An Experience in Banking Departmentalisation: the Bank Act of 1844

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Summary

On the basis of the Ricardian analysis of inflation, the Bank of England was reorganised at the beginning of the XIXth century in two distinct departments, one for the banking activities and the other for the issue of bank notes. The division adopted in 1844 failed to fulfil its objectives because it was based on an exogenous conception of money. However the need for a management of money still retains its relevance. In this perspective, the endogenous money approach enables us to consider anew the question of banking structures designed to prevent malfunctions in money creation. Analysing the shortcomings of the Bank Act of 1844 then allows to lay the basis for a system of departmentalisation at the level of the commercial banks. This would enable the banks to isolate credit for the creation of new incomes and credit for the loan of existing incomes to finance consumption and capital accumulation.

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Introduction

The *Bank Act of* 1844 was designed to modify the Charter regulating the conditions of note issuing by the Bank of England. This reform was based on the *Currency Principle* which held that the circulation of notes should be made strictly analogous to a metallic circulation. The act limited the issue of notes by the Country Banks at the existing level with the view of later integration by the Bank. As for the Bank of England itself, the act officially recognised the separation between the Issue Department and the Banking Department although there never was any institutional division. In the Issue Department, the reform established a ceiling of £ 14 millions to the fiduciary issue; over that amount, the notes could only be issued against a deposit of gold. The Banking Department was confined to discounting operations and was submitted to competition from all the other banks.

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The reform was designed to establish an automatic control preventing any bad management of the notes by the Bank. The virtues of a metallic currency were to be maintained in the cheaper and handier paper money system.

An alternative to this system of built-in automatic protection was defended by the *Banking School*: it rested on central bank interventions based on reserves and prudential regulations for the commercial banks but insisted also on the necessity of gold convertibility.

Although the reform marked the victory of the *Currency School* in the field of institutions, it was not able to prevent monetary crises during the second part of the 19th century; during the 20th century, the separation was rendered useless with the end of the convertibility in gold. On a theoretical level, it now seems commonly agreed that the *Banking School*, although much dependent on the principle of gold convertibility, provided ground for a more modern approach of the monetary phenomena than the *Currency School*. Unfortunately the management of money is still an open question as we keep oscillating between the extremes of strict policies unable to eradicate unemployment and stimulating policies fostering inflation.

This paper will not deal with the problem of international relations. It is of course a significant deviation from the central question of the Bank Act of 1844 which was largely based on the regulation of the movements of gold in and out of the country. However this approach can be justified in the perspective of the Banking School which considered that the error of the Currency School was precisely to overlook the degree of autonomy of internal monetary relations towards the external movements. Our present concern will be to reflect on the possibility of an automatic system regulating the creation of money inside a national economy. In a sense, the aim is to build on certain elements of the *Banking School* approach to money in order to establish a kind of *Currency School*-type apparatus: an accounting system based on the separation of the recording of the payment operations according to their nature.

The *Banking* approach developed a partial analysis of the endogeneity of money which may be systematised. This lays the foundations for a *monetary theory of production*. However the technical approach of the Bank Act of 1844 could find some relevance at the level of the commercial banks. A combination of the endogenous money approach with the analysis of capital accumulation could provide us with a justification for separated departments; this would guarantee the segregation of credit for the creation of new incomes and of credit, based on existing incomes, for financing the accumulation of capital.

I The endogeneity of money invalidates the separation

Emphasising the wide range of means of circulation

For the opponents to the 1844 Bank Act, the reform, and especially the separation, could not reach its objectives and was likely, on the contrary, to cause severe disruptions to the financial system. Establishing a strict correspondence between the volume of notes and the quantity of gold deposited in the Issue Department, the separation was regarded inadequate for the management of the means

of payment. According to Tooke, the relevant concept for monetary policy was not money narrowly defined on institutional grounds but the more effective concept of circulation. This led Tooke to two kinds of criticisms against the Act.

The first argument had to do with metallic currency. The metal circulating as a medium of exchange may also be demanded for material use (which Tooke called "capital" use). Thus the variations in the traded quantity of metal and in its price could not be attributed exclusively to monetary causes; conversely, the fluctuations for "capital" motives could provoke disturbances to the banking and financial system in case of a rigid link with notes.

The second argument was based on the inadequacy of the definition of money restricted to notes and coins. For Tooke, there is no reason to treat notes separately from the other circulating instruments which carry out a great deal of economic transactions. In this respect, Tooke insisted on the role of the bills of exchange and the cheques drawn on bank deposits. However, more than the variety of the instruments of circulation, it is, according to Tooke, the existence of two different kinds of circulation process that undermines any strict relation of proportionality between the money aggregate and the volume of gold and notes. In this matter, Tooke referred to Adam Smith's distinction of the circulation between *dealers* and the circulation between *dealers* and *consumers*. The former involves *capital*, as Tooke put it, and is mainly carried out through credit. The latter kind of circulation has to do with incomes; it involves *currency* and is mainly operated by coins and notes. Thus, these processes differ both in their working and in the nature of the circulated object.

In this perspective, the separation established in 1844 could not in itself prevent any increase in the price level. Tooke accepted that an increase in the quantity of currency, for circulation between dealers and consumers, could lead to a price increase because this circulation is the determinant of the price level. On the other hand, the circulation of capital, i.e. between dealers, is determined by the level of incomes; it is therefore a consequence and not a cause of price fluctuations. Moreover any attempt to refuse to provide the means of payment demanded by the public would lead to an increased demand on other means of payment. This transfer principle meant that the separation was at best inefficient but more likely to provoke large economic fluctuations as the system tries to adapt to the monetary constraints. In this perspective, the circulation depends on the demands of the public and on its willingness to use a specific kind of instrument. It is not in the power of the banking system to impose a given quantity of a specific instrument.

The crises following the reform

According to the reformers, in the single department system, prior to 1844, a demand of conversion of deposits into gold would not affect the volume of notes in circulation, whereas in the separated departments system, installed in 1844, the conversion of deposits into gold would provoke a decrease in the deposits of the public. In the latter case, the banking department would have to convert part of its reserve of notes into gold at the issue department. In the end, the issue department would have reduced both its quantity of gold (on the asset side of the balance sheet) and its volume of notes in circulation (on the liabilities side of the balance sheet). The reserve rule imposed on the banking department was designed to compel this department to sell part of its portfolio to the public in order

to satisfy the legal ratio between notes and deposits.

Tooke considered that the reform was sure to fail because a demand for conversion would, in fact, fall on the deposit, i.e. banking, department. This department would have to reduce its securities portfolio and, should the demand be in great volume, the discount activity would have to be stopped; this in turn would react on the economic activity of the country and lead to the severe disruptions predicted by the Banking School. The reason for this evolution is that the conversions would not diminish the quantity of notes held by the public but only the quantity of notes detained by the banking department. The disruptions would then arise albeit large amounts of gold would still remain in the issue department.

This problem has to do essentially with international trade but Tooke considered also that the reform was not able to prevent internal fluctuations. According to Tooke, the main source of disruptions originates from careless lending by the banks; these give credit to firms on poor quality bills, which process leads to failures. Price increases can follow but these events have usually no effect on the volume of notes so the reform has nothing to offer to prevent this from happening. In the end, the reform would be unable to fulfil its direct aim, to prevent a drain on gold; and it would be unable to control the developing sectors of the monetary system.

