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1

Bagehot versus Goodhart: Why a Central Bank Needs Commercial Banks

Reversing Goodhart's question

Goodhart's question

Commercial banks are financial intermediaries, which distinguish themselves from other financial intermediaries such as investment funds, insurance companies and so on in that they are supported and controlled by the central bank. They are primarily supported by the possibility of being refinanced and are controlled by reserves held at the central bank. The question thus naturally arises as to what specific features do commercial banks exhibit which explain this special treatment. The question is the more pressing as financial institutions, such as money-market funds, are currently emerging which undermine the traditional division of functions between commercial banks and other financial intermediaries by taking on banking functions such as transfer and payment services.

The significance of these financial innovations lies not least in the profound effects they necessarily have on the relationship between financial intermediaries and the central bank. As a rule they affect both sides of the banking business: the possibilities of being refinanced by the central bank via credit transactions, and the controlling function of the central bank via debit transactions. However, the latter is affected particularly strongly: if only deposits – and above all cash deposits in the form of non-interest bearing accounts – require reserves to be held at the central bank, then the control function of the central bank must necessarily be undermined when other financial intermediaries, which are not subject to this compulsion, take over banking functions.

Goodhart's essay (1987), the basis for the considerations below, does not place the control function of the central bank at the forefront of its analysis. Rather, with its question 'Why do Banks need a Central Bank?',¹ it adopts the perspective of the financial intermediaries whose functional conditions are researched in the context of their need for central-bank backing. Yet, precisely because it is raised indirectly, this question focuses more intensely on the control function of the central bank. For, *if* reserves in general and, *to this extent*, the central bank's backing of financial intermediaries are superfluous to the functional conditions of the monetary system, then the control function of the central bank also becomes superfluous.

Thus, instead of the central bank as the guardian of the stability of the monetary system, the financial intermediaries, as its private-sector market participants, will move into the centre of the analysis. This shift in perspective may, however, not merely be interpreted as a simple, scientifically unjustifiable choice of research object. As will be elaborated later, it simultaneously demonstrates a reawakening of the banking position as the antinomy of the currency position, a position which is supported by the concept of monetary authority (and the control function that is derived from it). In so doing, Goodhart places his observations in the context of market logic, and thus of market theory and the logic of choice.² This gives his observations particular importance.

The quality of his argument, which responds to market logic, can be seen particularly clearly in the fact that he strongly rejects the traditional institutional explanation of the specific characteristics of the banking function. He thus demonstrates that a simple recourse to the technical dual function of banks (on the one hand the business of portfolio management, referred to below simply as the *credit function*, on the other the business of transfers and account management, referred to below simply as the *payment function*) does not provide an adequate explanation. According to Goodhart, the specific characteristics of the dual function of banking are undeniable – thus credit-card organizations and the girobank function of post offices require no control by the central bank despite being engaged in payment functions.³ Yet, what Goodhart sees as decisive is that neither a risk-free asset, for example in the form of value-guaranteed securities,⁴ nor the relinquishment of cash deposits, that is of the payment function, in favour of time deposits, would make control of commercial banks unnecessary; that is, they would not alter the need for reserves to be held at the central bank.⁵

In analytical terms such false conclusions are reached because solvency and liquidity criteria are mixed up: both a reduction of the credit business to value-guaranteed assets and the substitution of the payment business by the time-deposit business (subject to terms of notice) merely reduces the profitability of banking, but not the risk of illiquidity.⁶ The great financial crises of world history, which manifested themselves in the collapse of banks, were not crises of solvency but crises of liquidity.⁷ Time deposits can, however, at best merely slow down such crises.⁸ Analogously, the reverse is the case where terms are transformed from short-term liabilities to long-term assets. In the worst case, breaking the golden rule of banking intensifies the liquidity crisis, but does not bring it about; in contrast, where the interest structure is reversed, breaking the rule inevitably leads to insolvency.

Goodhart overcomes the traditional institutionalist explanation of the control function of the central bank by deducing its rational necessity by linking debit transactions to *nominally fixed liabilities*.⁹ The divergence of solvency and liquidity criteria is not justified by the dual function of the commercial banking system in itself, but by the performance of the payment business (and in concert with this, also largely the business of credit) in nominally fixed asset values. For nominally fixed deposits, whether cash or time deposits, are matched by assets, which are valued by the market. As Goodhart puts it, the nominal guarantee of the convertibility of deposits into central bank money¹⁰ can actually come to contradict the solvency criterion, which manifests itself in the valuation of the assets: a bank run is generated because the value-guaranteed deposits are countered by assets whose value is doubtful.

Thus, it may be concluded that solvency and liquidity criteria do not diverge if it is not merely the financial intermediaries' credit transactions but also their debit transactions that are important. These are subject to valuation by the market: they are protected from illiquidity by their stocks of assets which can be traded on the market, whilst they are protected from insolvency by the parallel changes in the value of assets and liabilities.¹¹ This is the case regardless of whether such financial intermediaries perform the traditional payment functions of banks. Correspondingly, deposits become a liability, independent of their function and above all independent of the fixed terms of their availability. This justifies the control function of the central bank.

In the light of this analysis it can be no surprise that Goodhart sees only advantages in the genesis of financial innovations which, by entering into obligations capable of becoming active on the market,

also perform payment business. He sees these advantages not only for the debit transactions, which avoid the danger of illiquidity, but equally for the credit transactions, which are freed from the constraint of balancing nominally fixed liabilities against nominally fixed, and therefore unmarketable, assets. This is particularly the case as these assets, in contrast to marketable assets, bear considerable risk, which results from their nominal fixation.¹²

Equally, Goodhart sees only advantages for the central bank in funds which are orientated towards money markets. In relation to credit transactions the advantages lie in a higher transparency, than the market-valued assets, in contrast to the often untransparent nominally-fixed credit demands; in relation to debit transactions they pursue the role of ensuring safety from liquidity crises into a task of the control function of the central bank.¹³ Control is replaced by safety. At this stage it is not necessary to repeat the reasons (which Goodhart elaborates in detail) for the contemporary practice of nominally fixing contracts, at least in the case of payment business (and the resultant separation of commercial banks from other financial intermediaries).¹⁴ For Goodhart the reasons lie, not surprisingly, primarily in the low information costs in comparison to contracts with a market-dependent valuation. The security of these contracts within the whole economy thus does not necessarily correspond to the individual estimates of their security.

Next to the simple fact of established tradition,¹⁵ this circumstance doubtlessly presents a considerable handicap for the implementation of market-dependent financial innovations which include payment transactions. For this reason, Goodhart's conclusions tend to be cautious ones. Despite this note of caution I believe it is not an abuse of his reasoning to understand his concluding maxim as a programme. For, if, according to Goodhart, in coming years the opinion asserts itself that banks distinguish themselves from non-banks not by the monetary nature of their deposits, but by the different characteristics of their commitments – here nominally-fixed, there market-valued¹⁶ – then this assessment may be interpreted in such a manner that the market-valued non-banks will gradually assert themselves over the nominally-fixed banks.

The necessity of reversal

Goodhart sees that to the present day the payment function of the financial intermediaries' liabilities is limited to nominally-fixed asset values by a largely historical and traditional problem of information.

Thus, the functional problems which cause liquidity crises are solved when the information problem is solved. However, these implications raise doubts which stem from the fact that two forms of liquidity crisis exist, but modern monetary theory only considers one of these (like Goodhart). For such theorists liquidity crises are in their core of market logic solely crises of solvency, for reasons which Goodhart diagnoses as lying in the nominally-fixed liabilities, and liquidity is lost along with solvency. From the perspective of the central bank the fabulous 'moral hazard problem' (which is described in detail in the relevant literature) arises concomitant with such a crisis of liquidity. In order to prevent domino effects, economic failures which are rooted in the private sector must be corrected by interventions in the wider economy.

But the history of money, in particular from roughly the abolition of the Continental System to the end of the 1860s in nineteenth-century England, shows that a form of liquidity crisis existed at that time which resulted from payment difficulties of the central bank. An inability to make payments in the domestic currency can arise when the issuing of the money supply which is postulated (by monetary policy) is not achieved – as for example in the context of currency linked to the gold standard, where the volume of assets in gold limits the money supply.¹⁷

In our age economies no longer experience such an internal inability to make payments because an open discount window prevents its occurrence.¹⁸ Thus, modern monetary systems successfully avoid this form of liquidity crisis. Viewed in this way it is correct that this type of crisis is not the subject of relevant research, but this fact alters nothing in principle about its existence as it is only the specific functional conditions of monetary systems which prevent its occurrence. That this is not the subject of relevant research is wrong. Findings of economic theory must not come to contradict the functional conditions of the system on which the theory is based. However, this occurs here because today's monetary theory does not include the connection between the elasticity of the money supply (which manifests itself in the open discount window) and the avoidance of the second form of liquidity crisis.¹⁹ It will be shown that Goodhart's concept reflects this deficit in the extent to which it deals with the market valuation of cash deposits.

The open discount window reveals that, counter to the dominant opinions of both neoclassical and Keynesian provenance, the central bank, which orientates its function teleologically towards goals determined by welfare economics,²⁰ is nonetheless a *bank*. A bank in the

sense that it must guarantee the ability to make payments on behalf of its public both internally and externally. In this case, the institutionalism of the open discount window finds its correspondence in the market logic of discount policy; in a general sense the discount rate is here understood as the price (set by the central bank) for the temporary giving up of money. Thereby monetary policy does not rest solely on the act of market-induced money creation, but equally on the act of the market-induced reduction in the volume of money.²¹ Through this mechanism the open discount window equally affects the functional conditions of commercial banks as these cannot limit themselves to using money which exists in the public sphere or which is made available (by the central bank), but rather they are embedded in the organization of the creation and reduction in the volume of money. Like the central bank they prove themselves to be *banks*.

Goodhart does not himself pose the question as to the functional mechanism of the creation and reduction in the volume of money at all. He is fixated on the differing forms of financial intermediaries and considers commercial banks solely from this standpoint. In so doing the dominant interpretation of the central bank as a welfare creating institution, above all in the services of price stability, folds into the interpretation of commercial banks as financial intermediaries. For this reason the commercial banks may be interpreted as being exclusively financial intermediaries because the central bank similarly fails to function as a bank. Reduced to its institutional core, this is the contemporary position of research on monetary theory! It is the old tale of which Kant, finally, made us aware: what is not categorized is also incapable of being deduced theoretically. In Goodhart's work this is demonstrated by conceiving of deposits as specific financial intermediaries whilst not taking their banking function into consideration.²²

In the context of the interaction of the central bank and commercial banks, the question of the place of nominally-fixed deposits, and here above all of cash deposits,²³ as well as of their control by the central bank, is posed in a different manner. Central bank and commercial banks practice a division of tasks, where the central bank takes on the part of money creation, while the commercial banks take on the part of money supply. This practice may also be expressed as follows: the money supply of the commercial banks comes from the central bank and the money supply of the public from the commercial banks.

The money supply by the central bank via the commercial banks to the public is subject to no particular monetary control other than customary statutes (and does not require such restriction). This type of

control is only initiated when central-bank money flows back from the public into the commercial banking system. It takes the form of a control by the central bank, which expresses itself in the commercial banks holding (minimum) reserves at the central bank. The reason is simple: those liabilities, which correspond to this reflux, namely deposits, can be produced by the commercial banks in the framework of their credit policy. They may be produced in the trust that they will not lead to a liquidity crisis.²⁴

Such a control of deposits, however, has nothing to do with the divergence of solvency and liquidity which Goodhart postulates. It is rather the effect of the transfer of the money supply from the central bank to the commercial banks; it is a matter of the commercial banks' ability to make payments. For this reason the specific economic function of the commercial banks does not result from a division of labour between the financial intermediaries. Neither does it result from the advantages and drawbacks of a nominal fixation as opposed to a market valuation of assets and liabilities, but rather through a division of labour within the banking system in which the commercial banks take on the role of supplying money to the public.

Thus, cash deposits are the result of the separation of the money supply and money-creation functions. Where such a functional division does not take place, the central bank has to take on the business of money supply as well as the business of money creation. Then it is also impossible for cash deposits to exist. Cash deposits are thus substitutes for money. As a result they require, independent of possible informational advantages (which are thus justifiable in terms of efficiency theory) on the part of market-valued deposit banks, a nominal fixation.

Cash deposits are a substitute for money, but, contrary to widespread opinion, they are not money, not even non-interest-bearing accounts, as they are not a medium for the *ultimate* fulfilment of contracts. For this reason they cannot be liquidity but must remain a form of giving up of liquidity. They represent an asset security with a high level of liquidity, which functions as a medium of *individual* contract fulfilment.²⁵ They can perform this function, because they are an unspecified form of giving up of liquidity.

Due to their unspecified form they differ from other nominally-fixed, but principally from market-valued, asset securities. In fact, their character as a medium of the individual fulfilment of contracts prohibits their market valuation. They would immediately lose their character as a substitute for money. The reason is simple: a market valuation may make assets comparable but it does not give them an identity. For this

reason the function of the asset market lies in the valuation of the *specifics* of contracts. This is not, however, the function of money, which is rather being the expression of the fulfilment of a contract. This demands an identity and not the mere commensurability of forms of assets.

