9. Free Banking in History and Theory

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In 1962, when Leland B. Yeager assembled *In Search of a Monetary Constitution*, support for a genuine gold standard (where gold rather than a national central-bank unit provides the medium of account and medium of redemption and the international distribution of money is allowed to regulate itself without interference) was rare (Yeager 1962). It had nearly disappeared under "the Keynesian Avalanche."[1] Only two writers in the Yeager volume, Murray N. Rothbard and Arthur Kemp, advocated a strict gold standard. Support for free banking—or any laissez faire monetary system without a central bank—was even rarer. Milton Friedman had explicitly rejected it in his *Program for Monetary Stability* (1960) on the grounds that wildcat bankers, history showed us, would find it profitable to issue more currency than they intended to redeem. Wrote Friedman (1960, 6):

> A fiduciary currency ostensibly convertible into the monetary commodity is therefore likely to become over-issued from time to time and convertibility is likely to become impossible. Historically, this is what happened under so-called 'free banking' in the United States and under similar circumstances in other countries.

Subsequent research on free-banking episodes (and on so-called free banking in the United States) later convinced Friedman (and coauthor Anna Schwartz) that his 1960 historical judgment had been too hasty (Friedman and Schwartz 1986).

In his introduction to the volume, Yeager (1962, 23) considered the idea of free banking. He noted that it would eliminate statutory reserve requirements and thereby the problems of "institutional instability" and a "rubbery" money multiplier created by incentives to innovate

around reserve requirements. But he worried that under free banking "a loose linkage between basic currency and the total money supply could prove troublesome" (Later free-banking theorists would argue that the money multiplier will vary to accommodate shifts in the demand to hold bank-issued money and will thereby actually serve as a stabilizing force [Selgin 1988]). Rothbard acknowledged that, under a specie (coined gold or silver) standard, free banking would restrain credit creation more strictly than discretionary central banking (Yeager 1962, 110). But he strongly preferred mandatory 100 percent reserve requirements on banknotes and demand deposits as an even stricter restraint on credit creation and as supposedly the only legally legitimate arrangement to boot (Yeager 1962, 114–17).

Since 1962, Keynesian central-banking policies have performed poorly, and legally restricted commercial banking systems have exhibited instability. Alternatives to Keynesian macroeconomic theories have been developed, most notably under the rubric of "new classical" economics. Theorists and policymakers have emphasized the "time-consistency" problem with discretionary monetary policy. The view of free banking as a self-regulating currency system has been rehabilitated and theoretically extended in interesting directions. But at the same time, the sharply contrasting view that laissez faire banking is inherently unstable, rationalizing government deposit insurance as a low-cost remedy, has been formalized in various ways (Diamond and Dybvig 1983). These real-world and theoretical developments have sparked new interest in reexamining the actual historical performances of the gold standard and of banking systems close to laissez faire.

In accounting for these developments in monetary economics, Friedman and Schwartz—who were prominent among those reexamining government's role in money—emphasized the development of the "rational expectations" approach. The Lucas critique of Keynesian forecasting and "the explicit modeling of the role of expectations," as they noted, had "a major impact on the profession's thinking and, incidentally, have promoted greater attention to institutional structures as compared with current policy formation" (Friedman and Schwartz 1986, 38). To this account I would explicitly add Kydland and Prescott's (1977) critique of the discretionary optimal-control approach to policymaking and their case for "rules," in

the sense of enforceable precommitments, to constrain monetary policy.

To explain the new interest in free banking, Friedman and Schwartz (1986, 39) proposed:

> Even granted the market failures that we and many other economists had attributed to a strictly laissez-faire policy in money and banking, the course of events encouraged the view that turning to government as an alternative was a cure that was worse than the disease, at least with existing government policies and institutions. Government failure might be worse than market failure.

The Orthodox Case for the Gold Standard and to Some Extent for Free Banking[2]

As the label "new classical economics" suggests, the escape from Keynesian thinking in some ways meant recapturing older insights using up-to-date modeling techniques.

Most mainstream economists up to World War I accepted the theory, built on the work of David Hume and Adam Smith, that a specie standard automatically regulates a nation's or a region's money stock, including its specie-redeemable bank-issued money. Adam Smith (1982, 507) restated Hume's price-specie-flow theory in his own *Lectures on Jurisprudence* and then, in the *Wealth of Nations* (Book II, Chapter 2), extended the analysis to the case of a currency consisting of specie plus redeemable paper currency notes issued by competing commercial banks (A. Smith [1776] 1981). Smith asserted that the quantity of mixed currency is also self-regulating when a country participates in an international specie standard because any excess notes would be redeemed for specie, and that specie would flow out of the country. An economy with a given volume of annual produce, he proposed, requires only a certain amount of money to circulate that produce. If the banks issue any greater amount of notes, the "channel of circulation … must overflow" with the excess. The excess "cannot be employed at home," so it goes abroad in purchases of goods and services (A. Smith [1776] 1981, 293). Smith's analysis here was a bit sketchy and, as Henry Thornton noted in 1802, failed to mention the "price" part of Hume's price-specie-flow

mechanism. Smith failed to explain why the excess money wouldn't or couldn't initially be spent domestically, bidding up domestic prices, in the manner Hume spelled out. Smith skipped the Humean equilibrating process and went straight to the long-run result.

