The Option Clause in Free-Banking Theory and History: A Reappraisal

Parth J. Shah

Banks under a free-banking system, like banks with fractional reserves under any other system, are susceptible to runs. Free-banking theorists maintain that the option clause would be one effective means of dealing with runs on banks. The option clause, printed on banknotes, would allow banks to defer redemption of their notes provided they pay interest for the period of deferment. The clause would enable banks to protect their liquidity in the face of an unexpected increase in demands for redemption, and allow them time to adjust their portfolios. To make the clause notes acceptable to the public, banks would likely promise to pay interest at a rate higher than the market rate for the period of deferment. This penalty rate would dissuade banks from misusing the option clause. The clause therefore could serve as a crucial stabilizing mechanism for a free-banking system.

Historically, eighteenth- and nineteenth-century Scotland (White 1984), Sweden (Jonung 1985), and Canada (Schuler 1988) serve as examples of free-banking systems that have employed option

Parth J. Shah is assistant professor of economics at the University of Michigan, Dearborn. I would like to thank the students of my monetary theory class for their insightful questions about the workings of the option clause. They were the inspiration for this paper. Detailed comments on an earlier draft by George Selgin are gratefully acknowledged. Leland Yeager helped make the paper more readable. All remaining errors of substance and style are my own doing.

Review of Austrian Economics 10, no. 2 (1997): 1–25
ISSN:0889-3047

clauses. Among the three, the Scottish free-banking experience furnishes the most detailed information on the use of the clause (Dowd 1988, 1991; Gherity 1995). In Scotland, the clause was first adopted in 1730 by the Bank of Scotland to protect itself against "note duels" initiated by its new rival, the Royal Bank of Scotland. It was, however, outlawed in 1765.[1] Despite its short duration, the Scottish experience is generally cited as an illustrious example of the operation of the option clause in a free-banking system.

Modern free-banking theorists who view the overall Scottish experience as exemplary, consider the option clause a desirable market solution to the problem of unexpected demands for redemption (White 1984, pp. 28–29; Selgin 1988, pp. 161–62; Selgin and White 1994, p. 1726; Dowd 1988). Cowen and Kroszner (1989) and Sechrest (1993, pp. 79–93; 1988) have been skeptical in interpreting the Scottish experience as that of "genuine" free banking.[2] They do, however, share with the previous group the view that the option clause was an important, effective, and desirable innovation. There seems to be a consensus among the free-banking theorists on both issues: one, of the historical usefulness of the option clause in protecting the Scottish banks from runs and "note duels," and two, of its desirability in any future free-banking system as a stabilizing mechanism.[3]

Despite the consensus, a description of the exact working of the option clause either theoretically (logically) or historically is missing. A focus on the mechanics of the option clause raises doubts about its alleged historical usefulness and its desirability in any future free-

[1]Even though the option clause was outlawed in 1765, the free-banking system in Scotland lasted until 1844.

[2]A list of skeptics should also include Rothbard (1988). But he neither discusses the option clause nor advocates free banking.

[3]A notable exception is Yeager (1993). In his review of Dowd's *Laissez-Faire Banking*, Yeager raises concerns about the workings of the option clause. Gherity (1995) evaluates the Scottish experience with the option clause using contemporary magazines and newspapers. He does not deal with the logic of the operation of the option clause.

banking system. When one tries to work out what exactly happens after a bank invokes the clause—the mechanics of the clause—several questions arise that the proponents have so far left largely unanswered. How would a bank distinguish notes presented for redemption from ones that were not? Would invocation of the clause apply only to notes or also to deposits? Would the bank refuse conversion of deposits into notes? If the bank allows customers to convert their deposits into notes, wouldn't all customers convert to earn the penalty rate of interest? Would the bank then be compelled to pay the penalty rate on all its notes and deposits? In order to earn that rate, people would have to hold on to the notes and deposits. What would they then use to carry out transactions?

An understanding of the mechanics of the option clause brings the costs of using it into sharper focus. These costs must then be balanced against the benefits of the clause.

Benefits of the Option Clause

The origin of the option clause points directly to its use in making "note duels" ineffective, thus largely eliminating a potential source of instability in a free-banking system. When a rival bank presents large amounts of notes for redemption, exercise of the clause would foil its attack. Moreover, anticipation of its use would prevent any rival bank from even attempting a note duel.

The clause elicits a stabilizing response not just from rival banks but also from the public. Dowd (1991, p. 763) argues that the clause would "reduce the pressure on the public to participate in bank runs, and make bank runs both less likely and less damaging (to everyone concerned) if they do occur." Without the clause, any strong fear of a bank run would induce noteholders to start a run as they would suffer losses by not being first in line. The option clause, in fact, gives "an interest 'bonus' for *not* being first in line" (Cowen and Kroszner 1989, p. 5). If others demand redemption and force the bank to invoke the clause, the noteholders back in line would earn a penalty rate of interest. "Hence, the option clause helps to convert speculative demands for redemption from the destabilizing force

they are under full convertibility to a stabilizing force that protects the banks' reserves when they are run down" (Dowd 1991, p. 764).

By aiding individual banks in handling runs on their base money, the option clause also contains a bank run from spreading to other banks—the contagion effect. Banks' exercise of the clause prevents any system-wide liquidity crisis; bank runs do not turn into banking panics. The clause therefore diminishes the need for a lender of last resort.