The identification function and commensurability function cannot be performed by the same medium, as a medium is required whose transfer establishes the fulfilment of contracts (which are valued in terms of assets). If cash deposits are subject to market valuation, then central bank money will immediately take their place. Central-bank money would fill the gap left by the nominally-fixed cash deposits. Goodhart himself suggests this circumstance in defending the market valuation of nominally-fixed asset values with the argument that their sale makes the immediate attainment of liquidity possible.²⁶ This can only mean that the cash deposits themselves are no longer able to perform the payment function. Yet in so doing the two-tier banking system in no way allows the commercial banks a direct market valuation, as Goodhart intends it to. Rather, if this were to be the case, the two-tier banking system would collapse because the commercial banks could no longer perform the payment function.²⁷

The two-tiered nature of the banking system rests on the dependence of the central bank on the commercial banks. As a consequence of this relationship Goodhart's question is reversed. And it is necessary that it should be reversed. It does not, however, affect his analysis of the functional conditions of financial intermediaries and above all his thesis that these do not require control by the central bank when a market-consistent valuation of equities occurs. His central point, that money-market funds will not undermine the control function of the central bank as long as a market valuation provides the guarantee that solvency and liquidity criteria will not diverge, is similarly not questioned here.

But Goodhart is burdened by the wrong conclusion of considering the commercial banks to be financial intermediaries. He is influenced by welfare economics' interpretation of the tasks of the central bank, which has been provided by modern monetary theory since Friedman (1969). Thus, he assumes a functional division between the central bank and commercial banks which makes financial intermediaries of the latter. Market theory provides a contrary analysis: the central bank and commercial banks together perform the function of managing payment capability. This means that both are banks.

This also implies that making commercial banks into intermediaries through the market valuation of their liabilities (and, as a consequence, of their assets) contravenes their function. The consequences would be fatal: they would correspond to the strategy (tellingly propounded in the literature, principally by Friedman) of the central bank holding 10 per cent of the cash deposit volume as reserves. For it makes no difference whether the central bank takes on the payment function directly or indirectly by holding the total reserves of the commercial banks. We are dealing with a strategy which, as Goodhart rightly observes, reverses the evolution of the banking system.²⁸

The discussion of Goodhart may be concluded at this point. Although he argues from the perspective of the banking position of monetary theory when considering financial intermediaries, he proposes an interpretation of the central-bank function which is based on the currency position. By including, unlike the monetarist approach – the currency position of our times – the commercial banks in the independent economic function of financial intermediaries, he simultaneously robs them of the money-supply function, contradicting his own intention. He overlooks the fact that with a market valuation of deposits the payment function is necessarily lost: necessarily because they lose their genuine characteristic, which allows them to perform the deputizing function of central-bank money.

It does not matter here that deposits are not money as such, but only perform a version of the function of money.²⁹ What does matter is that they are an unspecified form of the function of money. For this reason it is also of no relevance whether commercial banks require a central bank: we must concur with Goodhart that they do not need one under the conditions he posits. However, market-valued deposits are not capable of performing a monetary function. For this reason the central bank needs commercial banks because their existence forms the necessary precondition for it to be able to leave the financial intermediaries to deal with the credit business, and at the same time with the payment business. The consequence is the control of deposit creation by the central bank.

The central bank's open discount window corresponds to the commercial banks' deposit creation. For only an open discount window makes it possible for the liquidity requirements of the public to be controlled by the interest rate, which in turn makes them subject to market conditions. The commercial banking system cannot perform this function because cash deposits are not a medium of the ultimate fulfilment of contracts. Their function thus remains bound to the

existence of central bank money. The essential market logic of the banking system thus becomes apparent. *E contrario*, it may be formulated thus: through cash deposits a super potency, with the open discount window an omnipotence of the central bank is avoided. Cash deposits prevent the central bank from being the sole producer of means of payment, the open discount window limits the control of the central bank over the payment capacity of the public. This balance of power, controlled by the market via the (discount rate) and institutionally secured (through the two-tier banking system), requires that the central bank does not function as a welfare institution and that the commercial banks do not function solely as financial intermediaries. Rather, central banks and commercial banks are banks and as banks they take part in the market. They are market participants, which perform the business of securing the ability to make payments.

The research programme

In the two major divisions of this essay which remain, the position which has been developed here incidentally by taking issue with Goodhart will be justified. The first of these major sections establishes the link to the banking-currency controversy, a controversy concerning the functional conditions of the monetary system in the context of the monetary reform in nineteenth-century England which centred on the enthronement of Peel's Bank Charter Act of 1844. This controversy continues to be of relevance in our age, and is of interest at this point because the victory of the currency school over the banking school, which was manifest in Peel's Bank Act, provoked a deep-seated misconception which persists in today's monetary theory.³⁰ The misconception, suggested as early as Peel,³¹ is that the functional conditions of a market economy demand that the production of money may not be exposed to market conditions because money functions as a medium of contract fulfilment.

The victory of the currency school has had two significant consequences for the history of theory: in the nineteenth century and early twentieth century (until the First World War) monetary theory was orientated towards money supply being determined by disposal over gold. Later monetary theory was teleologized and subsumed into a means–ends thinking which advocated the *a priori* nature of a predetermined money supply. In methodological terms, with the elimination of the genesis of money from the market process, the monetary system gains a degree of freedom which may be satisfied teleologically. The pointless conflict between fiscalists and monetarists, which in fact is no

more than a clash over the primacy of welfare economic goals – that is of full employment and price stability – emphatically demonstrates that the aporia in market logic of a teleology of monetary policy continues its effects felt today.

In both cases the misconception that the production of money must be eliminated from the market process has led to an inadequate grasp of the functional conditions of the banking system by monetary theory. Either the necessity of an open discount window determined by market logic is ignored, or, little better, it is supposed that this may be neutralized by compensatory measures such as an open-market policy. For this reason the open discount window demonstrates the discrepancy between theory and practice in monetary policy, a discrepancy which reflects an inadequate theoretical understanding of the functional conditions of the monetary system. For this reason, too, this discrepancy may not be reduced to the old-established formula that practice can by nature be no more than an execution of theoretical insights.

Thus, it remains a stroke of luck for the history of theoretical development that, despite this state of affairs, there is an economist who offers a theory of monetary policy which is consistent with market logic. He is Walter Bagehot with his *Lombard Street*, published in 1873. It is not coincidental that this short treatise was written under the impression that it was not the enthronement of Peel's Bank Act of 1844, but only the final opening of the discount window in 1866, which overcame the liquidity crises which had repeatedly shaken England since the pound became a world currency. In this work, Bagehot explains everything which remains unclear in Goodhart's market-oriented banking theory, and which a teleologically-conceived monetary theory fails to achieve.

It is to a degree inherent in the logic of the matter that Bagehot was a practitioner as opposed to a theoretician. Despite being generally acknowledged to have been an expert and a brilliant stylist, his practical focus would have been recognized by academia at best in a benevolent yet condescending fashion. In this essay, however, he is presented as a scholar whose insights into monetary theory outshine the minds of his day as well as of ours.

The final major section of this essay will thus not be an engagement with Bagehot's position, rather it is simply to be understood as a homage to him. And if the reader says at the end of this section that what can be found in Bagehot's work has merely been repeated in the preceding sections, then he has understood this essay.

The link to the banking-currency controversy

The perspective from the history of economic theory

It is part of the idiosyncratic nature of monetary theory that – unlike value theory – it has to this day no firmly established, canonized structure, which would enable it to speak of paradigms in a strict methodological sense – in the way that in value theory a classical, neoclassical and, at least in outline, a Keynesian paradigm³² exists.

From an epistemological point of view, an unmistakable piece of evidence for the lesser quality of monetary theory is provided by the fact that the banking-currency controversy still affects economic policy today, although it is only a couple of decades younger than the inception of value theory by economic classicism. Depending on the respective dominance in the way economic policy tackles problems, sometimes the one aspect is stressed, sometimes the other. Clearly, the distinction between *principles* and *money* made in the text-book literature at the turn of the century, which understood the creation of value as pure theory, persists to the present day. Regardless of this, the persistence with which money evades rigorous theory formation cannot be integral to the matter itself, but instead ought to be diagnosed as a phenomenon of the history of economic theory. A deficit of theory formation remains from an epistemological perspective and the discipline of economics needs to overcome this.

How little success the scientific community has had up to now in this respect is shown by the fact that the ping-pong game between the currency and banking positions continues to be played in the second half of the twentieth century. At first glance this is surprising because of the fact that in the 1960s the currency school – as the theoretical form of quantity theory linked to liberal (neo-) classicism – began an unparalleled triumphant march through the academic world under the flag of monetarism and truly crushed Keynesianism. However, the currency school won over more adherents due to its nature of being a child of the inflation age than by virtue of the rigour of its theoretical foundation.³³

Changed times ask different questions and require corresponding answers. The revival of the banking position,³⁴ which has been evident for around a decade, is occurring against the background of far-reaching structural changes in the financial system, above all the emergence of money-market funds which take on a payment function. These blur the traditional distinction between commercial banks and other financial intermediaries (or they require, as has been demonstrated,

these bodies to define themselves more precisely within market logic), and consequently they remove the methodological basis of the currency position. Goodhart's work is also located within this context.

The necessity of a functional analysis of the banking system

From the perspective of the history of theory, the monetary theory which, as a teleology of monetary regulation, has dominated research since the end of the First World War is losing its legitimacy above all others. At the close of the twentieth century the reality of the market is destroying the end-means-orientated theory of economic policy. The task of economic science is to counter this process with a theory of economic policy which is consistent with the market.

This will be undertaken below for the case of monetary policy. This could be dubbed a return to buried sources as in the case of monetary theory it is the economics of the banking system, and not the macro-economy of monetary regulation as suggested by the banking-currency controversy, which provides the analytical foundation. As so often happens in the history of economic theory, instead of the analysis tracing the unsolved problems of the banking-currency controversy back to their heart in market logic, an indifferent science turned instead to justifying the necessity and the effects of monetary regulation. To this extent monetarism and Keynesianism can be interpreted in the same way, namely that they have given the currency position a teleological content: one with the goal of price-level stability, the other with the goal of full employment.³⁵

In the teleological concept the central bank features as a monetary authority. In this sense the central bank is a state institution with dictatorial qualities (which also make it independent of the state's financial requirements).³⁶ However, such a position requires control of the commercial banks because the central bank's ability to assert itself only becomes apparent when it becomes involved in the commercial banks' business.³⁷ The consequence of this is the dichotomy of the banking system as it is represented in modern monetary theory. Here the central bank acts as a welfare institution – as a benevolent dictator in the welfare economic sense – and stands opposite the commercial banks as private-sector market participants, as agents within a framework defined for them by the central bank.

The defects in market logic of the currency and banking schools

Such a teleological interpretation of the central bank and commercial banks contradicts the functional conditions of the banking system in a

market economy. The reason for this is that modern monetary theory does not reflect the banking-currency controversy. However, a simple return (of the core) of monetary theory to the functional conditions of the banking system is not capable of explaining satisfactorily the banking-currency controversy. In the case of the currency position, the return to buried sources means instead merely a rejection of its modern teleological version which lets the money supply regulate price levels. The economization of the monetary sphere, which is generally characteristic of the currency position by a predetermined money supply, here referred to as M , with the consequence of the subsumption of the commercial banks under this predetermined amount – actually above the credit multiplier – remains untouched by this verdict.

Conversely, the visible revitalization of the banking position as laid down in Goodhart's work is limited to the economy of the financial intermediaries without the function of the central bank being touched. This demarcation from the traditional banking position actually reflects the position's general theoretical defect. In the currency case the position of the commercial banks, in the banking case the position of the central bank, thus remains rudimentary when viewed from the perspective of market logic. Therefore, a critique of the significance in terms of market logic of both the banking position as well as the currency position, its counterpart in the history of theory, must be advanced. Afterwards the functional conditions of commercial banks in comparison with other financial intermediaries and in their relationship to the central bank can be discussed.

For our purposes a stylized presentation of the ping-pong game of both positions will suffice. The ping of the currency position states that 'money is not credit'; the pong of the banking position that 'money is a form of credit'. This is necessitated for the currency position by the economization of the monetary sphere, which requires an (overall economic) budget restriction so that scarcity can be created. For the banking position, on the other hand, money and credit form a unity because, due to the genesis of money out of credit, the demarcation of (central bank) money as opposed to forms of deposits, which likewise perform a monetary function, remains arbitrary. The impossibility of an economic demarcation of money and deposits on the one hand and of deposits with or without a monetary function on the other hand has its roots in the identity of money and credit. Whilst the unity of money and credit thus represents for the currency position an aporia in terms of market logic, because it excludes the existence of a budget restriction,³⁸ the separation of money and credit

contradicts the functional conditions of the banking system from the viewpoint of the banking position.

