* 65, no.

2: 580–608.

- Bordo, Michael D., and David C. Wheelock. 2013. The promise and performance of the Federal Reserve as a lender of last resort, 1914-1933. In *A Return to Jekyll Island: The Origins, History and Future of the Federal Reserve*, edited by Michael D. Bordo and William Roberds, 59–98. Cambridge: Cambridge University Press.
- Carlin, Bruce and William Mann. 2019. The real effects of Fed intervention: Revisiting the 1920-1921 depression. Working Paper, University of California, Los Angeles.
- Carlson, Mark, Kris James Mitchener, and Gary Richardson. 2011. Arresting banking panics: Fed liquidity provision and the forgotten panic of 1929. *Journal of Political Economy* 119, no. 5 (October): 889–924.
- Eichengreen, Barry. 1992. *Golden fetters: The gold standard and the Great Depression*. New York: Oxford University Press.
- Eichengreen, Barry, Arnaud Mehl, Livia Chitu, and Gary Richardson. 2015. Mutual assistance between Federal Reserve Banks: 1913-1960 as prolegomena to the TARGET2 debate, *Journal of Economic History* 75, no. 3 (September): 621–659.
- Friedman, Milton, and Anna J. Schwartz. 1963. *A monetary history of the United States: 1867-1960*. Princeton: Princeton University Press.
- Hall, George J., and Thomas J. Sargent. 2019. Complications for the United States from international credits: 1913-1940. In *Debt and Entanglements Between the Wars*, edited by Era Dabla-Norris, chap. 1, 1–58. International Monetary Fund.
http://www.tomsargent.com/research/IMF_final.pdf
- Hetzel, Robert L. 2020. Why the Fed failed in the Depression: The 1920s antecedents. Manuscript.
- Hopkins, Linton C. 1960. *Biography of Maximilian Bethune Wellborn*. Atlanta: Darby Print Company
- Jalil, Andrew J. 2014. Monetary intervention really did mitigate banking panics during the Great Depression: Evidence along the Atlanta Federal Reserve District border. *Journal of Economic History* 74, no. 1 (March): 259–273.
- Measuring Worth. 2020. <https://www.measuringworth.com>.
- Mehra, Alexander. 2010. Legal authority in unusual and exigent circumstances: The Federal Reserve and the financial crisis. *University of Pennsylvania Journal of Business Law* 13, no. 1: 221–72.
- Meltzer, Allan M. 2003. *A History of the Federal Reserve: Volume I, 1913-1951*. Chicago: University of Chicago Press.
- Olmstead, Alan, and Paul W. Rhode. 2001. Reshaping the landscape: The impact and diffusion of the tractor in American agriculture, 1910-1960. *Journal of Economic History* 61, no. 3 (September): 663–98.
- Parker, W.N. 1979. Labor Productivity in cotton farming: The history of a research. *Agricultural History* 53, no. 1 (January): 228–44.
- Richardson, Gary, and William Troost. 2009. Monetary intervention mitigated banking panics during the Great Depression: Quasi-experimental evidence from a Federal Reserve District border, 1929–1933. *Journal of Political Economy* 117, no. 6 (December): 1031–73.
- Rieder, Kilian. 2020. Financial stability policies and bank lending: Quasi-experimental evidence from

- Federal Reserve interventions in 1920-21. European Systemic Risk Board working paper no. 113, November.
- Sprague, Oliver M.W. 1915. The crisis of 1914 in the United States. *American Economic Review* 3 (September): 499–533.
- Tallman, Ellis, and Eugene N. White. Forthcoming. “Why Was There No Banking Panic in 1920-1921? The Federal Reserve Banks and the Recession.” National Bureau of Economic Research Working paper no. 2021.
- United States Bureau of the Census. 1910. *Cotton Production and Statistics of Cottonseed Products*. Washington, DC: U.S. Government Printing Office.
- Warburg, Paul M. 1930. *The Federal Reserve System: Its Origin and Growth. Volume Two: Addresses and Essays, 1907-1924*. New York: MacMillan.
- Wheelock, David C. 1991. *The Strategy and Consistency of Federal Reserve Monetary Policy, 1924-1933*. Cambridge: Cambridge University Press.
- White, Eugene N. 2015. Protecting financial stability in the aftermath of World War I: The Federal Reserve Bank of Atlanta’s dissenting policy. National Bureau of Economic Research working paper no. 21341, July.
- White, Eugene N. 2017. Protecting financial stability in the aftermath of World War I: The Federal Reserve Bank of Atlanta’s dissenting policy. In *Financial Systems and Economic Growth: Credit, Crises, and Regulation from the 19th Century to the present (Studies in Macroeconomic History)*, edited by Peter Rousseau and Paul Wachtel, 201-231. Cambridge: Cambridge University Press.
- Wicker, Elmus. 1963. *Federal Reserve Monetary Policy, 1917-1933*. New York: Random House.