Use of the clause also strengthens the bank's liquidity position by a process that has been overlooked in the literature. Notes issued by the bank that has invoked the clause would bear a penalty rate of interest. But given the difficulties in calculating interest at each transaction, those notes would not circulate freely as media of exchange. People would hold on to those notes to earn interest and the bank would enjoy reduced demands on its reserves. The bank would also experience a more favorable clearing against other banks at the clearinghouse, since its notes would be held and not passed on to the customers of its rival banks. Notes of the rival banks would be in use as before, so the bank would acquire more than the usual quantity of them. By redeeming those notes, it would be able to acquire specie from other banks in the system. This would help strengthen the bank's liquidity position.

Henry Meulen (1934, pp. 77–81) argued that the use of the option clause would lead to more efficient financial intermediation by the banking system. The clause would allow banks to replace the specie in circulation by paper, and would enable banks to further expand credit by releasing funds tied up in reserves.[4] By reducing the threat of sudden demands for redemption, the clause would permit banks to hold proportionately less specie, or to expand their liabilities proportionately more.

Dowd (1991) contends that the clause plays a stabilizing role in

[4]One is struck by the similarities between Meulen (1934) and Schumpeter (1955) on the role of bankers and credit creation in economic development.

the market for "gold bills," which are promises to pay gold in the future. Banks would initially demand gold on the spot market to meet the large redemption demands.

> As the demand for spot gold continues to rise, the price of [gold] bills would fall to encourage holders to lend it and to discourage spot demands. . . . If it continued to fall and banks had the option clause, there would come a threshold point at which banks would suspend convertibility. The falling price of bills implies a rising gold interest rate, and the banks would suspend when that interest rate began to increase beyond the interest rate they would have to pay if they suspended the convertibility. Once that point has been passed, the banks could make a profit by suspending and effectively borrowing from the public at a fixed interest rate (i.e., the compensatory rate they would have to pay to noteholders), and then lending out their gold reserves. The public would be able to calculate when the banks would intervene, and rational speculators would appreciate that this intervention would almost certainly stop the price of gold bills from falling further. . . . [T]he banks' anticipated intervention when bill prices hit the threshold point ought to be more than sufficient to break the price fall. The bear speculators would almost certainly cut and run before the banks intervened, and the price of gold bills would fall to normal. It would be the threat of intervention, rather than the intervention itself, that would stabilize the market. This shows how effective option clauses can be even if they are never invoked. (Dowd 1991, pp. 764–65)

The effectiveness of the clause in reducing the threats of note duels, bank runs and panics, and adverse speculation in the market for gold bills leads Dowd (1993, p. 25) to consider the clause as one of three distinctive features of "a highly sophisticated free-banking system." He further maintains that the theoretical advantages of the clause are borne out by the Scottish free-banking experience before

1765 (1988, pp. 330–31). In their survey article on free banking, Selgin and White (1994, p. 1729) conclude that the option clause is a "type of run-proofing" contractual arrangement.[5]

Incentives for Being First in the Redemption Line

The option clause, as the proponents maintain, allows for "orderly suspension" and lessens the need for noteholders to be first in line during any liquidity crisis. It actually pays an "interest bonus" for not being first in line. These incentives are crucial for the alleged benefits of the clause.

The incentives for not being first in line must be counterbalanced by two other concerns: one, the default risk, and two, the price of "waiting." Notes on which the clause is invoked would earn an interest compensation, but payment of the principal or the interest is not guaranteed. The clause does not promise that the bank would not declare bankruptcy during the deferment period. In fact, by invoking the clause, the bank has already signaled difficulties regarding its portfolio. Noteholders must then weigh the prospects of the bank's closure—the default risk—against the promise of interest payment.

Moreover, the whole of the interest payment is not a "bonus" to noteholders. They would have to wait for a period of time before receiving the specie. The price of "waiting" is generally positive—specie today is worth more than specie later. The market rate of interest can be taken as reflecting the price of waiting. So only that part of the interest payment that is more than the market rate of interest is a "bonus" to noteholders.

Noteholders would take into account the default risk and the price of waiting in deciding whether they want to be first or last in the redemption line. The sum of the default risk premium and the market rate of interest (the price of waiting) must be smaller than the interest rate offered on the clause, in order to keep noteholders

[5]For their recent statement of support for the clause, see Selgin and White (1996, pp. 91–92).

away from the line. One could know the market rate of interest and the clause rate, but the default risk premium is determined subjectively by individual noteholders. In light of these issues, it is not obvious that the clause would always dissuade noteholders from ever being first in the redemption line.[6]

Mechanics of the Option Clause Use

The proponents of the clause do not describe what chain of events actually occurs after it is invoked. To understand the mechanics of the clause or the logic of its operation, it is instructive to consult some actual experience of its use.

Banknotes Turn into Bonds

Consider first the actual text of a typical option clause used in Scotland: "pay the bearer one pound sterling on demand or, in the option of the Directors, one pound sixpence sterling at the end of six months after the day of the demand & for ascertaining the demand & option of the Directors, the accomptant & one of the tellers of the Bank are hereby ordered to mark & sign this note on the back of the same" (Checkland 1975, p. 67; printed on Bank of Scotland notes, capitalization adjusted). This description indicates that the typical deferment period on the clause was six months with an interest payment of 2.5 percent (annual rate of 5 percent). It also tells us that the notes on which the clause was invoked were marked and signed individually.