One can see that the currency position stresses credit's moment of the logic of choice, the banking position its moment of market logic. With regard to the function of the central bank, the currency position flows into an institutionalism of money supply, indeed into the quantity theory of money by means of which the central bank becomes a special commodity which is requested along with credit. On the other hand, the banking position advocates an institutionalism of the monetary interest rate which produces an equalization of the supply of and demand for credit (and, with this, the supply of and demand for money).

With this the complementarity of the two positions would seem to be exhausted. The received opinion states that institutionalism of the money supply and institutionalism of the monetary interest rate are at best formal, but never of equal value within economic theory. The violation of the norm of theory formation by not fulfilling the requirements of the economic principle, that is by not being able to demonstrate a foundation in scarcity theory, shows the banking position to be methodologically second-rate. Correspondingly, the correct insights over which the banking position disposes can be ascribed only a partially economic interpretation: the market theory of money itself remains bound to a framework defined for it by quantity theory based in scarcity theory.³⁹ Received opinion states that the banking position is subject to a grandiose fallacy, referred to in the literature as the 'real bills fallacy', where the 'real bills doctrine' upon which this is based is merely another expression for the banking position.⁴⁰

From a point of view such as this the currency position seems, thanks to the budget restriction 'money', to be correct in terms of market logic, even if its demarcation from deposits is insufficiently justified. On the other hand, what matters for the banking position is that, despite a well-justified possibility of substitution between money and deposits, the resulting identification between money and credit demonstrates a defect in market logic.

However, such a characterization cannot convince fully: for what is only insufficiently justified cannot be right; and what is well-justified must also be correct in an overall economic context. The accusation of a 'real bills fallacy' turns out to be hollow when market logic's criterion of a budget restriction 'money' is achieved by means of an inadequate clarification of what distinguishes money from deposits. Yet, as the existence of a budget restriction is indisputable as a constituent princi-

ple of economics, one can speak of simultaneous banking-currency fallacy. However, this means that both positions demonstrate a deficit in market logic. This completes the dilemma of prevailing monetary theory, yet it also suggests that both positions demonstrate a design fault in which the respective defect in market logic is expressed.

The currency position

This in its modern form creates the interaction between central bank ('base money supply') and deposits (alias the creation of credit) via the plausibility of stable behavioural hypotheses which express paying habits and the holding of reserves (with reference to the money/deposits relationship).⁴¹ This interaction finds its formalization in the fabulous credit-creation multiplier, which guarantees the stability of the monetary system.

However, as is its way, plausibility shows itself here too to be science's greatest enemy. For the credit-creation multiplier divides the function of the banks into an exogenously fixed money supply ($M = \bar{M}$), and a deduced creation of deposits,⁴² so that the credit-creation multiplier m can also be written $m = \bar{M}/D$. This division, however, represents an aporia in market logic, because the central bank does not only *sell* money in accordance with (interest-bearing) requirements, but equally *buys* it (directly from commercial banks just as does indirectly from the public).

As a result of this, the foundation in market logic is removed from the multiple process of credit production in the form

$$D = \bar{M}/m$$

because a hierarchization of the banking system into a centralized creation of money and a decentralized production of credit does not represent the functional conditions of the banking system in a way which conforms to market logic.⁴³ The credit-creation multiplier does not simulate market conditions, rather it contradicts them. In contrast a theory of the banking system which is consistent with the market requires that we start from the assumption of a separation of function *in regard to central bank money*. From the public's point of view the central bank plays the part of money creation whilst the commercial banks play the part of supplying money. Expressed in terms of market logic: both the central bank as well as the commercial banks deal with central-bank money – the central bank towards the commercial banks, the commercial banks towards the public.

Thus, the symmetry in market logic between the central bank and the commercial banks is established.⁴⁴ This symmetry shows itself in the (formally) equal structure of the balance sheets of both types of banks. It consists in the assets of interest-bearing demands in the case of both types of bank, and the liability of the creation of money in the case of the central bank and of commercial banks' obligations to the central bank on which interest is levied. The symmetry of the structure of the balance sheets demonstrates that the central bank acts just as much as a market participant as do the commercial banks and partakes in the business of selling liquidity at a certain price. This price is known as the interest rate – with the important difference which typically distinguishes credit relations from the production of goods, namely that the liquidity can be bought back or only made available for a limited period of time.⁴⁵

With this the aporia in terms of market logic of the credit-creation multiplier can be pinpointed. It displays a dual aspect in that it refers to reserves (of the central bank) as well as to deposits, as the two categories which determine its paradigmatic structure. According to the traditional view, cash reserves, that is to say the central bank's reserves above its minimum reserves,⁴⁶ at the same time push ahead the process of credit-creation and also limit it due to the necessity of holding increased reserves.

However, this construction does not make sense if the commercial banks can (re-) finance themselves from the central bank at the prevailing interest rate. It may indeed be advisable for the commercial banks themselves to hold a cash reserve in order to lessen their dependence on the central bank. This, however, would involve questions concerning the institutional arrangement of an interaction between the central bank and commercial banks, which have nothing to do with a pure theory of interaction. Within the framework of such a theory the only issue of any significance is the fact that, by holding a reserve of cash, the commercial banks do not receive a return on their interest. This would occur although they have interest expenditure towards the central bank – expenditure which they could avoid by selling their cash reserves to the central bank. Thus, the act of holding cash reserves, which limits the process of credit creation, similarly does not form the fulcrum of the critique of the credit-creation multiplier either. The literature tends to confront such an accusation by speaking of *leeway* for credit creation. Instead, the existence of a cash reserve indicates the aporia in market logic of the process of credit creation as this results from the suggestion of an \bar{M} which excludes the possibility of selling central-bank money (back) to the central bank.

The treatment of deposits forms the second aspect of the credit-creation multiplier's aporia in market logic. The institutionalization of the money supply in the process of combining credit production with the creation of deposits thus perpetuates itself – whereby the argument here is limited to cash deposits, that is to say to deposits which have the function as a means of payment. Along with the production of credit, cash deposits are created, which are non-interest bearing accounts by definition. To this extent, then, the credit creation multiplier is also based on an identification of money and credit.⁴⁷ This is then also always a money-creation multiplier, in a narrower sense a multiplier of the creation of non-interest bearing accounts whereby the flow of central-bank money to the public reduces the latter in relation to the former.⁴⁸

From the public perspective the division of the volume of credit into deposits and central-bank money controls the total volume of credit because it determines how much central-bank money flows back into the commercial banking system. However, the strategic status of the corresponding proportion is pure mystification, as it is only when an \bar{M} is constructed which limits the availability of central-bank money that the division becomes able to influence the volume of credit.

The central-bank focused functional division of central bank and commercial banks traced out above reveals the weakness in market logic⁴⁹ of connecting the creation of deposits and credit production. Credit production, regardless of its size, is not linked to the existence of deposits, but is instead determined by the interaction between the central bank and the commercial banks. It may be that the creation of deposits indicate a reflux of central-bank money into the banking system, or, equally correctly, the readiness of the public to renounce holding central-bank money. But this issue has nothing to do with the size of the volume of credit (or even of the leeway for credit creation). Market logic requires that the commercial banks sell the central-bank money they receive to the central bank, or, regardless of the calculus behind it,⁵⁰ that they boost their cash reserves by selling the central bank's money.

The credit-creation multiplier becomes questionable over and above the introduction of an \bar{M} due to the fact that it summarises in one formula two processes, distinct in terms of market logic, of the commercial banking system. The selling of central-bank money to the public is manifested in the volume of credit, and the buying of central-bank money from the public is manifested in the volume of deposits. The credit-creation multiplier thus reflects the deadly sin of theory formation, namely the confusion of supply and demand figurations.

One can see that structural parameters supposedly founded purely in behavioural theory, which are so to speak empirically rich, can in fact be examined for their defects in market logic. An empirically tested stability of the structural parameters (or of corresponding behavioural functions) cannot consequently justify the form in which the currency school introduces the budget restriction of the monetary system. It therefore does not make the credit-creation multiplier empirically rich. Rather, it must be assumed, due to considerations of market logic, that a stability of the structural parameters reflects the openness of the discount window. For the possibilities that commercial banks have of being refinanced by the central bank gives them the guarantee of not becoming caught up in payment difficulties in their creation of credit. The supposed stability between money supply and credit creation consequently reflects, in truth, the commercial banks' need to be (re-) financed by the central bank.

To conclude these observations, the balance sheet structures for the above-mentioned differing cases of interaction between the central bank (Z), the commercial banks (B) and the public (P) will be demonstrated with a numerical example. Insofar as deposits are held, a proportion between holdings of money (C) and deposit holdings (D) of $C/D = 0.5$ will be assumed, and a proportion of reserves holdings (R), R/D of 0.1. Additional symbols used are: $F_b(F_p)$ for demands on commercial banks (on the public); $V_z(V_b)$ for obligations to the central bank (to commercial banks); M for money supply; and R' for cash reserves. Case (1) presents the starting balance of the sale of central-bank money to the public; cases (2a) and (2b) consider a public deposit with the commercial banks along with the sale of central bank money to the central-bank, or the holding of a corresponding cash reserve; and case (3) records the result of a multiple process of credit creation (Figure 1.1).

The banking position

Institutionalism of the monetary interest rate implies that the monetary interest rate steers the course of the economy.⁵¹ From the central bank's point of view, this means that discount policy⁵² forms the supporting column of monetary policy. As a result money supply becomes a dependent variable of the monetary process: at a given rate of interest the demand for money determines the supply of money, the interest rate as a strategic parameter determines the equalization of supply of and demand for money.

	Z	B	P
(1)	F_b 1200 M 1200	F_p 1200 V_z 1200	C 1200 V_b 1200
	Z	B	P
(2a)	F_b 480 M 480	R 80 V_z 480 F_p 1200 D 800	C 400 V_b 1200 D 800
	Z	B	P
(2b)	F_b 1200 M 1200	R 80 V_z 1200 R' 720 D 800 F_p 1200	C 400 V_b 1200 D 800
	Z	B	P
(3)	F_b 1200 M 1200	R 200 V_z 1200 F_p 3000 D 2000	C 1000 V_b 3000 D 2000

Figure 1.1 Balance sheet structures

Even this brief sketch has selected the banking school, or real-bills doctrine, as the unambiguous counter-position of the currency school. Price policy takes the place of quantity rationing for the purpose of influencing the money supply. The school's criteria of market logic are satisfied by the institution of the open discount window. Therefore it cannot be surprising that in the history of economic theory the banking position has been represented in practice (if not entirely exclusively) from the debate surrounding Peel's Bank Act in the 1840s through to modern-day views within the Federal Reserve system. One could speak with a certain justification of a monetary theory of practice.

The bad reputation the banking school has in the academic world corresponds with this observation. Here one should beware not to

accord too much significance to the fact that it violates Fisher's (1930) theorem of the distinction between the nominal and the real interest rate. Although such an accusation may apply to modern forms such as those found in the Radcliffe Report (1959) and in Kaldor (1959), this argument nevertheless remains too much of a child of the inflation age. The banking-currency controversy as an issue in monetary policy as well as monetary theory – an issue which above all dominated Great Britain in the nineteenth century from the end of the Napoleonic Wars until Peel's Bank Act at the end of the 1840s – goes deeper. This has nothing to do with (long-lasting) inflation for the reason that within the framework of this controversy the context of currency tied to the gold standard with its specific regulatory mechanisms remained intact.

Instead, it is the *bon mot* of an adherent of the currency school, Lord Overstone, which comes closer to the heart of the problem, namely his assertion that the banking school replaced *regulation by principle* with *regulation by panic*.⁵³ This *bon mot* measures the banking position according to the logic of the budget restriction: a demand for money which is limited only by the mechanism of currency tied to the gold standard comes up against a regulatory force which is too weak⁵⁴ to prevent persistent fluctuations in economic activity.

However, the banking school has not understood the satisfaction of monetary demand as a normative statement, but has deduced it to be a necessity of market logic. Thanks to its identification of money and credit, the volume of money is determined at the same time as the interest rate on the credit market. For this reason, Greenfield and Yeager (1986) denote in their analysis of the monetary conception of members of the Federal Reserve system the supply–demand conception in the determination of the volume of money and the money–credit identification as inextricably-bound threads of the same doctrine.⁵⁵

The banking position thus remains tied to the identification of money and credit. This *a priori* is, however, only permissible within the framework of a partial model of the credit market on which a demand for money and a demand for credit forms a supply of money. Beyond the credit market, however, the banking position can merely postulate an identity of credit and money but not give it a foundation in market logic. Thus, Greenfield and Yeager (1986) develop their thesis that – in the case of Lombra and others – the commercial banks' reserves of central-bank money are interpreted as a *deduced* demand for credit. They are understood to be a specific form of the demand for money within the framework of credit supply,⁵⁶ yet do not form a liquidity reserve in the sense of a (temporarily) withheld supply.