The introduction of banknotes enhanced the nation's wealth, Adam Smith ([1776] 1981, 293–95) argued, precisely because they will displace specie, and "the greater part" of the gold and silver sent abroad will "almost unavoidabl[y]" be used to "purchase an additional stock of materials, tools, and provisions" that is "destined for the employment of industry." Banknotes thus enabled the nation to exchange much of its "dead stock" of gold and silver for productive capital goods.

Defenders of competitive note issue in Britain, particularly the members of the free-banking school, who opposed monopoly privileges for the Bank of England in the debates of the 1830s and 1840s, followed in Smith's footsteps. They amplified his policy position favoring free competition in banking by spelling out how the clearing system among multiple issuing banks would see to it that any overissuing bank would quickly lose reserves to its rival banks. Competition would restrain any overissue more effectively than monopoly in note issue by a central bank. The currency school, by contrast, denied the Smithian argument and called for nationalization of banknote issue so that the central authority could make the quantity of money conform to its prescription.[3]

The passage of Peel's Bank Charter Act of 1844 signaled the political triumph of the currency school and the failure of the free-banking school to carry the day in the policy arena. Free banking was little discussed in the eight decades thereafter (Selgin and White, 1990; Dowd 1992d). Although orthodox economists continued to accept the Humean-Smithian theory of monetary self-regulation under a gold standard, they neglected the free-banking school's qualifier that the redemption process works *promptly and rigorously* only when an issuer is surrounded by competitors. For example Bonamy Price ([1869] 2000, 214–16), professor of political economy at Oxford, in an 1869 lecture affirmed:

> The quantity of banknotes in circulation is subject to the same rule as that which governs the quantity of coin. It is regulated by the demand of the public; and that demand is

> determined by the quantity which the public can find use for—the quantity which is actually employed in making purchases and payments, including the reserves of bankers. [Any issue of banknotes beyond that quantity demanded] will be rendered abortive by the public immediately sending back the excess to the bank for payment.

He made no mention of whether this return of excess notes would work as well under monopolistic as under competitive issue.

By failing to distinguish the rapid correction of overissue (via the clearinghouse) under competitive note issue from the sluggish correction (via the price-specie-flow mechanism only) under nationally monopolized or cartelized note issue, Price and others suggested that even the Bank of England with its near monopoly on English note issue was barred from issuing excess banknotes even in the short run. Like the banking school of John Fullarton and Thomas Tooke, they became indifferent to the question of monopoly versus competition in the currency-issuing system. Having thus intellectually disarmed themselves, liberal economists who supported the gold standard had little reason to object to legislative acts that gave national monopolies of issue to central banks.

Once central banks became self-consciously important players on the scene, beginning gradually with the Bank of England in the 1830s, the gold standard no longer operated automatically in central-banking countries. As the free-banking school writers perceived in the 1830s (but the banking school denied in the 1840s, and were followed in this respect by later subscribers to the real bills doctrine), self-regulation of the volume of redeemable money no longer ruled in the short to medium run with a single institution in charge of issuing currency and holding gold reserves. To the extent that the central bank could speed up, slow down, or even reverse the nation's gold flows by altering interest rates or by sterilizing the effect of gold flows on bank reserves, the quantity of money in circulation became contingent on central-bank policy.

The Development of Free-Banking Thought, 1912 to the Present

Ludwig von Mises's *The Theory of Money and Credit* of 1912 was a watershed in free-banking thought, developing the arguments with

far greater sophistication. Mises did not see at first much political traction for the idea. But in the second edition, in light of the German hyperinflation, Mises ([1924] 1990, 434–35) suggested a revival of the free-banking versus central-banking debate:

> The events of recent years reopen questions that have long been regarded as closed. The question of the freedom of the banks is one of these. It is no longer possible to consider it completely settled as it must have been considered for decades now. Unfortunate experiences with banknotes that had become valueless because they were no longer actually redeemable led once to the restriction of the right of note issue to a few privileged institutions. Yet experience of state regulation of banks-of-issue has been incomparably more unfavorable than experience of uncontrolled private enterprise. What do all the failures of banks-of-issue and clearing banks known to history matter in comparison with the complete collapse of the banking system in Germany? Everything that has been said in favor of control of the banking system pales into insignificance beside the objections that can nowadays be advanced against state regulation of the issue of notes. The etatistic arguments, that were once brought forward against the freedom of the note issue, no longer carry conviction; in the sphere of banking, as everywhere else, etatism has been a failure.

The reopening of the debate was unfortunately not very wide. Shortly after Mises's book was published in English translation in 1934, Vera Smith critically reviewed the historical free-banking versus central-banking debates in her book *The Rationale of Central Banking* ([1936] 1990). F. A. Hayek, who was Smith's dissertation adviser, weighed the idea of free banking in his *Monetary Nationalism and International Stability* (1937, 77). Lionel Robbins discussed free banking favorably in *Economic Planning and International Order* (1937, 269–305).[4]

