

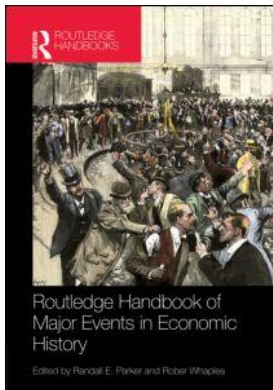
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# 7

## THE FOUNDING OF THE FEDERAL RESERVE SYSTEM

*Mark Toma*

### **Designing a monetary system**

Mentally transport yourself to 1913. You have been charged with designing a new monetary system. Before jumping into the details of the task, you and your co-founders must answer the basic question that every institutional architect must answer: Do you create a top-down or a bottom-up system? More concretely, do you create a system whose policy is determined at the discretion of decision-makers at the top of a hierarchy, ideally motivated to do what is best for the economy? Or do you do you establish certain rules of the game where decisions are made bottom-up by individuals pursuing their self-interest? For the discretionary solution, the challenge is to design the system so that good leaders end up at the top. For the self-regulating solution, the challenge is to design rules that confront self-interested individuals with incentives that induce them to take actions that promote the common good.

Once this issue has been settled, you can turn to the design details. Now you and your co-founders must confront a problem that every *monetary* architect must confront: How do you avoid two bad outcomes – too much or too little money? First, consider the over-issue problem. If the money supplier issues more than the public demands, then the result is inflation. The money holder finds, through no fault of her own, that the purchasing power of her money balances dwindles over time. The classic solution, benefiting both sides, is for the issuer to commit to redeeming notes into a good, like gold, whose real value cannot be manipulated by the issuer and to make redemption easy. Then, money will be at least as good as gold, implying that the purchasing power of money cannot fall below the purchasing power of gold.

A second problem arises in the form of potential under-issue: The money issuer may fail to accommodate demand, triggering a scramble for liquidity that may result in some or all of the following: (1) a rise in the purchasing power of money relative to gold, (2) a rise in the rate of exchange between currency and its money substitute, demand deposits, (3) a rise in short-term interest rates. These price adjustments signal that currency has become scarcer – needlessly so if, under alternative institutional arrangements, the currency supplier would have been incentivized to accommodate.

Was the design problem confronted by the founders of the Federal Reserve one of over-issue, under-issue or both? To answer, we must briefly explore the nature of the monetary

system that existed before the Fed's founding. That system, the National Banking System, was established by the Lincoln administration to solve its own design problem – how to help the North win the Civil War. Solving the war financing problem, however, did have a downside, producing a version of the under-issue problem or what came to be known as the problem of an inelastic currency. The creation of the Fed, some fifty years later, was meant to address this downside, a point driven home by the opening line of the Federal Reserve Act: “An Act to provide for the establishment of Federal reserve banks, *to furnish an elastic currency....*” (italics added). Before recounting the story of how the founders of the Fed crafted a new system to furnish an elastic currency, the next section outlines the nature of the elasticity problem under the National Banking System.

## The National Banking System

### *Over-issue*

Legislation giving rise to the National Banking System created two national currencies, U.S. notes and national bank notes. The U.S. notes (greenbacks) were issued by the Treasury and the national bank notes were issued by a new type of bank – nationally chartered banks – authorized to acquire the notes from the Treasury only after purchasing two-percent U.S. government bonds as collateral backing. After 1879, the U.S. notes were backed by a gold reserve of 100 percent housed at the Treasury, essentially making these notes commodity money. The national bank notes could be redeemed into lawful money (gold or U.S. notes) either at the national bank of issue or through redemption centers established by the Treasury. Each bank was required to contribute lawful money, into a redemption fund at the Treasury, equal to five percent of its outstanding notes. In the event that a national bank went bankrupt, the Treasury was obligated to immediately redeem its notes. For redemption purposes, the Treasury could use the redemption fund and the government bond collateral and was given first lien on all the assets of the bank and upon the personal liability of the stockholders (Friedman and Schwartz 1963: 21). After that, the Treasury would have to rely on the federal government's tax and borrowing capabilities.

Two considerations come into play in assessing whether these features of the National Banking System protected the currency holder from the over-issue problem. First, was redemption certain? Second, was redemption low cost?

