

Option Clauses and the Stability of a Laissez Faire Monetary System

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Abstract

This article examines the potential of option clauses to stabilize a banking system with multiple banks of issue and convertible banknotes. It suggests that under laissez faire, banks will introduce option clauses and the public will be willing to accept them even when fully convertible notes are also available. This will be in the interest of both parties since option clauses protect banks against a liquidity crisis. The article then examines the historical experience of option clauses in Scotland in 1730–1765 and finds it to be broadly consistent with our prior expectations.

1. Introduction

This article explores a neglected topic in monetary economics: option clauses on convertible notes issued by competitive banks. These give banks the option of deferring redemption of their notes provided that they later pay compensation to the noteholders whose demands for redemption are deferred. They therefore allow banks to protect their liquidity if they are faced with an unexpected increase in demands for redemption. In addition, the knowledge that the banks had this protection would reassure the public that the banks were not likely to become illiquid, and this would reduce the likelihood of a bank run occurring in the first place. Option clauses are therefore a potentially important form of protection for banks that have redeemable liabilities and operate on a fractional-reserve.

Despite these potential benefits, option clauses have received very little attention from economists, and most of that has been unfavorable. Adam Smith condemned them in the *Wealth of Nations* (1776, pp. 290–291), and most succeeding economists who have discussed the issue have agreed with him (e.g., Graham (1886, p. 65), Kerr (1918, p. 74), MacLeod (1896, pp. 188–189), and Whittick (1896, pp. 67–69), to mention only four. Significantly, though, the only writer to examine the issue in any detail at all was Meulen (1934),¹ and he was unequivocally in favor

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of them. He argued that option clauses would stabilize a free banking system as well as promote the replacement of gold by paper and thereby encourage the further spread of credit. This article takes up where Meulen left off and analyzes further the potential of option clauses to stabilize the banking system. The article first outlines how a *laissez faire* banking system driven purely by private interest might develop the option clause to deal with the problem of potential illiquidity to which fractional-reserve banking is otherwise subject. It then suggests reasons why individual noteholders would be prepared to accept option-clause notes in preference to notes convertible on demand—an important point which Meulen glossed over—and discusses how option clauses would both protect the banking system against liquidity crises and reduce the probability of such crises occurring in the first place. It then goes on to consider the historical experience of option clauses in Scotland in the period 1730–1765. This clearly confirms the claim that option clauses would be acceptable to the public and is not obviously inconsistent with the claim that option clauses would help to stabilize the monetary system.

2. The development of a free banking system with convertible notes

To discuss the theory of option-clause notes we consider the evolution of a free banking system from the following hypothetical primitive economy. Let us suppose that people originally use gold as their medium of exchange, but the use of gold is attended by various cost of storage and portability (i.e., it is expensive to keep it safe, and it wears holes in pockets because of its weight). Now suppose that there exist individuals (“goldsmiths”) who already have the means of keeping gold safe (i.e., they have strongrooms). Both members of the public and the goldsmiths are assumed to be concerned only with their own private self-interest and not at all with any broader notions of “social interest.” Let us also suppose that there is a legal system capable of enforcing any contracts entered into by private agents, and that people wish to avoid the penalty for default which involves having one’s assets sold off to pay one’s debts.

A banking system starts to evolve from this initial state of society when members of the public begin to pay goldsmiths to store their gold for them. Individuals will be ready to deposit their gold with a goldsmith provided that the fee is not too high and they are sufficiently confident that the goldsmith will not default while he has their gold. The goldsmiths will be prepared to accept the gold provided that the fee is above their marginal costs which we would expect to be low anyway. Hence there is some potential for mutually beneficial gains from trade. The practice of making gold deposits then gradually spreads, and the goldsmiths start to notice that withdrawals and deposits will be closely matched over time, and that over a given period the net loss in gold is likely to be quite small. They will realize that they could lend out some of the gold deposited with them and earn interest on it. They will then start competing with each other for deposits to lend out. The practice of charging depositors fees will die out, and goldsmiths will start offering

depositors interest payments to attract them. At the same time, it will increasingly be the case in private trade that when one person withdraws gold to pay a debt the payee will simply deposit the gold again. Provided that both parties “trust” the goldsmith, they would both save time and trouble if the goldsmith’s receipt were simply handed over instead. In this way these receipts/banknotes would start to circulate as media of exchange in their own right. This would reduce demands for redemption even more, and enable the goldsmith/bankers to expand their lending further.