The second part of the 19th century confirmed this opinion. Three successive monetary crises did take place: the first one as early as 1847, the second in 1857 and the third in 1866. In each of these situations, to prevent the system from collapsing, the Chancellor had to write a letter authorising the Bank to issue notes in excess of its gold deposits. The relaxing of the rules for issuing Bank notes meant that the Bank of England was allowed, in an emergency situation, to re-establish a direct link between the discount of bills and the issuing of notes; this would guarantee a minimum circulation, a safety net, preventing any cumulative depression of activity.

What do these crises reveal ? If we set aside the movements of gold and demand of conversion from abroad, the crises presented an interesting feature which confirmed Tooke’s predictions: they originated in a large number of failures from bills of exchange issuers.

Bills of exchange circulate through endorsement by successive holders but, of course, the circulation stops if the issuer ends up in bankruptcy; consequently, there is a risk attached to such a circulation. If the economic activity slackens, the probability of failures increases and bills of good quality become rarer. This urges the productive system to find safer instruments, claims accepted everywhere and at any time, for the monetisation of the production and for circulation operations, hence a demand for Bank notes in excess of the amount authorised by the gold deposit rule.

The crises were the consequence of the monetisation of unprofitable activities, in fact the natural outcome of any economic boom; in some activities, investments were carried out beyond the needs of the economic system and this called for adjustments. On the other hand, it proves that, before the advent of each crisis, the circulation, i.e. the payments, related to the growing economic activity was effected not primarily through the movement of notes. The banking and financial system and the productive system had adapted to the separation and this led to a more intensive use of bills discounting and of movements on bank accounts.

The law of flux and reflux

According to the *Banking School*, the inadequacy of the reform, and its potentially damaging effects, stemmed from the inability of the *Currency School* to understand the workings of a system of payments. The credit means of payment, in a monetary economy, obey the fundamental law of flux-reflux.

We can describe the position of the *Currency School* as strictly quantitativist: the public reacts to an increase in the means of payment by spending more and this pushes the price level upwards whereas the quantity of money remains at the increased level. The *Banking School* held, for its part, that the increase in the quantity of credit is validated by the public if it suits its needs, otherwise the " excess" is cancelled out by repayment, by exchange or by deposit into the banks.

The *Currency School* reasoned as if the means of payment were a real asset for which an autonomous change in quantity would affect prices. For the *Banking School*, on the other hand, no over-issue of notes is to be feared as long as convertibility is maintained. The holders of notes can use them to make further transactions; in this case, the notes go on circulating. If no longer demanded by anyone within the productive system, the notes will flow back, reflux process, to the issuer. Tooke and Fullarton considered three different channels through which this reflux could take place: deposit on a bank account, repayment of loans and exchange against coins.

For the *Banking School*, convertibility meant a mix of the two different systems of circulation. The circulation between *dealers* and *consumers* emphasised by Tooke actually coincides with the circuit of incomes. Although the words *dealers* and *consumers* tend to focus on consumption, Tooke explained that the payment of wages must be included in this circulation.

If we consider the operations rather than the instruments, we plainly see that the relations are better described as between FIRMS (including retailers and all kinds of traders) and HOUSEHOLDS (factors of production and consumers). Moreover Tooke explicitly contrasted the two kinds of circulation as related to the circulation of incomes, on one hand, and to the circulation of capital, on the other hand.

According to Tooke, the incomes circulation is performed by the motion of coins and notes; he considered it a *real asset* kind of circulation because it concerns actual payments. In accordance with the *Currency School* on this point, Tooke insisted on the necessity of convertibility to regulate this kind of circulation, that is to prevent the banking system and the government from increasing freely the quantity of circulating instruments which would lead to an increase in the price level.

For Tooke, the circulation between dealers is a credit circulation because it concerns *promises to pay*. Apart from failure, the promise to pay at one date issued by one firm should be compensated at that date by an equivalent claim obtained by the firm: the credit is created and then repaid. There is therefore a reflux process which, Tooke thought, cannot be found in operations with coins and inconvertible notes. In the Banking School point of view, the law of reflux, applied to the notes, appears to be a means of choosing between different instruments; in this case, the reflux should prevent any price increase. It seems therefore that the reflux process is characteristic of the circulation of capital in which the level of economic activity is considered as given. In consequence, this approach leads, as emphasised by Laidler, to an interpretation in terms of portfolio analysis with a given amount of income.

However, the limitation of the law of reflux to the circulation of capital has to be questioned on several accounts. Firstly, the same instruments are assumed to perform under two different laws of circulation operating in one economy. Secondly, convertibility is supposed to be the basis of the operation of the reflux but convertibility should only be relevant to the income circulation where the coins are used. In addition, is it really valid to exclude credit from the circulation of incomes ? This last question has to be raised because, even in the case of a credit between two firms, i.e. between *dealers*, the credit allows the beneficiary to increase its activity, that is to pay more incomes to "consumers". Moreover, when the banking system comes into the picture as an intermediary, through the issue of notes and through the discounting of bills, the instrument issued by the banks can also handle the circulation of incomes.

Tooke and Fullarton insisted on the endogeneity of the issue of notes: the banking system acts in response to a demand by the public and cannot increase by its own will the quantity in circulation. However it can be argued that the endogeneity is verified whatever the use of money. Could then the law of flux-reflux be extended to all the means of payment, i.e. could it be comprehensive ? The logical condition to this extension of the law of flux-reflux is the integration of the money processes and the operations of the productive system in the endogenous money perspective.

The endogenous money perspective and the flux-reflux of incomes

The word endogeneity conveys various meaning. Rather than the perspective of a causal relation between variables, we shall adopt here the approach used in some post-Keynesian writings and developed by the Circuit School.

To organise the production process, firms gather factors of production by paying remuneration to these. All things being equal, this means that the factors of production gain claims on the output. Taking part in a production, the factors are the producers and they are entitled to a right on the result of this activity, these rights being materialised by the incomes arising from production. Here we consider incomes inclusive of profits which means that a distribution process can take place in addition to the basic production-consumption process.

Now, someone participating in a specific production process will usually be more interested in products brought about by other firms. This is the reason why the participants in a production are remunerated by the way of claims on the products and not directly in kind. If indeed the latter were the usual case, the producers (meaning here the factors of production) would have to engage in complex time-consuming exchange operations with a high probability of sub-optimal results. If the firms were to issue tokens stating the claims of the producers on the stock of commodities, it would already greatly facilitate the exchanges, i.e. the shift from producing one kind of good to consuming another one. However the direct link with the commodities would imply that some degree of negotiation should take place to circulate the tokens. This problem can be rounded with the introduction of second stage intermediaries. The firm is already an intermediary between the producers and the commodities but here the link is direct, too direct for large scale exchanges. The banking system constitutes a second stage intermediary. Instead of being direct claimants to the firms who stock specific goods, the producers hold claims on the banking system who in turn has claims on the

firms stocking the goods. What is gained by adding this second level of intermediation ? It broadens the scope of the claims and simplifies the exchange phase. The remuneration of the factors of production being expressed as claims on the banking system (as a whole), the holders of these claims have access to all the goods on sale; the firms have to sell those goods to redeem their debt towards the banking system. In consequence, the introduction of the banking system transforms the claims on a specific stock of goods into claims on anything produced by any firm participating in the system, i.e. any firm member of the economic community.

We saw that Tooke contrasted the dealers circulation and the dealers-consumers circulation as concerning a promise to pay (credit), in the first case, and an actual payment (income), in the second case. But is the promise to pay really restricted to the *dealers circulation* ? What Tooke considered as a payment is in fact a payment in kind which really does take place with consumption only, that is when the goods are actually claimed. The same argument applies to the gold coins in their currency function: " Tooke's payment" occurs when the coins are used to buy something.

