Could Non-redeemable Money have Evolved Naturally from Commodity Money under Free Banking?

J. Stephen Ferris
stephen_ferris@ccs.carleton.ca

and

J. A. (Jack) Galbraith
jack_galbraith@carleton.ca

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Department of Economics
Carleton University
Ottawa, Ontario, K1S 5B6
CANADA

I. Introduction

Is government control essential for money to become non-redeemable? Contemporary economists treat this proposition as self-evident,[1] one whose self-evidentiary status is reinforced daily by the comprehensiveness of government's involvement in money control. However, even if it is granted that money cannot manage itself, as Walter Bagehot (1873) argued long ago, it need not follow that money's management requires government control and that monetary control could not be left to institutions derived from the dictates of the market and shaped by the forces of competition.

To show, as this paper intends, that money could have evolved from a redeemable to a non-redeemable form without government control is not the same thing as advocating the replacement of existing institutional arrangements by purely market-derived alternatives. The proposition that government control is not essential for non-redeemable money implies only that there are plausible contractual and institutional alternatives to government. For our purposes, the recognition that private market alternatives were possible is significant in shifting debate away from what is viewed as essential to what might be best, to the comparative analysis of institutions and their relative efficiency. In the end, policy analysis is advanced by requiring of the analyst a better understanding of the benefits and costs of the coordinating mechanisms represented by each institutional alternative.

To escape the obfuscation caused by government's presence in current money processes, it helps to begin prior to government's involvement. One can

then resort to conjectural history, as is sometimes employed in the free banking literature, to speculate how banking might have evolved out of barter through a redeemable commodity money base to the provision of non-redeemable money under market forces. This means placing temporarily to one side the actual history of how banking developed, shaped as it was by episodes of market intervention and legislation. Thus our approach differs from Hayek's (1976) consideration of whether competition alone could produce non-inflationary and non-redeemable money. There Hayek began with the non-redeemable monetary system now in place and considered how that system could be converted to one free of central bank control. In contrast, our approach considers how a banking system that used redeemable, commodity-based money might have evolved into one using non-redeemable money.

Our approach also differs from that taken by Klein (1975). Klein's analysis of competitive money allowed for the introduction of a variety of non-redeemable, financial monies into a barter economy where no commodity had previously met the need for a medium of exchange. Thus in that story, the prior existence of commodity money is conceptually unnecessary and can safely be ignored. For us, however, the ability to skip over the stage of commodity money is too much of a wrench from an evolutionary historical process that did allow a redeemable monetary system to arise in the absence of direct government control.[2]

Therefore our paper begins from the emergence of commodity money out of the trading disadvantages of pure barter exchange. Next we focus on the conditions that give rise to financial intermediaries who can profit from offering a direct financial substitute for pure commodity money. By considering some of the

obstacles to supporting a pure warehousing function for intermediaries, the costs of providing a direct financial substitute provides the market incentive that leads to the development of more recognizable forms of intermediation and ultimately to the development of non-redeemable money. To the extent that such a story can provide a plausible description of what might have occurred, doubt is cast on the essential role of government in providing non-redeemable money.

II. Commodity Money and Barter

Before financial intermediaries, before the existence of intermediated market exchange and the emergence of a medium of exchange, trade could have arisen through barter. In such an setting, the goods we demand for final consumption purposes can be acquired directly only from those who are also willing to purchase for final consumption the goods we are willing to sell. As is well known, it is this double coincidence of wants required of barter exchange that restricts the set of all potentially beneficial trades and creates trading costs that can often be lowered by the use of a single commodity to intermediate exchange. Writers such as Menger (1892), Ostroy (1972), Starr (1973), Ostroy and Starr (1974), Jones (1976) and Alchian (1977) have all produced analyses that illustrate the gains from intermediated exchange and the route by which one commodity can come to predominate in indirect exchange. Following Jones (1976), suppose there is a broad market in trades directly between the goods a and g and between b and g, but only infrequently between the goods a and b. Then if the frequency of a-for-g and g-for-b trades is sufficiently high, it may profit those who wish to trade a-for-b, and vise versa, to trade indirectly through g, first

by trading a-for-g and then g-for-b. In Jones such indirect trade serves to reduce search time, while in both Ostroy and Starr indirect trade also unlocks trading possibilities (and hence gains from trade) that would otherwise have been foreclosed. In either case, any greater use of g increases its frequency in trade and so increases the range of goods over which indirect exchange becomes viable. Such a process is then reinforcing, leading ultimately to the general use of a good like g in most trades and hence becoming the medium of exchange.

