THE WHITE-SELGIN MODEL - A BRIEF ANALYSIS

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Abstract

This paper provides an overview of the model proposed by Professor White and further developed by professor Selgin and an analysis of the possibility of its implementation as a reform of the current monetary system. Research has shown that the proposed system is somewhat similar to the monetary system during the classical gold standard, between the years 1880-1913 and assumes that the money in circulation is convertible. Their amount depends on the existing bank reserves, so that an important factor in the decision of banks to issue banknotes will be the desire of the public to hold them. If the public trusts a particular bank, it will increase the demand for its banknotes so that the bank will record a surplus towards other banks in the clearing sessions and, as a result, it will have excess reserves, which will be used to grant new loans and gain market share. The model is based on fractional reserves and assumes they have no optimal level, but instead they fluctuate, depending on the velocity of circulation of money. Regarding the market's ability to correct imbalances in the absence of strong institutions (in this case, central banks) that can provide the necessary solutions, the model appears to be perhaps a little too permissive. Also, the only rule imposed by the authors, the convertibility of money, though it is strong, cannot provide by itself a satisfactory efficiency of a system based on this model.

Cuvinte cheie: White-Selgin model, competing currencies, the gold standard, the Austrian school, free banking

Clasificare JEL: B25, B53

1. Introduction

Like any model that implies the existence of competition, the starting premise is that the consumer’s interest is for any good or service to be offered in a competitive environment, not in a monopolistic one. This idea is not new, as Adam Smith described it in detail at the beginning of the "Wealth of Nations" and there is no reason to doubt that before him was otherwise. Today, in most areas, competition is what drives manufacturers to innovate and to provide the public with products that have an appealing price. There is however one notable exception: the money issue. Here the established idea is that creating money is a prerogative of the state and, historically, this principle appears to have no strong opposition. For example, the Bank of England was founded in 1694 in order to fund the war of Prince William III with France and it was bestowed with certain privileges. After the war, the Bank began to develop and consolidate its power compared to other banks through various privileges obtained from the authorities. All these events led to the famous dispute between the monetary and the banking school, after which the Bank of England obtained monopoly on issuing banknotes. Afterwards, most of the countries in the world set up central banks, due to reasons ranging from ensuring an elastic money supply to maintaining unemployment at the lowest level possible. Although the thesis of free monetary issue seemed abandoned, a revival of the research regarding the market capacity to provide the necessary medium of exchange for the economic activity took place with the publication of Hayek’s "Denationalization of Money"[1], who was also a Nobel Prize laureate in economics in 1974. I did a review of the model proposed in this book on a previous occasion. The favorite theme of the research was to study the countries that have experienced the so-called free banking and the results have shown that such systems have worked quite well. However, the idea of returning to such a system does not enjoy much support today. Instead, the research intensified on how much freedom the central bank should have in setting the monetary policy and the discussion became known as rules vs. discretion in monetary policy.

2. About the White-Selgin Model

Continuing with the discussion above, a classic case of rules was using commodity money. The White-Selgin model relies on such a mechanism, in which it is used the term commodity money, but, although not explicitly, I suspect that this phrase refers to precious metals, given that the book has many examples through which the medium of exchange is exemplified by them.[2] To answer the question whether there can be a commodity that preserves its purchasing power (this is also the current objective of central banks, which manage fiat money), I picked the classical
choice, gold and I used the data from the World Gold Council.[3] The research’s results were positive and are summarized by the following graphs:

![Chart 1: Gold purchasing power in France](image1)
![Chart 2: Gold purchasing power in Germany](image2)
![Chart 3: Gold purchasing power in USA](image3)
![Chart 4: Gold purchasing power England](image4)

Even Keynes[4] who considered gold a "barbarous relic", notes that "(England’s experience under the gold standard in the 19th century and early 20th century) is characterized by a relative stability of prices. About the same level of price ruled in or about the years 1826, 1841, 1855, 1862, 1867, 1871 and 1914 ... the maximum price fluctuation in either direction was maximum 30 points, the index number never rising above 130 and never falling below 70. No wonder that we came to believe in the stability of money contracts over a long period.” This observation is also supported by the research of Meltzer and Robinson[5] which shows that prices in seven countries were relatively stable, with the mention that the analyzed period must be big enough to encompass alternative episodes of inflation and deflation. In these countries, as the table below shows, the inflation rate was between 0.08% and 1.1% (the first two columns cover the period in which commodity money were in circulation and the last two cover the fiat money era):