When the factors of production receive their remuneration, they obtain a claim on the products available, i.e. they get a promise to be supplied goods and services on demand. From the point of view of the firm, the promise to pay is actually a promise to deliver the goods; this will happen sooner or later in the sense that the goods will be consumed voluntarily or perforce. From the point of view of the banks, the promise to pay is a promise to assert that the depositor has a rightful claim. Finally, the "promise to pay" between dealers simply means that the dealer who promises to pay is really taking the place of the other firm as committed to release the products.

The means of payment are endogenous in the sense that they are created through a relation between the banking system and the productive system. This endogeneity comes from the circular character of these relations: a first kind of payment monetises production, this is the flux of incomes; then a second kind of payment de-monetises production, i.e. the products are consumed, this is the reflux of incomes. Unfortunately this simple scheme is obscured by the financial relations, i.e. the transfers and the lending operations, added on the basic circuit; these relations have their own flux-reflux circuit which was actually the flux-reflux that attracted the attention of Tooke and Fullarton. Furthermore, the main source of confusion is provided by the movements of the instruments expressing the claims: coins, notes, bills of exchange and deposits. It is precisely on this account that the endogeneity of money does not *per se* guarantee that all issues correspond to *Real Bills*; there is no necessary link between credits given by banks and production in the firms: the asset side of the balance sheet of the bank may corresponds to pure financial claims.

It then becomes quite obvious that the form under which the claims are expressed plays an important role in the functioning of the economic system. If one has a claim on a specific stock of goods, he is well secured as to the immediate content of the claim but, on the other hand, access to other kinds of goods may prove problematic. Conversely, if someone is holding a universal type of claim, he has ready access to all commodities available in the economy but this universal claim is highly sensitive to financial risks, that is to the lending policy of the banking system as a whole and of the issuer of the instrument in particular. The Banking-Currency controversy was precisely centred on the best way to reduce or even suppress that sensitivity.

II From convertibility to a monetary economy of production

The flux-reflux is quite apparent in the case of scriptural money because we plainly observe that depositors are doing credit to the bank which in turn holds a claim on firms. But, if the law of flux-reflux does govern the incomes circuit, there should be a continuity between the successive systems of payments. An enquiry is therefore needed on the applicability of the law of flux-reflux to the circulation of notes and to a commodity currency. This will allow us to examine the conditions of the transition from one system to another; convertibility will then come out not as a requisite of circulation but as a protective device.

The issue and circulation of Bank notes

The central bank could provide notes to allow spending by the Treasury or in response to the demands expressed directly by the public or via the commercial banks. The notes would then be issued against Treasury bills, deposits of gold, banking deposits and through the discounting of commercial bills. The prime target of the 1844 reform was to authorise only one procedure: from now on, notes were to be supplied only against a deposit of gold.

Further on, we shall consider in its own right the metallic circulation and this will allow us to deal with the notes representing gold. We need not consider the conversion of bank deposits as it is just a change of form of existing claims. For the moment, let us focus on the issue of notes through the discounting of bills.

The Bank may directly discount a bill issued by the firm which obtains the notes. The firm employs the notes either to pay the factors of production or to buy something already existing. In the former case, the factors of production obtain a claim on the central bank which in turn has a claim on the issuer of the bill: the notes monetise a new production therefore they participate in a flux of incomes between the firms and the producers (the factors of production). As the firms have to sell their products, to the factors themselves or anybody else, to recoup the costs of production, inclusive of interests and dividends, this will lead to a reflux of the incomes previously created. This reflux however does not necessarily correspond to a reflux of the notes previously spent by the firm.

From this, we can infer that the issue of notes carried out through the discounting of bills allows to operate a circulation of incomes. Besides, in this instance, the Bank acts as an intermediary like any ordinary commercial bank. This implies that the circuit of incomes corresponds to a credit relation. This result does not depend, at least directly, on convertibility because convertibility is not a necessity at the present stage of the operations.

The firm may use the notes to buy existing commodities instead of paying the factors of production; however, the goods are purchased by the firm to be incorporated into a new production and the situation eventually stands as if the firm had itself organised the production of those goods. The credit between “dealers” is therefore connected to the circuit of incomes: a firm has to sell its stock of commodities in order to repay the bills issued towards other firms or banks.

But what if, as is usually the case, the firm brings to discount a bill issued by an other firm ? The initial holder of the bill was waiting for a payment from earlier trade; thanks to the discounting

of the bill, the waiting firm abandons its claim in order to organise directly a new production or to buy goods. The conclusions drawn for direct discounting are therefore still valid in the present situation.

Historically the notes could also be issued by the Bank of England to allow the Treasury to make payments in advance of the tax receipts. Through these payments, the Treasury acted like any firm obtaining a credit from its bank. After the issuing of the notes, the Treasury was indebted to the central bank which, in turn, was indebted to the holders of the notes. The notes could serve to pay the civil servants; this meant paying incomes to the factors of production of the public services. The notes would then represent a claim on the services provided by the State, i.e. on the production of the public sector. The Treasury could also spend the notes to buy supplies and equipment like a firm buying unfinished goods and raw materials. In this case, after the payment, the supplier of the State disappeared from the process and the situation stood as if the State had organised the production right from the start, i.e. as if the public sector had an integrated process of production. The notes would then represent a right on the production of the public sector. This process had the same endogeneity characteristics as the flux from the commercial banks for the monetisation of the production of the private sector.

Let us now turn to a kind of notes circulation that does not involve directly any constituent of the banking system: the payment of an artisan; indeed, in an economy where the banking system is still under-developed, this may represent a fair amount of trade. Here we have an obvious exchange of goods or services for notes. Let us consider the commodities transacted here; being fabricated by an individual craftsman, they are not integrated in the economy until sold. In other words, there is no production in the economic sense until a transaction has taken place. This means that the goods are produced, i.e. taken in the production of the community, at the very moment of their sale; therefore, both production and consumption are effected at the same moment. Here the producer forsakes his rights on his products to obtain the notes, whereas the former holder of the notes is allowed to consume the goods. Here again the notes are instrumental in a flux-reflux process although this is concealed behind what appears to be a permutation only.

To conclude this study of the circulation of notes, we can argue that, whatever the origin of the notes, they are incorporated in the flux-reflux of the incomes created in the productive system. However, the necessary reflux of the incomes does not imply the necessary reflux of the notes to their prime user because the notes are only one vehicle amongst the various means of payment available in the economy.

A flux-reflux of incomes even with a commodity currency

Tooke and Fullarton considered that the metallic currency, including inconvertible notes, does not obey the flux-reflux mechanism. This raises the question of the possibility of two completely different systems coexisting in the same economy.

Apparently the use of a commodity as currency seems incompatible with the endogeneity of money. Anyone detaining gold coins looks like holding a specific commodity and not a claim on anybody or anything else; in other words, there is no apparent liability, in the economic system,

corresponding to the detention of gold. On this ground, it would appear sensible to adopt Tooke and Fullarton's interpretation: no credit hence no law of reflux but a *real asset* circulation. But let us examine this case in details before reaching a conclusion.

Assuming that gold coins are the only instrument of circulation in the economy, we can first investigate the operations carried out by firms employing various factors of production and then we shall examine the operations managed by artisans or individual producers.