For holders of U.S. notes, certainty of redemption was guaranteed by the 100 percent gold backing. For holders of national bank notes, certainty of redemption was a question of the magnitude of the federal government's taxing powers relative to its spending obligations, since the U.S. government stood as the ultimate backer. If the present value of current and expected future *maximum* taxes was less than the present value of current and expected future spending, then the federal government had no excess tax powers that could be used – by selling bonds – to redeem notes into gold. Note holders would have good reason to doubt the federal government's ability to raise funds on short notice to redeem notes.

How would a late-nineteenth- or early-twentieth-century note holder view the net tax powers of the federal government? Spending obligations were modest, but taxing powers also were modest since the federal government relied on taxes with narrow bases, mainly excise taxes and tariffs. Still, national notes were substantially backed – by reserves at the Treasury, by the government bond collateral, by the assets of the bank and by the personal liability of bank stockholders. A reasonable conjecture, therefore, is that holders of national bank notes, while not perceiving redemption to be certain, would have perceived it as likely.

Was redemption also low cost? Here, too, the answer is a qualified *yes*. An individual wanting lawful money for a national bank note issued by a distant bank could, of course, travel to the bank for redemption. More conveniently, she could take the note to her bank, exchange it for one of her bank's notes, which she could then redeem for lawful money. If desired, her bank could send those notes to a Treasury redemption center and receive lawful money from the redemption fund. Significantly, the costs of note redemption, e.g., the sorting of notes and the transportation costs, were not incurred by the sending bank; instead, they were assessed against the issuing bank (Champ, Freeman and Weber 1999: 568). So except for possible delays in receiving credit for notes sent to the Treasury, redemption costs were low.

The bottom line is that, while not sure-fire, the National Banking System did represent a credible solution to the over-issue problem. The cost of initiating redemption was relatively low. Once triggered, the likelihood that the notes would in fact be redeemed was relatively high.

### *Under-issue*

Under-issue – the failure to promptly accommodate currency demand – would prove a bigger concern under the National Banking System. Chronic scarcity of money – say, a constant supply in the face of rising demand – was not the issue. The outcome in this case would be a persistent, equilibrating fall in the price level, with note-holders expecting and receiving a rising purchasing power. Rather, the problem was that supply did not promptly increase in response to temporary increases in demand.

The source of the problem was that neither of the two parties directly involved in currency supply – the national banks that issued the notes to the public and the Treasury that printed and delivered the notes to the national banks – had strong incentives to accommodate demand. The incentive problem faced by national banks stemmed from the requirement that they first acquire a specific bond – two-percent U.S. government bonds – before acquiring new notes. The requirement “funneled the banks’ buying power into a single bond market and raised prices to prohibitive levels” (Horwitz 1990: 640), a problem made more severe by the fact that, after around 1880, the government used persistent budget surpluses to retire debt, thus reducing supply. Any unexpected relaxation of the collateral requirement or any easing of supply conditions in the market for two-percent government bonds might impose potentially significant capital losses on banks. Additionally, by making the entire banking system more fragile, the collateral requirement reduced depositor and note-holder confidence, increasing the likelihood that a relatively modest economic downturn would trigger numerous requests for note redemption, thus raising the overall costs of running the banking system. All told, the collateral requirement implied that accommodating the public's demand for currency was not always a profitable activity for national banks.

The incentive problem faced by the Treasury arguably was even more severe. Unlike private banks, the Treasury was a non-profit bureau that financed itself from a government budget. While the out-of-pocket expense of printing and delivering the notes was covered by the national bank requesting the notes, the Treasury still faced ancillary costs stemming primarily from the mandate that it verify and approve the government bond collateral backing new notes. Verification and approval costs would be particularly high during periods when the Treasury was called upon to respond quickly to numerous requests, requiring banks “to wait thirty days or more after depositing bonds before actually getting hold of new notes” (Horwitz 1990: 641). The problem of under-issue, in the form of upward inelasticity of note issue, was real.

### Monetary reforms: discretion or self-regulation?

Currency inelasticity posed a particularly severe problem during an *active* season – the fall harvest season in the agriculturally-based economy of the nineteenth century – when the public sought to withdraw currency. As has been documented by numerous sources (e.g., Sprague 1910), a series of bank crises – accompanied by currency premiums and short-term interest rate spikes – did occur during the late 1800s and early 1900s. Both contemporary and modern economists generally agree that these crises were a major motivation for monetary reform. But what would be the nature of this solution? Would the National Banking System be replaced by a top-down system, headed by decision-makers exercising discretion, or by a bottom-up, self-regulating system?