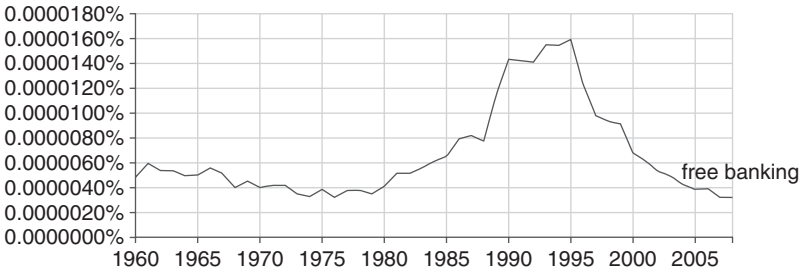
The topic of free banking then faded from public view. A few noteworthy contributions went almost unnoticed. In 1956, Gary Becker wrote a paper titled "Free Banking" that took issue with the inefficient legal restrictions on banks proposed by Milton Friedman. The paper went unpublished, however, until 1993 (see Becker [1956] 1993). In contributions to edited volumes, Rondo E. Cameron (1967, 1972) lauded Scotland's free-banking system for its

contribution to the country's economic development. And in a journal article that was not noticed until Eugene Fama cited it 10 years after its publication, Fisher Black (1970) considered "The Effects of Uncontrolled Banking."

The topic of free banking returned to visibility in the mid-1970s as the combined result of the independent efforts of three authors: Hugh Rockoff produced a doctoral dissertation (written under Robert Fogel) and subsequent articles on the American "free-banking" experience, Benjamin Klein (inspired by Friedman's "optimum quantity of money" theory) offered a theory of the perfectly competitive supply of irredeemable monies, and F. A. Hayek (bemoaning the double-digit inflation rates produced by national central banks) proposed the denationalization of money as a reform program. Following their leads, the present author, George Selgin, Kurt Schuler, Kevin Dowd, Steven Horwitz, and others in the 1980s and 1990s reexamined Scottish free banking and other historical episodes relatively close to laissez faire and developed the theory of free banking.

A Google N-gram (Figure 9.1) shows that the relative appearance of the phrase "free banking" in English-language books began trending upward in 1979 and peaked in 1993–95. By 2005, it had returned to the low levels of the 1960s and 1970s.[5]

Figure 9.1
Google N-gram Showing the Frequency of the Phrase "Free Banking" in English-Language Books, Three-Year Smoothing



Source: http://books.google.com/ngrams.

A second point in favor of an automatic gold standard, from the orthodox viewpoint, was the constraint that it placed on government borrowing. When government bonds must be repaid in gold—and not in something the government or its central bank can print—government borrowing is limited to what can credibly be repaid by future surpluses (net of debt service). Thus Joseph Schumpeter (1954, 405–6) wrote that "An 'automatic' gold currency … is extremely sensitive to government expenditure …. This is the reason why gold is so unpopular now and also why it was so popular in a bourgeois era. It imposes restrictions on governments or bureaucracies." If we add that a gold standard is automatic only with free banking, then Schumpeter provides a fiscal explanation for the decline in the popularity of free banking and the advent of central banking with the decline in the popularity of restraining the state.[6] In light of today's sovereign debt crises in Europe and the threat of the same in the United States, Schumpeter's view also suggests an opening for a revival of interest in free banking on a commodity standard as the system that offers the most credible of precommitments against the sacrifice of sound money to the central state's desire for debt monetization and seigniorage.

The Historical Record of Free Banking

Kurt Schuler has identified some 60 episodes of plural private note issue in the 19th century. His contribution leads off a volume edited by Kevin Dowd that includes case studies of nine episodes (Schuler 1992; see also Dowd 1992a, 2). Ignacio Briones and Hugh Rockoff (2005) have helpfully surveyed a variety of economists' assessments of six episodes: Scotland, the United States, Canada, Sweden, Switzerland, and Chile. Because none of the six systems they review enjoyed complete freedom from legal restrictions, they suggest that "lightly regulated banking" is a more accurate label than "free banking." Scotland, for example, had two restrictions imposed on its banks after 1765, namely a ban on banknotes below £1 and a ban on "option clauses" in notes that gave the issuing bank an option to delay repayment under exigent circumstances. These six episodes, like all others that fall under the "free-banking" rubric, involved competing notes denominated in and redeemable for a common specie standard. Schuler's larger set of episodes, in Kevin

Dowd's (1992a, 2) words, all involve "at least a certain amount of bank freedom, multiple note issuers, and the absence of any government- sponsored 'lender of last resort.'"

I first review the Briones-Rockoff findings and then comment on the additional episodes detailed in the Dowd volume. Briones and Rockoff (2005, 291) issue an appropriate disclaimer about the danger of confirmation bias in the literature:

> Historical cases of free banking, moreover, tend to attract students with strong ideological priors. It is probably true that free banking has attracted more scholars predisposed to free markets than to regulation. In part, this may reflect the interest of Hayek and other leading free market scholars in free banking. The attraction of this issue may also reflect the relative success of a number of free-banking systems. Advocates of free markets, like advocates of regulation, are drawn to cases that appear to confirm their priors.