As a commodity, gold is introduced through the activities of the mining industry. But as a means of payment, the gold coins are only available through the Mint. When gathering the factors of production, the mining companies are therefore committed to give a certain amount of coins to their workers, lenders and owners. In the limit of the amount of gold sold as a commodity, for activities like jewellery, the firm has to recoup as much coins as needed to remunerate the factors. In this respect, we are in the same situation as any firm having to sell its products. The only peculiar aspect of these operations concerns the activity that will introduce new gold coins in the system. These new coins may be demanded for two reasons: either because some old coins are worn-out or because there is a need for more coins. In both cases, the production of the coins has to be included in the cost of production of the product of the community just as much as in a developed banking system the economic system has to include the cost of banking services into the cost of the national product. In the subsequent periods, the same coins will be used again so the economic system will avoid the burden of using resources to produce new coins.

During the period of production of the new coins, an exchange has to take place between the producers of the gold coins and other producers because if the factors of production want access to commodities other than their own products, they have to obtain gold coins; this is the only way open to them to pass from a direct claim on their firm to a claim on any product available in the community. Thus we can conclude that, in this system, gold coins do not represent an asset held for its own sake. The firms need coins to remunerate their factors; these coins may be obtained either through credit or by using a preexisting reserve; to repay the credit or reconstitute the reserve, the firm have to sell the products to get back the coins. Gold coins constitutes a claim on the products of the community because the firms accept it to be discharged of their commitment and to give access to the commodities. There is a commitment corresponding to the holding of gold coins and credit is indeed involved in the incomes circulation.

The situation seems completely different in an artisan economy because no institution, similar to the firm, intermediates between the producer and the product. Here the temptation to interpret the metallic currency as a *real asset*, an asset demanded for itself, is reinforced by the difficulty to identify any liability that would correspond to a claim by the holders of gold. Nevertheless, this interpretation would overlook an important point: gold coins are the agency through which individual productions are integrated in the production of the community. For an artisan, the goods, once available, are either sold to someone or remain unsold. The latter situation defines an auto-consumption circuit: the producer will finally have produced for himself only. We could say that the producer consumes his own product but there is no evaluation of this activity in the economic community. Thus, for the community, production is only established when the commodities are demanded by a

consumer in exchange for gold coins. For every individual producer, the sale conditions the integration into the economic community. Hence, in the circulation process, gold is not demanded for itself but is a means of expressing someone's contribution to the production of the community. The metallic currency, consequently, gives access to the goods available in that community; holding this specific commodity represents a claim on part of the products of the community.

Facing this claim, there seems to be no liability. However, any individual producer willing to obtain other commodities has first to secure a certain amount of gold coins. So, to participate in the system, an artisan has to commit himself to sell his products for the metallic currency. Indicating the amount of gold coins needed to obtain the commodities for sale, the producer is acknowledging his liability towards the holders of this metal. When the functions of producer and production organiser are separated, the liability of the organiser takes the form of a contract towards the producers or the form of a debt towards the banking intermediaries. But, for an artisan there is no such separation of functions; the liability, therefore, is just expressed by offering the commodities for sale. In this situation, each commodity is "produced" for the community at the very moment of its consumption; still, the circulation of the metal allows individuals to separate the flux and the reflux of the circuit in which they are involved. Each individual, at first, contributes to the community, produces, when he obtains the coins; for him, this represents a flux of income involving credit to the community as a whole. The income attests a certain amount of rights on the products of the community. Afterwards, the individual spends his coins: this implies the reflux of income; credit is cancelled through consumption of a different product.

In a commodity currency system, it seems plausible to argue that both the factors of production and the individual producers may keep the coins without spending them; here it seems that we have a case against the reflux of income. However, if the coins are asked for themselves, i.e. as a quantity of a precious metal with an artful design, they are no longer currency. In a commodity currency system, it is possible to pass at any moment from the currency use to the material use; this explains the risk of confusion in the analysis. The coins have to be fabricated and then enter the economic system; in this sense, they must be produced. This represents the cost of the instrument of the circulation. As currency, the coins are not asked for themselves but, if they were, then they would fall back to their initial status of products destined to be consumed, i.e. taken out of the economic system. There is no *real asset* circulation precisely because, if the coins are used as a real asset, as a product, they do not circulate anymore.

The circulation of notes issued against deposits of gold presents exactly the same characteristics as the circulation of the metal itself. Nominally, the notes are property rights on gold but in effect circulating notes are claims on current products. The notes actually serve to monetise new productions when used by firms to remunerate their factors of production, these obtaining a right on the products in stock. Once accepted by individual producers, the notes perform the same function as the metallic currency: the artisan who accepts the notes is acknowledging a liability towards the holders of notes which are then actual claims on any commodity produced in the community.

The *Banking School*, with its emphasis on the instruments, was able to discover a flux-reflux of secondary nature in the financial relations, the *dealers circulation*; nevertheless, it failed to see the

generality of this principle at work also in the incomes relations. At the time of Tooke, it was probably difficult to foresee the general use of bank accounts by households but this generalisation proves that, even from a technical point of view, the "credit circulation" does operate in the incomes circulation which obeys the law of flux-reflux.

The role of convertibility: condition of reflux or protection against over-issue ?

For Tooke and Fullarton, the reflux of notes is dependent on convertibility into gold and they clearly insisted that their conclusions would not hold for inconvertible notes. On the other hand, they argued that conversion is neither the main nor the usual channel of reflux. To clear the Banking School of the charge of inconsistency, Glasner has proposed an interpretation in the inside/outside money perspective; the notes would constitute inside money which value is determined in terms of outside money. This argument has the unfortunate consequence of indirectly rehabilitating the *Currency Principle*: the whole system would be based on a real asset currency, required for any credit given by the banks.

The paradox of the Banking School position can be resolved without abandoning the endogeneity perspective. The problem actually originates from the emphasis on the instruments of circulation that led to a confusion between the reflux process and the protection against over-issues.

Tooke and Fullarton justified the existence of the reflux of notes on two accounts: any credit must be redeemed when it comes to term; the notes may be converted in other means of payment, if no longer demanded by the public. The two types of argument do not consider the same aspects of the reflux. Any relation of credit can be characterised, on the one hand, by the instrument expressing the commitment of the debtor and, on the other hand, by the object of the credit, what the debtor has obtained through credit. The conversion mechanism is therefore focusing on the instruments used in the payment process: the notes may stay in the system and circulate or flow back to the issuer. By contrast, the emphasis on the term of the credit takes into consideration the fulfilment of the initial commitment; thus, whatever the instrument used to perform this function, the relation created previously should be cancelled out by a relation in the other direction. We have symmetrical operations at both ends of the circulation: creation then cancellation. The fact that the notes holders may not use the conversion option is evidence that the repayment can take place without having to supply any commodity currency; therefore, conversion is not the source of the purchasing power of the notes. On the other hand, convertibility offers a guarantee in the process of generaI exchange.

In the case of credit given by an individual to someone else, the reflux or repayment of the credit, corresponds to the "reflux" or return to the issuer of the instrument expressing the commitment. There is however a different possibility, that of the incapacity of the issuer of the instrument to fulfil his commitment. In this situation, the beneficiary of the commitment will not be repaid. He is *forced* to finance definitively the borrower. The beneficiary has thus to abandon part of his wealth as if he had initially spent his income to buy something for himself. This proves that the flux-reflux mechanism does apply to the monetisation process, the incomes circuit, but not to the credit relation between the borrower and the lender: there is no necessary reflux of the instrument of credit.