One way of viewing the controversy is whether the Fed was to function as a modern central bank or as little more than a national clearinghouse, operating on automatic pilot. The policy debate was sparked by the central-bank-type open market operations in the early 1900s undertaken by Treasury Secretary Leslie Shaw during fall seasons of financial strain (see Timberlake 1993: 248–50). The Democratic Party tended to endorse Shaw’s operations and wanted to institutionalize them in the form of a central bank with the tax powers of the federal government underwriting any losses incurred. The Republican Party favored a more decentralized, federalist structure that would automatically produce currency elasticity. The key innovative feature was a collection of competing government clearinghouses which would face a bottom-line and function alongside the already existing private clearinghouse system (Gorton 1985).

We all know the winning side, right? The Democratic Party swept the mid-term elections in 1910 and their candidate Woodrow Wilson won the Presidency in 1912. Then, on behalf of the Wilson administration, Senator Carter Glass helped defeat a Republican bill, earlier offered by Senator Nelson Aldrich, and won passage of a Democratic bill, establishing a modern central bank in the form of the Federal Reserve System. Indeed, that passage of the Federal Reserve Act represented victory for Democrats and for discretion seems ingrained into the modern mindset.

The case for this modern consensus weakens considerably, however, with a more careful examination of the Fed’s historical roots. For one thing, Elmus Wicker (2005) persuasively argues that Glass’s plan adhered closely in its details to the one previously offered by Aldrich. Even more to the point, Richard Timberlake concludes that in creating the Fed, the founders rejected the discretionary central bank model, intending instead to create a system that would be largely self-regulating.

Creation of the Federal Reserve banks was in part a reaction to the Treasury policies that Shaw had developed. Equally important was the anticipation that the new system would promote form-seasonal elasticity in the money supply ... not through the discretion of a government official, but on the initiative of commercial bankers themselves through a supercommercial (Federal Reserve) bank. The emphasis shifted from discretionary policy by a government agency to automatic and self-regulating policy in the market. Indeed, the early Federal Reserve System, operating on a real-bills principle and on the doctrine of maintaining the discount rate above market rates of interest, was to be a self-regulating appendage to a more fundamental self-regulating system – the operational gold standard.

(Timberlake 1993: 249–50)

Timberlake's characterization of the new system as a "self-regulating appendage to a more fundamental self-regulating system – the operational gold standard" is especially apt. The gold standard was the foundation of the system. But as emphasized in the introduction, an effective gold standard guarantees only that the price level will not rise above a certain ceiling level. To get an anchor – not just a ceiling – requires, in Timberlake's words, an appendage to the gold standard; an appendage that gives the Fed no choice but to passively supply the amount of money demanded at a price level over which it has no control.

To be sure, one need not be wedded to the particular appendage that Timberlake suggests – a real bills principle with penalty discount rates – to appreciate that some such device is needed to make the system truly self-regulating. Indeed, the next section argues that the decisive add-on to the gold standard was competition. The founders' intent was to replace an inflexible bureaucratic currency-issuing system – the National Banking System – with a more flexible, competitive currency-issuing system – the Federal Reserve System – where Reserve banks would act as clearinghouses in a market-like setting. If operated as planned, the new Fed would have little choice but to elastically supply currency at a price level that was determined in a market – the market for gold. The gold anchor would guard against Fed over-issue and competition against Fed under-issue of currency.

## **The Federal Reserve System**

### ***Over-issue***

Perhaps the most significant features of the Federal Reserve Act were the creation of a new type of currency, the Federal Reserve note, to be supplied by a new type of financial institution, the Federal Reserve bank. In particular, the Act created twelve Reserve banks, each operating inside a distinct geographic boundary and each offering two monetary liabilities – deposits of member banks and Federal Reserve notes, with the notes of each Reserve bank bearing "upon their faces a distinctive letter and serial number" (Section 16). The Reserve banks were nominally owned by member banks, which were required to purchase stock in their district Reserve bank. Stock ownership, however, did not convey ordinary voting rights, nor could member banks sell their stock or buy stock held by others (Sections 2 and 5). In the absence of stockholder control, the power to make decisions on behalf of a Reserve bank was divided among the President of the Reserve bank (the Governor), the Board of Directors of the Reserve bank and the Federal Reserve Board, which was a central administrative body consisting of the U.S. Secretary of Treasury, the U.S. Comptroller and five members appointed by the President of the U.S.