While many commodities may share the characteristic of appearing frequently in barter exchange, the ability of any particular commodity to serve as the medium of exchange will also depend upon its storage cost (durability) as well as on its recognition cost and marketability (homogeneity and divisibility). Here the relative attractiveness of the commodity can be enhanced if it can be packaged in two forms: one for consumption uses and a second specifically for exchange purposes. The two forms promote the commodity's intermediary use by permitting specialization, the packaging of the commodity in a particular form that will improve its recognition, durability and marketability. Note that such specialization, however, cannot prevent one form from being converted into the other and so tying the exchange value of the commodity to its underlying cost of production. Hence should the value of having the intermediary good in trade rise (i.e., should the demands of trade warrant it), consumption use of the commodity can be transformed for exchange purposes at the same time as new overall commodity production is encouraged. Similarly its use as a medium of exchange can revert back into consumption should it become more valuable in that use.

Such substitutability makes the exchange value that much more stable and predictable.

An historical example of this process at work is that of coins, where a particular metal is given a specialized form for exchange purposes — the stamp verifying the quality of the composition, the size promoting convenience and divisibility, and the rim enclosing a standardized quantity. Once this form is created, however, popular usage tends to give the form itself its own name (e.g., the Maria Theresa dollar). This is significant because a separate name allows the form to have units in its own right, in addition to having the units reflect the amount of the commodity embodied in its form. Hence an ounce of a metal fashioned as a coin to serve a medium of exchange function could come to be called, say, a “buck”. And even though the exchange value of a buck has value only because of its specified weight in embodied metal, successive use and convenience in exchange most often leads transactions prices to become quoted in terms of bucks (three bucks per item) rather than the metal equivalent (three ounces of metal per item). Through conventional use and continuous practice, then, the buck becomes the monetary unit – the name arising from customized market use for the basic unit that fulfills the function of generalized medium of exchange, henceforth money.

III. Financial Substitutes for Pure Commodity Money

While the use of a specialized form of commodity money can lower the recognition and other usability costs of money, holding even the most convenient form of a commodity will remain costly, particularly in terms of storage, transport,

and transfer. Hence opportunities would seem to arise for warehousing, whereby in return for a service fee an institution would store one's commodity money and issue in return a transferable receipt that promises to return on demand the number of bucks left in storage. This arrangement offers greater convenience by allowing the exchange of the warehouse receipt rather than the commodity itself. For the same reasons and as long as the promise to redeem on demand remains credible is maintained by the warehouse issuer, the receipt also becomes more acceptable to third parties.

However, even if the promise of redemption can credibly support the value of issued liability, the receipt, the pure warehouse solution has a number of practical shortcomings in satisfying the demands of intermediate exchange. In particular, the storage and policing costs incurred by the warehouse need to be covered and the flow nature of these costs create difficulties for the pricing of the stock across time and/or for maintaining a mechanism for collecting periodic storage fees. With the warehouse receipt earning fees across time, calculation of exact current and future values becomes cumbersome, making it impractical for the storage receipt to stay in circulation for any length of time.[3]

However financial warehousing allows for an alternative pricing scheme. Because the acceptance and use of commodity money implies the willingness to hold a commodity to separate purchases and sales through time, the evolution to commodity money implies at least a temporary willingness to hold money and hence the beginning of a demand to hold money as a store of value. Thus the aggregate willingness of individuals to hold money through time allows another route by which a full-fledged financial liability can recover the storage costs

implicit in its storage or warehousing function. That is, an intermediary can cover its holding costs (and so return receipts at par) by charging those who have a demand to cover short run money deficits by borrowing the funds left by those with temporary surpluses of commodity money. This provides the condition conducive to the formation of viable financial intermediaries – banks for short. Banks attract surplus units, offering to them transferable receipts for their commodity money, at minimum or even negative service charges. This is profitable because banks then make loans on the basis of the commodity money taken in and the average value left in the bank. Through competition across banks, profitable loan making goes to minimize the service charges given to handle the money of the surplus units.

While the receipts issued as a substitute for commodity money may be denominated in bucks, the value of the buck is still maintained by the promise to repay bucks in the amount of commodity represented by those bucks – say, so many grains of gold. This promise fixes the buck price of gold in that banks must continually redeem their buck receipts in gold at that price. In such a way does bank money, substituting for commodity money, become redeemable money. And the bank's fixed price of gold serves as the redemption rate.