We therefore arrive at a situation where competitive banks issue their own redeemable notes. Let us suppose that it is not feasible to pay interest on notes.² Let us also suppose that a market evolves in which agents can borrow gold on a short-term basis. If one likes, one could view this market as arising originally from agents’ inability to predict their future cash needs with certainty. Over any given period some agents will find themselves with more cash than they anticipated, and some with less. It would then be mutually beneficial for the former to lend to the latter, and a short-term liquidity market would develop.

3. Convertibility on demand and potential illiquidity

To stay in business a bank would have to persuade people to accept its notes. (For simplicity, we shall ignore deposit banking throughout.) To do that it will try to reassure people that its notes would retain their value. The most effective way to do that would probably be for the bank to make a legally binding commitment to redeem its notes under certain specified conditions. The question then arises as to what those conditions might be. An “obvious” commitment the bank could make would be to redeem on demand without notice, that is, to make its notes “fully convertible.” If the banks developed originally from goldsmiths it is quite likely that they started off by offering this kind of guarantee. Such a guarantee would give the public more flexibility and cost the goldsmiths little because they would operate with a 100 percent reserve ratio, to begin with at least. Once they start to lend out, however, they would not be able to honor more than a fraction of their note liabilities over any given (short) period, and this would expose them to the danger of defaulting on their legal obligations. This danger arises from the combination of a typical bank earning much of its income from borrowing short to lend long and its legally enforceable obligation to redeem any notes presented to it. Given sufficient time it could liquidate enough assets to meet any demand for redemption—assuming it was solvent—but the danger of default arises because it would not get the notice it might need.

These demands for redemption could come from various sources. One source is the general public, members of which might want to redeem their notes if they believed that the bank was insolvent (i.e., if its net value was negative). They might also demand redemption if they believed—rightly or wrongly—that there was some danger of the bank becoming illiquid. They might want to avoid holding the

notes of a potentially illiquid bank because they might fear that other people would be reluctant to accept the notes of a bank that suspended, or because they thought that such notes would only be accepted at a discount. Such fears might lead to noteholders demanding redemption “just in case,” and this gives rise to the possibility that the public’s expectations of a bank run could become “self-fulfilling” in the sense that any intrinsically irrelevant event could trigger off a bank run if it made sufficiently many noteholders apprehensive about one (see, e.g., Diamond and Dybvig (1983)). Demands for redemption might also come from other banks: if a bank were committed to redemption on demand, a competitor might be tempted to collect a large amount of its notes and present them without warning for redemption to make it default. These “note duels” were a significant feature of early banking in Scotland, for instance, and we shall return to them below.

A possible solution to this potential illiquidity problem would be to modify the convertibility contract. Instead of promising to redeem on demand without notice, the bank might insert clauses into its notes giving it the option to defer redemption provided it later paid compensation to the noteholders. These “option clauses” would have two distinctive features: a period over which redemption could be deferred, and a compensatory (or penalty) interest rate, both of which would be specified in the contract.

Other things being equal, the bank would generally prefer a longer deferment period to give it more time to replenish reserves (which it could then do more cheaply), and it would obviously prefer a low penalty rate of interest to a higher one. In designing an option clause, however, a bank would have to make sure that it did not lose its noteholders to other banks. The first bank to introduce them would have to make sure that its new option clause (OC) notes were at least as attractive as the fully convertible (FC) notes issued by the other banks. If it failed to do this it would be outcompeted by its rivals. The bank might reason that noteholders would prefer low deferment periods (because they presumably prefer assets that could be redeemed more quickly) and high penalty rates (since a higher penalty rate would imply a larger claim to compensation if the option were invoked). Assuming appropriate convexity conditions, these preferences can be represented as in figure 1. The diagram shows those combinations of higher deferment periods and higher penalty interest rates that define the indifference map of the representative noteholder. The upper contour set (area A) is the set of combinations of deferment period and penalty rate which the public would prefer to FC notes, and the lower contour set (area B) shows those combinations at which the public would prefer FC notes. The figure also shows the isoprofit line of a representative bank. The problem for the bank is to select a combination (T, r^p) which is not in B to maximize its profits. This is shown as the point x in the figure. The bank would then replace its FC notes with OC notes with these particular features and its profit would rise from O to π_1 .