In establishing a new currency, the founders of the Federal Reserve were aware that *certainty in redemption* was a key to overcoming the problem of over-issue. Section 16 of the Federal Reserve Act states that Federal Reserve notes "shall be redeemed in gold on demand at the Treasury Department of the United States ... or in gold or lawful money at any Federal reserve bank." Section 16 also requires that each Reserve bank hold (1) gold in a redemption fund at the Treasury equal to five percent of its outstanding notes, (2) gold or lawful money equal to 40 percent of outstanding notes, as well as 35 percent of member bank deposits, with the 5 percent redemption fund at the Treasury counted as part of the 40 percent reserve against notes. Additionally, Reserve banks were required to supplement gold reserves with collateral in the form of bills and notes (commercial paper) accepted for discount. In the event a Reserve bank declared bankruptcy, the note-holder had first lien against all assets of the Reserve bank. If those proved insufficient, then, as a last resort, the tax powers of the

federal government (“notes shall be obligations of the United States,” Section 16) stood behind the Federal Reserve notes.

How do these features stack-up against corresponding features of the National Banking System? National bank notes were backed by (1) lawful money required to be held by a national bank in a redemption fund at the Treasury, (2) government bond collateral, (3) assets of a national bank and the personal liability of its stockholders and, as a last resort, (4) the tax powers of the federal government. Federal Reserve notes were backed by (1) gold or lawful money required to be held by a Reserve bank, including its redemption fund at the Treasury, (2) commercial paper collateral, (3) assets of a Reserve bank and, as a last resort, (4) the tax powers of the federal government.

While conditions (1) through (3) offer no clear-cut winner, the advantage seems to go to the Federal Reserve with respect to the ultimate backstop – federal tax powers, condition (4). The 16th Amendment to the U.S. Constitution, authorizing a federal income tax, was ratified in February 1913, just as congressional debate on the new monetary system was intensifying. At first the income tax was to apply only to the richest two percent of the population. But a forward-looking taxpayer would have solid grounds for forecasting that the tax base at some future date would be broadened. With enhanced powers to tax, government was in a position to make a commitment to the note-holding public that was more credible than at any time in the past: *If all else fails, the federal government stands ready to use its ability to borrow on the basis of future income tax collections to redeem your notes into gold.* On this basis, holders of Federal Reserve notes would have perceived the probability of redemption to be as high as or higher than the probability perceived by the pre-1913 holders of national bank notes.

Did the Federal Reserve System also do a better job of satisfying the second over-issue condition – that redemption cost is low? Here, the tables are turned. The individual holder of a national bank note simply visited the nearest national bank for redemption. Over-the-counter redemption for the holder of a Federal Reserve note required a visit to the Treasury, any Reserve bank, or any Reserve bank branch, none of which were necessarily nearby. Alternatively, the individual could send the Federal Reserve note to one of the above locations. Since express costs were assessed against the issuing Reserve bank, out-of-pocket costs would be low. Still, the note-holder would have to prepare the notes for mailing and wait for delivery of lawful money. Under the presumption that over-the-counter redemption at a nearby location is preferred to all other redemption options, note-holders would have perceived redemption to be less costly under the National Banking System.

One special provision of the Federal Reserve Act, however, may have allowed the general public to off-load the entire cost of redemption.

Whenever Federal reserve notes issued through one Federal reserve bank shall be received by another Federal reserve bank they shall be promptly returned for credit or redemption to the Federal reserve bank through which they were originally issued. No Federal reserve bank shall pay out notes issued through another under penalty of a tax of ten per centum upon the face value of notes so paid out.