IV. The Operational Details of Redeemable Money

As competition among banks transfers surplus to bank consumers by minimizing the bid-ask spread of intermediation, commodity money becomes replaced in exchange by the more widespread use of transferable, redeemable bank receipts (notes, deposits, electronic entries). Hence instead of lending

commodity money, banks make their loans and otherwise acquire financial earning assets by issuing the same liabilities as they do when taking in deposits of commodity money. It is the need to maintain the redemption promise that imposes upon each bank the need to hold in reserve a certain amount of the commodity money itself and limits the size of the issue. Hence once practice dictates the minimal ratio of reserve holdings to total circulating receipts that a bank can hold and still maintain redemption on demand, the size of the acquired commodity money base then fixes the aggregate size of the bank's receipt issue. When there is no redistribution of business among the banks, the aggregate of all bank receipts is determined in the same manner.

In an exchange system with redeemable bank money, monetary control operates automatically. Hence should banks as a group over-issue receipts such that together with all other prices the buck price of gold now rises above the fixed bank redemption rate, each bank will be called upon to redeem bank receipts for gold. Then, as the withdrawal of commodity base money results in bank reserve ratios falling below acceptable minimums, banks are led to take defensive steps to preserve the ability to redeem receipts on demand by raising the deposit ratio back to its desired level. This can be done by raising bank interest rates both on demand liabilities (to attract new reserves) and on long term loans (to increase earnings per loan and limit the outflow of higher valued reserves). Higher rates then discourage redemption while slowing or reversing the growth in bank liabilities, both restoring the desired reserve ratio and countering the unwanted episode of monetary expansion.

In the opposite situation when the demands of trade raise the value of the commodity as money above its consumption price, i.e., the buck price of gold starts to fall below its redemption price, the public will bring commodity money into the bank for deposit so that the bank's actual reserve ratio will now rise above its conventionally desired level. This excess supply of bank reserves encourages expansion by enabling the banks to do more profitable intermediary business. By lowering both borrowing and lending rates, the bank gains by having to pay less for its deposits while lowering the lowering of lending rates allows it to increase the scale of its outstanding loans. Lower interest rates then induces the desired monetary expansion, which, in turn, leads the reserve ratio to fall back towards its desired level (and slowing the pace of further expansion).

Even though banks profit primarily by encouraging the use of their own financial instruments (receipts) for payment purposes, banks as a whole have an incentive to accept each other's receipts. Doing so is both privately profitable because acceptance of others receipts allows expansion at the expense of a rival and jointly optimal because mutual acceptability improves bank money's overall marketability and hence expands the joint demand for all bank monies. With bank receipts redeemable, any bank that takes in its competitor's receipts can present them for redemption. The acquired commodity money then goes into the reserves of the presenting bank and forms the basis for that bank's expansion.[4] Since most of the receipts taken in the course of a day's business will not represent net additions to bank reserves, each bank daily finds itself with receipts on other banks to redeem while redeeming in its own reserves its receipts presented by others. Given that most of the exchange is reciprocal in the

aggregate, it becomes economic for the banks to make some arrangements for canceling offsetting equivalences and settling any net differences. This gives rise to the common clearing and settlement arrangements found in all banking systems.

Thus far our story has represented a natural enough way for a banking system dealing in redeemable money to have evolved. The market incentives from cost savings induce the replacement of a pure commodity money with a redeemable financial substitute without requiring government intervention, neither for the naming nor for the defining of the monetary unit. Whether such a commodity based redeemable money would continue to survive in response to the growth of ever more sophisticated market forces would then depend on how well redeemable money performed at the macro level. For convenience, we call this characteristic of money its macro quality.

V. The Macro Quality of Redeemable Money

The macro quality of redeemable money can be judged in terms of how well it contributes to bringing about stability or internal balance within an economy. This, in turn, can be defined as how well redeemable money can contribute to fulfilling one or more social objective, such as its ability to meet an inflation target, maintain interest rate stability, or achieve a weighted measure of one or more of these objectives (e.g., meeting both an inflation rate target and minimizing a potential output gap). At different points in time society expresses different preferences for components of this set of desired goals. For example, many countries today value monetary control in relation to its ability to target

inflation, while the U.S. seems to value monetary policy in relation to a mixture of inflation rate and output gap targets. These social preferences are then reflected in market preferences, giving to competing banks an incentive to acquire customers by better satisfying these performance objectives.