This analysis suggests at perhaps a slightly superficial level that noteholders might be prepared to accept OC notes, and we clearly need to examine the issue in

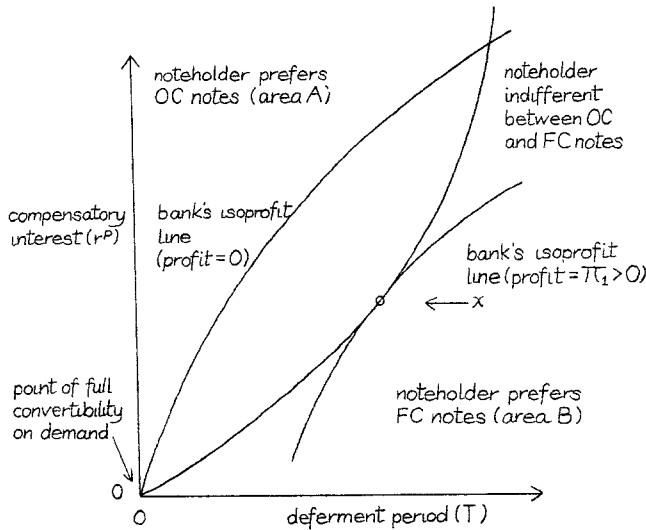


Fig. 1. The (ex ante) benefits of option clauses.

more depth. To do this we shall first discuss how a bank might use the option clause if it could get people to accept it. We then suggest reasons why this could be expected to make noteholders better off and can then reasonably safely conclude that rational noteholders could be expected to accept OC notes.

4. How an individual bank would use the option clause

Let us suppose that an individual bank has managed to persuade its noteholders to accept notes with option clauses on them. Since the bank is concerned purely with its own private interest, it would invoke the option whenever that provided a cheaper way to remain liquid than borrowing liquidity on the short-term market. There seem to be three situations in which this might be the case.

The first is if the bank were suddenly presented with a large amount of notes for redemption by a rival bank. In that case the demand might be so large and unexpected that it might not be feasible to borrow on the short-term market and the bank would have to suspend. One should add, however, that much of the temptation to engage in these duels comes from the prospect of forcing a rival to default, and a bank contemplating such an attack would not expect to destroy its rival if it were protected by an option clause. It would also appreciate that an attempt to collect notes and present them for redemption would invite the other bank to retaliate at a later date. A bank might thus choose to exercise its option clause if it found itself under attack from another bank, but the chances of that happening are likely to be reduced precisely because it has that option.

The second case is where a bank cannot borrow on the market because of its poor credit rating. A bank in such circumstances would presumably have exhausted its own supply of liquid assets, and it would have difficulties using its illiquid assets for the collateral that potential lenders would require from it. In this case its borrowing difficulties would reflect the suspicions of potential lenders about its solvency. The bank could then only remain liquid by selling off illiquid assets at an increasing loss or by invoking the option clause. It would presumably liquidate assets until the effective borrowing rate was equal to the penalty rate and then it would suspend. This would give the management a chance to put the bank's affairs in order without suffering increasing capital losses, and this would help to preserve what was left of the bank's net worth. It would also protect the bank against a run which might otherwise have forced it to liquidate more of its remaining assets or even pushed it to default, either of which could inflict large losses on its creditors.³

The third case is where the bank can continue to borrow at the market rate, but where the market rate itself rises so far that it is cheaper for the bank to obtain (or retain) liquidity by using its option. This would happen if there were a systemwide liquidity crisis. A bank would continue to redeem on demand for as long as it was cheaper to do so. Once interest rates reached a threshold level, however, it would exercise its option and suspend convertibility. It would do so because it could make arbitrage profits by lending its reserves on the short-term markets and realize the difference between market interest rates and the penalty rate it was paying on its funds. In doing so it would not only be acting to preserve its own liquidity but it would also be channelling liquidity to where the demand for it was greatest, and thereby would help to alleviate the rise in interest rates.

