

OPTION CLAUSES AND BANK SUSPENSION

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The recent revival of interest in “free banking” has led economists to reexamine a number of monetary issues that had previously been considered closed. One of these is the issue of the optimal convertibility contract between banks and their liability holders. For a long time economists have tended to take for granted that the optimal contract requires banks to redeem their liabilities on demand by the public. They have assumed, furthermore, that alternatives to these redemption-on-demand contracts should also be prohibited. Recent work suggests, however, that the redemption-on-demand contract might be inferior to an “option clause” contract,¹ which allows an issuing bank to defer redemption under certain conditions. These conditions would normally specify a maximum period for which redemption could be deferred, and a compensation rate of interest that would be paid to noteholders whose demands for redemption were deferred. Option clauses give note-issuing banks that operate on fractional reserves an effective means of protecting themselves against bank runs² that they might otherwise be unable to withstand. Such clauses are therefore a potentially important stabilizing factor in the financial system.

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¹Option clauses are discussed by Meulen (1934), Checkland (1975), Munn (1981), White (1984), Schuler (1985, 1988), Cowen and Kroszner (1988), Dowd (1988), and Chappell and Dowd (1988). Dowd (1988) also attempts to model option clauses using indifference curves, and Chappell and Dowd (1988) model them using an application of queuing theory. Gorton (1985) outlines a model of bank suspension that can be applied to the option clause issue, although he does not use it to analyse option clauses.

²In this context, a “bank run” can be considered as a demand to convert banknotes into the redemption medium which the banks have not the reserves to meet.

The attraction of option clauses is that they avoid the disadvantages of “full convertibility”³ on the one hand, and meeting bank runs by government intervention to suspend convertibility, on the other. Convertibility on demand is unattractive for several reasons: it forces the banks to hold relatively large reserves, and thereby restricts their ability to lend; when the banks do lend, it forces them to lend against relatively short-term, marketable securities; the need to protect banks’ reserves during panics can lead them to hoist interest rates and thereby aggravate a panic; and the public’s knowledge that the banks have not the reserves to meet large unanticipated demands for redemption creates the possibility of self-fulfilling bank panics in which the public’s fear that the banks will default leads them to demand redemption and bring about the very suspension they feared. Government intervention to suspend convertibility is also unattractive: it violates the contracts banks made with their noteholders; it eliminates the mechanism that previously existed to check over-issues; there is no immediate economic incentive to resume convertibility, and it usually takes political pressure to do so; and the *expectation* of legislated suspension can itself provoke a bank panic.

The Adoption of Option Clauses

A good starting point is to consider the position of banks that operate on fractional reserves⁴ and issue fully convertible notes. Given that not all their assets can be liquidated at low cost at short notice, the fractional reserve means that the banks can only redeem a proportion of their notes over any given short period. Given advance notice, they could redeem more, but they would not get such notice in practice. At the same time, the full convertibility of their notes means that the banks are legally obliged to redeem *all* the notes presented to them. There is therefore a possibility that a bank might be unable to honor a note, even if the bank is still sound.⁵ If this were to happen, the bank would be liable to the legal penalty for default—

³“Full convertibility” is where banks are compelled to redeem their notes on demand against a given weight of the redemption medium.

⁴If banks observe 100 percent reserve ratios, of course, then they can meet any demands for redemption made upon them. Such a “warehouse bank” would not be able to lend, however, and it would have to charge depositors fees to look after their deposits. It is reasonable to suppose—and consistent with the historical evidence—that depositors prefer fractional reserve banks because they would issue notes without charging fees, and would offer them interest on their deposits.