The text does not tell us whether the notes on which the clause was invoked were returned to the holders or kept by the bank and returned with interest at the end of the deferment period. In any case, the notes were effectively turned into interest-bearing bonds. "Calculating the gradual accrual of interest on a stamped note would entail

[6]As will be discussed later, the option clause was rarely used to suspend convertibility of all notes as envisioned by its proponents. Banks used it selectively against particular redemption demanders. In that case, the public had the incentive to be first in line because that would start early accrual of interest.

transactions costs probably disqualifying it from continued use as an ordinary medium of exchange. . . . [T]he note would disappear as part of the active circulating medium" (Yeager 1993, p. 322). As argued earlier, this would help the bank achieve favorable clearing at the clearinghouse against other banks. By the same token, the noteholders would begin to use other banks' notes as media of exchange, and the invoking bank would lose its share in the market for banknotes. This could turn out to be a permanent loss if the bank's customers decide to continue with other banks' notes. The cure could become worse than the disease.

Yeager (1993, p. 322) also raises concerns about the macroeconomic consequences of whether and how the sudden increase in the demand for other banks' notes would be met. Alternatively, one must consider the macroeconomic consequences of the sudden fall in the quantity of transaction media. Invocation of the clause turns banknotes into bonds, thus effectively removing them from their use as media of exchange.

Announcement Effect

A bank's exercise of the clause serves as a public announcement of its liquidity problems. In the old days, the announcement might not have spread too far from its headquarters, but today it would be an invitation to all its noteholders to make a run—a run, not to redeem their notes for specie ("note run," as conventionally labeled), but to convert the notes into bonds ("bond run"). They would run to get their notes "stamped" as quickly as possible to trigger the accrual of interest.

The bank can avoid this "bond run" if it simultaneously announces that *all* outstanding notes would accrue interest. The bank then converts its non-interest-bearing liability (notes) into an interest-bearing liability (bonds). In other words, the bank reborrows from its noteholders the full amount of its note liability at the penalty rate of interest. The size of this borrowing may or may not be optimal. The announcement effect of the use of the clause does not allow the bank flexibility in choosing the optimal amount on which to pay the penalty

rate. It is compelled to pay that rate on all its outstanding notes.

Yeager rightly observes:

> Modern conditions differ from those of eighteenth-century Scotland. Banks in a temporary liquidity bind have better opportunities for raising funds, as by borrowing on the interbank market, selling liquid securities, and attracting deposits by increasing the interest rate offered. The possibility of obtaining semi-forced loans from noteholders is less important than it once might have been. (1993, p. 322)

Note Runs Turn into Deposit Runs

A note run is an attempt to convert notes into specie, and a deposit run is an attempt to convert deposits into notes. In a free-banking system with private issue of notes, a deposit run generally does not present any significant problem; banks could easily change the form of their liability from deposits to notes. Ultimately what matters is the size, not the composition, of banks' liabilities.

A bank's use of the option clause to control a note run would most likely create a deposit run. The uncertainty about the bank's soundness that caused the note run would also infect its deposits, since people would not want to hold a suspected bank's liabilities in any form. They could withdraw their deposits either by transferring them to other banks or by converting them into notes (which would then become bonds). The transfer of deposits to other banks would lead to severe adverse clearings at the clearinghouse, eventually increasing demands for specie by the other banks. The clause would probably not help the bank at the clearinghouse.[7] If people convert their deposits into notes, the bank would incur the costs of printing new notes and of "stamping" them. The bank could avoid these costs, and thereby the deposit run, by agreeing to pay the penalty rate on both notes and deposits.

[7]The literature is not clear about whether banks would be able to exercise the clause against other banks at the clearinghouse or whether they did so during the Scottish episode.

The bank ultimately ends up suspending redemption of all its liabilities and paying a penalty rate on them. If the bank had borrowed funds from somewhere else, then it could possibly have met the crisis by reborrowing less than its total liabilities. However, the clause compels it to reborrow the full amount of its liabilities at a penalty interest rate. It is an all-or-nothing decision; the bank cannot make adjustments at the margin.

The proponents seem to think that after invoking the clause and thereby containing the crisis, the bank would continue to carry out its business as usual.[8] But the logic of the clause would actually require the bank to suspend its transaction services. This suspension puts its customers at great inconvenience by requiring them to find substitute media of exchange on short notice.

Payment of Interest on the Option-Clause Notes

How does a bank actually pay interest at the end of the deferment period on the notes on which it had invoked the clause? The Bank of Scotland was supposed to have paid interest to its noteholders at least three times for the suspensions in 1704, 1715, and 1728. Details on these payments are difficult to find. In the absence of branches, collection of the payment must have been a rather difficult task for noteholders, unless they were located relatively close to the Bank. The overall transaction costs in paying the interest seem substantial in comparison to the average amount of interest payment involved. The costs to the bank are of verifying the notes, counting them, and calculating interest; costs for the noteholders are of safe-keeping of the notes, and then of the travel to the bank. To put some reasonable numbers on this scenario, suppose that an average noteholder with £100 of notes would earn interest of £2.50 for a six-month deferment at 5

[8]In discussing the difference between a bank "holiday" and a limited "restriction" of the type of the option clause, Selgin (1993, p. 358) maintains that "a bank restriction permits the continued use of bank money—checks or notes—in payments, whereas a holiday shuts down the bank-money payments mechanism entirely."

percent. How favorably does this sum compare with the transaction costs?