5. Would noteholders accept OC notes?

We can now address the question we raised earlier: would noteholders accept OC notes given their expectations of how they would be used? There are several reasons why noteholders might expect to be at least as well off accepting these notes as they would be with FC notes.

The first stems from the fact that a bank protected by option clauses would face little if any danger from either note duels or self-fulfilling bank runs. With FC notes, as we have seen, there is always the danger that a rival might try to destroy it in a note duel, or that an intrinsically irrelevant event might trigger off a bank run which would be fuelled by the public's knowledge that the bank could not redeem all its notes on demand. These sudden demands for redemption would harm noteholders insofar as notes that would normally be widely acceptable might only be accepted at a discount, or they might be refused outright. They would also harm noteholders if they led to capital losses on notes as a result of the bank defaulting. The prospect of a note duel or a "self-fulfilling" bank run thus increases the prob-

ability of noteholders suffering losses, and noteholders might prefer OC notes because they help substantially to avoid these dangers.

OC notes offer noteholders an additional potential advantage. A bank that introduced option clauses would effectively relax the liquidity constraint under which it operated. This would make certain lending opportunities profitable that would otherwise have been unprofitable. The bank's prospective profits would rise and increase the valuation of its stock. Other things being equal, this would reduce the probability of bankruptcy and hence make the notes safer. The higher expected profits of the bank therefore indirectly help the noteholders even if the bank cannot pass on some of that profit by paying them direct pecuniary returns.

There is, however, a possible drawback of OC notes that noteholders would have to take into consideration. It is possible that an insolvent bank might invoke the option clause to "buy time" and take risks in the hope of salvaging an otherwise bankrupt organization. If this happened, the bank would be able to take gambles at the expense of its noteholders, and they would be deprived of the normal recourse of demanding instant redemption. We must bear in mind, however, that the bank would be aware of this, and it has a clear incentive to provide noteholders with a credible reassurance that this would not happen. The bank could do this by "bonding" shareholders' capital. In Scotland, for instance, the shareholders of some banks assumed unlimited liability, while in the early United States the custom was for shareholders to assume "double liability." Provided shareholders still have something to lose, they have an incentive to avoid wild risks even if the bank has a negative net worth. Knowing this, rational noteholders would presumably discount the likelihood of the bank becoming insolvent and taking wild risks at their expense.

6. The banking system with OC notes

I have given some reasons why it might be in the private interest of a bank to introduce option clauses on its notes, and why it might be in the private interest of its customers to prefer them to FC notes. If this is so, a bank which introduced OC notes would have a competitive advantage over others. In the context of figure 1, such a bank would only have to choose a point (T, r^p) in the set A to outcompete its rivals. The latter would be forced to introduce option clauses of their own to stay in business. The banks that introduced successful option clauses first would make higher profits, but when equilibrium is restored all banks would make zero profits again. The situation is illustrated in figure 2. The set of possible long-run equilibrium points is given by the line xy ; x would be an equilibrium point if the banks' shares were traded on the stock market and their prices rose to capitalize the expected future profits. In this case the people who owned the shares initially would get the economic surplus. The opposite polar extreme is illustrated by y at which all the surplus goes to the noteholders and none to the shareholders. In general we

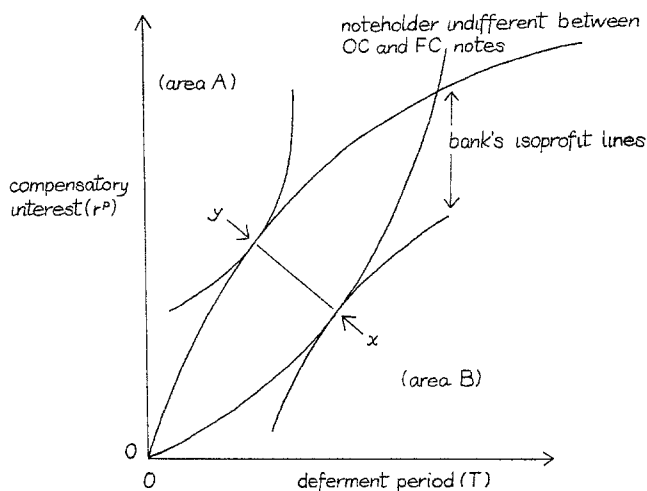


Fig. 2. The option-clause equilibrium.