The fact that such a liquidity reserve is ignored shows that the drawback in terms of market logic of the identification of money and credit lies in the subsumption of the availability of central-bank money under the conditions of the credit market. Only when this is the case does the credit market determine the volume of credit as well as the interest rate. Transplanted into the criteria of the credit-creation multiplier, independent and dependent variables are simply exchanged: in the banking model the independent variable 'credit volume' and the dependent variable 'money supply' take the places of the independent variable 'money supply' and the dependent variable 'credit volume' of the currency model.

But holding central-bank money cannot be reduced to a demand derived from the volume of credit. Rather, monetary theory must take into account that preferences of holding money which are founded in the logic of choice exist with the public as well as with the commercial banks, and that these preferences result from the risk of losses of assets.⁵⁷ We can conclude that in the case of a drop in the demand for credit, for instance, it is not imperative from the perspective of market logic. A corresponding fall in demand for money on the part of the public or the commercial banks (and, as a reflex of the balance sheet, a corresponding drop in the supply of deposits)⁵⁸ beyond the medium of reserve would occur. Instead it is more realistic to expect that a drop in credit demand will be accompanied by an increase in demand for central-bank money. To this extent, an increase in the demand for money determined by uncertainty is confronted by a decrease determined by activity. The former breaks through the identification of money and credit and to this extent documents the banking position's aporia in market logic.

Thus is the argument according to Greenfield and Yeager (1986). So far, so good. But with this argument they overlook the fact that the banking position's defect in market logic is not sufficient to play it off against the currency position. For the fact that the banking position ignores a cash reserve which is based in preference theory, and which is not deductible from credit relations, finds a parallel in the credit-creation multiplier of the currency position. The credit-creation multiplier itself, and not just its inversion, contradicts market logic's own interaction between the central bank and the commercial banks. Whilst the credit-creation multiplier is shattered in the banking case by the identification of money and credit, in the currency case it becomes obsolete due to the elimination of the creation and reduction in the volume of money from the market process. The common root

of the aporia in market logic of both positions is that they ignore the specific logic of choice. It is de-coupled from the credit market, of a reflux of central bank money from the public into the banking system – in the case of the banking position into the banking system as a whole, in the case of the currency position from the commercial banks to the central bank.

This logic of choice of a liquidity preference of the supply of money finds its correspondence in market theory in a market constellation of disequilibrium⁵⁹ which, by doing so, means the collapse of the notion of a limited leeway of credit. It is shown that under the conditions of a disequilibrium the identification of money and credit dissolves. A disequilibrium of interaction thus means a bifurcation of monetary demand and credit demand; it is expressed in the circumstance that the holding of money can (no longer) be grasped in parametric terms.⁶⁰

The construction of a cash reserve in the commercial banking system can be read as a response to the defect of the banking position, and the reflux of central-bank money to the central bank as a response to the defect of the currency position form. Seen in this way they are two sides of the same token, the dissolution of the identification of money and credit. However, Greenfield and Yeager close their eyes to this insight when they merely refer back to the moment of the construction of a cash reserve. They thus overlook, due to their monetarist credo, the fact that the dissolution of the identification between money and credit at the same time forbids the subsumption of credit production by a predetermined money supply.

Here, too, the observations can be illustrated by means of the structure of the balance sheets for the above-mentioned cases. The starting point is formed by case (1) of a multiple process of credit creation, the inversion of which, along with a decrease in credit demand (of 2 per cent), sets up case (2). Cases (3a) and (3b) then show the construction of a cash reserve in the commercial banking system, or the reflux of central-bank money to the central bank in the case of an over-proportional decrease in the public's holding of money (Figure 1.2).

Reformulation of the banking position

Thus, our analysis produces the result that the real bills fallacy reflects an identification of money and credit which enables interest to be derived merely from the credit market. If, however, one separates money and credit by permitting money to be held independently of the credit market, then the banking position does demonstrate validity

	<i>Z</i>	<i>B</i>	<i>P</i>
(1)	F_b 1200 M 1200	R 200 V_z 1200 F_p 3000 D 2000	C 1000 V_b 3000 D 2000
(2)	F_b 960 M 960	R 160 V_z 960 F_p 2400 D 1600	C 800 V_b 2400 D 1600
(3a)	F_b 1200 M 1200	R 200 V_z 1200 R' 600 D 2000 F_p 2400	C 400 V_b 2400 D 2000
(3b)	F_b 600 M 600	R 200 V_z 600 F_p 2400 D 2000	C 400 V_b 2400 D 2000

Figure 1.2 Balance sheet structures

in market logic. This results from the fact that the credit market is accompanied by a money market, which receives its independent economic function by being the location for the transfer of means of payment. From the perspective of the logic of choice, the money market aims for the *maintenance* of economic subjects' ability to make payments. Corresponding to market theory, the money market is based on an interaction between the public and the commercial banks as the market participant, which has to guarantee the public's ability to make payments.⁶¹

On the other hand, the credit market remains the location of an intertemporal (and, as a rule, temporary) transfer of purchasing power. A theory of banking, if you like, is then based on the interplay between the credit market and the money market, represented by the credit-market interest rate and the money-market interest rate. Here the

supply of money (founded in preference theory) functions as a universal budget restriction. A banking position interpreted in this way puts the currency position in its place. This remains subject to the aporia in market logic of \bar{M} once again. The interaction between central bank and commercial banks gives the banking system its function of maintaining the public's ability to make payments. From the perspective of the commercial banks this occurs because the creation of deposits comes up against barriers set by the availability of central-bank money; from the central bank's perspective due to a limited production of money.

Thus, in the currency model the introduction of the money market breaks down at the predetermined money supply,⁶² whilst it lends the banking position validity in terms of market logic. For, in the currency case, the reflux of central-bank money into the banking system remains cut off from the central bank,⁶³ whilst in the banking case it is merely de-coupled. In this case the creation and reduction in the volume of money are integrated into the market process. As a consequence, the monetary interest rate must take the place of \bar{M} . A market category replaces the decisionism of the quantity target. This market category is in fact a price, but not one which develops analogously to goods (or to credit-market interest) via a comparison of supply and demand figurations. This results from the fact that money supply – and thus the creation of money – does not arise from the preferences of individual economic subjects. Rather, the bank as a market participant constitutes money supply – a money supply in the service of maintaining the public's ability to make payments, generalized as the economic system's ability to make payments. As a result the monetary interest rate is a political variable, which in this respect justifies the institutionalism of the banking position's monetary interest rate.⁶⁴

In the banking model the monetary interest rate thus formally exercises the function of a budget restriction. This is possible because monetary policy expects from the interest rate it itself sets – the discount rate – quantity reactions, the arrival of which either confirms or forces the revision of monetary policy. One can correspondingly speak of a budget restriction which adjusts itself discretionary. Such a model attains validity in terms of market logic by expressing a market constellation of disequilibrium. It thus provides the theoretical foundation of monetary policy and demonstrates at the same time that the normative content of the banking model lies in the fact that monetary policy is in essence discretionary monetary policy.

A degree of freedom instead of a defect in market logic – this characteristic of the banking school as opposed to its rival, returns to it the dignity which the scientific community has refused it for the last one and a half centuries. Its *confusion* of money and credit, with which its opponents reproach it, is reduced to the identification of money and credit, which is untenable in terms of market logic, and the real bills fallacy is reduced to the market constellation of equilibrium. This reductionist argumentation reflects the deeper cause of the fiasco of 150 years in the history of monetary theory, namely the tendency of research to stylize the equilibrium constellation as the primary norm of theory-building. Against this the observance of the norms of market logic takes a back seat.⁶⁵

From its very beginnings to the present day, from David Hume to Milton Friedman, the currency school has drawn its strength in terms of the history of theory not least from this circumstance. Its formalization in quantity theory expresses this emphatically by linking a (predetermined) capital stock, \bar{M} , to an equilibrium of interaction, the independent variable of which is (in monetarism) the price level and (in Keynesianism) the nominal income. This construction showed itself to be so robust that not even the holding of money, which has (in both theories) a highly dubious foundation in preference theory,⁶⁶ as \bar{M} 's demand-determined equivalent gave cause to test the association between money and equilibrium. This ought to be yet more surprising when a foundation in preference theory of the holding of money suggests itself from a situation of disequilibrium.⁶⁷

Furthermore, the currency school provides a simply constructed, self-contained theoretical structure. This allows it to play theory off against practice and to interpret practice as degenerate theory, or to set it as the simple management of monetary policy against the insights of the monetary theorist. As if the questionable foundation in market logic of the institutionalism of the money supply – that is of \bar{M} – itself would not forbid the understanding of practice as a deviation from this institutionalism.

Thus, a disequilibrium, which in contrast to this provides the theoretical foundation for the institutionalism of the monetary interest rate, should also not be interpreted as a temporary deviation from an (altered) constellation of equilibrium. For, as a result, monetary policy would remain the policy of adaptation to a constellation of equilibrium which is questionable in terms of market logic. Instead, what must be shown is that the constellation of equilibrium of a monetarily controlled economy can only be understood by means of the credit-market

interest rate – with the consequence that the equilibrium of a monetary economy is determined by the supply of and demand for credit, but not some form of the supply of and demand for money. For this reason the monetary character of an equilibrium constellation is expressed in the monetary foundation of credit.

As a result, the liquidity preference theory of interest is only comprehensible as a theory of disequilibrium: the increased preference (caused by the expectation of a depression) for holding money forms a retarding moment on the way back to the equilibrium⁶⁸ because it effects an increase in the interest rate. If this is counteracted by monetary policy, then this presupposes an open discount window. This requires a discretionary monetary policy.

However, such an (alteration of) liquidity preference, as Greenfield and Yeager develop, puts the traditional banking position in its place because a credit-market demand for money limits monetary policy to a long-term interest policy. In other words: the folding of demand for credit into demand for money leads to an institutionalism of the credit-market interest rate which forms the banking position's aporia in market logic. Similarly, the institutionalism of money supply forms the foundation of the currency position's aporia in market logic: the stylization of an \bar{M} to the political norm depicts an equilibrium constellation in which the demand for money, even if it is independent of the credit market (alias income), is limited by the available supply of money.⁶⁹

Both positions break down at the norm of an open discount window and the resultant discretionary monetary policy: the banking position by overlooking the fact that a demand for money which is independent from the volume of credit requires a discretionary monetary policy; the currency position by overlooking the fact that the interest rate is only in a position to stabilize the demand for money in the case of an open discount window.⁷⁰ To paraphrase Lord Overstone's *bon mot*, this means that it is not only the banking school's long-term orientated interest-rate policy, but also the currency school's fixed supply of money which provokes 'regulation by panic': in the first case this causes an unstable supply of, in the second an unstable demand for, money.

The consequences for the theory of monetary policy

The necessity demanded by market logic of conceiving monetary policy on the basis of a monetary disequilibrium means that it does not realize welfare economic goals, but rather secures the monetary

system's ability to function. The ability to function, however, means the ability to make payments – the banking system's ability to make payments to the public internally with its own money, externally with foreign money. This ability to make payments secures the central bank in its position regarding the commercial banking system,⁷¹ and this requires a discretionary monetary policy in the case of an open discount window.

It subsequently becomes clear why, with the monetary interest rate, the task of stabilizing the economic system falls to a category of disequilibrium: monetary policy has to enforce and secure the *market constellation* of equilibrium, yet it is not capable of forming the basis of an *equilibrium constellation*. This is overlooked by the dominant theory of monetary policy by expecting a tendency towards the development of an equilibrium constellation from the regulation of the monetary system. In truth, monetary policy can only create the conditions which allow the market to realize an equilibrium constellation (which reflects the credit interest rate). An interest-rate policy which makes possible the development of an equilibrium constellation by securing the economic system's ability to make payments provides these conditions. In this sense one speaks of a market constellation of equilibrium.

The supply of money forms the primacy of monetary policy because it guarantees the ability of the economy to function. The central bank as well as commercial banks become market participants because they perform the *business* of supplying money. Consequently, the embedding of this in the market economy forms the primacy in terms of market logic of the supply of money. On the other hand, in the sense of market logic, interest-rate policy demonstrates a secondary significance because it is the product of the repercussions of the interaction of the monetary and goods spheres on the monetary sphere, namely on capital demand.

These repercussions are traditionally divided into an expenditure policy of the state, of consumers and investors as well as – as a cost factor – of a nominal wage policy. These repercussions constitute the classical case of monetary policy, a policy which is commonly denoted as a policy of stability and in its core of market logic – as the price-theoretical foundation of controlling the supply of money – can only be interest-rate policy.

Supplying the economy with money as a primary and the stabilization of the economy as a secondary moment constitute the core of a theory of monetary policy consistent with the market. Consequently, stability policy reflects methodologically the conditions within which

the equilibrium constellation can exist: interest-rate policy is implemented to create the conditions of an equilibrium constellation in conjunction with the preservation of the openness of the discount window independent of the corresponding market constellation. In this context the received traditional pattern of stylizing the money supply, instead of the interest rate, to the norm of monetary policy forms the borderline case of stability policy which can do without the open discount window. This is the case in which the market itself guarantees the economy's ability to make payments, and is thus not dependent on market-induced creation and reduction in the volume of money on the part of the central bank. Put in terms of market logic: although the discount window remains open⁷² due to a consideration from the perspective of opportunity theory that the case of discretionary monetary policy could occur at any moment,⁷³ this situation is not taken advantage of.