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Denmark</td>
<td>- 1.2</td>
<td>0.8</td>
<td>4.9</td>
<td>7.7</td>
</tr>
<tr>
<td>Germany</td>
<td>- 0.3</td>
<td>1.1</td>
<td>3.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Italy</td>
<td>- 0.4</td>
<td>1.6</td>
<td>4.1</td>
<td>13.5</td>
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<tr>
<td>Japan</td>
<td>1.9</td>
<td>2.3</td>
<td>5.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Sweden</td>
<td>- 0.9</td>
<td>1.3</td>
<td>10.5</td>
<td>8.7</td>
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<tr>
<td>England</td>
<td>- 0.4</td>
<td>0.9</td>
<td>3.1</td>
<td>10.5</td>
</tr>
<tr>
<td>USA</td>
<td>- 2.0</td>
<td>2.0</td>
<td>2.9</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Source: Meltzer and Robinson, 1989, p.172

Back to the model, Selgin's view, which I share, was that bankers emerged as a result of switching from deposit banks to banks of issue, which can expand the amount of currency above the reserves they hold (fractional reserves). In particular, Selgin identifies two causes for which banks can lend also the depositors’ funds: the fungibility of money,
namely that the depositor can be reimbursed with other money than those he put in the bank (in the sense that it should not be reimbursed with the same coins or notes submitted) and the law of large numbers, which allows a continuous but volatile flow of resources available for lending.

Once the lending activity is started, banks will want to expand to other locations as well. To do this, banks need to build a reputation so that their banknotes are accepted by customers from other areas/cities. As in nowadays, some banks will succeed, others will not, but it is certain that such an expansion will take place, if only because of the advantages of using notes for transactions that otherwise would require repeated movements of large quantities of the commodity that acts as money.

As this expansion occurs, competition between issuers begins to appear. As proven countless times, competition may lead to questionable practices. For example, the problem of the parity at which a bank agrees to exchange the banknotes issued by competitors. It is clear that for reasons of uncertainty (lack of information regarding the soundness of the bank that issued the notes or the difficulty of putting such notes into circulation in its location of activity), but mostly for profit related reasons (the refusal to recognize these notes limits their circulation and causes an increase in the demand of the bank’s own notes) banks would be tempted not to make such operations or to make them under some unfavorable conditions. For example, bank A may not recognize banknotes issued by bank B or recognize them at 90% of their face value. In this case, in bank’s A location of activity, banknote users may become reluctant to hold notes issued by bank B and choose banknotes issued by Bank A or by a bank approved by the latter. One might argue that such a practice is disadvantageous for a bank that uses it because it can turn against it. True, but I think this is valid only if banks are close in size and/or there is no direct competition between them (they are in different cities, for example). Otherwise, nothing can prevent a bigger bank to abuse of this practice in competition with a smaller bank. On the other hand, it is assumed that as the system matures such note-dueling practices will disappear, because banks will conclude that it is more profitable to accept banknotes issued by competitors and then redeem them into the backing commodity.

As for the monetary creation, Selgin addresses this issue both when the public’s money demand is constant and when it fluctuates.

In the first situation, lending is based on the banks’ own resources and the deposits it attracts. As it is known, any bank needs some reserves to cope with customer withdrawals and interbank clearing. Therefore, new loans may be granted to the extent of any excess reserves which the bank has. Here the question that arises is if a bank would comply with this rule, as long as there are no regulations in this respect. The argument would be that, once granted, the loan is used to make various payments, so that the bulk of payment instruments issued under this loan gets to other banks, which present it to the issuing bank immediately for redemption. Therefore, the excess reserves are initially absorbed fully or partially by other banks and, consequently, a higher volume of loans than normal would force the bank that over expanded to raise additional reserves at a high financing cost. An important remark here is that, after a certain point, banks can expand the money supply only if they receive reserves from the outside. As Rodkey puts it: “…it is evident that such increased reserves must come from outside of the system since otherwise as one bank succeeded in increasing its reserves such increase would be at the expense of some other bank whose reserves were being correspondingly diminished. The expansion of loans by the bank with the increased reserves would be offset by the contraction necessary in the bank whose reserves were being drawn away, with no net change in the volume of loans for the system as a whole”.

Regarding Selgin's views on the central bank, he sees its ability to change the amount of the existing money in circulation as a shortcoming. However, central banks are limited in their activity by a number of factors. Besides, it is inappropriate to assume that a central bank’s monetary policy would be conducted in a manner unsuitable for the state to which it belongs. As an interim conclusion, there aren’t strong arguments to suggest that if the demand for money would be constant, a free-banking system would do better than one with a central bank.