can only say that the surplus is divided between the shareholders and the noteholders, but without additional information we cannot say what the proportions of the share-out would be. We cannot, therefore, say what the resulting (T, r^p) equilibrium point would be. For the sake of simplicity we shall leave aside the issue of how this point is determined and we shall assume that it is the same for each bank.

7. The stability of the OC equilibrium

Suppose that there is a sudden, unanticipated, but temporary increase in the demand for to convert notes into specie (i.e., a "liquidity crisis"). This will be reflected in the short-term rate of interest which would rise steeply above "normal" levels. By hypothesis, the extra demand is temporary so people could reasonably expect interest rates to fall back again in the short-to-medium term. This implies that bill prices are currently low and falling, but that in the longer run people expect them to rise back to normal levels. Consider now the position of an operator in the short-term liquidity market. He can be reasonably sure that in the longer run he should buy bills, but in the very short run it might be worthwhile to sell them instead. He might therefore sell bills and thereby bid up interest rates even further. As this continues, other people would be encouraged to enter the market and bet on the prospects of medium-term capital gains by buying bills. These people would, therefore, run down their stocks of gold, demand redemption of their notes, and import gold with the intention of lending it out in the short-term market. This

bullish activity might be enough to satisfy the demand for liquidity and bring interest rates down, but there is no telling just when the market will turn around.

This situation could be very dangerous for the banks if they were obliged to redeem on demand. Noteholders might be tempted to demand redemption either because they wished to make a profit by lending the gold or because they feared that the banks would default. If the demand for liquidity continued unabated the banks might eventually default and the banking system could collapse. This would not happen if the banks were protected by option clauses. In that case, if interest rates continued to rise they would eventually reach a "threshold" level at which it would be cheaper for banks to remain liquid by exercising their options than by borrowing on the short-term market. As this point was the same for all banks they would invoke their options simultaneously and immediately stop the liquidity "drain" they were facing from noteholders demanding redemption. Once the interest rate passes this threshold level it would become worthwhile for the banks to lend their reserves on the short-term market. These arbitrage activities would continue to be profitable for as long as market interest rates remained above the penalty rate, and so the banks' intervention would bring market rates down to this level. The demand for liquidity would be satisfied, the panic would subside, and the interest rate would return to normal levels. In this way the panic would be corrected by the banks acting to maximize their profits with no thought at all of any wider "social interest." It is also worth noting that there would be no need at all for any "lender of last resort" to stand above the banking system to protect it against a liquidity crisis: this suggests the lender of last resort function would be redundant in a *laissez faire* monetary system.

This is still not the whole story. The discussion so far has ignored the possibility that the banks' intervention might have been anticipated. However, it seems reasonable to suppose that their intervention would be anticipated because the public could calculate the threshold level of the short-term interest rate at which the banks would suspend and intervene. It follows that as interest continued to rise, a rational bear speculator would estimate that the chances of it going significantly above that threshold rate would be very low. He would therefore appreciate that the threshold put an effective floor to expected bill prices. As bill prices approached that floor, our speculator would estimate that his chances of making further profits by selling bills would diminish very considerably while the probability of capital loss would increase. At some point before the threshold was reached he would almost certainly decide that further risks were not worth taking, and buy instead to take his capital gains. He would be further encouraged to do so by the knowledge that other people were making the same calculation, and he would be anxious to avoid being short on bills when their price started to rise. The demand for liquidity would therefore almost certainly "break" before interest rates hit the threshold level because of the banks' anticipated intervention. This shows that option clauses can be effective even if they are never actually invoked. In most cases one would expect that the mere prospect that they might be invoked would suffice to stabilize the panic and protect the banking system from collapse.