From this perspective, banks that issue a redeemable money that is tied to a particular commodity (say gold) through the promise to keep its money price fixed are constrained in their ability to operate consistently in a way that furthers the kind of market stability preferred by the market. In particular, demand or supply disturbances that arise in the gold market, disturbances that would have otherwise caused the market price of gold to change, now require banks to intervene and become active buyers or sellers of gold in order to maintain the set redemption rate. Thus, an excess demand for gold in the commodity market will lead market traders to redeem bank money holdings for gold, otherwise the price of gold would rise against the buyers. As described above, this is contractionary, both directly, through a reduction in outstanding monetary instruments, and indirectly, through the slow down initiated by the raising of interest rates. Had the economy previously been in internal balance, it is now thrown out simply as a result of banks adhering to their redemption promise.

In the end, the anchor provided by redeemable money may provide insufficient macro quality to answer the demand for aggregate stability or internal balance. In such circumstances, markets may become less concerned with the type of stability implied by redemption and more willing to adopt the liabilities of banks offering a better performing money. It is then in periods of instability in the commodity money market, when the environment becomes inviting for banks to

compete by offering to satisfy the yet unmet demand for high-macro quality money.

VI. Competition over Macro Quality

Despite the certainty in exchange value given to bank money by the maintenance of a fixed redemption rate, banks are likely to recognize that continued adherence to a fixed redemption rate does not guarantee the absence of aggregate money shocks to the exchange system. Hence given a household preference for macro stability and following episodes of such macro instability and shock, at least one bank might well reason that households would prefer replacing the traditional redemption promise with one promising to provide a money with a better macro standard of performance.[5] A comparable historical instance of such regime change is provided by the general public concern with high inflation rates in the late 1980's, leading several central banks to undertake a major shift in monetary control through the adoption of explicit inflation rate targeting.

In the case at hand, the regime shift is from one where a bank promises to provide stability by redeeming bank money for commodity money at a fixed rate to one where a non-redeemable bank money is offered by a bank promising a superior level of macro stability. Effecting a regime shift will seem less dramatic in instances when prices in general rise while the money price of gold remains sticky and relatively constant. In such a case, the rule requiring maintenance of the fixed redemption rate would not require banks to raise interest rates to counter the general inflation of money prices.[6] This offers a bank the opportunity

to achieve a competitive advantage by raising its own interest rates to effect its own anti-inflationary adjustment. For that bank, moving out of step with its rivals can be justified on the grounds that any short-term profit disadvantage will be offset by the long-run gain of offering a higher quality bank money than is now available. The risk of short-term loss arises if other banks do not follow its lead. That is, by setting its interest rates higher, the contracting bank attracts more deposits (but at a higher cost than its competitors) and repels borrowers (through its higher loan charges). In addition, however, the higher borrowing and lending rates bring the contracting bank a favourable clearing balance with all other banks. This is most obvious when deposits are transferred in from competitors. Less obvious, higher loan rates by the contracting bank lead their customers to get new loans from banks offering lower interest rates. With these proceeds used to pay off a now higher interest loan, the effect is to bring clearing balances into the contracting bank.

How the contracting bank handles these clearing accumulations is crucial for the process of moving from redeemable to non-redeemable money. Because the contracting bank wants its dollars to be recognized as of higher quality than its competitors, the bank will offer the excess dollars received from competitor banks not for commodity money at the fixed rate but for its own particular dollars. That is, having renegotiated its commitment to its customers from a promise to repay the commodity money (gold) at a fixed rate for the promise to perform in a way that provides a higher macro-quality money – in a manner yet to be determined – the bank does not wish to accept repayment in gold at the redemption rate for its favourable clearing balance.[7] It will refuse to do so and so

distinguish its money, say dollars, from the dollars of its competitors. Using its incorporated name to distinguish its dollars from the dollars of its competitors, a kind of foreign exchange situation is created among bank currencies. Thus demanding its own dollars in return for those accumulated on net through clearing leads the dollar of the contracting bank to a premium against the dollars of the other banks. The contracting bank then takes in other dollars at a discount, as reflected in what it can get for them in the resale market. The other banks will agree to take in its dollars at a premium because they can recover this in the resale market.

The emergence of the exchange premium across monies reflects both the original interest rate differential across banks and the shift of deposits and loans between the contracting bank and the rest of the system. Moreover the rate at which the discounts and premium arise show up in diverging rates of inflation for general prices now set in the differing currencies. This further highlights the contracting bank's success in attracting the public's attention to their ability to provide the higher macro quality demanded. Should such attention lead to yet higher demand, the ability to deal in money of good quality will lead to a larger shift in business to the bank offering higher quality money.