As we saw earlier, the notes could be issued in relation with Treasury spending or in relation

with a direct demand of notes from the public. On both accounts, convertibility appears as a device to limit the risks of excessive issue; it is not a condition of reflux in general but a condition of a *safe* reflux.

Let us first consider the role of convertibility in reference to the operations of the Treasury.

The situation of the Treasury is peculiar as compared to that of private firms. The users of the public services do not pay directly (at least not entirely) for them; in the economic sense, the sale is imposed on taxpayers. If, for example, civil servants were exclusively paid through the issue of notes, these, through the payment of taxes, would flow back to the Treasury which would be able to annul its debt to the central bank. This flux-reflux represents the production-consumption cycle of the public sector but the reflux of the incomes is forced on taxpayers.

However, once in the hands of the public, notes may be used to pay remunerations or to buy products before flowing back to the Treasury. Thus the notes become part of a flux-reflux process involving incomes of the private sector. This possibility implies a relation of exchange between the activities of the State and those of the private sector. Issued to monetise the activities of the State, the notes derive their purchasing power from their capacity to acquit taxes; in other words, this purchasing power depends on the importance of the public goods and services in the economy. As the financing of the public services is forced on the rest of the community, there will be a depreciation of the public services or products relative to those of the private sector, that is an increase in prices expressed in notes. But, in the end, there is only one way available, apart from political change, to express refusal of the increase in activity by the State: the firms and the factors of production of the private sector may refuse to use a larger amount of notes. Unfortunately, this would probably take place at a time when the circulation of notes has become completely discredited in the eyes of the public and after large price increases in the economy. It would not be possible therefore to discriminate between acceptable and unwanted notes. In other words, the negative reaction of the public could only be an outright rejection of the notes leading to a complete breakdown of the system of payment.

Thanks to convertibility in gold, the holders of notes can opt out of the notes circulation at any moment and ask for gold coins. In this situation, as economic agents observe an increase in notes following the extension of the State activities, they tend to convert the notes in gold instead of using them directly to complete their transactions. As the Bank must provide gold in case of conversion, it cannot bow to any demand from the Treasury.

Let us now turn to the issue of notes in relation with the discounting of bills of exchange.

A reflux through the “usual” or “main” channel implies that the issuer of the bill, is able to fulfil his commitment: the firm directly or indirectly regains the notes spent earlier and is able to buy back the instrument, the bill, that formalised the commitment. The reflux is thus taking place in satisfactory conditions. However, the receipts may not be sufficient to recoup the costs of production. In case of losses, part of the notes will not flow back to the firm. Nevertheless, contrary to a default of repayment between individuals, the failure of the firm does not mean the absence of reflux: someone has to incur the losses, i.e. to carry eventually the costs of production. The owners of the firm or the lenders will not get their money back from the firm; this can be interpreted as a sale forced on them. The products therefore are necessarily bought either voluntarily (consumers) or under compulsion

(owners and lenders). In this sense, there is a "failure" reflux, equivalent to the flux of incomes, but, being a "forced" reflux, it does provoke a redistribution of wealth attested by the fact that the instrument of credit is not flowing back. The same analysis can be applied to a pure metallic currency: if a firm is not able to regain, through the sale of its stocks, the coins used to remunerate its factors of production, the owners and lenders of the firm will have to incur the losses. The owners and lenders abandon (perforce) the coins they previously held and, in exchange, obtain (unwillingly) the output of the firm.

When issuing notes through the discounting of bills, the Bank of England, acting as a lender, could be affected by the failure of the firms, if the owners were unable to step in to repay the bills. This in turn could affect the circulation of the notes. Notes circulated because they gave access to a general claim on commodities available in the economy. This system however could not last if defaults accumulated on the asset side of the Bank's balance sheet: failures would have implied transfers of wealth revealed by price increases.

This is precisely where convertibility proved useful: the holder of the notes could go back to the central bank and ask for a different instrument that would not depreciate in case of failure of the firms. It is true that, in this instance, the notes would flow back to the Bank but this reflux of the instrument is obtained through a transfer of wealth at the expense of the Bank. Convertibility was therefore a means of confining enterprising risks to the owners of the firms or to the Bank, without affecting holders of notes. As we have seen, in spite of appearing to be a specific real asset, the metallic currency was indeed a claim on the unspecified products of the economic community; in this case, however, holders of gold were able to preserve their rights from the effects of business failure.

As convertibility only performed a safekeeping function, far form generalising metallic convertibility, as the radical separation enacted in 1844 would have it, this costly system could be abandoned as soon as an alternative had become available.

In a commodity currency system, there is a complete merger between the available quantity of the instrument and the volume of money income created: the commodity "lends" the measure of its physical quantity to the production. This offers a relatively high degree of protection against alteration of the unit of measure thanks to the limitation to the available quantities of metal. On the other hand, this procedure involves a very costly to run system of currency. The metallic currency carries a very expensive dead-weight to fulfil its monetary function. Part of the resources of the community have to be diverted to mining, casting and minting the metal; this is supplemented by the cost of maintenance and transport. Finally, a form of alteration of the scale of measure can indeed be carried out by the authorities through debasement and, as Tooke pointed out, protection is not perfect due to the possibility of independent fluctuations on the metal market disrupting the currency function.

Historically, a complete reliance on the stock of gold for money operations would have hindered economic growth. In a sense, the high degree of protection for financial claims would have been detrimental to innovation. Unless the mining industry had the capacity to increase the stock of metal, launching new products or increasing the quality of existing commodities would increase competition between entrepreneurs for the scarce metallic resources. A pure metallic system would then tend to limit economic growth and the accumulation of capital: the innovative entrepreneurs could not be

rewarded for their creativity. In a credit currency system, this difficulty disappears as measuring is no longer restricted by the physical instrument used to indicate the measure; it is entirely based on the scriptural nature of the money incomes, created and then used up. However, under such circumstances, the measure of a particular production depends only on the amount paid to the factors of production thus financial claims obtained in previous periods could more easily be depreciated.

With conversion in metal, prudence would be obtained through the necessity of detaining a metallic reserve; within a pure credit system, prudence is obtained through the cost of refinancing in case of a leak of resources, that is in case of deposit in another institution. It is precisely the role of clearing unions to manage these operations. In fact, at the time of the *Banking-Currency* controversy, clearing procedures, based on Bank notes, were already developed between commercial banks. However, the central bank could not effectively regulate the currency and control the commercial banks whilst involved in direct operations with the productive system; it is interesting to observe that these activities gradually faded out precisely near the end of the metallic currency era in the 1930s. This allowed the central bank to play a unifying role in generalising the clearing system combined with reserves and conditional refinancing opportunities. In particular, the convertibility of notes could be replaced by a pure fiduciary issue, without any collapse of the system of payments, the notes being issued only as a secondary form of money, a conversion of a claim on commercial bank to a claim on the central bank. In this environment, Treasury spending could be kept in check through a tightly control of overdrafts.

III A modern perspective: departmentalisation

The reform of 1844 could not achieve a long term stability for the banking system because it was out of phase with the historic trend of the system of payments. However, this does not mean that we have nothing to learn whatever from this experience. The present system owes much to the foresight of the Banking School approach but, in a sense, it has also inherited its shortcomings. Although a reflux necessarily follows the flux of incomes, this can be achieved in disturbing conditions and, to deal with this problem, the traditional systems of protection based on conversion are not completely adequate. In this perspective, an apparatus based on the recording of the payments could retain some relevance albeit in an altered form.