8. Option clauses in Scotland, 1730–1765

It would be interesting to compare the speculations above with an empirical example of OC notes under free banking. Unfortunately, such examples are hard to find. Historical instances of “free banking” are rare, but instances of option clauses being tolerated under free banking are rarer still, and the only recorded case seems to be in Scotland during the period 1730–1765.

Option clauses in Scotland were introduced by the Bank of Scotland in 1730, after it had fought a note duel with a newly established rival, the Royal Bank of Scotland, and been forced to suspend convertibility. The Bank inserted option clauses on its notes to protect itself when it later reopened. These clauses gave the Bank the option to defer redemption for six months provided it paid compensation of sixpence in the pound on redemption (i.e., 5 percent per annum).⁴ The Bank announced the reason for the innovation, and its notes continued to circulate at par afterwards. The Royal Bank refused to imitate it and advertised the fact that its notes were redeemable on demand at all times, but these attempts to persuade the Bank’s noteholders to abandon it were not successful, and the two notes circulated side by side at par. This shows that option clauses can be acceptable to the public even when FC notes are also available.

The next 30 years saw a rapid growth of banking in Scotland. The Bank of Scotland and the Royal Bank continued to wage war on each other for most of the period, as well as on new banks that were set up in the meantime. The business of banking was a new one to everyone, so it took the banks a long time to develop appropriate rules of thumb to guide them. They had to learn by trial and error the reserve ratios to observe, how to respond to specie shortages, how to deal with each other, and so on. Despite all this, the banking system was relatively stable during these years, and the option clause was apparently never invoked.

This changed in the early 1760s. As Checkland (1975, p. 109) explains:

A good deal of money from England had been lent in Scotland at 4% between 1748 and 1757; much of this was now withdrawn, for under war conditions it could be more profitably placed at home . . . The Edinburgh exchange on London became very adverse. Bills on London rose to a premium of 4½ or 5%. It was well known that when this rate reached 2–3% specie would be carried south . . . The banks were faced with a major liquidity crisis.

This had two major effects on the Scottish banking system. The first was that banks started looking for ways to protect their liquidity. By June 1762 all of them had adopted option clauses. In addition they resorted to a number of other expedients. One such expedient was to borrow gold from London at a heavy loss. This involved heavy costs of both exchange and conversion which together amounted to over 5 percent of the value of the specie (Checkland, 1975, p. 109). It was also pointless because the gold simply found its way south again where returns were higher: “while in this state, bringing gold into the country was like

pouring water into a sieve" (MacLeod, 1896, p. 189). One must bear in mind, however, that this was the first time the Scottish banks had experienced a major drain, and the banks presumably had to learn through experience which measures were effective and which were not. The banks also contracted credit and raised deposit interest rates to cut gold outflows. The Bank of Scotland and the Royal Bank began doing this in January 1762, but at the cost of some public criticism (Checkland, 1975, pp. 109–110). In contracting credit the banks were particularly careful to refuse credits to "badly disposed people" like specie exporters and those who aided them. The banks also discouraged people from demanding redemption by offering to grant requests for redemption in part only, and by threatening to invoke the option clause and give them no gold at all if noteholders insisted on more gold than the banks were willing to part with. Measures like these were effective, but they were resented and helped make the option clause unpopular. Fortunately for the banks these measures appeared to work, and normality seemed to be returning in the early part of 1763.

The second effect of the shortage of specie was an increase in the demand for small denomination notes to replace coins. For reasons that remain unclear, the major banks refused to satisfy this demand. Many private individuals therefore began to issue notes of their own. Clapham (1970, p. 241) talks of a "grotesque multitude of small notes, not issued by regular bankers" for different sums, to be redeemable into various goods, while Checkland (p. 1975, 105) talks of the provision of substitutes for coin being left to "petty tradesmen." The public accepted these notes for lack of any alternative in the same way that they used to accept similar substitutes in the past whenever coins were scarce. Nonetheless, the dubious status of the issuers gave small notes a bad name and paved the way for their later suppression.