Moreover, noteholders (or rather bond holders) would have little incentive to present notes (bonds) to collect interest payment. The notes earn above-market interest, and customers would certainly have found other transaction media during the deferment period. How would the bank "de-stamp" the notes? Why would the customers convert the bonds back into notes?

All these practical problems with the workings of the clause lead one to inquire about the details of its operation during its historic use. Modern free-banking literature is rather silent on the mechanics of the clause in Scotland; it merely asserts its historic usefulness. Was the clause ever actually used as intended by its modern proponents?

The Option Clause in Scotland

The Scottish parliament chartered the Bank of Scotland in 1695 with a legal monopoly in banking and note issue. The monopoly powers expired in 1716 and the business of banking became open to new entrants. The Royal Bank of Scotland acquired its charter in 1727, and from the first day both banks "opened a brisk duel in which the combatants used each other's notes as missiles" (Munro, quoted in White 1984, p. 25). The Royal Bank collected Bank of Scotland notes against its own and then presented them for redemption. The Old Bank—the Bank of Scotland—suspended convertibility for eight months to put its finances in order. During this time, allies of the Royal Bank brought a suit against the Old Bank for its failure to honor the promise to pay specie. "After much legal wrangling the note holder's right of 'summary diligence' or immediate payment on Bank of Scotland notes—a right stipulated in the bank's charter—was upheld" (White 1984, p. 26). In response to this new legal environment, the Old Bank for the first time inserted an option clause on its notes in 1730.

The innovation of the option clause was due to a legal and not an economic necessity. Beginning with the first run in 1704, the Old Bank

had acted as if it had the option clause. The Bank suspended convertibility and "set an important precedent by announcing at the time of suspension that all notes would be granted 5 percent annual interest for the period of the delay. . . . The same policy was adopted for the eight-month suspension following a run during the civil unrest of 1715, and again for the eight-month suspension of 1728" (White 1984, pp. 25–26; see also, Gherity 1995, p. 718). The introduction of the clause in 1730 simply legalized what had been a standard practice.

The legal-necessity interpretation of the origin of the option clause gets further support from the case of the Banking Company of Aberdeen. It was established in 1747 and did not include any option clause on its notes (Gherity 1995, pp. 717–18). It suffered a liquidity crisis as it had greatly expanded its note supply. As the bank suspended convertibility, a noteholder petitioned for "summary diligence." The court denied the petition on the grounds that summary diligence "was enforceable on bills but not on promissory notes such as bank notes" (White 1984, p. 28). The court pointed out that the charter of the Bank of Scotland specified summary diligence on its notes but that requirement did not automatically extend to other banks. In Scotland, according to the court, all banks but the Bank of Scotland could legally suspend convertibility without an option clause. This also explains why no other bank included the clause on its notes until the 1750s.

Gherity, who has consulted contemporary sources, states:

> From 1730 until 1752, the Bank of Scotland's notes were the only ones bearing the option clause, and it remained uninvoked. At that time, two banks that had recently been established in Glasgow, under attack by their Edinburgh rivals, added the clause to their notes where it *remained uninvoked* until 1756. . . . This was during the period of the Seven Years War, when higher taxes imposed to finance the war increased remittances to London. . . . Remittances abroad were further increased by an exceptionally poor harvest in 1756 leading to the importation of £200,000 of foreign grain. (1995, p. 716, emphasis added)

It was only because of the shocks of the Seven Years War and poor harvests that the option clause came into wider use. Even the Royal Bank of Scotland did not imitate its rival's insertion of the clause until the 1750s. This raises an important question: why did banks abstain from including the clause on their notes if it was useful and effective against unexpected demands for redemption?

Shortages of specie and coins in the early 1760s led to a "small note mania"; a large number of smaller banks began issuing small-denomination notes with option clauses. Until then, "most, and perhaps all, of the Scottish banks included no option clause on their smallest notes" (Gherity 1995, p. 717). These "beggarly bankers," as Adam Smith called them, recklessly invoked option clauses, even on small-denomination notes, against routine redemption demands by the public. Mistrust of banknotes increased among the public and it demanded abolition of option clauses.

Outside the turbulent period of the late 1750s and early 1760s, there are few episodes of note duels or bank runs where the clause was actually used as supposed by its modern proponents. The first note duel was in 1727–28, but the Bank of Scotland successfully survived it without the clause. The second major battle was fought in the mid-1750s by the Edinburgh banks (the Bank of Scotland and the Royal Bank) against the Glasgow banks. White summarizes the episode: "The chartered [Edinburgh] banks then allegedly turned jointly to the tactic of note dueling, but their Glasgow rivals survived the assault by a series of *evasive maneuvers*" (1984, p. 28, emphasis added).