Scotland. The Scottish free-banking system of 1716 to 1845 combined stability with competitive performance. To quote my own earlier work on it, there were "many competing banks, most of them were well capitalized," while in its heyday after 1810 "none were disproportionately large, all but a few were extensively branched," and "all offered a narrow spread between deposit and discount rates of interest" (White 1995, 32). Briones and Rockoff (2005, 295–96) find "considerable agreement that lightly regulated banking was a success in Scotland." They note that some writers have given at least partial credit to "unlimited liability, or the presence of large privileged banks acting as quasi-central banks." After 1810, however, the three chartered banks (the only banks with limited liability) were no larger than the nonchartered banks (which had unlimited liability) and did not play any special supervisory roles, while the system continued to perform successfully. Scottish banking exhibited economies of scale but not natural monopoly, and the banks mutually accepted one another's notes at par. A few writers have expressed doubt that Scotland was a good example of free banking on the grounds that the Bank of England backstopped the system. I have elsewhere tried to show that such claims are mistaken (White 1995, ch. 3).

United States. Banking restrictions differed dramatically among states in the antebellum United States. The least restricted, most openly competitive, and best-behaved system was in the New England states, where the Suffolk Bank of Boston, succeeded by the Bank for Mutual Redemption, operated a banknote clearinghouse that kept most notes at par throughout the region. Many other states, led by New York, enacted what were called "free-banking" laws. These acts opened up entry to all qualifying comers (in contrast to chartering systems that required a special act of the state legislature), but also imposed collateral restrictions on note issue and maintained geographical branching restrictions. Briones and Rockoff (2005, 302) reiterate a point that Rockoff emphasized in his own pioneering work on the state free-banking systems, namely that these legal restrictions were more than light. The less successful experiences in some states "appear to have been the result of restrictions imposed on the American free banks—restrictions on branch banking and the peculiar bond security system—rather than the result of freedom of entry." On the positive side, freer entry enhanced competition, and the "stories about wildcat banking" that some historians took to be the natural consequence, "although not baseless, were exaggerated." In New York and some other early-adopting states, the system "worked well," which explains why it spread to more and more states.

Canada. The Canadian system, Briones and Rockoff (2005, 304) note, "like the Scottish system and parts of the American system, was clearly a successful case of lightly regulated banking." Canada did not suffer the financial panics that the United States did in the late 19th century. Its banks did not even fail in the Great Depression. The Canadian banking system "did so well that a central bank was not established until 1935," and even then the reason was not dissatisfaction with the existing banking system but some combination of nationalism and wishful thinking about what a central bank could do to end the Great Depression.[7]

Sweden. Sweden had a system of competitive private note issue by "Enskilda" banks while at the same time having the official Riksbank as banker to the state. The Enskilda banks' record for safety was remarkable. Briones and Rockoff (2005, 306–7) report that, "Although one could debate the relative contributions of the Riksbank and the Enskilda banks, it is clear that the combination of

the two maintained convertibility and provided an efficient means of payment for the Swedish economy."

Switzerland. Switzerland's system ended in a crisis, but Briones and Rockoff (2005, 310) doubt that this reflects poorly on lightly regulated banking because, "at least after the federal banking law of 1881, the Swiss experience seems to have been less free than other experiences in many important dimensions such as the existence of privileged cantonal banks and restrictive collateral requirements for private banks." Moreover, the law diminished "the capacity of the public for differentiating notes," which created a common-pool problem, weakening the effectiveness of the clearing system against overissue.[8]

Chile. Briones and Rockoff (2005, 314) also consider Chile's experience a poor test because the system was skewed by government favoritism: "With a small ruling elite and concentrated economic power, Chile had great difficulty creating note-issuing banks that were completely independent of the government." Nonetheless what was called a free-banking law was "successful in developing the financial and banking industry."[9]

Australia. Operating with few restrictions, Australian banks were large, widely branched, and competitive, and they practiced mutual par acceptance, making the system resemble Scotland's. The Australian episode is of special interest for suffering the worst financial crisis known under a free-banking system. After a decade-long real estate boom came to an end in 1891, some building societies and land banks failed, after which 13 of 26 trading banks suspended payments in early 1893. George Selgin (1992a, 182–83) finds that the banks' reserve ratios do not indicate any overexpansion of bank liabilities during the boom, though some banks clearly made bad loans. The boom was rather financed by British capital inflows, which suddenly stopped after the Baring crisis of 1890. Kevin Dowd (1992b, 49, 70–71) adds that the banks were not undercapitalized. He argues that "misguided government intervention" in the first failed institutions "needlessly undermined public confidence" in other banks, while other interventions boosted the number of suspensions (all but one of the suspended banks soon reopened) by providing favorable reorganization terms for banks in suspension.[10]

Colombia. The free-banking era in Colombia lasted only 15 years, from 1871 to 1886, during the period of a classical liberal constitution.

Thirty-nine banks were created, two of which did about half the business. The system survived a civil war in 1875 with only a few months' suspension and appears to have been otherwise free of trouble. It ended when the government created its own bank and gave it a monopoly of note issue for seigniorage purposes (Meisel 1992).

Foochow, China. George Selgin (1992b) reports that the banking system in the city of Foochow (or Fuzhao) in southeastern China operated under complete laissez faire in the 19th and early 20th centuries, being left alone by the national ruling dynasty. The successful results resembled those of free banking in Scotland or Sweden. Banknotes were widely used and circulated at par, bank failures were rare, and the system provided efficient intermediation of loanable funds.