(Section 16)

Here, a mechanism for routine *indirect* redemption is established. First, an individual visits her bank to deposit cash in her checking account. The bank may choose to hold the notes in anticipation of future withdrawals or send the notes to its Reserve bank in exchange for an increase in deposits. Assuming the Reserve bank was not the original issuer, Section 16 directs it to forward the notes to the issuing Reserve bank *for credit or redemption*. While not a

foregone conclusion – individuals may seldom deposit cash, commercial banks may choose to hold deposited notes as vault cash, Reserve banks forwarding notes may ask for credit – the Federal Reserve Act provided for the possibility of routine indirect redemption.

Where do things stand with respect to the problem of over-issue under the Federal Reserve System? The note-holder knows that if certain steps are taken, redemption is all but inevitable due to the deep pockets of the federal government. Still, a question lingers – can redemption be triggered without substantial costs? For direct redemption, the answer is a qualified, *yes*. Note-holders are compensated for out-of-pocket costs of sending notes for redemption; the only costs incurred are in the form of inconvenience and waiting time. Moreover, note-holders may be able to avoid even these costs, if indirect redemption, as provided for in the Federal Reserve Act, is effective. Commenting on the clause in the Federal Reserve Act authorizing indirect redemption, H. Parker Willis and William H. Steiner – contemporary authorities on the operation of the early Fed – concluded “Redemption is thus fully provided for” (Willis and Steiner 1926: 136).<sup>1</sup>

### *Under-issue*

The problem of under-issue in the form of upward-inelasticity of currency was the downfall of the National Banking System. Would inelasticity also prove the Achilles’ heel of the Federal Reserve System? Viewed from one perspective, it would be a little shocking if the founders of the Fed dropped the ball on this issue. After all, the nation had just witnessed a long debate on how best to solve the elasticity problem. The big questions were (1) Was elasticity to be achieved by establishing a discretionary central bank or by setting up a self-regulating system, and (2) Was the chosen solution effective?

The debate at the turn of the century focused on the first question. Ultimately, Congress rejected both a monopoly central bank and a thorough-going decentralized system of legally unrestricted private banks. Instead of pure discretion or pure self-regulation, Congress created a system of twelve non-profit Reserve banks, each offering reserves to member banks in its district and each offering currency – unencumbered by a government bond collateral requirement – funneled through the banks to the general public. Did this hybrid system incentivize Reserve banks to accommodate the public’s demand for currency? Were other government agencies involved, whose behavior might serve as bottlenecks to timely currency supply?

With respect to incentivized Reserve banks, two stumbling blocks stood in the way: Reserve banks as non-profit firms and as regional monopolists. Consider first the non-profit stumbling block. Reserve banks have an incentive to accommodate increased demands for currency only if so doing provides them with net benefits; more concretely, only if accommodation generates a flow of residual revenue that can be directly, or indirectly, consumed by the Reserve bank decision-makers. The Federal Reserve Act seemed to answer this question once and for all in a section titled, Division of Earnings:

After all necessary expenses of a Reserve bank have been paid or provided for, the stockholders shall be entitled to receive an annual dividend of six per centum on the paid-in capital, which dividend shall be cumulative. After the foresaid dividend claims have been fully met, all the net earnings shall be paid to the United States as a franchise tax, except that one-half of such net earnings shall be paid into a surplus fund until it shall amount to forty per centum of the paid-in capital stock of such bank.

(Section 7)



So the sequence of revenue disposition was (1) necessary expenses, (2) dividend payments to stockholders (member banks), (3) surplus fund, and, finally, (4) transfers to the United States (Treasury) in the form of a so-called franchise tax.

Where do Reserve bank decision-makers fit into the sequence? The apparent answer is that they do not. To be sure, the first draw on revenue goes to finance necessary expenses, with management compensation subsumed under necessary expenses. But once enough asset-backed currency has been issued to cover necessary expenses – along with dividend payments and the stipulated build-up of the surplus fund – the United States, not the Reserve banks, is in line to profit. Because there are no profits to be won, and *taken home*, the management team would not be advocates for accommodation – they would not care that the Treasury may receive a larger transfer payment. In a word, they would be simply *disinterested*.