The Bank Act of 1844 insisted only on the question of the issue of notes by the central bank. Putting the emphasis on modern means of payment leads to a shift from the central bank to commercial banks and from notes to scriptural money. The reform focused on *separating* activities but monetising operations are always mixed with financial relations. A new approach should insist on *departmentalisation*, that is on classifying the results of the payments according to their relevance in the economic process. This departmentalisation could be justified in relation to two different problems. The first one has indeed to do with the prevention or limitation of unwanted transfers of wealth within the system; however, there are deeper reasons to engage in a fundamental reform. Departmentalisation would be crucial to deal with the relations between the process of capital

accumulation and income creation.

A first objective: limiting depreciation and hidden transfers

The function of money intermediation is to transform a claim on a specific real asset into a claim on part of the unspecified products of the whole community. The intermediary adds a new dimension to commodities which become part of the production of the community and to claims which were specific and become general. In other words, each particular production-consumption circuit is integrated in the economy which then facilitates exchanges of rights. This monetisation of production measures the contribution of a producer, or a group of producers, to the activity of the community.

Such operations have two kinds of consequences: firstly, they affect financial claims remaining from previous periods and, secondly, they determine the amount of loanable funds currently available in the community.

Although, in this perspective, no over-issue is conceivable if we consider the community as whole, one can differentiate between issues that lead to transfers of wealth and those which do not. The former situation would result from the lending policy of the banking system with respect to two kinds of operation. Monetising new productions might alter the income unit in the event of a shift upwards of the scale of measure; this would depreciate financial claims remaining from previous periods. Lending to buyers might exceed the amount of loanable funds which would allow interference with the spending of existing incomes. None of these incidents prevent the reflux from happening but they do involve a degree of transfer and may influence prices.

To deal with these problems, the existing and past systems of protection were based, as we have seen, on conversion options: the banking institutions facing a withdrawal of funds must be able to redeem their debt by selling assets of better quality (gold or discountable securities). Creditors have therefore the choice to pass from one kind of claim to another, e.g. from bank notes to gold, or from a deposit in bank A to a deposit in bank B. A certain degree of protection is indeed obtained through this procedure because the issuing banks must avoid any drain on their resources through transfers on to other circuits. Unfortunately, conversion is only a financial device limiting the risk of creditors towards a specific banking institution; in itself, it is too imprecise to deal properly with troubles affecting monetisation: applied alone, it either overshoots its target by preventing new issues at the price of a constraint on growth or it just redistributes the burden of depreciation once the disturbing operations have already taken place.

The real problem is the lack of information as to the nature of payments. Under the existing banking framework, there is no way to discriminate between monetisation and ordinary lending. This allows a confusion between financial relations resulting from payments creating new incomes and financial relations resulting from the transmission of existing incomes. Instead of being openly organised on the sole basis of the amount of loanable funds made available by investors, the transmission may be forced on income holders through price increases. In a sense, the banks are able to carry out payments anticipating future transmission relations. In such a system, transformation of terms is also greatly facilitated. These actions let misleading signals to pass on to the markets; for example, firms could be enticed to invest albeit long term voluntary savings are not abundant enough,

provoking a waste of resources.

Now, it is true that, through the clearing system, conversion will check any individual drift by banking institutions. Nevertheless, the protection is not very effective as regards the whole banking system, when all the banks are led to act simultaneously in the same direction. If an individual bank lends without having previously collected the funds, it does take the risk of leakage out of its circuit. However, the loss of funds will be compensated if the other banks lend in the same conditions; each individual bank will then be able to balance its global position and even respect a certain equilibrium in the time structure of its balance-sheet as required by prudential ratios. In addition, individual banks have to follow the general trend of activity in order to defend their share of the market which means that, far from checking individual banks, conversion drives them into excessive lending.

Glasner has defended the idea that it is not the clearing system in itself but the unprofitability of careless issues that will act as a preventive device. It is true that the risk of failure to repay is indeed limited by unprofitability although it cannot be totally eliminated; however, here we are dealing with a different problem: the capacity of the banking system to lend in excess of loanable funds to purchase existing commodities. When acting in a defensive way, the banks are not even aware of the deviation because they are not able to consider separately each individual operation; they only consider the equilibrium resulting from operations of the same term. The argument of protection thanks to unprofitability would hold for an individual bank acting on its own but it does not apply to the whole banking system: the banks may be able to obtain profits out of lending operations at the expense of depositors if those have no alternative in terms of available financial products.

Central banks interventions cannot correct what conversion is unable to prevent, especially as the central bank operates after the commercial banks have discounted bills and issued credit. In addition, central banks, as was emphasised by the *Banking School*, cannot determine *a priori* the "needs of business". Oscillations between excessive severity and excessive freedom are indeed amplified at the level of the central bank.

The reform of 1844 presented the originality of combining convertibility with separation of activities. As the commodity and the credit currency systems have complementary virtues or opposite inconveniences, it seemed sensible to assume that conversion would bring together the best of the two worlds; however, this implied that conversion was still considered the essential operation on which separation had to be organised: conversion in metal was separated from other banking activities and notes were only considered a representation of the metal. In actual facts, conversion of notes or deposits into gold did facilitate the evolution of the currency system. Unfortunately, the separation design appeared to be structurally bound to the metallic currency, it was therefore condemned by the extension of the credit currency sustaining economic growth. The relaxation of the convertibility rule in times of crisis reinforced this evolution on account of the seemingly uselessness of separation as a protective device in those situations.

The reform also connected separation with the movements of specific instruments but, as Tooke had already remarked, the same medium may serve as currency as well as a vehicle for credit; from this angle, recording did not improve the information available on the operations of payment.

In a sense, the *Bank Act* perspective should be inverted: the recordings of the banks have to be departmentalised according to their economic relevance; this, in turn, would determine the working of the conversion options offered through the clearing system. Conversion is essential as a controlling device but it has to be based on the identification of the nature of payments. For this reason, it is necessary to register separately the commitments of the firms proceeding from the payments of the factors of production.

What would be gained by this procedure ? Thanks to a precise evaluation of the creation of new incomes, the responsibilities as to the alteration of the unit of income would be clearly determined and this would limit the possibilities of depreciation. The separate financial relations department would allow an exact computation of the amount of loanable funds from existing incomes, thus avoiding interference between lending operations and monetising operations, i.e. preventing lending operations from increasing the means of payment made available to the buyers of existing commodities. The departmentalisation would bring more visibility whereas the current devices tend to protect globally instead of ensuring the identification of the true nature of every operation.

The system that we have just advocated would increase protection against hidden redistribution and transfer of wealth effects. Nevertheless, one must admit that even in the present system these effects cannot be reproduced indefinitely. We have already seen that the law of flux-reflux will finally imply an equilibrating effect for the economy as a whole when credits are repaid. But more specifically, a situation of systematic bias against investors does provoke, as we saw during the 80s, a reaction in favour of a modification of the financial practices and of the creation of new conversion opportunities, i.e. new products on financial markets. In these matters, a departmented system would save time, allowing immediate reactions against deviations from the banking institutions. Along those lines, departmentalisation would be a useful device providing accurate information to help managing the system of payments but it would not eliminate failures and ill-conceived decisions. Yet, departmentalisation would be vital to deal with structural malfunctions affecting the system of payment. It is in this perspective that we meet again the approach in terms of automatic protection which the reform of 1844 incorrectly connected with the problem of mismanagement.

A Second objective: guarantying the tenor of incomes

Up to now we have approached the question of protecting the income holders against any alteration of their purchasing power from the point of view of the individuals affected by the behaviour of other economic agents.