In our example of competition, the competitive advantage given to the contracting bank is traced through the breakdown of the traditional pattern of inter-bank clearing and settlements, given that other banks do not compete on such a basis. This requires the dollars of one bank to be differentiated from others and the existence of an institution (market) by which differences in performance can be reflected in differences in price. With these requirements,

competition among the banks on the basis of macro quality alone is made feasible.[8]

More fundamental than banks simply changing their method of handling inter-bank clearings, however, is the decision to drop the commitment to the fixed rate redemption and so institute non-redeemable money. This, in turn, can arise only through the bank's ability to renegotiate with its customers its promise to redeem in gold by substituting the promise to operate in a manner that would achieve the superior kind of macro-stability desired by its money holders. As described at greater length elsewhere (Ferris and Galbraith, 2003), such a performance promise may require adherence to a well-specified operating rule that can deliver the outcome desired by money holders.[9] Thus, if maintenance of an explicit inflation rate was the sole goal of macro stability, the bank would need to commit to a formula, such as altering interest rates by x basis points for each basis point by which projected inflation is expected to depart from target.

It might seem that when money prices other than gold are falling there would be less incentive for a bank to break the tie to the fixed redemption rate required of redeemable money. However, the incentive is still even if there is not there an excess supply of gold at the redemption rate. That is, if other banks do not buy gold when prices generally (but other than gold) are falling, deflationary pressures will not be countered. By lowering its interest rates and going off gold, the breakaway bank will find itself in a clearing debt relative to other banks and find that its money will now trade only at a discount to other bank monies. This in turn implies that prices in terms of its money will rise relative to other banks. Should the action of lowering rates be sufficient, the price level of the breakaway

bank (measured in terms of some commodity bundle) could have remained constant. To the extent that price stability is the desired macro quality, the breakaway bank gains a competitive edge for the long run over its rivals.

In either case, if a significant sector of the public comes to prefer the use of a money backed by a binding promise to supply macro-quality control rules in lieu of a promise to redeem in a fixed quantity of a commodity, the bank that can convincingly differentiates its money product will gain market share. To prevent this, other banks may also decide to follow by adopting similar forms of operating procedure. Should all money holders prefer this form of aggregate stability, competition would lead to banks to converging on “the” optimal operating rule. In such a case, all banks will operate in the same way so that banks need not give up their inter-bank clearing and settlement arrangements. That is, even without formally maintaining a fixed rate of exchange, banks would clear and settle among themselves on a one-for-one basis (as occurs under redeemable money).[10]

Furthermore, the commodity money, gold, would no longer be used for inter-bank settlement. Banks could adopt a strictly bookkeeping mechanism such as now exists, within the same institutional framework as had been established for settlement in terms of gold. Consequently, the notion of redemption ceases to have any operating significance for the banks and the public no longer views banks as gold price supporters, buyers or sellers of last resort when pressures develop in the commodity market.[11]

VII Conclusion

In this heuristic account of how free banks could have evolved from supplying redeemable money to non-redeemable money, all banks start out by promising to redeem their money into the same fixed quantity of a commodity, such as gold. This redemption promise, as is well understood, serves to fix the money price of gold. For such a competitive system to be operational, the liabilities of each bank must be distinguishable, but the generic name of money, such as a dollar or a buck, could be the same for every separately named bank money.

While the development of redeemable bank money allows the substitution of a more for less convenient medium of exchange, it carries with commodity money the weakness that all disturbances originating in the commodity market will spillover into the money market, generating disturbances in the broader macro economy. Hence at some stage, we argue, market incentives will induce a bank to offer to change its commitment from one to redeem to one to perform. The inducement is largest when widespread dissatisfaction with the purchasing power of bank money focuses on the way bank performance under redeemable money cannot prevent unwanted fluctuations in purchasing power. Hence a bank that offers to break the redemption promise that has been incompatible with the achieving of satisfactory macro objectives – such as price stability – and substitutes a binding commitment to operate in a specified manner that can better achieve the desired stability targets for the economy can succeed in attracting business. Individual success would then put pressure on competitors

to follow or suffer the loss of business, as the public shifts from a less to more desirable form of money.

Should banks be able to produce a superior outcome by adopting a well-specified performance rule in lieu of their previous redemption promise, banks could continue to deal in the same currency units as those developed in its earlier commodity money days. The money provided is now non-redeemable but provided by a free banking system with the same structure and appearance as banking system of today. In such a system the support for non-redeemable money comes the ability to monitor and police an explicit and public performance rule rather than the corresponding performance and dictates of a central bank.