Scottish history indicates that these "evasive maneuvers" were actually used regularly and probably effectively. Adam Smith (1911 [1776], pp. 290–91), Meulen (1934, pp. 129–36), and Checkland (1975, pp. 184–86) provide ample evidence on Scottish banks paying only a fraction of the redemption demand in specie, questioning loyalty and patriotism of redemption demanders, using stalling tactics like checking each note and coin methodically, counting them deliberately slowly, giving tellers long and frequent breaks during counting,

and at times, simply refusing to pay specie.[9] All these maneuvers together seem to have been effective in protecting banks' liquidity. It was better to raise "redemption costs" for noteholders by "evasive maneuvers" than to use the clause. Scottish banks certainly relied on them more commonly and frequently than they relied on the clause.

The Scottish experience leads one to conclude that the option clause "worked" as long as it was rarely included on notes or invoked by banks. When a large number of banks adopted and used it, the banks' customers demanded that it be abolished. Surprisingly, the Scottish banks, the alleged beneficiaries of the option clause, joined the public in demanding recision of the clause.[10] Gherity (1995, p. 722) states:

> By early 1763, the chartered banks had indicated to the government their willingness to give up the option clause in exchange for the exclusive right to issue bank notes in Scotland. . . . Shortly thereafter, the Glasgow bankers submitted a memorial to the Lord Privy Seal advocating the prohibition of the clause and had drafted a pamphlet or article, apparently for publication, blaming all of Scotland's monetary problems on the clause.[11]

[9]For more details and citations, see Sechrest (1993, pp. 87–88), Dowd (1988, pp. 328–29), and White (1984, pp. 29–31). Gherity (1995, p. 721) informs us that at times banks threatened to call in loans to people who made "unreasonable" demands for specie.

[10]Meulen blamed the "paternalistic attitude" of the government for the abolition of the option clause; in order to protect some "fools," the government sacrificed a great innovation in banking (1934, pp. 131ff). Boase charged "exaggerated assertions, fallacious inferences, and ridiculous fears" (quoted in White 1984, p. 30).

[11]Gherity (1995, pp. 722–24) details the different rationales that led the Edinburgh banks and the provincial (mainly Glasgow) banks to the same conclusion. Notes of the Edinburgh banks were the least suspected by the public since they were the oldest and the largest banks, they acted as the government's bank as taxes and disbursement were channeled through them, and they had the strongest ties with London. They were therefore ready to give up the option clause in exchange for monopoly in the issue of notes. Notes of the provincial

It was argued earlier that the option clause not only helps individual banks during a run but also mitigates the contagion effect. A counterfactual test of the mitigating effect of the clause on the contagion effect came in 1772, after the option clause was banned in 1765. One of the major banks in Scotland, the Ayr Bank, collapsed in 1772. Its crash,

> spectacular as it was for its day, did not imperil the Scottish banking system as a whole. . . . Only those private banking houses involved with the Ayr Bank's circulation of bills were brought down. . . . Even this brief run was a new and unexpected circumstance, for nothing of the kind had "occurred" following the failure of one private bank in 1764 or another in 1769. (White 1984, p. 32)

The Scottish free-banking system apparently had mechanisms other than the option clause to effectively handle bank runs and contagion effects.

The option clause, as is evident, was never used by any of the Scottish banks to suspend convertibility of all its notes simultaneously, as is envisioned by its modern proponents. The clause was useful precisely to the extent that banks did not use it for a general suspension of convertibility. The clause allowed banks to *discriminate* among their customers on the basis of their motives for redemption demand. Banks gave specie to "bona fide" noteholders but refused it to "specie lifters," speculators, and agents of rival banks. Ironically, the

---

banks generally suffered more distrust from the public, but more importantly, they were concerned that in times of crisis, the chartered banks would exercise the option clause and put more strain on their reserves. Some of the provincial banks actually had made their notes payable in notes of the chartered banks. The latter, it seems, were acting as "bankers' banks." The provincial banks were more than happy to take away the right of the chartered banks to use the option clause. Incidently, these rationales of the banks seem to provide support for the thesis of Rothbard (1988) and Sechrest (1988) that the chartered banks acted as the "bankers' banks" for the smaller banks in Scotland, and the Bank of England performed similary for the chartered banks.

Bank of Scotland acted as the option-clause proponents expected before the inclusion of the clause in 1730; it suspended convertibility of all its notes in 1704, 1715, and 1728.

Acceptance of the Option-Clause Notes

When the Bank of Scotland first offered notes with the option clause in 1730, people readily accepted them. The rival Royal Bank's reminders that its notes were convertible on demand did not affect the demand for Bank of Scotland notes. This is usually interpreted as evidence that the option-clause notes would be generally acceptable to the public (see Dowd 1988, for example).[12] But is the inference valid? If a bank that has the clause printed on its notes offers a greater protection to its noteholders, as the modern proponents argue, then one would expect the public to switch from notes of the Royal Bank (without the clause) to those of the Old Bank (with the clause). This, however, did not happen. Notes of both banks were in such demand that the two banks were the largest in Scotland. One must conclude that the public did not hold notes of the Old Bank because of any perceived advantage of those notes over notes of the Royal Bank.