The pressure on reserves started to mount again in August 1763. It was occasioned by the failure of an Amsterdam bank which had been engaged in speculation toward the end of the seven years' war. This failure triggered off a general collapse of banks across the continent and a flight toward specie. The increased demand for specie again pushed up interest rates in London, and all the banks experienced a renewed shortage of liquidity. The pressure became so intense that the Bank of Scotland and the Royal Bank were obliged to exercise their option clauses in March 1764. They also cut back credit and increased deposit rates (Checkland, 1975, pp. 121–2).

In the meantime there was much public dissatisfaction with small notes, the contraction of credit, and the way the banks were threatening and sometimes using option clauses. Public meetings up and down the country in 1763–1764 petitioned Parliament to legislate. The government indicated it was sympathetic to these requests so the banks lobbied to influence the legislation. The two big Edinburgh banks had been reconciled with each other since 1752 and lobbied for a legislated duopoly to eliminate their opposition. In return they were prepared to pay an annual sum of £1500 each and surrender their rights to the option clause. The main Glasgow banks lobbied instead for free banking to protect their rights to

issue notes. The government would have none of the Edinburgh banks' attempts to do away with the opposition and was also concerned to protect people from what it perceived as the abuse of small notes and option clauses. The result was an Act of 1765 which guaranteed the freedom of entry to the Scottish banking industry, but which prohibited option clauses and Scottish notes of less than £1. And so the Scottish experiment with option clauses was suppressed only 35 years after it had begun.

9. Is the Scottish experience consistent with our prior expectations?

Our discussion of the theory of option clauses suggested two main "empirical predictions." The first is that there would be some conditions under which option clauses would be accepted by the public, and the second is that the adoption of option clauses promotes monetary stability. Are these consistent with the Scottish experience?

The first prediction obviously is. Noteholders in Scotland were clearly prepared to accept OC notes even when they could have chosen FC notes instead. As Meulen (1934, p. 132) states, "The one fact which is firmly established . . . is that option-clause notes were issued by the foremost banks in Scotland, and in these cases were freely circulated, at par."

The second prediction is much more difficult to assess. Part of the problem is that the Scottish banking system was developing rapidly throughout the brief option clause period. Banking was a new business that the bankers were still trying to learn and the public trying to become used to. Mistakes were frequent, and it took time for bankers to realize where their true interests lay. This is well illustrated by the length of time it took the banks to agree to a note exchange. A note exchange was in each bank's own interest because it promoted the demand for its notes,⁵ and yet the note exchange was only established in 1771. Another example seems to be the regular banks' reluctance to meet the demand for small notes. If private individuals found it worthwhile to issue notes, the regular banks would certainly have, and they would have had a comparative advantage at it. Why they failed even to try is a mystery. Considerations like these suggest that the Scottish banking system of the early 1760s had not yet settled into the "OC equilibrium" discussed earlier, and so any inferences drawn from a comparison of the two must be very cautious ones.

Several inferences can, however, be made. Opponents of option clauses made much of the depreciation of the OC notes relative to FC notes or gold when the option was exercised, and used this to suggest that OC notes destabilized the value of money. Adam Smith (1776, pp. 290–291), for example, cited the example of a Dumfries bank whose notes were at a considerable discount in Carlisle relative to FC notes. However, as Meulen (p. 132) points out:

... the option clause was introduced only in order to stave off outside demands for gold. The ordinary customers of banks needed only exchange medium, not necessarily gold, and they were quite content to accept the option-clause notes of a reliable bank. Those who desired to obtain gold for export, however, would undoubtedly differentiate between option-clause notes and those which were redeemable in gold on demand, and this would undoubtedly be twisted ... into an evidence of "depreciation" of Scottish paper ...