Or would they? While the disinterested characterization may be consistent with a literal reading of the Federal Reserve Act – that Reserve banks transfer all revenues after paying necessary expenses, dividends and adding to the surplus fund – it is inconsistent with the economic literature on non-profit firms. The problem here is the word, *necessary*, preceding the word, expenses. A world of scarcity is a world of tradeoffs where, strictly speaking, nothing is an absolute necessity. In practice, decision-makers at each Reserve bank may see the clause, “necessary expenses,” but they will behave as if it reads simply, “expenses.” Or, in the language of the economist, decision-makers will engage in expense preference behavior, spending net revenues on goods that can be consumed in-house. Non-profit Reserve banks will have an incentive to supply currency to the public and reserves to banks so as to maximize this discretionary spending, with transfers of revenue to the government equaling zero in equilibrium.

Formally, replacing disinterested Reserve banks with discretionary spending maximizing Reserve banks solves the elasticity problem. Confronted by an economy-wide increase in currency demand, each Reserve bank finds that it can increase excess earnings, and hence discretionary spending, by accommodating demand in its region. Note, however, that the incentives are not as strong as with full-fledged, for-profit, competitive Reserve banks. For one thing, non-profit managers must consume net earnings as in-kind perks of office. Second, by carving the United States into 12 regions, the Federal Reserve Act seemed to give each Reserve bank monopoly power. Under competition, if an individual firm is not alert to an economy-wide increase in demand, a competing firm stands ready to fill the void. But in a regional monopoly system, with impregnable boundaries, no Reserve bank stands in waiting; demand in that region would go unsatisfied. Accordingly, a system of regional non-profit monopolies only *weakly* incentivizes accommodation.

However, a more careful reading of the Federal Reserve Act suggests that the characterization of Reserve banks as regional monopolists is misleading. To be sure, the Act did not allow a member bank in one region to borrow reserves from a Reserve bank in another region – *direct* competition through the discount window was illegal. But a true regional monopoly requires that all interconnections between regions be severed. If a member bank in one region is able to form a correspondent relationship with a member bank in another region – a bank is able to borrow from a bank in another region – then, via this bank-to-bank link, a Reserve bank in one region would be able to lend to banks in other regions.

Prior to the Fed, large national banks in urban centers frequently did form correspondent relationships with smaller banks inside and outside their region. In drafting the Federal Reserve Act, the founders made an explicit decision to retain the essential features of the correspondent system. Inter-regional borrowing and lending among banks could, and did, take place (Toma 1997: 29–30). In this sense, the Federal Reserve Act provided an avenue

through which Reserve banks could *indirectly* compete in supplying reserve balances to out-of-district member banks as well as currency to the out-of-district general public.

Before concluding that the Federal Reserve System represented an effective solution to the currency elasticity problem, there is one more base to cover. Were there outside parties that may serve as a bottleneck to accommodation? We know from our discussion of the National Banking System that the Treasury was one such party with little incentive to insure the timely delivery of notes to national banks. The founders of the Federal Reserve System did not make the same mistake – note delivery would be brought within the Federal Reserve System proper. In particular, a Board-appointed Federal Reserve agent would be assigned to each Reserve bank and charged with the responsibilities of validating commercial paper for collateral-backing and of transporting the notes from the Treasury to the Reserve bank. Significantly, the Act stipulated that the agent’s salary would be paid by his Federal Reserve bank, thus aligning the agent’s interest with the Reserve bank’s interest in the speedy delivery of Federal Reserve notes. The Federal Reserve agent, as an incentivized link between the Treasury and Reserve banks, represented a key ingredient in a decentralized, self-regulating Federal Reserve System.

The Federal Reserve Board represented perhaps an even more potent threat to currency elasticity. The Board enjoyed significant supervisory powers, the most important of which were to set discount rates and to define which bills would be eligible for rediscount (Federal Reserve Act, Sections 13 and 14). So empowered, the Board had the ability to shut down the flow of new currency through the discount window.

The Federal Reserve Act contained a loophole, however, which would allow Reserve banks to sidestep this potential bottleneck. The Act authorized the individual Reserve banks “To buy and sell, at home or abroad, bonds and notes of the United States” (Section 14). The authorization did contain the qualifier, “such purchases to be made in accordance with rules and regulations prescribed by the Federal Reserve Board” (Section 14). But, the limited nature of the Board’s powers over open market operations, in contrast to their powers over discount loans, was recognized from the outset. Jane D’Arista in a passage introducing her much-neglected study prepared for a House Committee on Banking and Currency observes that

a power struggle began almost immediately after the Reserve banks opened for business in November 1914, when the Federal Reserve Board pressured the Reserve banks for lower and more uniform discount rates and the Reserve bank governors resisted. The board won this round but lost the struggle. The Reserve banks won the struggle for power by dominating the system’s open market operations.