The open discount window consequently makes normal monetary policy based on \bar{M} a borderline case. Here we are dealing with the borderline case of a passive monetary policy as opposed to the general case of an active, discretionary monetary policy. This borderline case is characterized by an adaptation of the instruments of monetary policy, above all the discount rate, to the market conditions set by the credit interest rate. But such a passive monetary policy does not constitute a degree of freedom of the economic system which could be filled out by a teleologically orientated monetary policy determined along welfare economic lines. In terms of opportunity theory the character of a passive monetary policy in this case thus forbids regulation of the money supply. Passive monetary policy consequently does not just mean the renunciation of a discretionary monetary policy when the discount window is open, but the general renunciation of a monetary policy. It thus remains short-term in nature because merely short-term market forces prevail which make central-bank intervention unnecessary.

With this the importance of the banking-currency controversy for the theory of monetary policy becomes once again clear: thanks to its orientation towards equilibrium constellations it assumes the possibility of an exclusively passive monetary policy, which in the banking case results from an institutionalized interest-rate policy, in the currency case from an institutionalized policy of money supply; or, little better, which interprets an active monetary policy as the way to the reconstruction of the respective equilibrium constellation. This renders the controversy unfruitful – and reveals its periodic revival as a fundamental weakness of monetary theory.

Nevertheless, the banking-currency controversy, regardless of its weaknesses in terms of market logic, aims to achieve a functional analysis of the monetary system and along with this considers the reasons behind the determination of the ability to make payments. However, the modern theory of monetary policy has largely left this form of the question out of the account. This is demonstrated by the fiscalist and monetarist concept. In the first case monetary policy is subsumed by budget policy, in the second by the regulation of the money supply. With this both concepts take into account a violation of the monetary system's ability to make payments and consequently its undermining of this: the fiscalist concept externally by propagating an elastic money supply, the monetary concept internally by propagating an inelastic money supply. Both concepts consequently demonstrate emphatically the weakness of the dominant theory of economic policy, namely the negation of active monetary policy: in the first case monetary policy remains a derivative of the process of income formation, in the second a derivative of the process of absorption of the available money supply. Although the academic world knows that the central bank behaves differently from what is prescribed by theory, and is (to a large extent) aware that it must behave differently, this divergence is interpreted as a gap between theory and practice which results from the division of labour between academics and bankers. It remains a question of the management of monetary policy which does not affect monetary theory itself. These observations set against this separation the methodological necessity of the unity of theory and practice (which is all too cosy for academia); a unity of the theory and practice of monetary policy in which the practice of monetary policy is evident in its theoretical foundation.

The market-consistent stability policy developed here cannot merely be interpreted from the perspective of the banking position as the rejection of a passive monetary policy of adaptation in favour of an active, discretionary monetary policy, but equally as an inversion of the status of active and passive monetary policy as found in the currency school. As in that school active monetary policy is determined more or less exogenously – fiscally by the state budget, monetarily by the available money supply – (and is thus incompatible with the market), passive monetary policy serves the restoration of a disrupted equilibrium constellation. Therefore, for the currency school it is only passive monetary policy which turns out to be consistent with the market whilst active monetary policy forms a disruptive factor in the economic process.⁷⁴

The diametrical opposite of the currency school's views which are represented here becomes evident: here active monetary policy means reacting to deviations from the equilibrium constellation by means of the regulation of the monetary system's ability to make payments. Management of a disequilibrium takes the place of the removal of the disequilibrium. Out of the passive monetary policy of reacting to disruptions results an active monetary policy of securing the ability of the economy to function. Passive monetary policy means, in turn, that the repercussions of the economic system on the monetary sphere form a parameter which limits the potential influence of monetary policy. This requires the primacy of the maintenance of the economic system's ability to make payments. The fundamental fallacy of the currency school consequently lies in overlooking the fact that this primacy conflicts with a teleologically founded monetary policy, and that this thus attains a passive character.

The necessity of estimating the nature of the connection between active and passive monetary policy constitutes the difficulty of forming a monetary policy which is consistent with the market. Therefore, monetary policy can in practice have all sorts of effects, desired and undesired, predicted and surprising, counteracting and reinforcing. However, there is no avoiding the fact that even an unsuccessful monetary policy does not allow an institutionalized regulation of the money supply (and similarly a successful monetary policy does not justify an institutionalized interest-rate policy). Rather, a lack of success requires (possibly repeated) revisions of monetary policy. This constitutes its discretionary content. Revisions of monetary policy therefore reflect the norm of securing the ability of the monetary system to function independent of any welfare economic effects it may have.

Bagehot's reversal of the question

Bagehot's dynamic theory of the bank

Bagehot's *Lombard Street* is capable of sharply reflecting the weaknesses of predominant monetary theory because it provides a dynamic theory of banking. The argument has aspects which concern both method and content. Methodologically, the prevailing theory of monetary policy remains static, orientated towards the conceptualization of an equilibrium by means of which the monetary dynamic is similarly understood to be a mere deviation from the equilibrium constellation, or, and not without inner consistency, as a temporary equilibrium. As

far as content is concerned, it provides a theory of the asset market with the monetary shell as the budget restriction which encloses the market system, whereby the commercial banks are either banished to the organization of the monetary shell as appendages of the central bank, as posited by representatives of the currency principle,⁷⁵ or are integrated into the system of financial intermediaries as a category of the asset market, as posited by representatives of the banking position.⁷⁶

Nineteenth-century monetary theory was prevented from explaining the severe monetary crises which arose in England, the land of the leading currency,⁷⁷ by orientating the functional mechanisms of the monetary system and, on the international scale, currency tied to the gold standard towards equilibrium constellations⁷⁸. Twentieth-century monetary theory, on the other hand, slides into a teleology of objectives for the economy as a whole, and one can argue splendidly about the point of them and the ways in which they could be implemented. Bagehot avoids this weakness by means of a liquidity preference theory of the interest rate which is constituted, methodologically speaking, to this extent as a dynamic theory as it explains the holding of money (by the public as well as the commercial banks) in terms of the interaction between commercial banks and the central bank. By means of this it escapes the orientation towards an equilibrium constellation (which is founded in market theory). A process of the creation and reduction in the volume of money,⁷⁹ a *process* of the creation and reduction in the volume of money guided by the interest rate and thus justified by market logic,⁸⁰ takes the place of the allocation of a given money supply. However, this means at the same time that Bagehot provides a theory consistent with market logic of steering the economic process by the economic sphere which excludes repercussions on the real value of money: if, in the equilibrium constellation, a reduction in the volume of money takes the place of the holding of money, then the real balance effect which could effect a reconstitution of the equilibrium does not apply.

The methodological defect of postulating the holding of money for an equilibrium constellation leads to the dichotomization of the monetary sphere into state money creation and private credit production. This was intended as early as Peel's Bank Act with its division of the Bank of England into a money-creating Issue Department and a credit producing Banking Department – a situation which is not altered by the fact that the separation of both functions within one bank represented a compromise in terms of Ricardo's demand for an institutional

separation of the banking system into central bank and commercial banks. The notion of such a separation of functions remains characteristic of monetary theory to the present day, to the end of the twentieth century.

With that, the exceptional position of the central bank is justified by its securing of the monetary constitution. By means of this the central bank becomes a public welfare institution.⁸¹ As a consequence the commercial banks are subject to, according to the currency position and through their holdings of reserves with the central bank (and an assumed stability of payment habits) which limit their credit leeway, the control of the central bank. Or, the commercial banks are, according to the banking position, seen from a perspective of pure allocation theory as a component of the asset market;⁸² which situation, as with Goodhart, leads for instance to a weighing up of the advantages and disadvantages of nominally-fixed forms of assets as opposed to those valued by the market.

Bagehot escapes the weakness in market logic of dichotomizing the functions of the central bank and the commercial banks by providing an independent theory of the bank which is based on the interplay between the central bank and the commercial banks. With this the historical example of the Bank of England attains its theoretical power due to the fact that the Banking Department simultaneously exercised the function of a central bank and a commercial bank,⁸³ whilst the Issue Department remained without a function from the perspective of market logic. Alongside the function of a commercial bank, the Banking Department also took on the function of central bank because it, unlike the Issue Department, functioned as a market participant.⁸⁴ It genuinely fulfilled the banking function by guaranteeing the public's ability to make payments – internally and externally. This is the core of Bagehot's message. As a consequence both a welfare economic interpretation of the function of the central bank (and, dragged into its wake, the commercial banks) – primarily in the sense of the realization of goals concerning the economy as a whole, such as full employment and price-level stability – and a reduction of the function of the commercial banks to a function of allocating asset is out of the question.

The bank as central bank and commercial bank

The standing of the Bank of England at the apex of the English banking system in the wake of the enthronement of Peel's Bank Act in 1844 is still worthy of interest today. For we are without a doubt dealing here with one of the most spectacular cases in monetary

history: not only that, unusually enough, a political act conceived on the foundation of theoretical insights and then reality – the reality of a successful policy of the Bank of England – forced a change of Peel's Bank Act counter to its statutory instructions. Furthermore, it is highly unusual that Peel's Act, despite its failure, is celebrated to the present day as a victory of the currency school over the banking school. And to crown the whole matter: the recourse to this supposed victory occurs to the present day in contradiction of Bagehot's explicit analysis, who, here as usual, presents with masterly precision the reasons why the Bank of England did not and could not function in the way the initiators of Peel's Bank Act intended.

The immunization strategy of prevailing monetary theory, which parades intention as reality, has one aspect of method and one of content: methodologically it represents a *petitio principii* because that which is to be proven counts as having been proven by recourse to the theory; in respect of content it leads to the fallacy of depicting a reality which contradicts its original intentions.

In our case the fallacy results from the assumption that the division of the Bank of England into an Issue Department and a Banking Department introduced by Peel's Bank Act appropriately depicts the current two-tiered banking system with its organization into central bank and commercial banks in terms of its functions and correspondingly its modes of action. According to this pattern, the Issue department functions as an institution of note issue, analogous to today's money creation by the central bank, and the Banking Department as an institution of credit production and thus as a typical commercial bank. This projection of the two-tiered banking system can also be found in Goodhart's work when he, with express reference to Peel's Bank Act, speaks of how, in the case of a commercial bank which is orientated towards the maximization of profit, it is not practicable for it to limit itself in respect of guaranteeing credit, rather a separate institution which enforces the limitation of credit is necessary, or, as in the case of the Bank of England, a corresponding department.⁸⁵

On the other hand, in truth the Banking Department has exercised the double function of central bank and commercial bank and has consequently degraded the Issue Department, in total contrast to the intentions of Peel's Bank Act, to a mere institution of currency issue. The criterion in terms of market logic consequently provides the Banking Department's holding of reserves, by means of which it did not merely distinguish itself from the other commercial banks, but also relieved these of having to hold reserves themselves.⁸⁶ This would seem

to imply that the Banking Department was not a bank which sought to maximize profit, but actually it is precisely this fact, and here arises Goodhart's misconception, which distinguishes it as a central bank and *not* a commercial bank subject to a budget restriction!

Without a doubt, the holding of a considerable cash reserve reflects the existence of an Issue Department. But the interplay of central bank and commercial banks in today's two-tiered banking system does not correspond to the interaction of the two departments. For monetary policy was practised by the Banking Department. It disposed over the corresponding instruments of monetary policy, over the possibility of holding reserves in the service of the commercial banks as well as over the possibility of influencing the public's holding of money via the interest rate.⁸⁷ Thus in today's two-tiered banking system it is the reduction in the volume of money by the central bank which corresponds to the holding of reserves by the Banking Department because the creation of money and monetary policy are in the same hands.

The fact that Peel's Bank Act was suspended three times in 1847, 1857 and 1866 underlines the central-bank function of the Banking Department: 'in none of the three cases, would the Banking Department of the Bank of England have been able to hold out if the law had not been broken.'⁸⁸ The financial crises consequently did not result from the money-creation function of the Issue Department (which was limited thanks to the fact that currency was tied to the gold standard) – as the currency position requires – rather, payment difficulties of the Banking Department were responsible. Here it can clearly be seen that the central-bank function of the Banking Department resulted from its own market orientation: the impending illiquidity could only be confronted by an (unlawful) abandonment of the duty to redeem money. And with the third and final suspension of the Bank Act⁸⁹ the Banking Department ultimately enthroned itself as the central bank. The discount window remained open: after the Banking Department, as Bagehot reports, had spent £45 million it admitted, as Bagehot continues, 'actually, but not in that form, that [it] had to give advances to anybody on request against proper security.'⁹⁰

One can see that the Banking Department does not, as is posited by Goodhart, become a central bank by *linking to*, but rather by *uncoupling from* the Issue Department. The functional conditions of a monetary economy, primarily the necessity of opening the discount window in the service of maintaining the ability to make payments, and not of some calculus determined by private economic or welfare economic considerations of the market participants, dictated the responsibilities

of the Banking Department. The flaw in terms of both content and method of prevailing monetary theory thus becomes obvious: fixated on the dichotomy of the private maximization of profit and the realization of public welfare, it overlooks the fact that the Banking Department performed the duties of a central bank. It could, despite being institutionalized as a central bank, perform this function because it, as a market participant, became the producer of stability: it neither conceived of itself as a welfare institution according to the principles of the currency school, as the Issue Department did, nor did it pursue purely a commercially-oriented credit policy like a 'normal' commercial bank.