We have emphasised that, according to the law of flux-reflux, once produced, goods and services are necessarily sold, voluntarily or not; correspondingly, incomes are spent voluntarily or perforce, when losses are incurred. We have seen that the management of the system of payments includes limiting hidden transfers associated with the confusion between ordinary lending and monetisation. Now, does this scheme covers all the situations of monetary disruptions or is it possible to identify disturbances that would not only affect some and benefit others but would be detrimental to the whole economy ?

In this respect, the endogeneity approach does not provide a ready answer although it may be

used as a framework of analysis.

We know that Keynes tackled this problem through an opposition between the "classical" analysis and his own analysis of unemployment. According to Keynes, the "classics" held that, whatever the level of employment, incomes are necessarily spent on production; he himself considered that involuntary unemployment does appear if, at a higher aggregate level of employment than the existing one, the amount of aggregate income spent on the product of the community would be inferior to the amount of aggregate created incomes. Keynes then went on to look in behavioural patterns for an explanation but this weakened considerably the case for involuntary unemployment: either the analytical reference to the creation/destruction of incomes had to be abandoned or one had to content oneself with explanations such as errors of anticipation, imperfect information and competition or rigid behaviour from the *rentiers* or the trade unions.

Another approach could be built in accordance with the law of reflux. If created incomes cannot fail to be spent, again either voluntarily or perforce, the disorders cannot originate from a lack of reflux. In this instance, only one option remains open: part of the incomes in the economy are altered in such a way that they have lost their tenor. As the alteration cannot happen during the spending process because this would only involve transfers, it is the creation process that must be investigated to detect any source of malfunction.

The factors of production are remunerated when the firms order the banks to pay. These payments imply that the factors of production are creditors of the banks which in turn are creditors of the firms; these have to sell their products in order to offset the debts towards the banks. For the firms, the debts amount to commitment to deliver the commodities on demand to anyone able to prove that he has a right on these goods, i.e. that he has an income sufficient to claim the goods. The incomes are carrying a purchasing power because, through the banking system, they correspond to the commitment of the firms.

In the incomes creation, the firms are at the origin of the payment whereas the factors of production are on the receiving end; this results in a debtor position for the firm and a creditor position for the factors. The sale of the products reverses the positions: the holders of incomes are at the origin and the firms become the beneficiaries of the payment.

Apparently one cannot see how the incomes could fail to be loaded with a purchasing power because the firms have to pay their factors of production. And indeed it is not conceivable if we only consider the basic production-consumption circuit. However, we still have to investigate deeper into the conditions prevailing at the moment of the payment of incomes to the factors of production.

The firms may have at their disposal financial resources prior to this payment. These funds should only serve as a proviso enabling the immediate imputation of the financial consequences of the payment, that is, instead of having to wait until the receipts from the sale accrue in a sufficient amount, the firms can immediately offset the debt caused by the payment.

Usually the banks do indeed require firms to present a crediting position before carrying out the payment. For the banks, this avoids any involvement in the risk related to the trade of the commodities. Thanks to the existence of financial reserves, the firms are not directly committed to release the commodities; however, to return to the initial position, they must sell their products.

Let us go into the details of the origins of the reserves which a firm may be provided with.

If the funds have been borrowed on the financial market, they must be returned. This situation is thus quite similar to that of an overdraft: the firm has to sell the goods in order to repay, although, in the present case, it is not committed to its bank but to someone else.

In the event of funds provided by shareholders, the firm is not committed to repay or, more precisely, the repayment is postponed to an indeterminate date, that of the breaking up of the firm.

A firm can repay its loans only by securing profits; after the repayment, the situation then stands exactly as if the reserves had, from the beginning, originated from profits. The profits reserves is therefore the important case.

Through its profits, a firm obtains claims on a fraction of the products available in the economy. This means that a certain proportion of the incomes of the factors of production have been transferred to the firm. In a way, these incomes have been emptied from their content but this is true only from the point of view of the consumers who fall the "victims" of profit formation. However we should not jump to the conclusion that the profits circuit is, at this stage, introducing a malfunction. Profits constitute transfer incomes but this is not a hidden transfer because, for profits to be made, buyers must accept the price asked by the seller; profits should then only affect the micro-economics of incomes and not the situation of the whole economy. Still, there is a condition to this: the loss suffered by some households must be compensated by gains to other households. This can only be ascertained if no alteration is ever to take place through the intermediaries, i.e. the firms and the banking system; in other words, profits should finally be spent by the owners of the firm themselves or on their behalf.

A firm can pay dividends to its shareholders, these will then acquire goods, services or securities; in this case, the firm just transmits the profits. No purchasing power is exerted in this operation which constitutes a segment of a re-routing process, an intermediary operation or transfer symmetrical to the formation of profits. The circuit of distributed profits is inserted into the basic circuit (production-consumption); if we consider the complete circuit, we can say that, although some economic agents undergo incomes transfers, for the economy as a whole, the profits constitute diverted incomes.

A firm can use its profits to accumulate capital; to this end, it may purchase goods from other firms. We could be tempted to consider that this suffices to determine the final spending of the profits. However, this interpretation would not be satisfactory because it stops at the relation between firms. Indeed, any relation between two agents of the same category, i.e. household to household or firm to firm, is always a shift of claims or commitments on existing commodities; it is not a final operation. Transactions between firms only imply a change of form. For a firm, buying goods is, all things being equal, only a transformation of a financial asset into a physical asset; it is not yet a final spending. Nevertheless, as we saw earlier, this exchange between firms implies that the buyer is resuming the production of the other firm; there is a change of production-organiser. Indirectly the buyer is committed to sell the goods and this corresponds to the claims of the supplier's factors of production. In case of profits, the spending is finally imputed on the initial payment to the supplier's factors of production.

Now, apart from paying dividends, any relation of the firm-household type corresponds to the

formation of a new income. Therefore we can see that, if the profits are not transferred to the shareholders, they will finally be spent in the remuneration of factors of production even if, as we just saw, a firm may not use its profits directly to remunerate its own factors of production.

What are the consequences of this situation ?

At the moment, there is no segregation between the commitments related to production and the financial positions of the firms. This means that the operations concerning different circuits are allowed to mingle. When profits are distributed, the payment from the firms to the shareholders implies the transmission of the incomes to households. Unfortunately, this is no longer the case when firms invest their profits, i.e. when they are spent in the formation of a new remuneration.

The problem is really about the nature of the income circuit. The circuit of profits has a peculiarity: the firms are first in a creditor position, the receipts exceed the costs, and then the spending of the profits cancels the creditor position; the positions are thus inverted as compared to the basic circuit.

As long as profits are sent to the shareholders, the symmetry of the relations is finally satisfied. Profits are formed by a relation consumer-to-firm (consumer-dealer in Tooke's wording) and the paying of the dividends represents a relation firm-to-household. On the other hand, the accumulation of capital is a very special kind of payment. It is true that the firms must have the agreement, at least a formal one, of the shareholders. However it is the economic nature of the operations that is in question here. After the formal agreement, the firms have still to spend their profits and this must necessarily take place in a firm-households relation but this time the operations will no longer be in the nature of transfers of profits to the households. This kind of profits spending by firms constitutes an actual use of the purchasing power of these incomes; unfortunately, the present system of payments does not provide any specific recording for it. Thus, these payments from firms to households can only be conveyed through the channel of the creation of new incomes. In this situation, the new incomes are discharged of their purchasing power at the very moment of their formation; these incomes are deposited in the banks but they are empty means of payment. In all other operations, incomes are either created, utilised or transferred. In the case of capital accumulation, a purchasing power is used within a new income creation process: two payments of inverse nature are carried out in the same operation by the same economic agent. Within the intermediary "black hole", i.e. the firms and the banking system, two payments collide, so to speak. The newly created incomes are then crippled, empty shells devoid of tenor, i.e. of purchasing power.