One might extend this argument further. During a crisis interest rates rise because of the increased demand for gold relative to notes and other goods, and the exercise of the option clause temporarily breaks the link between the value of the notes and gold. This helps to stabilize the value of the notes in terms of goods, and thus to insulate day-to-day trade from the monetary shock. The exercise of the option also stabilizes trade by protecting the banks' liquidity, thus reducing the danger of a run, as we discussed earlier. In this context it is worth noting that there was apparently no major public concern about the danger of bank runs in Scotland during this period. It is also possible that the exercise of the option helped to stabilize interest rates in Scotland, although we have very little evidence about this. In short, the very fact that OC notes fell to a discount against gold when the option was used may well have helped to stabilize the Scottish economy because it was an essential part of the mechanism through which the domestic economy was insulated from the external shock. If this is what happened, it would lend further support to our second prediction that option clauses would help to stabilize the banking system. Given the very tenuous nature of the evidence, however, it would be safer to conclude that this prediction is not obviously at variance with the Scottish experience.

10. Some limitations and conclusions

Our discussion of option clauses has left a number of issues unresolved. Some of these center around the option clause itself. We have not discussed how banks would choose a penalty rate and deferment period, for example. One possibility is that banks might choose these using the formula " x percent above the short-term market rate of interest prevailing over the last y months," but even if the banks use this formula, we would still have to explain how x and y would be chosen. A related issue is how banks would "compete" with different option clauses. If the option clause is used only rarely, or possibly never, then one has to explain the process whereby the public and the banks settle down on a particular kind (of kinds) of option clause contract. Also, we have only considered "simple" option clauses which give the bank two options only. It might be worth their while for the banks to introduce more "sophisticated" option clauses which would give them more options. It is interesting to note that White (1984, p. 29) reports an instance of a "triple" op-

tion clause in Scotland in the early 1760s. The idea did not catch on, but that may be because option clauses were banned so soon after.

Option clauses also have important implications for the lender of last resort and our perception of the “inherent” instability of a fractional-reserve banking system. Our discussion indicates that private profit-maximizing banks can and will protect themselves adequately against shocks that threaten their liquidity. All they appear to need is a legal framework that allows them to do so, and this suggests that the lender of last resort function is redundant in a *laissez faire* monetary system.

Another issue is how option clauses relate to current commercial banking arrangements. I have examined option clauses on notes, but option clauses could also be inserted into the contracts governing deposits as well. In the recent past banks in both the United States and United Kingdom frequently inserted “notice of withdrawal” clauses into deposit contracts but seldom if ever invoked them. It is not clear why banks do not write these clauses into their deposit contracts more than they appear to do. Perhaps it is because they believe they can get the reserve media they might need from other banks or the central bank.

A final limitation of this article is that it relies on heuristic reasoning and does not use a formal theoretical framework. Since demands for redemption are formally similar to queuing problems, it seems one could model option clauses using an application of queuing theory. I hope to be able to report the results of such an exercise in the near future.

Notes

1. Meulen was the last in a line of “underground” British free bankers, most of whom were active toward the end of the last century, and of whom the best known is Herbert Spencer. While some of his views seem questionable, there is no doubt that his work has not received the attention it deserves. Meulen’s principal discussions of option clauses occur in his 1934 book on pp. 81–83, 87–88, and 127–132. One should note that many of the ideas in this book were previously published in an earlier edition *Industrial Justice Through Banking Reform* (1917) and a pamphlet “Banking and the Social Problem” (Wadsworth and Co., Keighley, 1909).

One might also add that this article concentrates on the stabilizing properties of option clauses and does not deal with the implications of option clauses for the long-run efficiency of the economy. Meulen stressed repeatedly that option clauses helped to promote economic efficiency by promoting the replacement of gold by paper, thereby economizing on holdings of “dead” (i.e., noninterest-bearing) specie.

2. Our task would be much easier if we assumed that banks could pay interest on their notes, since banks could then encourage people to hold OC notes simply by increasing the interest rate on them, but unfortunately there are reasons to believe that the transactions and/or accounting costs of doing so do not make it feasible. I refer the reader to White (1987).

3. There is, however, a possible counterargument here. It is possible that a badly run bank might use the “breathing space” provided by the exercise of the option clause to run the bank further into the ground. This is discussed on p. 319 below.

4. MacLeod (1896, p. 18). Note that this was the maximum permissible legal rate of interest. It is not clear what effect usury laws might have had on option clauses.

5. See, for example, White (1984).

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