Postrevolutionary France. The end of the French Revolution, the economist Jean-Gustave Courcelle-Seneuil later wrote, "left France under the regime of freedom for banks." New banks began issuing redeemable banknotes in 1796. In Courcelle-Seneuil's evaluation, the banks operated "freely, smoothly and to the high satisfaction of the public." After only seven years, in 1803, Napoleon Bonaparte took power and created the Bank of France with a monopoly of note issue to help finance his government.[11]

Ireland. In 1824, after poor results with plural note issues by undersized banks, the British Parliament deliberately switched Ireland from the English set of banking restrictions (the limitation of banks to six or fewer partners) to the Scottish free-banking model (joint-stock banks with an unlimited number shareholders, each with unlimited liability) and thereafter enjoyed results like Scotland's. Howard Bodenhorn (1992, 137) considers it "not surprising" that "free banking in Ireland should rival the success of the Scottish. After 1824, restrictions on banking were repealed, except unlimited liability, and joint-stock banks were formed based on the Scottish mould. Failures were infrequent, losses were minimal … and the country was allowed to develop a system of nationally branched banks."

The Political Triumph of Central Banking

As Kevin Dowd (1992a, 3–6) fairly summarizes the record of these historical free-banking systems, "most if not all can be considered as reasonably successful, sometimes quite remarkably so." In particular,

he notes that they "were *not* prone to inflation," did not show signs of natural monopoly, and boosted economic growth by delivering efficiency in payment practices and in intermediation between savers and borrowers (emphasis in original). Those systems of plural note issue that *were* panic prone, like those of pre-1913 United States and pre-1832 England, were not so because of competition but because of legal restrictions that significantly weakened banks.

Where free banking was given a reasonable trial, for example in Scotland and Canada, it functioned well for the typical user of money and banking services. Why then did every nation adopt central banking? Free banking often ended because the imposition of heavy legal restrictions or creation of a privileged central bank offered revenue advantages to politically influential interests. Economic historian Charles Kindleberger (1994, pp. ix–xii) has referred to a "strong revealed preference in history for a sole issuer." As George Selgin and I have noted elsewhere, the preference that history reveals is that of the fiscal authorities, not of money users (Selgin and White, 1999, 154–65). In some places (e.g., London) free banking never received a trial for the same reason. Central banks primarily arose, directly or indirectly, from legislation that created privileges to promote the fiscal interests of the state or the rent-seeking interests of privileged bankers, not from market forces.

The Bank of England in 1694, in Walter Bagehot's (1877, 92) words, "was founded by a Whig Government because it was in desperate want of money." As a quid pro quo for lending to the government, the bank's charter was made exclusive, and Parliament soon decreed that no other note-issuing bank could have more than six partners. Over time, other legislation secured to the bank a complete monopoly of note issue in England and Wales. Of particular importance was Peel's Bank Charter Act of 1844, which was supported by the currency school's theoretical argument that competitive banking was a source of instability and only a single issuer could properly control the stock of currency.

The fiscal origins of the Bank of France's privileges were especially straightforward. Napoleon Bonaparte was a shareholder in the bank, as was his government. The government quite deliberately gave the bank a complete legal monopoly of note issue in 1803 and then borrowed from it heavily to finance Bonaparte's wars (Nataf 1992, 134). Schuler (1992) finds that Sweden was another case where

the impetus for ending competition in note issue was to give seigniorage profit to the government's bank, as were the cases of Italy, Portugal, Spain, Brazil, and China.

In the United States, as in England, restrictions on banks of issue imposed for fiscal reasons led indirectly to central banking. The National Banking Acts passed during and just after the Civil War tied the authorized volume of a bank's note issue to its holdings of federal bonds. The resulting seasonal "inelasticity" of the currency stock created a series of financial panics. The demand for a remedy to the panics, in an environment of progressive thought, produced the Federal Reserve Act.[12]

Until the Federal Reserve Act, passed on the eve of World War I, the classical gold standard operated without central banks in most of the leading economies outside Europe, namely the United States, Canada, Mexico, the nations of Central America and South America (except Uruguay), India, Australia, New Zealand, South Africa, and Rhodesia and other colonial territories of Africa.[13] The war brought the classical gold standard to an end. The governments of Britain, France, Germany, and other combatant nations of Europe suspended the gold standard so their central banks could print money to finance war expenditures. The 1920s and 1930s were not decades of a restored classical gold standard but of international monetary chaos. As Leland Yeager (1966, 290) has put it: "The gold standard of the late 1920s was hardly more than a façade.… Gold standard methods of balance-of-payments equilibrium were largely destroyed and were not replaced by any alternative." National governments that pressed their central banks to violate the norms of the gold standard were not about to consider free banking.