In a monetary economy of production, there is always a sufficient amount of nominal incomes and the behaviour of incomes holders cannot prevent the spending of the incomes. Nevertheless some incomes may lose their efficiency, their ability to carry a purchasing power. This comes from interference between different income circuits happening within the intermediaries involved in the creation of incomes. The origins of these disorders are to be found in inadequate structures in the system of payments; these allow the spending of existing incomes for capital accumulation to disrupt the creation of new incomes.

Keynes had rightly emphasised the distinction between an entrepreneur economy and a co-operative economy: in the former system, the producers, are not remunerated directly in kind. The

introduction of money incomes implies a mediation between the commodities and their producers. This mediation is put into operation through the working of intermediaries, the firms and the banking system. Keynes, however, did not fully investigate the structure of payments in the entrepreneur economy. He overlooked the fact that if, due to the absence of any departmentalisation of the recordings, operations of inverse nature, creation of incomes and spending for accumulation, are allowed to mix during the intermediary phase then incomes will be altered and disabled.

This analysis is in the tradition of the explanations of economic crises based on accumulation. It is even in the tradition of the confusion of money and savings as the source of dysfunction in the investment process. However, it is not based on money illusion and improper behaviour of the economic agents.

If crises arise from a defect in the system of payments, the case for distinct departments according to the nature of the payments regains full relevance. A departmented system would record separately the creation of incomes, the financial relations based on these incomes and finally the accumulation of capital. In such a system, no interference could take place any longer.

Conclusion

The *Bank Act* of 1844 was one attempt in a long series to secure a monetary system which would not disrupt the economy. In a sense, the *Currency School* wanted to prevent any interference at the level of an intermediary agent, the Bank of England, between operations related to the issue of bank notes and operations related to the discounting of bills. This reform failed because the diagnosis wrongly focused on the activities of the central bank and attached undue importance to a specific currency instrument that was already becoming obsolete.

The *Banking School* put into prominence, although partially, the functioning of the credit currency system. Generalising the *Banking School* perspective, we can emphasise the universal character of the law of flux-reflux. On this basis, endogeneity appears to be the relevant concept for the analysis of a monetary economy of production. However, a reform of the system of payments in the *Currency* tradition will appear crucial once the concept of interference between operations at the level of the intermediaries is amended in an endogenous money perspective.

A credit currency system facilitates the development of a wage economy and promotes capital accumulation. But, if the specificity of capital accumulation is not taken into account, disturbances are allowed to take place. A reform could ensure a truly neutral monetary system, a system in which incomes circuits and capital circuits would no longer interfere with each other.

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Notes

[1] *An Act to Regulate the Issue of Bank Notes*, in CAPIE, p.371.

[2] CLAPHAM, p.193.

[3] THORNE, p.21-22.

[4] CLAPHAM, p.187.

[5] LAIDLER, p.212.

[6] TOOKE and FULLARTON are the main source of inspiration for that school of thought.

[7] KEYNES has insisted on the necessity of a specific theoretical apparatus to deal with a monetary economy. KEYNES [1973], p.408-411.

[8] TOOKE accepted the following presentation of his Banking School views by TORRENS: “you contend that the proposed separation of the business of the Bank into two distinct departments would check over-trading in the department of issue, but would not check over-trading in the department of deposit.” TOOKE [1844], p.105-106.

[9] Including currency and credit. De BOYER has emphasised that the controversy on the definition of money, restrictive or extensive, is not interchangeable with the opposition Currency-Banking; the dividing line was internal to the *Currency School*. De BOYER, p.562.

[10] TOOKE [1844], p.10.

[11] TOOKE [1844], p.17.

[12] The deposits themselves were not considered as currency although components of the circulation. According to LAIDLER the confusion between cheques and deposits originated in TOOKE’s failure to understand the liabilities part of the banking system’s balance sheet. However, Tooke’s opinion could be explained in the light of a comparison between the cheques and the notes issued by the central bank. The notes represent a deposit, i.e. a claim on the Bank and, like the cheques, they are a means of activating this deposit in much the same way as the cheques activate the deposits in a commercial bank. See LAIDLER, p.214.

[13] TOOKE [1844], p.33-34 and p.36.

[14] TOOKE [1844], p.36.

[15] Cf. TORRENS argument in TOOKE [1844], p.105-107.

[16] TOOKE [1844], p.107-112.

[17] TOOKE [1844], pp.157-9.

[18] See THORNE, p.22.

[19] For an example of these letters, see *Treasury Letter Relaxing the Bank Act*, in CAPIE, p.441.

[20] CLAPHAM, p.232-234.

[21] TOOKE [1848], p.185-186. FULLARTON, p.64-68. See SKAGGS, p.461-462.

[22] SKAGGS, p.461.

[23] TOOKE [1848], p.185 and FULLARTON, p.64-68.

[24] TOOKE [1844], p.1.

[25] TOOKE [1844], p.34.

[26] This corresponds to KEYNES’ *monetary economy* or *entrepreneur economy*. KEYNES [1979], pp.66-67 and pp.77-79.

[27] TOOKE [1844], p.35.

[28] LAIDLER p.215.

[29] On a theoretical level, SCHUMPETER contrasted two approaches of monetary analysis: a *monetary theory of credit* and a *credit theory of money*. SCHUMPETER, p.717. On this, see SKAGGS, p.461.

[30] See DESAI p.146-147.

[31] See LAVOIE [1987] and [1992] p.151.

[32] LAVOIE [1992], pp.151-165.

[33] SKAGGS describes FULLARTON's point of view as follows: "*Money* consists only of specie and inconvertible government paper. The distinguishing feature of money is that no liability attaches to it [...]. *Credit currency*, on the other hand, places the issuer under the obligation to make payment in terms of money or commodities if called to do so by holders of the currency." SKAGGS, p.466.

[34] "*though the wages of the workman are commonly paid to him in money, his real revenue, like that of all other man, consists not in money, but in money's worth; not in the metal pieces, but what can be got for them.*" Adam SMITH quoted by RICARDO in *The High Price of Bullion* III, p.89.

[35] WRAY, pp.72-73.

[36] MOORE [1988] would acknowledge the existence of this incompatibility due to his emphasis on the medium of circulation function whereas WRAY [1990] would challenge it because he focuses on the unit of account function.

[37] See LAIDLER p.217-218.

[38] GLASNER, pp.884-885.

[39] Here we only consider the operations related to the Treasury; we leave aside the operations between commercial banks and central banks which may lead to movements of Bank notes.

[40] DAY, p.72.

[41] GLASNER, p.883.

[42] On this see de Boyer p.564-565.

[43] A detailed account of the working of such a system cannot be given here. The essential elements are to be found in SCHMITT [1984].

[44] KEYNES [1936], pp.25-26.

[45] On this see SCHMITT p.198-209.

[46] KEYNES [1979], pp.76-79.

[47] Here we can use Keynes wording although in a different context; the problem concerns "... the quantity of employment and not merely its direction". KEYNES [1936], preface, p.xxii.

[48] Keynes defined such an economy in KEYNES [1979], pp.78-79.