What then does explain the public's holding of Old Bank notes? Until the early 1750s, the Old Bank was the only major bank that had the option clause. The public accepted its notes because the clause did not really concern them one way or the other. The Old Bank had a long-standing reputation and the clout of a major bank with close ties to London, and it had faithfully paid interest compensation in earlier suspensions even without the clause. During those suspensions, Old Bank notes actually circulated at par. To its noteholders, the introduction of the clause was merely a legal issue, not an economic concern. When other banks without a good reputation adopted and used the clause in the early 1760s, the public demanded it be outlawed. Was

[12]The only question left, according to Dowd, is for banks and the public to figure out a mutually acceptable deferment period and interest compensation.

the public rational in 1730 but irrational in the 1760s? Its response, one must conjecture, was based not on the presence or absence of the clause, but on the reputation and integrity of note-issuing banks.

The Scottish experience does not suggest that the option-clause notes were preferable or acceptable because of their advantages. The public, it seems, did not find much benefit in the option-clause notes of reputable banks, but suffered gravely at the hands of irreputable banks. The experience does tell us that during most of the period in which option clauses were legal, they were rarely invoked, and were never used as envisioned by the modern proponents of the clause.

The Option Clause and the Market for Specie

Dowd (1991, pp. 764–66) argues that the existence of the option clause results in a stabilizing speculation in the market for gold bills. When the spot demand for gold increases, the price of gold bills falls, raising the gold interest rate. As the gold interest rate gets close to the interest rate specified in the clause, banks would invoke the clause and suspend convertibility. At a gold interest rate above the clause rate, banks would start "lending out their gold reserves." Banks, Dowd maintains, would become sellers of gold instead of buyers, and thus would prevent any further fall in the price of gold bills. The anticipation of a banks' intervention would limit the divergence of the interest rates and would stabilize the market for gold bills.

Dowd's argument is internally consistent. One must wonder, though, how banks would become sellers instead of buyers of gold. The price of gold bills begins to fall initially precisely *because* of the increased demand for gold by banks to meet their redemption needs. Whether the increased demand for gold by a bank would lower the price of gold bills depends on the size of the bank's demand *vis-à-vis* the size of the market for gold. A single bank's demand for gold is unlikely to raise the gold interest rate above the option-clause rate. If the whole banking system were facing a run, suspension of convertibility would dampen the immediate demand for gold. Even if the gold interest rate had risen above the option-clause rate before the

suspension, it is hard to understand why banks would become net sellers of gold after the suspension. To whom would they be selling gold?

One is obliged to question this whole framework of analysis. It is historically accurate to think in terms of gold bills and gold interest rate, but one doubts whether that framework is relevant for any future free-banking system or the current free-banking theory. It seems more useful to think in terms of the market for gold and the market for loanable funds in exact parallel with banks' increased demand for gold to meet redemptions and for funds to purchase gold. Banks could sell their securities or borrow directly on the market, both of which would raise market rates of interest (not just the gold interest rate).[13] If market rates of interest rise above the clause rate, banks would most likely invoke the clause. In this framework, suspension of convertibility does not make banks net sellers of gold; rather it makes them less urgent demanders of gold and funds to purchase gold.

Potential Misuses of the Option Clause

A bank could invoke the option clause to protect itself not only against temporary illiquidity but also against insolvency. It could defer redemption to "buy time" and invest in risky but more profitable assets to rescue itself from insolvency.[14] How could noteholders protect themselves against this type of misuse of the clause? Dowd (1991, p. 767) suggests that "if potential noteholders felt that this was a sufficiently serious danger, they could simply refuse to accept the notes, and the banks would have to continue providing fully convertible notes instead." This response begs the question. A noteholder is not choosing between notes with and without the clause, but has already chosen the option-clause notes. The question now is about distinguishing proper from improper use of the clause by banks. How does

[13] A "fire sale" of securities to generate funds for the purchase of gold would lower their prices and raise the interest rate.

[14] One is reminded of "zombie" savings and loans of the 1980s.

a noteholder differentiate between illiquidity and potential insolvency of a bank?

Dowd (1991) does suggest a solution: The bank's shareholders accept "extended liability" whenever the clause is invoked. The acceptance of "extended liability" would indicate that the bank does not face insolvency, and would thereby calm the wary noteholders. This solution demands too much from shareholders in order to make noteholders accept the clause. If shareholders are willing to accept "extended liability," and are able to handle the "principal-agent problem" with banks' managers, then they would be far better off by offering "extended liability" generally, and thus providing an overall competitive advantage to their bank.

Difficulties in differentiating situations of illiquidity and insolvency necessitate a more transparent clause. Gorton (1985) explores the possibility of whether any suspension clause would be incentive compatible, that is, a bank would invoke the clause only when it is illiquid but not when it is insolvent. He designs a suspension clause that is incentive compatible by having independent verification of the bank's portfolio. Because of verification costs, banks do not choose to suspend in situations of insolvency but only in those of illiquidity. The traditional option clause, however, does not include this type of verification. Nonethless, Gorton's analysis indicates that interventions by third parties who can verify the bank's portfolio (clearinghouses, for example) would be more suitable than two-party contracts like the option clause.

Modifications of and Alternatives to the Option Clause

The difficulties with the clause, brought out by analyzing the mechanics of the clause, necessitate consideration of alternative mechanisms to protect banks against temporary liquidity crises. The viable and more effective modifications of the traditional option clause (the one suggested by its modern proponents) will be discussed and then some alternatives to the clause will be offered.