In his lectures published as *Monetary Nationalism and International Stability* of 1937, Hayek was a fairly lonely voice arguing the virtues of an automatically operating international gold standard in which national central banks do not manipulate interest rates or impose quantitative restrictions to impede international gold flows and do not sterilize the effect of flows on domestic money stocks. He pointed out that gold reserve flows between countries do not deserve their reputation for being inherently disruptive. They impose an inflationary boom on the inflow country and a credit crunch in the outflow country only because banking systems end at the border. Banking systems became nationally distinct because international branching

of banks was not allowed and because legal restrictions made a central bank the sole holder of each nation's gold reserve. The imposition of restrictions leading to a "one-reserve system" (as Bagehot had called it) was the reason that nationally specific bank lending expanded with gold inflows and contracted with gold outflows. Hayek (1937, 77) concluded:

> The rational choice would seem to lie between either a system of "free banking," which not only gives all banks the right of note issue and at the same time makes it necessary for them to rely on their own reserves, but also leaves them free to choose their field of operation and their correspondents without regard to national boundaries, and on the other hand, an international central bank.[14]

Unfortunately for the reception of Hayek's argument, the debate over free banking versus central banking had almost everywhere ended before 1937.[15] The last industrialized countries without central banks, Canada and New Zealand, had adopted them in 1934. Free banking on a gold standard was inconsistent with activist monetary policy, and the opportunity to conduct activist monetary policy was one of the important arguments made for establishing the Bank of Canada over the commercial bankers' objections. The Keynesian Avalanche after 1936 cemented the victory. Discussions among monetary economists between 1937 and 1962 almost entirely took central banking for granted. A few non-Keynesian economists still favored a role for gold as a long-run constraint on central banks, but the consensus view on "rules versus discretion" was that central banks needed a great deal of discretion for Keynesian policymaking.

Rationales for Central Banking and Deposit Insurance

Charles Goodhart (1988, pp. 1–2) has prominently argued that "the role and functions of central banks have evolved naturally over time." But the development of central banking was "natural" only in the sense of understandable or inevitable (if you give a bank enough privileges, *naturally* it becomes a central bank), not "natural" in the sense of the result of market forces (as in the phrase "natural monopoly"). Central-banking legislation often arose—both the United Kingdom and the United States exhibit this pattern—from attempts to

remedy weaknesses caused by earlier legal restrictions on banking by imposing a further layer of intervention. Goodhart (1988, 1–2) himself notes that in the case of the Bank of England its "privileged legal position, as banker to the government and in note issue, then brought about consequently, and, naturally, a degree of centralization of reserves."[16] In general, central banks emerged historically not because they were needed to play a vital role left unfilled in an unregulated banking system but because of privileges and legal restrictions.

Goodhart (1988, 85) offers a theoretical argument for having a government-sponsored central bank as a lender of last resort. He argues that the public has a "need for quality control and supervision" of banks by some third party and that the banks need a lender of last resort. He recognizes that private clearinghouse associations, organized as clubs of member banks, have historically played these roles, but he argues that the club needs an independent arbiter to overcome internal conflicts of interest. He supposes that a government central bank can efficiently play the role of a neutral arbiter acting in the public interest. Both of the stipulated needs are doubtful, however. In the least restricted free-banking systems (Scotland, Canada, Sweden, and New England, for example), quality control was not a chronic problem.[17] Goodhart offers no evidence that conflict-of-interest problems actually did arise in clearinghouse associations, or must do so, but rather cites episodes where certain commercial banks were reluctant to lend to their rivals. Goodhart is largely silent on the possibility of, and the problems raised by, conflicts of interest between a central bank and the public. Perhaps most tellingly, in not a single one of the cases of the historical establishment of central banks, summarized in his own book's appendix, were developments driven by the "conflict of interest" problems identified in Goodhart's theoretical argument. Goodhart's is a purely normative theory of central-bank evolution, where "normative" means "not fitting the facts."[18]

The most influential argument against laissez faire banking in the post-1962 literature is undoubtedly the case for deposit insurance based on the Diamond-Dybvig model of bank runs. In a nutshell, they and the literature building on their model argue that (a) an unregulated banking system is inherently prone to runs and (due to "contagion") panics, (b) runs and panics have net harmful effects,

and (c) deposit insurance can reduce runs and panics at a cost less than the benefit of doing so (Diamond and Dybvig 1983; see also Aghion, Bolton, and Dewatripont 2000). It is easy to accept (b) in the case of a run on a solvent bank, though not in the case of a run on a bank that is insolvent before the run occurs. The latter kind of run has important benefits. It pulls the plug on a firm that has wasted its creditors' wealth before any further wealth can be lost. The threat of a run provides salutary incentives to all bank depositors to monitor the bank and to the bank's owners and managers to manage its affairs prudently. The overwhelming majority of bank runs, at least in U.S. history, fit into this second category (Kaufman 1988; Calomiris and Kahn 1991; Gorton 1988).

The Diamond-Dybvig case for propositions (a) and (c) is much weaker than is usually realized, having been subject to a number of devastating criticisms.[19] The historical criticism is that Diamond-Dybvig is not a useful model for explaining historical patterns of bank runs. The theoretical criticisms point to the model's nonrobustness. Small tweaks to the model's assumptions, in the direction of greater realism, undo the results.

In brief, the Diamond-Dybvig bank is run-prone because it is so inherently fragile that a run will always do it in. Any expectation of a run is then self-justifying: if you think others are running, it's rational for you to run as well, to avoid being one of the people at the end of the line who will not be repaid. The result is a "sunspot" model of bank runs: any event can trigger a run if each depositor *thinks* that such an event will make *others* run, because then for each depositor the dominant strategy is to run; and thus the event *will* cause a run and will bring down the bank. Such a self-justifying run can occur randomly or be triggered by an intrinsically irrelevant event. In the Diamond-Dybvig model, deposit insurance—mirabile dictu—can *costlessly* remedy the problem of bank runs. The Diamond-Dybvig bank never fails for any reason other than a run, and deposit insurance prevents runs from ever happening by turning "run the bank" into a nondominant strategy for customers, so the potential deposit insurance remedy will never have to be implemented.