The historical uniqueness of this case does not need to be contested, but its fundamental significance for the constitutional conditions of a monetary theory – a theory of monetary policy which is consistent with the market – cannot be underestimated. For the Banking Department's calculation of choice does not reflect a singular mixture of orientation towards both the welfare of the economy as a whole and the pursuit of private profit, but instead the genuine market logic of the maintenance of the ability to make payments. By linking monetary stability to the maintenance of the ability to make payments (guaranteed by an open discount window), Bagehot was the first (and to date only) economist in the history of theory to have recognized the necessity of a foundation of disposal over money specifically founded in calculation theory;⁹¹ monetary policy means nothing other than the securing of a market solution which has as its micro-theoretical foundation individual disposal over money.

The functional conditions of the Banking Department of the Bank of England depict *in nuce* the demands on an institution of monetary policy: both *to be* a bank and, as a bank, to guarantee the maintenance of the ability to make payments. This is what makes this case exemplary. As a result, however, transposed onto the organizational structure of the modern banking system, central bank and commercial banks form a unity, they perform as a unity the task of supplying the public with money. A functional division of the banking system into central bank and commercial banks does not depict the constitutional conditions of a monetary economy founded in the market, and above all it does not represent a separation of money production (regulated by the state) and credit production (organized by the private sector), but is instead the result of an expedient division of labour, of a division of labour of supplying the commercial banks and the public with money.⁹² The unity of the banking system is demonstrated by the fact

that both, central bank and commercial banks, perform the duty of maintaining the economy's ability to make payments.

Open discount window and liquidity preference

Bagehot speaks rightly of a final suspension of Peel's Bank Act in 1866 because, with the opening of the discount window at the same time, the basic principle of the currency school, namely allocating different economic functions to the creation of money and the production of credit, was abandoned. As an open discount window means that every demand for money resulting from a credit relationship is satisfied, the question then remains as to the price at which this is satisfied,⁹³ every allocation of credit means a creation of money – as conversely every repayment of credit means a reduction in the volume of money.⁹⁴

The deep-seated and still current myth of the currency school of having a money supply which is made available by the monetary authorities allocated by the market to the public breaks down at its contradiction in market logic. With a predetermined money supply the interest rate is not capable, as Bagehot develops with masterly clarity,⁹⁵ of performing an allocation function if the public and the commercial banks believe that money is not to be had at any price: the urge to hold money will be immeasurable.

This gulf between the currency school and practice, which opens due to its aporia in market logic, has to this day not been overcome, nor has it even been understood.⁹⁶ For it is by no means a matter of whether the central bank plays the part of a rescuer in a liquidity crisis – consequently, to put it in jargon, functioning as a lender of last resort and by doing so breaking a projected rule of money supply – rather, it is instead a matter of an open discount window which removes the cause of liquidity crises. Lord Overstone, one of the most resolute adherents of the currency school, thus took for granted that in times of crisis Peel's Bank Act should be temporarily suspended.⁹⁷ Thus it was not its suspension in 1847 and 1857 which undermines the currency school, but rather the fact that the discount window was kept open from 1866 onwards, which put an end to the liquidity crises. For keeping a discount window open neutralises the separation of money creation from credit production: a sacrilege for the currency school, because for it the regulatory principle of the monetary economy – Overstone's 'regulation by principle' – is thus lost.

The beginnings of a modern dynamic theory of the bank sketched out so far reflect the traditional notion of a separation of the creation of money and the production of credit, both directly and indirectly: in

Goodhart's work indirectly as he holds the market valuation of deposits to be a satisfactory criterion for the avoidance of liquidity crises; in Greenfield's and Yeager's work directly as they establish an increasing liquidity preference in the banking system (or the public). Both ignore the status in terms of market logic of an open discount window, and by doing so cut off the creation of money (by the central bank) from the credit production (by the commercial banks). In both cases the research programme of a dynamic theory of the bank, which removes the separation of the creation of money and the production of credit typical of the currency school, and the linking of the creation of money and credit production typical of the banking school, is only half fulfilled. Bagehot's exceptional position once again becomes clear.

However, it would remain a misunderstanding to characterize Bagehot as the founder of a theory of the 'lender of last resort', in which the question of the (market) conditions of crisis-avoidance takes the place of the currency school's crisis management. In this case a moral-hazard problem does not occur and consequently nor does the problem that the central bank only provokes liquidity crises which it declares itself willing to counteract. In this point Bagehot remains on a strictly conservative course: unlimited credit should be given only against 'proper' security⁹⁸ – a condition which, alongside a high interest rate which acts as a market barrier against the surge to liquidity, is able to avoid the domino effects of a liquidity crisis. For, as *Bagehot* says, 'the large majority which must be protected are the "healthy" people who offer good security.'⁹⁹

In the context of an open discount window, the moral hazard problem disappears along with the liquidity crisis. The solvency risk remains an individual risk, the calculation of which is the bank's responsibility.¹⁰⁰ In contrast, it is confirmed that the central bank needs the commercial banks so that it can leave them to solve (individually) the solvency problem, and it can thus limit itself to solving (collectively) the liquidity problem. Bagehot demonstrates with this the fallacy of Goodhart's package of the solvency and liquidity problem; because it is not, as Goodhart assumes, the market's valuation of deposits, but the opening of a discount window which dissolves this package; the banking system cannot relieve itself of the solvency calculus. A market valuation of deposit obligations would instead have to allocate the solvency calculation to the central bank.¹⁰¹ However, Goodhart would probably not have had this result in mind when he deduced that with the market valuation of deposit obligations the commercial banks no longer need the central bank.

Bagehot's linking of open discount window and liquidity preference shows itself, even 120 years after the publication of *Lombard Street*, to be a theoretical masterstroke which is further underlined by the fact that, even if it has not been adopted, it has never been repeated. First and foremost, with regard to market logic it outshines Keynes' liquidity preference theory of the interest rate by linking the stability of a (interest-rate dependent) money demand (function) to an open discount window and thus excludes the degree of freedom of a predetermined money supply, which is a constitutive element of the Keynesian theory. Due to this, interest-rate policy loses its function of regulating the money supply in the service of aims determined by welfare economics, primarily the aim of full employment. Interest-rate policy instead serves to secure the public's ability to make payments and cannot do anything else. By linking the liquidity preference and the open discount window, Bagehot thus justifies a dynamic theory of the bank differently from Keynes.

Bagehot's theory demonstrates a Keynesian element only insofar as it diagnoses the dynamic element of liquidity theory in the, as Bagehot terms them, extra demands of the (public's) holding of money.¹⁰² But such a (legal) shift of the liquidity preference function does not lead to an increase in the interest rate due to a predetermined money supply as it does with Keynes, but instead forces the central bank into a policy of expensive money in order to maintain the scarcity function of money: 'Money can only be lent', according to Bagehot, 'at very high interest rates. These function as a severe punishment for unreasonable fearfulness and prevent the large majority of demands from such people who do not necessarily need money.'¹⁰³

Correspondingly, in Bagehot's work the open discount window performs the allocation function, the interest rate the scarcity function.¹⁰⁴ This is in total contrast to Keynes, in whose work the interest rate performs the allocation function and the predetermined money supply the scarcity function. The consequences for economic policy are diametrically opposite:¹⁰⁵ Whilst in Keynes' work an increased liquidity preference is to be counteracted by a policy of easy money, this requires in Bagehot's work a policy of expensive money. The central bank represents for Keynes a welfare institution which has the task of working against the market process; in contrast, for Bagehot it functions as a market participant which implements means of securing the functional conditions of the market.

It thus becomes clear that Bagehot drafts a liquidity preference theory of the interest rate which is quite naturally based on the public's buying

and selling of liquidity to and from the banking system. The reflex of the balance sheet within the banking system, that is between the central bank and the commercial banks, then consists either of a holding of reserves by the commercial banks (which deviates from the obligation of a minimum reserve),¹⁰⁶ or of a process of the creation and reduction in the volume of money by the central bank. With such a liquidity preference theory Bagehot avoids the real-bills fallacy of money creation accompanied by credit production, without in turn, as Greenfield and Yeager do, falling foul of monetarism's aporia of separating, in terms of market logic, money creation and credit production.

Cash deposits as a substitute for money

Seen from the point of view of their historical genesis, cash deposits arose from the commercial banks' issuing of currency.¹⁰⁷ In the first half of the nineteenth century, in the wake of the abolition of (issuing) banks' issue of paper money by Peel's Bank Act in favour of the Bank of England, cash deposits took the place of the issue of notes. These force commercial banks into a passive role as the duty to redeem the notes (for gold or central bank money) was taken over by a permanent willingness to dispose over central bank money (by payments to the public or other banks).

This further development of the monetary constitution which, as Bagehot develops, also had advantages for the public,¹⁰⁸ makes a substitute for money out of money, a substitute for money in the form of cash deposits. Cash deposits thus represent an unspecified form of the task of liquidity.¹⁰⁹ Thanks to the passive character of their genesis – be this a reflex of credit demands not withdrawn in central bank money, or a reflex of the liquidity preference of the commercial banks¹¹⁰ – they represent the ideal type of a division of labour between the central bank and the commercial banks by enabling the latter to absolve the former of the daily business of fulfilling individual contracts; that is, bookkeeping. For this reason the central bank needs commercial banks.

The genesis of cash deposits forms *the* big modernization drive of the banking system in the nineteenth century. This drive implies a nominal fixing of cash deposits which in turn provides the condition that these function as a substitute for money, as proof of the fulfilment of contracts. Even in the twentieth century there can be no going back on this modernization drive: the development of new forms of assets which combine a high degree of liquidity with a high level of interest can only occur on the foundation of nominally-fixed cash deposits and not as an alternative to them. This puts Goodhart's concept of a

market valuation of cash deposits in its place.¹¹¹ The limit this enforces is insurmountable because, as we have seen, the transformation of cash deposits into financial intermediaries necessarily destroys the division of labour between the commercial banks and the central bank. Thus, under the flag of a market valuation of the commercial banks' assets and liabilities, of a denationalization of money or even a reserves holding of 10 per cent, to invoke the myth of the central bank of the nineteenth century is one of the oddities of contemporary monetary theory – a myth which Bagehot had already overcome in the nineteenth century.

Bagehot and modern monetary theory

In this essay modern monetary theory is represented on the one hand by Greenfield and Yeager and on the other by Goodhart because they deal with dynamic aspects of the banking system from different perspectives. Greenfield and Yeager adopt a monetarist position whereby they specify for the real-bills fallacy an identity between money and credit via a consideration of a liquidity preference of the commercial banks. Goodhart, on the other hand, investigates from a post-Keynesian perspective the specific role of the commercial banks in the system of financial intermediaries orientated towards the market.

It thus becomes apparent that both positions remain trapped in the currency principle of an \bar{M} by dividing the market process between the central bank and the commercial banks – a defect in market logic which affects neoclassical monetarism and Keynesian income theory in equal measure. This circumstance indicates that both major contemporary schools shut themselves off from a theory of the central bank, at least from a theory which gives the function of the central bank a foundation in market logic.

Also reflected in this deficit is the teleological orientation of monetary theory which asserted itself in the 1930s, and which, for this reason, affects both monetary schools. But this deficit is without a doubt not just a product of the teleological specifics which stylize the central bank to a welfare institution: at the same time it arises from the deeply rooted notion of the currency school, which can be traced back to Hume and Ricardo, which removes monetary regulation from the market process so that the market is able to unfold itself on the foundation of stable money.

Yet this postulate does not require the money supply to be determined in an authoritarian manner, but merely the function of money to be standardized, which is established by a medium of contract

fulfilment. Such a standardization, however, leaves open the question of the organization of the creation and reduction in the volume of money. The historical example of the Banking Department of the Bank of England thus attains its theoretical power due to the fact that the market process (contrary to the principle of the currency school) which manifested itself in the separation of Issue Department and Banking Department, also dictated along with the commercial-bank function the central-bank function. The case unmasks the fundamental nature of the disaster of the currency school: the market asserted itself contrary to the nomology of monetary stabilization¹¹² by imposing a market-consistent stabilization policy upon an institution which was originally constituted as a commercial bank.