The traditional option clause focuses only on specie and banknotes and on banks and noteholders, and tries to solve the problem without involving any other party. As discussed earlier, a simple suspension of the convertibility of notes into specie does not solve the problem; it causes bond runs and deposit runs, and thwarts people's attempts to convert their notes and deposits into higher interest-bearing assets, and to transfer their deposits to other banks. A better way to deal with sudden large demands for redemption is not to suspend convertibility, but to offer more options to noteholders and to transfer the problem from its door—with hordes of poorly informed, clamoring customers—to a place where the bank is better able to negotiate and decide among its various alternatives.

In a bank run, customers of a bank are not particularly interested in specie but in avoiding capital losses. The bank should do everything possible to make it easy for its customers to avoid those losses. The bank could offer to convert its notes into notes of other banks that are convenient and acceptable to its customers. A better modification would be to promise conversion of its notes into transferable deposits with other reputable and convenient banks. There is no reason to limit these new types of option clauses to notes. They can apply this equally to deposits. Inclusion of deposits would diminish any chance of bond runs and deposit runs.

The modified option clause is a promise to convert any and all liabilities into any asset, other than specie, that the bank's customers desire. The modified clause may be labeled as the "comprehensive option clause." It does not suffer from the drawbacks of the traditional option clause. There is no need to mark and sign the notes, no need to worry about the transactions costs of paying interest at the end of the deferment period, and no inconvenience to noteholders of finding alternative media of exchange on short notice. The comprehensive option clause does not require noteholders to differentiate between banks' proper and improper use of the clause. Irrespective of the banks' intentions in using the clause, noteholders would be able to protect themselves with little effort.

More importantly, by exchanging notes with those of other banks and by transferring deposits to them, the bank would divert the problem from its door to the clearinghouse. It would be easier and better for the bank to deal with the clearinghouse, other prominent banks, or finance companies rather than with large numbers of scantly informed and suspicious customers. The comprehensive option clause is also incentive-compatible in the sense of Gorton (1985). It necessitates intervention and verification by third parties to solve the problem of redemption between the bank and its customers.

The comprehensive clause would not have to be printed on notes; it could simply be included in the bank's charter. One may even view it not as a modification, but as an alternative to the traditional option clause. The necessity of third-party involvement makes it categorically different from the traditional clause, and it provides a more effective means to deal with liquidity crises.

A crucial element in the comprehensive clause is the clearinghouse. Even under a mature free-banking system, noteholders and depositors would generally find it difficult to quickly distinguish between problems of illiquidity and insolvency confronting a bank. Reputable third parties could help customers distinguish between those two problems, and thereby provide an orderly resolution of the crises. Clearinghouses are obvious candidates since they are the most likely third parties to possess the necessary information about the bank in trouble. As Timberlake (1984) and Gorton and Mullineaux (1987) document, clearinghouses in the recent past have engaged in "the joint production of confidence" by providing guarantees, loans, and their own currencies (certificates). Clearinghouses, however, would not be the sole source of such information in a mature free-banking system. Bank-rating agencies which would render overall "soundness rating" of banks, or agencies rating banks' ability to redeem their liabilities—"liquidity rating"—would also provide independent information to the banks' customers.

The issue of liquidity crisis arises only in a system with directly convertible notes, convertible either on demand or with deferment.

The alternative system of "indirect convertibility" obviously avoids the whole problem (Yeager 1985; Greenfield and Yeager 1983).

A Conjectural History of the Option Clause

Introduction of the option clause in eighteenth-century Scotland was a good initial response to unexpected, large increases in redemption demands. Until the turbulent years of the mid-1750s, the Bank of Scotland was the only major bank with the clause on its notes. The fact that rival banks did not use it and the public did not shy away from those rival banks strongly suggests that the clause was considered of little value by banks and the public. The modern proponents assume that after suspending convertibility of notes, the bank would be able to continue to provide its transaction services—notes and deposits of the bank would continue to be used as media of exchange. At least in Scotland, the clause was never used for general suspension of convertibility. As shown earlier, liabilities of the bank that invoked the clause would hardly stay in circulation. The little protection the clause provided to Scottish banks was because it allowed banks to discriminate among redemption demanders.

How would the clause have evolved if the free-banking system had been allowed to mature under laissez-faire? It would have become difficult for banks to invoke the clause discriminately. As more banks adopted the clause and as it came into use as envisioned by the modern proponents, the drawbacks that have been emphasized in this paper would have come into play. Banks would have looked for more viable alternatives and would have adopted any of the modified versions of the traditional clause, including ultimately, the comprehensive option clause. To implement the comprehensive clause, banks would have made prior arrangements and agreements with other banks and financial institutions. Such stipulated cooperation would have played an important role in the banks' efforts to earn the public's confidence. During a time of crisis, banks would ask their partners to publicly reiterate the commitments and such reiteration, or the lack thereof, would provide useful information to customers.