⁵A sound bank is one whose assets are at least as great as its liabilities. Normally, when we refer to a sound bank we also assume that its assets are significantly greater than its liabilities, so that there is no particular danger of its creditors suffering losses, at least in the near future.

a situation the bank would want to avoid. As Meulen (1934, pp. 81–82) explains:

The efforts of the bankers to invent methods for reducing the number of demands upon them for gold are interesting and of high importance. In Scotland, where in the early eighteenth century considerable freedom for banking experiment was permitted, the danger to home credit which sprang from a sudden conversion of a considerable quantity of notes was early noticed. The danger lay in the suddenness of the demand: the banks could have obtained gold had they been apprised some time previously. The demand was usually quite unconnected with any decrease of confidence in the stability of the bank thus attacked. . . . Accordingly, the early Scottish bankers introduced the note with the option clause. . . . The bankers publicly announced the reason for the innovation; and, as soon as their customers saw that no reckless issues were made, they accepted these notes at par.

For the option clause to be accepted, however, it is not enough that the banks alone prefer them. With free entry to the banking industry, the banks would not be able to force the option clause on the public against their will. If they tried, new banks could simply enter the market and offer them the fully convertible notes they preferred, and the banks issuing option clause notes would lose their market shares. The public must therefore be persuaded that the option clause is at least as beneficial to them as the full convertibility note contract.

There are three reasons why the public might prefer the option clause contract. (1) The exercise of the option clause increases their claims on the bank's assets. (2) By providing the banks with a legal means of suspension, appropriately designed option clauses can eliminate the possibility that sound banks would default.⁶ (3) Following from this, the option 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.

The Stabilizing Effects of Option Clauses

When notes are fully convertible, noteholders might rationally fear capital losses if their bank suspended. They would anticipate that a panic might force a bank into firesale losses and an eventual default that threatens its solvency, and therefore impose losses on its remaining creditors. This gives noteholders an incentive to run on the bank

⁶Banks might suffer some "firesale losses" as they sell assets for gold, of course, but we would normally expect sound banks to maintain an adequate "capital cushion" to protect themselves against unexpected capital losses.

if they are sufficiently fearful that a run might start, and therefore makes fears of bank runs potentially self-fulfilling. With the option clause, on the other hand, those noteholders who failed to be first in line would lose nothing by the suspension of convertibility,⁷ provided only that the solvency of the bank was not called into question. In fact, they would actually gain if the bank suspended and then had to pay them compensation. At the margin, a noteholder would be *less* likely to run if he thought others might run—the prospect of compensation would encourage a noteholder to *defer* redemption in the hope that others would force the bank to suspend.⁸ This discourages redemption and makes suspension less likely. 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.

In addition, if the banks (as a whole) were faced with large demands for redemption, then we might expect the demands for redemption media ("gold") to be reflected in falls in the price of "gold bills."⁹ Since the spot market price of gold is fixed (in terms of banknotes), other market prices presumably have to adjust to equilibrate the (spot) market for gold. A plausible candidate is the futures price of gold, or the price of gold bills. As the demand for spot gold continues to rise, the price of bills would fall to encourage holders to lend it and to discourage spot demands. The price of these bills would fall below normal, and therefore offer prospective profits to those willing to buy bills (i.e., lend gold) and penalize those wishing to sell them. Gold would still be available on the market, but those who wanted it would have to pay an appropriate premium for it.

The question is how low the price of these bills would have to fall to satisfy the higher demands for gold. If it continued to fall, and banks had the option clause, there would come a threshold point at which the 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 convertibility. Once that point had 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 noteholders), and then

⁷See also Cowen and Kroszner (1989, p. 5): "By providing for orderly suspensions with an interest 'bonus' for *not* being first in line, instability due to runs was reduced [by option clauses]."

⁸These claims are proved in Chappell and Dowd (1988).

⁹A "gold bill" is simply a promise to pay gold in the near future.

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. By this stage, also, those who continued to sell gold bills would be well aware of the risk they were taking—the risk that the market would suddenly correct itself and that they would suffer capital losses. Even if they could maintain the momentum of falling prices, they would become increasingly nervous about when the market would turn. The slightest rumor might trigger the turnaround. In these circumstances, the 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.