The concepts of "panic" and "contagion" (suggesting that nobody would need to stop lending if nobody else did so), loosely associated with the Diamond-Dybvig model (loosely, because taken literally they model only a single bank, not a system), were often invoked

by commenters on the Southeast Asia exchange-rate crises of 1997. They have more recently been heard in discussions of the eurozone sovereign debt crisis.

In historical experience with uninsured banking systems, bank runs did not occur merely randomly, or because of irrelevant events, but followed definite temporal patterns. They typically occurred at the onset of recessions. Furthermore, runs on prerun-solvent banks weren't a problem in all banking systems but characteristically only in weak banking systems, that is, in places where banks often failed, such as the United States outside New England and England outside London in the 19th century. They were not a problem where the banks seldom failed, as in Canada or Scotland under free banking. A theory of bank runs that better matches historical experience, that is, better explains the time-series and cross-country variations, is that runs happened when depositors received bad news indicating that the bank might be *already* (prerun) insolvent. Depositors would run because assets might already be too small to pay all depositors back. Likewise, correlated attacks on central-bank exchange-rate pegs (as in Southeast Asia in 1997) and correlated investor movements against the sovereign bonds of highly indebted countries are better explained by reactions to fundamentals than by sunspots or purely self-feeding concerns about default.

Critics of the Diamond-Dybvig model have pointed to at least four ways in which the Diamond-Dybvig bank is so unlike a real-world bank that the implications of the model are of questionable relevance to real-world banks. First, real-world banks have equity holders who stand in line behind other claimants, whereas the Diamond-Dybvig bank has no junior claimants and so is always insolvent in its second period when running is an option. Second, real-world banks can temporarily suspend redemption of their note and deposit claims, in which event customers are inconvenienced but can still spend the claims. The Diamond-Dybvig bank cannot suspend redemption of its deposits without its customers starving because its deposits are not a means of payment but only claims to the economy's sole consumption good. Third, the deposit insurance that saves the day in the Diamond-Dybvig world relies on the deposit insurer having a technique for undoing the bank's first-come-first-served constraint in meeting withdrawals (namely, the insurer can credibly promise to claw back first-served payouts if necessary to give equal payouts

to the last served). But Diamond-Dybvig models inconsistently do not allow the bank to use that technique itself. Consistency would remove either the feasibility (nobody can do it) or the need for third-party deposit insurance (because the bank can make the same promise part of its deposit contract). Fourth, Diamond-Dybvig models speak loosely of "panics" but consider only a one-bank world. A world of multiple banks opens the possibility of interbank loans to relieve illiquidity at any one bank.

New Arguments for Gold and Free Banking

Other theoretical developments have produced new arguments for a commodity standard and free banking. As already noted, Friedman and Schwartz credited the "rational expectations" approach with helping revive recognition that the constitutional features of monetary regimes are vitally important to their success or failure. From rational expectations came the Kydland-Prescott model of the tragedy of well-meaning discretionary monetary policy even where the central bank faces no informational or timing problem. Finn E. Kydland and Edward C. Prescott (1977, 475) provided a simple macroeconomic policy model in which "doing what is best, given the current situation, results in an excessive level of inflation, but unemployment is no lower than it would be if inflation (possibly deflation or price stability) were at the socially optimal rate." They concluded that "policymakers should follow rules rather than have discretion" (p. 489).

The suggestion that a gold standard provides a suitable rule did not appear in the 1977 Kydland-Prescott article, but it did appear in the heavily cited 1983 follow-up article by Robert Barro and David Gordon. Barro and Gordon applied the Kydland-Prescott model historically to explain why inflation rose with the abandonment of the commitment to a gold standard. They then observed:

> The model stresses the importance of monetary institutions, which determine the underlying rules of the game. A purely discretionary environment contrasts with regimes, such as a gold standard or a paper-money constitution, in which monetary growth and inflation are determined via choices among alternative rules. … Although we would be uncomfortable attempting to forecast a systematic direction of error

> in future institutional choices, we might be willing to label a particular past choice—such as the movement away from the remnants of the gold standard and fixed exchange rates—as a mistake. (Barro and Gordon 1983, 608)

Kydland went on to coauthor several papers underlining the virtues of the gold standard's rule-boundedness. Michael Bordo and Kydland (1995, 424) observed that "adherence to a specie standard rule enabled many countries to avoid the problems of high inflation and stagflation that troubled the late 20th century."[20]

A second theoretical development favoring strict rules was the "unpleasant monetarist arithmetic" concept of Thomas J. Sargent, Neil Wallace, and Preston Miller. Their concern with government debt monetization was considered far-out when first voiced in 1981, but it now seems prescient in light of the eurozone sovereign debt crisis. As if anticipating the events in Greece and Ireland 20-some years later, they warned that chronically excessive government budget deficits can push an economy into such a high debt-to-GDP ratio that real government bond yields rise above the economy's growth rate. Ever-rising debt service will then make the debt-to-GDP ratio grow without limit even if the primary budget (excluding debt service) returns to balance (Sargent and Wallace 1981; Miller and Sargent 1984; Sargent 1984, 1986). In this scenario, the ability to continue financing spending with additional borrowing eventually hits a ceiling for Laffer curve–type reasons. That is, at some point additional bond sales into a saturated market will raise the real interest rate the government has to pay and thus its debt service to such an extent that the net proceeds of bond sales are zero. Money printing then becomes the only method left for covering ongoing budget deficits. The resulting price inflation cannot be stopped, because money creation cannot be stopped, unless there is a fiscal reform. One means of fiscal reform is to tie the hands of the monetary authority, creating a credible precommitment not to monetize debt that limits the feasible path of deficits.