Monetary theory still responds to this disaster with an immunization strategy which holds the regulation of the money supply to be compatible with the constitutional conditions of a market economy. The analytical crux is provided by, as we have seen, the *supposition* that the stability of the money-demand function is independent of the process of money supply and its form. Against this background, Bagehot's singularity becomes clear: it lies in the fact that he, due to the fact that he lived as a practitioner in a time of significant changes in the monetary constitution and monetary policy as well as to the power of his theoretical insights, provides the point of reference for a theory of the central bank which is consistent with the market. Bagehot represents a stroke of luck for the history of theory because he wrote *Lombard Street* under the impression of the final opening of the discount window in 1866 and was thus able to found theoretically the epochal character of this occurrence. And by developing the theoretical defect of an 'enlightened' currency position *à la* Overstone, which diagnoses liquidity crises as inevitable exceptions from the rule, he still 120 years later contradicts the prevailing view which links monetary stability to a regulation of the money supply or, expressed more generally, which grants the central bank the capability of controlling the money supply.¹¹³

The tabular overview puts Bagehot's position into the context of alternative theoretical drafts whereby the banking position is presented in the version of the real-bills fallacy and the currency position is divided into the two models of monetarism and Keynesianism. As this overview more or less, directly and indirectly, represents a resume of this essay, further comment is unnecessary. One can, however, also, without differentiating too much, compare Bagehot with modern monetary theory *in toto*. Then the interaction between central bank

and commercial banks as a constitutional condition of the monetary economy stands directly opposed to its violation in the form of a severing of the two functions. As a consequence: the market-orientated division of labour in supplying the commercial banks and the public with money opposes a separation of money creation and credit production; the open discount window of creation and reduction in the volume of money opposes the \bar{M} of a money supply rule or a market-orientated compensatory strategy; the standardization via the nominal fixing of cash deposits opposes the market's valuation of these; and, last but not least, liquidity preference as a deviation from the credit-market equilibrium opposes a liquidity preference as a disruptive factor of allocation.

With this little our study can be concluded. It is probably no coincidence that it is being written at the beginning of the 1990s. The parallels between 1866 and now are unavoidable. Now as then a revolution in monetary history is occurring. And now as then it is creeping up without a sound. This is exactly Bagehot's theme as he does not hold the spectacular event of the enthronement of Peel's Bank Act in 1844 to be the groundbreaking event, but instead the assertion of a supply of money consistent with the market, manifested in the establishment of both the central bank function and the commercial bank function within the Banking Department of the Bank of England. This process was complete by 1866, and 1866 is more important than 1844. The parallel to the present day is provided by the current fiasco of the regulation of the money supply which, regardless of how the money supply is defined,¹¹⁴ forms a decisive caesura in the monetary history of this century. Sooner or later this must have an effect on prevailing economic theory. Bagehot stands *ante portas* because he demonstrates that the liquidity crises after 1855 and the crisis of the money supply rule in our time have the same cause: they are the result of a market-inconsistent monetary policy, a policy which, one way or the other, directly by means of an increase in the price of credit or indirectly by means of counteracting monetary expansion, closes the discount window.

The fiasco of a teleology of monetary policy, already conspicuous for several decades, which stylizes the central bank to a welfare institution forms merely the prelude to the currently impending fiasco of a monetary policy which is based on a regulation of the money supply. Thus, the inconsistency with the market of an easy money policy which aims for full employment, as well as of a policy of a fixed money supply rule which aims for price stability,¹¹⁵ hardly needs mentioning further. It is more significant that current equally pragmatic concepts of a regula-

tion of the money supply, for which a money-supply rule of monetary policy provides a general guiding principle, are in the throes of a fiasco.

Thus, the German Bundesbank's current monetary policy invites obvious comparison with that of the Bank of England in Bagehot's day because, like the pound sterling as the then world currency, the German mark today functions as the anchoring currency of the European currency system. But the Bundesbank currently lacks the insight to put into practice a market-consistent monetary policy such as the Bank of England adopted, which Bagehot develops so plastically. Fixated on the notion of regulating the money supply, it is helplessly confronted by the current phenomenon of persistently overshooting expansion of the money supply over and above its predetermined corridor of objectives.

The Bundesbank is currently resisting the temptation to reduce the expansion in the money supply via interest rates because this would necessarily increase the capital flow into the Deutschmark and, as a result, turn the European currency system upside down. Yet it does not find itself willing to lower interest rates as necessary because its teleological thinking sees in such a policy only a stimulation of the economy, a policy of easy money. In truth, then, it cannot just be a matter of guiding monetary processes towards an equilibrium constellation by means of a cut in interest rates. For an increasing liquidity preference for the German mark, which results from capital inflows from abroad, can only be consistent with the market if it is met by a policy of equalizing the foreign currency balance, or – as a constitutional condition of an asset-market equilibrium – the capital balance. From the perspective of regulating the money supply this means, however, that the task of counteracting the process of money creation (induced by capital imports) with a process of reduction in the volume of money (accompanied by capital exports) falls to the interest-rate policy.

However, one should not only be sceptical about the existence of the Bundesbank's willingness to adopt such a market-consistent monetary policy. Both in public opinion and in the academic world the view prevails that, in the case of an increasing liquidity preference, a policy of contrast is necessary for the Deutschmark in order to tackle inflation. The notion which has now been dominant for over half a century, namely that it is economic policy which has the formative function – a notion which is still affected by the economic disaster of the interwar period – refuses to comply with the experience that the solution of practical problems, in which the central bank functions as a market participant, takes the place of the nomology of monetary policy.

Furthermore, the aporia in market logic of a teleology of monetary policy does not alter the fact that public opinion pushes for monetary policy to be nomologized. The Bundesbank must, therefore, always point to dangers which come from the money supply and affect the price level, even if these do not determine the size of the money supply and can only have an influence when they take into account increased monetary instability. The market's apology, which the current generation is so busily cultivating, should not obscure its deep-seated decisionistic inclinations.¹¹⁶ The primacy for a research strategy which seeks to derive an equilibrium constellation, a strategy required by the norms of model-building, is an important symptom of this decisionism. For the observance of the market consistency of the context of deduction takes second place to the decisionism. In our case this decisionism can be seen in the circumstance that price-level stability and monetary stability are conceived as identical political concepts.

Thus, it will be some time until it becomes clear to public opinion as well as to the academic world that the prevailing concept of monetary stability contains a fundamental fallacy: the fallacy of wanting to effect monetary policy by means of a monetary policy which regulates the market¹¹⁷ – and consequently of overlooking the fact that it can only adjust to a market process in which monetary policy functions as a market participant. Participation in the market thus means that monetary stability is achieved by means of the interest-rate policy. The proof of this is provided by an equalized capital balance whereby the remaining potential for inflation¹¹⁸ can only be neutralized by means of a cutback of the utilization surplus with an accompanying limitation of nominal wage increases, that is with an income policy.¹¹⁹ In contrast, price-level stability adjusts to a policy of deflation. Whilst monetary stability is consequently based on an interplay between interest-rate policy and market-consistent income policy, market regulation via a deflation policy induced by the money supply forms a source of instability. Instability¹²⁰ instead of stability is thus the consequence of the fallacy of the prevailing theory of macropolitics.

Thus, Bagehot uncovers the reasons why a monetary policy which wants to assert stability via regulation of the market is consistent with the market. For his dynamic theory of the bank implies that traditional stabilization policy has to take responsibility for the repercussions of a market-regulated goods sphere on the monetary sphere, primarily in the form of alterations to nominal wages and the nominal interest rate. This, however, makes it inconsistent with the market. On the other hand, market-consistent monetary policy aims to secure the economic

Table 1.1 Synopsis of alternative theoretical concepts

<i>Argument</i>	<i>Bagehot position</i>		<i>Banking position</i>		<i>Currency position</i>	
	<i>Low</i>	<i>High</i>	<i>Monetarism</i>	<i>Keynesianism</i>	<i>Low</i>	<i>High</i>
Substitution elasticity of money	Low	High	Low	Low	Low	Low
Regulatory power of monetary policy	No	No	Yes	Yes	Yes	Yes
Allocation function	Credit interest rate due to open discount window	Credit market interest rate (real)	Goods interest rate	Goods interest rate	Monetary interest rate	Monetary interest rate
Scarcity function	Monetary interest rate (discount rate)	-	Money supply	Money supply	Money supply	Money supply
Effect of increased liquidity preference on credit-market interest rate	None	None	None because income-dependent	None because income-dependent	Increase	Increase
Consequence on monetary policy	Regulation by means of surcharge on credit-market interest rate	None	None	None	Policy of easy money	Policy of easy money
General nucleus of monetary policy	Deviation of the discount rate from the credit-market interest rate	Agreement of discount rate and credit-market interest rate	Self-regulation with given money supply	Self-regulation with given money supply	Adaptation of the credit-market interest rate to the discount rate	Adaptation of the credit-market interest rate to the discount rate
Aporia in market logic	No drastically different function of credit-market interest rate and discount rate	Identity of money and credit (real-bills fallacy)	Dichotomy of monetary and goods sphere with tendency to instability of liquidity preference	Dichotomy of monetary and goods sphere with tendency to instability of liquidity preference	Disequilibrium with cumulative tendency	Disequilibrium with cumulative tendency

Table 1.1 Synopsis of alternative theoretical concepts *continued*

<i>Argument</i>	<i>Bagehot position</i>	<i>Banking position</i>	<i>Monetarism</i>	<i>Currency position</i>
Contradiction of economic policy	No severe regulation of the ability to make payments	Regulation neither by means of money supply nor interest rate (regulation by panic)	Endogenous stabilization of interest rate with increase of exogenous shocks	Stop-and-go policy with tendency towards primacy of stop

system's ability to make payments, manifested internally by the open discount window and externally by an interest-rate policy which aims towards a short-term equalization of the foreign currency balance sheet and long-term an equalization of the capital balance sheet.

The leap into the modern monetary economy, which forces one not to disregard the inflation problem, confirms that Bagehot's analysis of the Bank of England's monetary policy in the wake of the constitution of Peel's Bank Act, primarily a monetary policy counter to the intentions of Peel's Bank Act, which itself was influenced by currency theory, provides the Political Economy of a market-orientated monetary economy with a general foundation. It is in this respect that the fundamental relevance of his *Lombard Street* lies, and also, precisely even, its significance for the closing years of the inflation-ridden twentieth century.

It is thus no coincidence that Bagehot's genius has its roots in the fact that he was a practitioner who gained theoretical insights and was not a theoretician who engaged in practical politics. Therefore, the practical relevance of his theoretical insights results not least from the fact that he did not propagate stabilization policy, but instead recorded the market conditions of monetary stability. Table 1.1 provide a synopsis of the theoretical concept discussed in this essay.

Notes

- 1 The title of Goodhart (1987).
- 2 Corresponding to the norm of theory formation as the interaction of *individual solutions* (founded in preference theory) within the broader *market solution*.
- 3 *Op. cit.*, p. 75.
- 4 *Op. cit.* p. 76.
- 5 *Op. cit.* p. 77, p. 85ff.
- 6 Thus Goodhart (1987), p. 76 in his critique of such notions.
- 7 Liquidity crises are understood as the inability to make payments following a transformation of deposits into central-bank money; solvency crises are understood as the failure to make payments due to a lack of profitability.
- 8 Goodhart (1987), p. 77.
- 9 *Ibid.*
- 10 *Ibid.* p. 87.
- 11 *Ibid.* p. 76.
- 12 *Ibid.* p. 85.
- 13 See chapter 3, p. 84ff.
- 14 *Ibid.*, p. 85ff.
- 15 See p. 76
- 16 *Ibid.*, p. 88ff.

- 17 An at least temporary inability to make payments must also be considered when such instructions to provide covering funds are only relaxed as a result of a liquidity crisis.
- 18 In contrast, the external payment capacity of the economy remains the subject of considerable research because it results from the possibility of disposing over foreign currency.
- 19 Strategies of monetary policy such as an open-market policy fail to establish the connection to relevant research because in this context it is a matter of the short-term satisfaction of excess demand for money and not of its neutralization by compensatory measures.
- 20 For further consideration of this point see the next major section, p.4ff.
- 21 In contrast, prevailing theory considers the theme of the empiricism of an increasing volume of money. As a result, however, it provides the creation of money with a macro-economic foundation which is founded merely in behavioural theory, which as a rule is reduced to an exogenously fixed availability of central-bank money. In order to label this research practice, the concept \bar{M} will be introduced in the next section, with pejorative intent.
- 22 See Goodhart (1987), p. 88ff.
- 23 It is necessary to limit this argument to cash deposits because a transformation of nominally-fixed time deposits into nominally-variable asset values and thus into fixed-interest securities is already common practice within the commercial banking system. But such market-valued obligations do not affect the position of commercial banks within the structure of financial intermediaries. For, as long as cash deposits are nominally fixed, their substitution by nominally-fixed time deposits will also occur.
- 24 The function of the commercial banking system to produce credit by drawing on deposits (and not by making central-bank money directly available), led particularly in the interwar years to the interpretation (in the German-speaking world Hahn and Schumpeter were particularly influential) that commercial banks were producers of money and not money-lenders. But this differentiation is insignificant because the question of the ability to make payments in central-bank money is posed for the commercial banks similarly in both cases: thus in the case of money production a transformation of established deposits into central-bank money must be expected. Similarly, in the reverse situation, a loan of central-bank money does not necessarily lead to it draining away, but can lead to a corresponding creation of deposits.
- 25 In the sense of market theory, cash deposits are not a medium for the ultimate realization of contracts because whilst their transfer transforms a credit relation, it cannot dissolve it. For this reason they are a prime medium for the realization of individual contracts, the functional conditions of which, however, remain bound to the existence of central-bank money as a medium for the ultimate realization of contracts.
- 26 Goodhart (1987), p. 80.
- 27 Thus White points to the fact that in contemporary practice money-market funds in no way undermine the two-tiered nature of banking, because they hold cash deposits in order to make transfers and thus do not refinance themselves directly via the sale of marketable asset values.