Now consider what happens if the banks do not have the benefit of the option clause. As demands for redemption grow, the public would be more likely to expect suspension, as discussed earlier, and this would encourage further, preemptive demands for redemption. Such demand would be encouraged even more by the rising interest rate on gold. This interest rate represents the opportunity cost to the public of holding non-interest-bearing notes. As it rises, the public would economise on note-holdings and convert notes into gold to purchase gold bills. If these demands continued, the banks would have no choice but to keep selling gold bills to obtain gold with which to redeem their notes. Apart from being expensive to the banks, there is no guarantee that even then the banks could continue to meet demands for redemption and avoid default.¹⁰ The public would appreciate this, of course, and this knowledge would make them even more nervous about the demands for redemption turning into a major bank run.

Even if the banks manage to avoid default, the absence of any stabilizing intervention by the banks would combine with the tendency of the demand for redemption to feed on itself to produce a higher gold interest rate than would have occurred with the option clause. This means higher interest rates generally, since arbitrage

¹⁰To appreciate this, one has only to observe that the demand for bank notes is not limited by the stock of gold. Hence, there is nothing to stop the banks issuing claims for gold in excess of the stock of gold. They would not then be able to honor all their notes.

operations would ensure that the higher gold interest rates pulled up other interest rates as well. This makes credit more expensive and possibly more difficult to obtain. This in turn encourages firms to dump assets and commodities on the market, and depress prices. The tighter the credit squeeze becomes, the more prices will fall, and the more businesses will fail. This applies to banks as well as to other businesses, and banks might indeed be more vulnerable than most other firms. Banks' assets are less marketable than their liabilities, and they tend to be more sensitive to market interest rates. Consequently, a large rise in interest rates will reduce a bank's net worth, and a sufficient rise could wipe it out entirely.¹¹

Objections to the Option Clause

Two principal objections have been made about the option clause. One is that the exercise of the option clause harms those who would have preferred to redeem their notes. This point seems to be the source of Adam Smith's objections to the option clause.¹² He noted that

during the continuance of this abuse [i.e., the exercise of option clauses], while the exchange between London and Carlisle was at par, that between London and Dumfries would sometimes be four per cent. against Dumfries, though this town is not thirty miles distant from Carlisle. But at Carlisle, bills were paid in gold and silver; whereas at Dumfries they were paid in Scotch bank notes, and the uncertainty of getting those bank notes exchanged for gold and silver coin had thus degraded them four per cent. below the value of that coin [Smith (1776) 1911, pp. 290–91].

Against this, however, one might point out that most banknote holders want the notes to affect everyday transactions, not to export gold. Even if the market price of gold floats upward, and they have the

¹¹Apart from the "cyclical" benefits of option clauses discussed in this section, option clauses also have "secular" benefits. Since they provide banks with additional protection against demands for redemption, they enable banks to reduce their reserve holdings, and thereby increase their lending and their expected profits. The increase in lending, in turn, promotes economic activity and helps to reduce interest rates. The protection of the option clause also relaxes the constraint against longer-term lending, and lending against less "marketable" assets. The premium on short-term, marketable assets is then reduced. Credit becomes more generally available as well as cheaper. Note that option clauses are good in this context not because they increase credit per se, but because they provide private agents with a voluntarily agreed upon means of doing so. The increased credit is not to be confused with any inflationism.

¹²As Smith went off on the "grand tour" with his pupil the Duke of Buccleugh in February 1764, one must wonder how much of his opinion on option clauses was based only on hearsay.

option to “buy” gold from the banks at a fixed price, most members of the public will not exploit this arbitrage opportunity because the costs (in terms of time and effort) will make it unworthwhile to do so. These people would have little reason to demand gold even though it had become more valuable. Their main concern would be that their notes continue to be acceptable in day-to-day exchange, and there would be no reason why other people—apart from would-be specie exporters—should refuse to accept them at the usual rates of exchange against commodities. The notes would therefore continue to be generally acceptable even when there is a “shortage” of gold. With notes that are fully convertible, on the other hand, the public can no longer be confident that the banks will avoid default when gold becomes scarce, and their knowledge of the banks’ vulnerability might make them wary of accepting notes in a crisis.