In discussing how banks in the United States prior to the War Between the States dealt with liquidity crises, Selgin (1993) points out that not only did banks agree to accept each other's notes at par, but that they also made agreements which involved

> provisions for regular note exchange with interest charged on accumulated balances in lieu of immediate settlement as well as stipulations limiting loan expansion for the duration of the restriction. In some cases new deposits were accepted on the understanding that the depositor could receive payment of checks or drafts in notes but not in specie, and merchants formally agreed to continue receiving bank notes at par. (p. 357)

A system with mutual commitments among individual banks certainly seems sustainable. But intense rivalry, moral hazard problems, difficulties in enforcing such commitments, and a fear of the emergence of a dominant bank would necessitate a move toward a joint responsibility of all banks in producing confidence.[15] Clearinghouses would then come to play an important independent role in mitigating temporary liquidity crises of their members. Guarantees and loan certificates by clearinghouses would prevent the aggravation of bank runs and banking panics.

Whether the laissez-faire evolution would have ultimately resulted in a system of indirect convertibility is an interesting question. The evolution of the traditional option clause into the comprehensive clause does suggest a way through which a system with direct convertibility could move toward one with indirect convertibility. The comprehensive clause allows banks to redeem their liabilities—notes and deposits—for other banks' liabilities or for any other financial asset that is acceptable to their customers. General

[15]Goodhart (1988) elaborates on these types of arguments. His focus is on explaining the "evolution" of central banking, where the arguments do not completely succeed. His arguments nevertheless are relevant to the point that is being developed here.

acceptance of the practice of redeeming the banks' liabilities for other financial assets could become a first step toward the evolution of a banking system with indirect convertibility. An expanded role of independent clearinghouses in dealing with liquidity crises would help continue that evolution.

In conclusion, several drawbacks undermine the claim that the option clause is an effective and desirable mechanism for creating a stable free-banking system. Though it is important for fractional reserve banks to develop a means to tackle sudden demands for redemption, the traditional clause does not meet the challenge. Modifications of the traditional clause, clearinghouse guarantees and certificates, and a system with indirect convertibility seem to provide more suitable mechanisms and arrangements.

References

Checkland, S.G. 1975. *Scottish Banking: A History 1695–1973*. Glasgow: Collins.

Cowen, Tyler, and Randall Kroszner. 1989. "Scottish Banking before 1844: A Model for Laissez-Faire?" *Journal of Money, Credit, and Banking* (May): 221–31.

Diamond, D.W., and P.H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy* (June): 401–19.

Dowd, Kevin. 1988. "Option Clauses and the Stability of a Laissez Faire Monetary System." *Journal of Financial Services Research* (December): 319–33.

———. 1991. "Option Clauses and Bank Suspension." *Cato Journal* (Winter): 761–74.

———. 1993. *Laissez-faire Banking*. New York: Routledge.

Gherity, James. 1995. "Option Clause in Scotland." *Journal of Money, Credit, and Banking*.

Goodhart, Charles A.E. 1988. *The Evolution of Central Banks*. Cambridge, Mass.: MIT Press.

Gorton, Gary B. 1985. "Bank Suspension of Convertibility." *Journal of Monetary Economics*: 177–93.

———, and Donald J. Mullineaux. 1987. "The Joint Production of Confidence: Endogenous Regulation and Nineteenth Century Commercial-Bank Clearinghouses." *Journal of Money, Credit, and Banking* (November): 457–68.

Greenfield, Robert L., and Leland B. Yeager. 1983. "A Laissez-Faire Approach to Monetary Stability." *Journal of Money, Credit, and Banking* (August): 302–15.

Jonung, Lars. 1985. "Economics of Private Money: The Experience of Private Notes in Sweden 1831–1902." Manuscript, Stockholm School of Economics.

Meulen, Henry. 1934. *Free Banking: An Outline of a Policy of Individualism*. London: Macmillan.

Rothbard, Murray N. 1988. "The Myth of Free Banking in Scotland." *Review of Austrian Economics* 2:229–45.

Schuler, Kurt. 1988. "Canadian Banking, 1837–1867." Manuscript, George Mason University.

Schumpeter, Joseph. 1961. *Theory of Economic Development*. New York: New York University Press.

Sechrest, Larry J. 1993. *Free Banking*. Westport, Conn.: Quorum Books.

——. 1988. "White's Free Banking Thesis: A Case of Mistaken Identity." *Review of Austrian Economics* 2:247–57.

Selgin, George A. 1988. *The Theory of Free Banking*. Totowa, N.J.: Rowman and Littlefield.

——. 1993. "In Defense of Bank Suspension." *Journal of Financial Services Research* (December): 347–64.

——, and Lawrence H. White. 1994. "How Would the Invisible Hand Handle Money?" *Journal of Economic Literature* (December): 1718–49.

——. 1996. "In Defense of Fiduciary Media." *Review of Austrian Economics* 9: 83–107.

Smith, Adam. [1776] 1911. *An Inquiry into the Sources and Nature of the Wealth of Nations*. New York: Dutton.

Timberlake, Richard H. 1984. "The Central Banking Role of Clearinghouse Associations." *Journal of Money, Credit, and Banking* (February): 1–15.

White, Lawrence H. 1984. *Free Banking in Britain*. Cambridge, Mass.: Cambridge University Press.

——. 1990. "Scottish Banking and Legal Restrictions Theory: A Closer Look." *Journal of Money, Credit, and Banking* (November): 526–36.

Yeager, Leland B. 1985. "Deregulation and Monetary Reform." *American Economic Review* (May): 103–7.

——. 1993. "Book Review of Kevin Dowd's *Laissez-faire Banking*." *The Manchester School* (September): 321–23.