(D’Arista 1994: 4)

Open market operations provided a potential mechanism by which Reserve banks could end-run any impediments to currency elasticity arising from the Board’s regulation of the discount window.

### **The founders’ vision**

The design flaw of the National Banking System was that it had no built-in mechanism that guaranteed upward elasticity of currency. The flaw stemmed from two attributes of the system: (1) the government bond collateral requirement and (2) bottlenecks in the process of delivering currency to the issuing banks. The challenge facing the founders of the Federal Reserve System was to remedy these defects – to create a system that would incentivize all parties involved in the supply of currency. The founders met this challenge by creating

a decentralized self-regulating system, or, in Richard Timberlake's characterization, they created a "self-regulating appendage to a more fundamental self-regulating system – the operational gold standard." The operational gold standard was a hold-over from the National Banking System that guarded against over-issue. The really novel feature of the new system was the self-regulating appendage – a competitive network of non-profit Reserve banks, each facing a bottom-line, but without the government bond collateral requirement. At least on paper, the Reserve banks would face market pressures to accommodate surges in the public's demand for currency. They would be incentivized, in other words, to solve the fundamental defect of the National Banking System.

Did the founders' vision prove out in practice? A strong case can be made that it did, at least for the early years of the Federal Reserve. Indeed, the chapter title, "High Tide of the Federal Reserve System, 1921–1929," from Milton Friedman's and Anna Schwartz's *The Monetary History of the United States* (1963), bears testimony to the veracity of the founders' vision. During those early years, seasonal fluctuations in Federal Reserve credit tended to smooth seasonal variations in interest rates. A switch in decision-making power from autonomous Reserve banks to the Federal Reserve Board occurred, however, over the course of the 1920s – particularly the closing years of the decade – and the seasonal movement and general availability of Fed credit declined in the Depression years (Miron 1986: 136–37, Holland and Toma 1991: 669–71). A lingering question, in the spirit of Friedman and Schwartz's research agenda, is whether this reversal in policy can be attributed to the centralization of decision-making authority, a centralization that was not likely foreseen by the founders of the Federal Reserve.

### Note

- 1 For a contrary view, see Selgin and White 1994.

### References

- Champ B., Freeman S. and Weber, W.E. (1999) 'Redemption costs and interest rates under the U.S. national banking system', *Journal of Money, Credit and Banking*, 31: 568–89.
- D'Arista, J.W. (1994) *The Evolution of US Finance, Volume I*, London: M.E. Sharpe.
- Friedman, M. and Schwartz, A.J. (1963) *A Monetary History of the United States, 1867–1960*, Princeton, NJ: Princeton University Press.
- Gorton, G. (1985) 'Clearinghouses and the origin of central banking in the United States', *Journal of Economic History*, 45: 277–83.
- Holland, S.A. and Toma, M. (1991) 'The role of the Federal Reserve as "lender of last resort" and the seasonal fluctuation of interest rates', *Journal of Money, Credit and Banking*, 23: 659–76.
- Horwitz, S. (1990) 'Competitive currencies, legal restrictions, and the origins of the Fed: some evidence from the panic of 1907', *Southern Economic Journal*, 56: 639–49.
- Miron, J.A. (1986) 'Financial panics, the seasonality of the nominal interest rate, and the founding of the Fed', *American Economic Review*, 76: 125–40.
- Sprague, O.M.W. (1910) *History of Crises under the National Banking System*, Washington, DC: U.S. Government Printing Office.
- Timberlake, R.H. (1993) *Monetary Policy in the United States*, Chicago, IL: University of Chicago Press.
- Toma, M. (1997) *Competition and Monopoly in the Federal Reserve System 1914–1951*, Cambridge: Cambridge University Press.
- Wicker, E. (2005) *The Great Debate on Banking Reform: Nelson Aldrich and the Origins of the Fed*, Columbus, OH: Ohio University Press.
- Willis, H.P. and Steiner, W.H. (1926) *Federal Reserve Banking Practice*, New York: D. Appleton and Company.