In addition, one might also point out that those who wished to retain the right to demand gold at all times could always refuse to accept the option clause. If someone accepts a note with an option clause, then he accepts the “risk” that the option might be exercised and prevent him from making arbitrage profits on the gold market. If he accepts the note, he judges the benefits to be greater than the costs, *ex ante*, and he must accept the outcome if it is the “unlucky” one where the option is exercised.¹³ In any case, the chances of the option actually being exercised are likely to be extremely remote.

A second objection is that it is possible that a bank might exercise the option to “buy time” to take wild risks at noteholders’ expense to salvage an otherwise insolvent institution. The argument would be that bank management would have nothing further to lose if the risks failed, and much to gain if they succeeded, and therefore management might take risks that would otherwise have been avoided. In response to this, one might suggest 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. However, the history of Scottish banking in the early 18th century suggests that noteholders were willing to accept this risk. In any case, if

¹³Of course, there is no guarantee that a noteholder who wanted a fully convertible note would find a bank that was willing to issue him one, and if a bank did issue such a note, it may charge for it. Alternatively, noteholders might protect themselves against shortages of gold by accepting option clause notes and taking out options to buy gold, but they would obviously have to pay for the options. Such noteholders would “lose” from the innovation of the option clause, but their position is analogous to that of any other group that “loses” when faced with an industrial innovation that is accepted by the majority of the public because it benefits them.

noteholders were sufficiently concerned about this possibility to refuse to accept the option clause contract offered by the banks, the banks' shareholders could always offer to accept "extended liability" for the banks' debts in the event that the option were exercised. An additional clause would be inserted into the banknote contract stating that shareholder liability would increase if the option were exercised. Even if the bank was perceived to have a low net worth, the exercise of the option clause would simultaneously increase the bank's capital, and the shareholders would risk their own capital if they allowed their management to take excessive risks. The public would appreciate this and could assume that the shareholders would write contracts with their managers to discourage this kind of risk-taking. The shareholders, for their part, would be willing to accept additional liability if it was the price to be paid to get the public to accept the option clause, and if the option clause was sufficiently valuable to them.

Government-Imposed Suspension

An alternative to the market-based suspension of the option clause is for the government to intervene to order (or allow) suspension. An unanticipated government-imposed suspension in a crisis would eliminate the panic demand for gold, reduce interest rates, and make the crisis abate. But even in this favorable case where the suspension is not anticipated by the public, the government-imposed suspension creates other problems that suspension under the option clause avoids. It retroactively rewrites the contract under which the banks issued their notes to the public, and amounts, in effect, to a legalized violation of the law of contract. It also eliminates the note reflux process by which over-issues of notes were previously checked. The law suspending convertibility therefore needs to be supplemented by other measures to ensure that note issues are checked.¹⁴ In addition, once the suspension has occurred and the crisis has abated, the banks have no incentive to restore convertibility, at least in the short to medium run. By contrast, banks suspending under the option clause would restore convertibility as soon as interest rates fell below their "threshold" (or intervention) levels; that is, virtually immediately. The pressure for resumption must come instead from the political process, and it often takes a very long time to come, assuming it

¹⁴An interesting example of this problem arose in the United States during and after the Civil War. There were multiple note-issuing banks, but no convertibility. What seems to have prevented a "monetary explosion" were the bond-deposit requirements and other restrictions placed on the note issue.

ever does. When the Bank of England suspended specie payments in 1797, for example, it was 22 years before an act was passed to order it to resume specie payments.¹⁵