In short, there are a series of institutional arrangements and conditions under which free banking could operate with non-redeemable money. This may result in no better performance, perhaps even less, than that produced by present central banking arrangement for managing a non-redeemable money. Nevertheless, we have tried to indicate that the private production of non-redeemable bank is feasible and consistent with competition. This, at a minimum, casts doubt on the widely held notion that government must manage non-redeemable money because the market would not be able to do so. From this perspective, the case for central banking under non-redeemable money, must arise on the basis of superior performance, not just on the grounds of necessity.

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Notes

[1] See, for example, Friedman.

[2] See, White, 1984.

[3] Note also that the problem of attached coupons or explicit time charges could be avoided by discounting a future exchange price. But to do so requires there to be an explicit expirery date (e.g. one hundred bucks at December 31, 2004) that can be discounted. This effectively limits the time availability of the bank receipt as a transaction instrument.

[4] Note that this incentive also polices unwarranted bank expansion for third party individuals. This improves the acceptability of bank money for consumers by reinforcing each bank's incentive to monitor and enforce each other's promise to redeem their individual receipts on demand at the guaranteed fixed price.

[5] This is made operational below and may be a way in which a new bank gains entry.

[6] If the price of gold rose along with all other prices, banks would be forced to become sellers of gold under the fixed redemption rate and so counter the unwanted expansion. Hence there would be less interest in modifying current arrangements.

[7] In effect, the bank recognizes that its value relative to commodity money will be rising, standing at a premium relative to other commodity monies.

[8] Both Klein and Hayek foresee banks adopting bank-specific names for the monetary unit so that n different banks result in n different names for the common monetary unit.

[9] As is well recognized (see for example White, 1999, Ch.12), the mere promise to act in a given way will not be credible unless there are incentives and policing mechanisms sufficient to over come any profit inducement for non-compliance. A gold redemption promise, for example, can be seen as a contract under which banks guarantee a fixed redemption rate for gold through time. The ability to monitor gold prices then becomes the enforcement trigger since bank customers can demand that either banks deal in gold at the redemption rate or be forced out of business, for bankruptcy or for winding up. These conditions then form part of the legal environment under which all banks must operate.

Under competitive, non-redeemable monies, refusal to act in keeping with the contractual promise to maintain stable prices will show up immediately in an exchange rate change for the offending bank against the currencies of complying

banks. As under the gold standard, any signs of the deterioration of the quality of a bank's money will cause its customers to run to its competitors. The tendency for bank customers to run and for third parties to profit from the subsequent fall in the bank's market value justifies Hayek's (1976) belief that daily exchange rate quotations for different competing monies would be sufficient to keep individual banks in line.

The incentive for competitive banks to conform would also be strengthened by a penalties of a legal system that could enforce the failure to keep a monetary promise as cause for bankruptcy or for winding up a non-complying bank. This would then put a competitive bank money promise on the same legal footing as a redemption promise. In this case the ability to utilize the legal system requires the formulation of a precise, observable operating rule that would permit third party determination of when an operating promise was not being kept.

[10] The reflux mechanism, as is well known, keeps individual banks in step but does not restrain the system as a whole. Under the gold system, simultaneous expansion could be disguised temporarily, but would eventually be restrained by the system's inability to maintain its redemption promise. Such occasions threaten to destroy the system as a whole by putting all banks into bankruptcy for non-compliance. In such circumstances, competition may come to the rescue. That is, by decoupling its promise to accept other bank monies at par, one bank may step out of line with others by maintaining its promise to redeem only its own notes at the fixed redemption rate and so attract the business of those fleeing non-redeeming banks. The bank that maintains redemption without the need for a Bank holiday or the temporary suspension of bankruptcy and redemption wins a market premium over its less credible competitors.

With a competitive money system, relative exchange rate changes substitute for clearing losses as the mechanism for signaling non-compliance and keeping individual banks in line. Once again, however, relative exchange rates cannot signal non-compliance by the group and hence cannot anchor the system. In such circumstances, competition can again come to the rescue by providing the market incentive to break with common practice and promise a performance rule that provides superior monetary stability.

[11] There remains one tricky technical issue. Dropping the redemption promise means the absence of any third party asset that any bank creditor can demand from a bank to settle its outstanding debt. Under redemption, gold had served that function. Therefore to be meaningful and fulfill legal obligations, it would have to be understood that a bank could pay off its liability in the money of some third party bank, thus preventing its debt from being considered a perpetual instead of a demand debt.