In the second situation, the public’s demand for money fluctuates. Let’s assume initially that the demand for money increases. We can identify two cases: firstly, where a bank has acquired a very good reputation, so that the public wants to hold more of his notes and secondly, when there is a generalized increase in the demand for money. Banknotes, as we have seen, are liabilities of the issuing bank and, therefore, enter into the clearing mechanism. In the first case, as the public's desire to hold notes of a certain bank increases, their amount that enter the clearing mechanism will decrease and the issuing bank will face an excess of reserves. Thus, to meet the new demands, the bank simply increases its issuance, granting loans. It is important to note here that in this case it should not occur a rise in prices, because basically the bank equilibrates itself with the other banks in the system (the equilibrium is considered to be achieved when after the clearing session the net position is zero or payments to and proceeds received from the remaining banks cancel each other). The problem here is that if the situation continues, the bank could eventually end up holding a large share of the banknotes in circulation, moving, ultimately, towards a central bank. In the second case, the public’s demand increases regardless of the issuing bank. Therefore, banks will find that the clearing amounts decreased (i.e. the public retains more of the banknotes in circulation). A lower level of clearing amounts means less need for reserves, so that all banks increase their lending activity until all available reserves are exhausted.

On the contrary, if the demand for money falls and if this reduction is related to one bank, the public will not want to hold its notes, so that their number that enters the clearing mechanism will increase and the bank will...
experience a drain of reserves, which will force it to adjust its activity downwards. Obviously, this adjustment means either a reduction in lending or a liquidation of investments. Whatever method is chosen, the bank will suffer a contraction of its circulation and, consequently, a reduction of its activity. If there is a generalized fall in the demand for money, banks will find that the clearing amounts have increased (i.e. the public puts more of the notes into circulation). An increased level of clearing means a greater need for reserves, so all banks will diminish their lending until the volume of loans is adjusted to the new level of reserves available. In conclusion, if the velocity of money increases, banks will respond by reducing their quantity and vice versa.

Based on the above analysis, Selgin believes that a free-banking system may confer elasticity to the money supply, so that price changes caused by monetary considerations are removed and the currency will be stable. Here there can be made some comments. First, one of the factors affecting the stability of the purchasing power is inflation. But this is not the only one. There are many other events that may affect the price level. A dry year will raise the price of foods from agriculture. In this case, an excess of currency is not to be blamed, but the laws of the market. It is known that as the supply of a good decreases, its price tends to rise. So, in addition to natural causes, the prices may be affected by the quantity of goods and services available. A reduction of the latter would result in higher prices, while an increase would lower them. The purpose of these considerations is to show that an accurate estimate of the prices' evolution is difficult, perhaps impossible. Moreover, Selgin notes that although a free-banking system would eliminate many difficulties, it cannot guarantee to eliminate all.

Finally, the last remark refers to bank panics, or in other words, the financial stability of the system. In practice, a bank panic means that the public loses confidence in banks and requests back its deposits, i.e. receiving cash for them. It is slightly hazardous the idea that a bank could issue any banknotes needed in order to meet the withdrawal requests received from the depositors, as Selgin considers. The real problem is when the public wants the commodity that backs the cash, not the notes. The point is that no matter how the analysis is carried out, such a free banking system cannot prevent bank failures. One of the few solutions that do not involve state intervention is that banks support each other in such difficult situations, but this is quite difficult to obtain in practice, for various reasons. If withdrawals target several banks, the system cannot survive without outside help (such as, for example, funds from a central bank).

3. Conclusion

The White-Selgin model assumes a system where banks are free to issue their own banknotes without any restrictions, except for changing them into the commodity that backs them, if requested. It is very important that the public has confidence in the ability of individual banks to ensure permanent conversion of notes, so banks will compete to win this confidence. The amount of money in circulation will depend on existing bank reserves, so that an important factor in the decision of banks to issue banknotes will be the public's desire to hold them or not. As we saw above, if the public trusts a particular bank, it will increase the demand for its banknotes so that the bank will record a surplus towards other banks in the clearing sessions and, as a result, it will have excess reserves, which will be used to grant new loans and gain market share. Note that the model works on fractional reserves and assumes that there isn't an optimal level for them, but that they fluctuate depending on the velocity of circulation of money. Regarding the market's ability to correct any imbalances in the absence of strong institutions (in this case, central banks) that can provide solutions, I appreciate that the model may be too optimistic. I also think that the rule of convertible money, although strong, cannot provide by itself a satisfactory effectiveness of a system based on this model.

4. Bibliography


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