There are additional problems if the public anticipate the suspension. In that case, the public have an incentive to redeem their notes before the government intervenes to suppress convertibility. The anticipation of the suspension then creates (or intensifies) a bank panic that can force the government's intervention. The intervention then *appears* to be necessary to meet the panic—and might well be necessary, once the panic has got going—but the panic is itself caused by the *anticipation* of that intervention. In other words, establishing a machinery to intervene can create the very crises that the intervention is intended to deal with. And as a practical matter, it is impossible to design a procedure to implement suspensions that the public will not anticipate. Indeed, the very circumstances in which the authorities would be likely to intervene will be known to the public, who would then be able to anticipate and force their intervention. There will always be the problem of preemptive demands for redemption and their potential to force interventions that might otherwise have been avoided.

The Historical Experience of Option Clauses

The most significant historical experience of option clauses was in Scotland from 1730 to 1765. The option clause was introduced by the Bank of Scotland in 1730, in order to protect itself against the attempts of its newly established rival, the Royal Bank of Scotland, to put it out of business by collecting its notes and presenting them for redemption. The option clause gave the Bank of Scotland the right to defer redemption for six months provided it paid compensation at the annual rate of sixpence on the pound, or 5 percent, which was the limit placed on interest rates by the usury laws. Its customers accepted the option clause notes, and they circulated at par. This was despite the fact that the Royal Bank refused to adopt the option clause, and advertised that its notes were fully convertible on

¹⁵The proximate cause of the bank's suspension was an invasion scare triggered by the landing of a small French force in Wales (which promptly surrendered). After that, the threat of invasion was never so severe, and peace was finally established in 1815. The Restriction nonetheless continued until 1821. To give a second example, the United States suspended convertibility shortly after the Civil War broke out in 1861. The war ended in 1865 but convertibility was not restored until 1879. A final example is the current system of inconvertible fiat monies—there has been no formal link with gold since the early 1970s, and there appears to be relatively little political pressure to restore a commodity standard.

demand. In the 30-odd years afterward, various new banks were established in Scotland, and they also adopted the option clause. The early 1760s were characterized by a serious shortage of specie in Scotland, as high interest rates in London attracted Scottish gold south, and by mid-1762 all the note-issuing banks in Scotland had adopted the option clause.

For reasons that are not entirely clear, there was considerable controversy in the early 1760s over the clause and the issue of small notes. Adam Smith's strictures about the option clause presumably reflect something of contemporary opinion, but Meulen (1934, pp. 130–31) reports several Scottish newspaper opinions of the time that were sympathetic to it. Much of the controversy also appears to be linked to the attempts of the Royal Bank and the Bank of Scotland to get a bill through Parliament to eliminate their opposition. As part of the price for such an act, they were willing to give up the convenience of the option clause. At least one of the provincial banks, in turn, was willing to give up the option clause as part of a deal to secure the full legal recognition they still lacked.¹⁶ The provincial banks appear to have had the stronger parliamentary support, because the act that was passed gave them that recognition and guaranteed free entry to the Scottish banking industry, though the price of that freedom was the prohibition of the option clause and of notes under £1.¹⁷

Option clauses were also used in England, but they developed a bad reputation there because of the different circumstances in which they were used. An act of 1708 had sought to strengthen the Bank of England's privileges by limiting other banks to partnerships of up to six partners. The capital of other English banks was therefore limited to that which up to six partners could provide, and in an industry characterized by extensive economies of scale this meant that they were severely undercapitalized. Being small and vulnerable, the English banks failed en masse whenever financial conditions became unstable. The option clause was sometimes used in these circumstances to "bolster up an unstable bank, instead of merely to protect it, and there were frequent instances of notes circulating at a discount for months on account of diminution of public confidence in the bank of issue and inability to apply for immediate redemption of the paper

¹⁶For more on the background to the 1765 act, see Munn (1981, pp. 18–21), and Checkland (1975).