A more fundamental remedy, by contrast to merely having the monetary authority announce its plans ahead of the fiscal authority, is to switch from a fiat-money regime to a commodity-money regime to effectively restrict the path of money creation. In a 2010 interview, Sargent commented favorably on the gold standard:

> Remember that under the gold standard, there was no law that restricted your debt-GDP ratio or deficit-GDP ratio. Feasibility and credit markets did the job. If a country wanted to be on the gold standard, it had to balance its budget in a present-value sense. If you didn't run a balanced budget in the present-value sense, you were going to have a run on your currency sooner or later, and probably sooner. So, what induced one major Western country after another to run a more-or-less balanced budget in the 19th century and early 20th century before World War I was their decision to adhere to the gold standard. (Rolnick 2010, 36)

Sargent here seemed to assume that a government central bank issues the country's gold-redeemable currency and bears the brunt of a speculative attack. Of course, as we have noted, many countries under the classical gold standard before World War I, such as the United States, Canada, and Australia, had in fact no central bank but instead decentralized private note issue. A more general statement of the disciplinary mechanism to cover such regimes would be if a country didn't run a balanced budget in the present-value sense (spending balanced by present taxes or a credible commitment to present-value-equivalent future taxes), the international bond market would put a high default premium on its bonds, eventually making further net bond finance impossible.

In the same interview, Sargent appealed to "unpleasant arithmetic" to explain the Greek and other European sovereign debt crises. Despite the European Central Bank's rules against any member country's running a large deficit or accumulating a high debt-to-GDP ratio,

> a number of countries at the European Union economic periphery—Greece, in particular—violated the rules convincingly enough to unleash the threat of unpleasant arithmetic in those countries. The telltale signs were persistently rising debt-GDP ratios in those countries. Of course, the unpleasant arithmetic allows them to go up for a while, but if that goes on too long, eventually you're going to get a sovereign debt crisis. (Rolnick 2010, 36)

This diagnosis bolsters the case for the ultra-strict precommitments implied by a gold standard with free banking.[21]

Notes

1. I take the phrase from McCormick (1992).
2. The first half of this section draws heavily from White (2012, ch. 11).
3. For details see White (1995).
4. Robbins's discussion was noted by Rothbard in Yeager (1962, 131).
5. See the N-gram at http://books.google.com/ngrams/graph?content=free+banking&year_start=1960&year_end=2008&corpus=0&smoothing=3.
6. That is, as progressivism and social democracy triumphed politically over classical liberalism. See also Selgin and White (1999).
7. On the Bank of Canada Act, see Bordo and Redish (1987). On banking stability in the Great Depression, see Grossman (1994).
8. For a harsher assessment of Swiss free banking, see Neldner (1998). In reply to Neldner, see Fink (2011).
9. New work on Chile's free-banking experience is under way.
10. For a different view, see Turner and Hickson (2002).
11. See Nataf (1992). The quotes from Courcelle-Seneuil are as provided and translated by Nataf.
12. See V. Smith ([1936] 1990, ch. 11). In his summary table, Kurt Schuler (1992, Table 2.1) attributes the end of free banking in various countries to "seigniorage," to "crisis," or to "theory." He puts down "theory" for both England and the United States, but in both cases all three reasons operated.
13. See Schuler (1992, Table 2.1, pp. 40–45). China was on a silver standard without a central bank. Putting it the other way around, the list of central banks before 1900 was limited to 15 European nations plus Japan, Indonesia, Uruguay, and the Netherlands Antilles. See Goodhart, Capie, and Schnadt (1994, p. 6).
14. For elaboration and embroidery on Hayek's argument, see White (1998, 377–401).
15. An exception was Venezuela, which had a system of competitive note issue without a central bank and intellectual defenders of the system, until the government established a central bank in 1940. See Crazut (1990, pp. 33–61).
16. See my review of Goodhart's (1988) book (White 1990). See also Goodhart (1987, 1994).
17. Goodhart cites Friedman's (1960) *Program for Monetary Stability*, making the claim that free-banking systems were rife with fraud, but Friedman and Schwartz (1986) later acknowledged that the historical evidence contradicted his claim.
18. See Goodhart (1988, p. 45). Here again I draw on my book review (White 1990). See also Richard H. Timberlake's (1990) review of Goodhart and George Selgin's (1993) essay-review.
19. For reviews of the critical literature, see Dowd (1992c) and White (1999, ch. 5). In the rest of this section, I mostly summarize the discussion in the latter.
20. See also Bordo and Kydland (1996, pp. 55–100) and Kydland and Wynne (2002).
21. In a recent working paper, Sargent (2010, pp. 5, 14) addresses "unfettered financial intermediation, also known as free banking," but unfortunately identifies it with what he calls "a real bills policy."

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