¹⁷The provincial banks appear also to have got an edge on the small notes issue. The two big Edinburgh banks wanted a £10 lower limit to drive out the other note issues, but the provincial banks' supporters were able to push through a lower limit of only £1 (see Munn 1981, pp. 19–21).

in coin" (Meulen 1934, p. 129). In the *Wealth of Nations* ([1776] 1911, p. 291), Adam Smith reported that

in the paper currencies of Yorkshire, the payment of so small a sum as a sixpence sometimes depended on the condition that the holder of the note should bring the change of a guinea to the person who issued it; a condition which the holders of such notes might frequently find it very difficult to fulfill, and which must have degraded this currency below the value of gold and silver money.

Unfortunately, little else is known about their use in England.¹⁸

Option clauses were also allowed for a brief period in Sweden. Jonung (1985, p. 12) reports that the Swedish banking law of 1864 allowed banks to defer redemption of their notes provided that they paid compensation at the rate of 6 percent a year, but he does not report on the effects of this provision, or whether any banks actually used it.

Finally, there is some limited evidence of option clauses in Canada.¹⁹ Schuler (1985, pp. 72–73) reports that the charter of the Bank of Nova Scotia (1832) allowed it to suspend specie payments provided that it paid compensation at an annual rate of 12 percent. He also reports that it was the only bank in British North America to have an option clause written into its charter. Generally, however, Canadian banks were allowed to suspend convertibility for up to 60 days consecutively, or within any given year. They did not usually have to pay any interest, but if they suspended for longer periods they were liable to lose their charters.²⁰ Perhaps because Canadian law already gave the banks legal means of suspension, Canadian bankers had little interest in an explicit option clause.

During the panic of 1837, all the Canadian banks suspended except those in Upper Canada (Ontario), whose governor refused to allow them to suspend. Interestingly, the Bank of Nova Scotia did not pay any penalty for suspension, perhaps because none of the other banks did.²¹ The recession was far less severe in those parts of Canada that

¹⁸None of the standard histories of English banking deals with the issue.

¹⁹The discussion of Canadian experience is based on Schuler's work on the subject. This is to be consolidated into his forthcoming Ph.D. dissertation at George Mason University.

²⁰An interesting question is why the banks did not suspend more frequently than they did. The answer, presumably, is that they needed to keep customer goodwill which would have been endangered by excessive suspensions. Excessive suspensions might also have led to legislated restrictions on their rights to suspend.

²¹Details of this experience are scarce (see Schuler 1988, pp. 89–90). Schuler notes, however, that at this stage most Canadian banks did not yet have suspension provisions. These came in 1841.

suspended. As Schuler (1988, pp. 91–92) notes, since the position of the Upper Canadian banks was

not any stronger than that of their counterparts in Lower Canada or the United States, their experience argues that had maintenance of payments been the sole object elsewhere it could have been achieved. On the other hand, Upper Canada paid a terrible price; the effects of the panic are said to have been worse than anywhere on the continent. Its banks found that a total contraction in new loans of almost one-half was necessary to protect reserves. In contrast, the banks of Lower Canada contracted new loans by about one-quarter from their 1837 peak to their February 1838 low. Consequently, Upper Canada was beset by a wave of business failures, while Lower Canada had so few that the Bank of Montreal's minute book for the period makes practically no mention of troubled borrowers.

This experience seems to confirm our earlier discussion that the availability of a legal means of suspension can substantially alleviate the severity of a "gold panic."

Conclusion

Option clauses provide a way in which banks can legally protect themselves against the danger of default to which full convertibility on demand exposes them. They avoid the disadvantages of trying to maintain convertibility at any cost, on the one hand, and relying on the government to bail out the banking system, on the other. Though the historical experience of option clauses is limited, it appears to be consistent with our prior expectations. The option clause therefore appears to be worth exploring further as one means by which a laissez-faire banking system can protect itself against banking instability—provided it is allowed to do so.

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