Goodhart does not address this significant aspect of White's argumentation despite extensively quoting his elaboration of the informationally-created advantages of deposits. He also alludes to White's divergent opinion on the question of the use of market-valued equities as a means of payment. White (1984) p. 707n; Goodhart (1987) p. 81.

- 28 Goodhart (1987) p. 78.
- 29 Thus the character of deposits as means of payment is not dependent on whether interest is paid on them or not.
- 30 Characteristically, Goodhart is also subject to this misconception which will be considered in the following major section.
- 31 see Andréadès (1906) [1966], p. 270ff.
- 32 The Keynesian paradigm, whose existence is less clear than the other two paradigms, must at its heart be understood as a theory of the price of production in which a monetarily-determined interest rate steers production, and capital represents a form of the function of liquidity. In income, the valuation of economized resources expresses itself; by means of this, income is constituted as something distinct from an independent variable of the availability of resources as found in the classical and neo-classical paradigms.
- 33 See, for instance, Hahn's (1971) critique based on neo-classical value theory.
- 34 White (1984) provides an initial overview.
- 35 Tendencies within post-Keynesianism which refer explicitly to the banking position (these can be found for instance in the Radcliffe Report and Kaldor, 1959) will be dealt with below.
- 36 It must be recognized here that monetarism preserves the norm of liberal economics insofar as the central bank only remains a bank if the creation of money occurs in accordance with public demand. (The defect in market logic refers rather to the teleological interpretation of the interaction between the central bank and commercial banks, manifested in the credit creation multiplier.) However, if the norm of money creation is violated on a creditary basis as a result of the assumption that the central bank is pursuing money creation in accordance with the demands of the state, the budget function of the state and the banking function of the central bank become confused. Only when this theoretical defect is recognized can, as laid out by Gurley and Shaw (1962) (who largely ignore the creditary foundation of all creation of money), external money as opposed to internal money exhibit the quality of (private) net assets. See Gurley and Shaw (1962), p. 72ff.
- 37 One can see how far Goodhart was from a teleological interpretation of the controlling function of a central bank by the way he links this to a divergence of solvency and liquidity criteria.
- 38 Contrary to a widely represented opinion (for example Tobin, 1968), increasing (marginal) costs of the production of credit in no way substitute the budget restriction, rather they presuppose it (in the form of competition for central-bank money which is only available in limited amounts).
- 39 A position also taken (implicitly) by Goodhart when he diagnoses the specific characteristic exhibited by commercial banks as distinct from

other financial intermediaries, namely the necessity for them to hold (a minimum amount of) reserves with the central bank without questioning the central bank's regulatory function. See for instance Goodhart (1987), p. 88.

- 40 This can be seen again recently, with considerable vehemence, in the case of Greenfield and Yeager (1986), p. 364ff.
- 41 The recourse to plausible behavioural hypotheses is definitely observed by monetary authors (and even celebrated as being empirically rich). Brunner (1971) even advances this questionable form of theory formation as an argument in an attempt to attain solidarity with Tobin (1968), principally in viewing the differing conceptions of commercial bank behaviour, in their guise as financial intermediaries, as a secondary question to the issue of deriving a stable monetary system. See Brunner (1971), p. 173f.
- 42 This deviates from a usage which denotes \bar{M} as the sum of basic money supply (introduced here as \bar{M}) and deposits.
- 43 Monetarism, for which Friedman's (1969) helicopter example stands, feels most comfortable when it does not have to deal with the issue of the genesis of base money supply. \bar{M} thus ultimately means that money is always 'there', that an additional amount of money must be distributed amongst individuals, or in the ideal case that an amount of money which in sum remains the same is held by individuals.
- 44 The asymmetry in terms of the logic of choice will need more investigation.
- 45 One cannot help but think that monetarism, or more generally quantity theory, is with \bar{M} perpetuating the norm of (neo-) classical value theory which seeks to deduce the allocation of a predetermined availability of resources. Alongside its atemporal exchange function, money exercises the function of mediating the postponed and brought-forward utilization of goods. For this reason Menger (1909), who from a perspective of the history of theory has without a doubt been the most radical champion of the view of money as a good, denotes money as a mediator of exchange and not as a means of exchange. One wonders, however, how a corresponding allocation solution is compatible with the existence of a central bank which demands interest for every unit of money it issues. See Menger (1909) [1970], p. 3.
- 46 In this context it is irrelevant whether the minimum reserves are legally prescribed or whether they reflect a (calculated) uncertainty regarding the payment processes.
- 47 However, this identity does not constitute a moment of the banking position as, seen in terms of market logic, the institutionalism of the money supply (as opposed to the banking position's institutionalism of the interest rate) is maintained.
- 48 The flow of central-bank money to the public corresponds to \bar{M} minus the commercial banks' reserves holdings (in relation to the creation of deposits).
- 49 The treatment of deposits is certified as a *weakness* in market logic as it is merely a product of the *aporia* in market logic of the introduction of an \bar{M} .

- 50 In the context of these observations this is sufficiently characterized by a contradiction of the allocation conditions of a static equilibrium.
- 51 Here it is not just the (macroeconomic) effects of an interest-rate policy on the course of the economy, above all not in respect of their short and long-term aspects, which are under discussion. They are a permanent issue in the relevant literature, above all in respect of the argument between the schools of the neo-classical theory of consumer preference and the Keynesian theory of the liquidity preference of interest. At this point it is merely the functional conditions of the monetary system, first and foremost in respect of the interaction between the central bank and commercial banks, which is an issue.
- 52 This serves here as a metaphor for the central bank's instruments of monetary policy in total.
- 53 See Weber (1938), p. 29.
- 54 A stock of money thus does not constitute a budget restriction in the sense understood by allocation theory, but instead serves to protect the creditor from a loss of assets.
- 55 Greenfield and Yeager (1986), p. 366.
- 56 *Op. cit.*
- 57 These losses constitute the core of a theory of liquidity preference of interest as can be found in Bagehot (1874) and Keynes (1936).
- 58 The banking model thereby also produces, as shown by Greenfield and Yeager (1986), also advocates of the Federal Reserve doctrine, the absurd result that with a *falling* demand for credit the interest rate *rises* because the decreased supply of deposits encounters a constant, or, due to macro-economic effects, a slightly falling demand for deposits (Greenfield and Yeager, 1986, p. 371pp).
- 59 In contrast, Keynes' (1936) liquidity preference theory of interest is based on a constellation of equilibrium which he achieves by linking it to an exogenously fixed money supply. This constitutes its aporia in terms of market logic, which will be investigated in the next major section within the context of a comparison with Bagehot's liquidity preference theory (which is flawless in terms of market logic). It is thus of truly secondary importance whether, as for instance Leijonhufvud (1968) takes as his theme, Keynes' liquidity preference theory contains supply-orientated elements by assuming a broad concept of money which includes deposits.
- 60 In contrast, for Judd and Scadding, as Greenfield and Yeager (1986) show, a disequilibrium does not mean a dissolution, but merely a disruption of the identification of money and credit until a new equilibrium (possibly due to a drop in prices and decreased income) has established itself.
- 61 The maintenance of economic subjects' ability to make payments forms a methodological analogue to economic subjects' maximization of payoff and profit in the context of goods-allocation theory. This norm of allocation theory refers, again analogously to goods allocation, to both sides of the money market, and thus not solely to the public, but equally, which will be discussed below, to the banking system and here to the interaction between the commercial banks and the central bank.

- 62 Consequently the money market remains a short-term credit market of interbank dealings in the currency model. This, however, does not merely ignore its character as a market for means of payment, although its very form would suggest this; what is also left out of the discussion is the fact that it is merely a part of the total market between public, commercial banks and the central bank in the service of maintaining the ability to make payments.
- 63 The constitutional conditions of an \bar{M} thus limit both in monetarism as well as in Keynesianism the function of a liquidity preference to a restriction of the credit supply: in monetarism, as can be seen in the case of Greenfield and Yeager (1986), by means of the commercial banks holding reserves (determined in the short term); in Keynesianism as the moment of a rise in interest rates (and of increasing overemployment) in the context of a (temporary) equilibrium. The proposed alternative draft gives, instead of the liquidity preference, a genuine moment, corresponding to market logic, of the calculation of the ability to make payments.
- 64 It must be stressed that it is the institutionalism of the *monetary interest rate* which forms the basis of the banking position. Thus, the historical banking position breaks down at the aporia in market logic of an institutionalism of the *credit interest rate*. As a consequence the market logic of the credit market (and, to generalize, of the asset market) breaks down at the creditor–debtor relationship, in which the debtor makes use of the creditor’s net assets via the return on his capital without establishing a holding of money. This condition of market logic violates monetarism and Keynesianism by, each in its own way, intending to justify the holding of money (in terms of preference theory) within the framework of a (credit-market) equilibrium.
- 65 An excellent example is provided by Hahn’s (1971) critique from the perspective of market logic of the real balance effect, which has significantly remained without consequence in the relevant literature.
- 66 Whilst monetarism avoids a holding of money founded in preference theory in that it is satisfied by positing the holding of real cash, Keynesianism stylizes it by linking it (taking the real balance effect into account) to a temporary equilibrium in order to give the deduction of underemployment a foundation in market theory.
- 67 This is expressive evidence of the ways in which the customs of research practice subsume real phenomena into a received theoretical structure instead of seeking an appropriate design for the explanation of real phenomena.
- 68 In the context of income theory it is a case of, as Leijonhufvud (1968) locates, an over-demand for money which effects a reduction in incomes. In contrast to this, in the IS–LM model a reduction in incomes conversely leads to a surplus supply of money due to which the interest rate tends to fall. Leijonhufvud (1968), p.182.
- 69 It is shown that money demand’s insufficient foundation in preference theory reflects the lack of money supply’s foundation in preference theory because the assumption of an exogenously determined money supply – that is of \bar{M} – links the demand for money to the absorption of the money supply and correspondingly to an equilibrium constellation.

- 70 The modern discussion of monetary theory deals with this circumstance by indicating that the stability of the demand for money (including the stability of the commercial banks' reserves holdings) is linked to the fact that the central bank is prepared to satisfy the (surplus) demand for money at the discount rate it itself set. See in this context Goodhart (1989), p. 323. Monetarism as the teleologically orientated version of the currency school can consequently merely hypostatize the stability of (the function) of the demand for money by ignoring the aporia in market logic of an \bar{M} . Seen in these terms, post-Keynesianism, with its linking of income formation to a predetermined volume of money, has opened the door to the substitution of a stable expenditure function (above all the consumption and investment function) by the stable function of money demand from the side of neo-classical monetarism. However, Keynes' predetermination of the money supply from the point of view of a post-Keynesian banking position is in fact only half true because, as Kaldor (1959) shows, the Keynesian alternative remains teleologically based, that is to say methodologically tied to an institutionalization of the credit interest rate (alias the discount window). This means that it is exposed at the same time to the neo-classical critique of ignoring the Fisher theorem, that is the lack of a distinction between the nominal and real interest rate.
- 71 This is not only the case internally due to the power the central bank has due to it being the only bank which can produce its own money, but also externally as the ability to make payments in foreign money includes the ability to make payments in its own money. The convertibility of a currency therefore means, as Bloomfield (1959) has pointed out, not merely a lack of foreign currency control, but equally of fixed exchange rates; the maintenance of the ability to make payments thus corresponds to a securing of exchange-rate relations. In order to avoid any misunderstandings, this does not exclude discretionary exchange-rate relations; but, strictly speaking, in the case of devaluation we are dealing with a selective inconvertibility manifested in a corresponding devaluation of capital stocks. In every case an investment-free foreign exchange market, not regulated (or controlled) by the central bank, with flexible exchange rates which are determined only by the public's supply and demand indicates the inconvertibility of the currency. Typically, a (largely) unregulated foreign exchange market then functions between key currencies, as which currently dollar, yen, Deutschmark and Swiss franc figure, because these *sui generis* provide the standard for the value of assets and cannot correspondingly become inconvertible for other currencies. See Bloomfield (1959).
- 72 In Bagehot's work, this opportunity justifies the function of the open discount window as the *lender of last resort* which from Lord Overstone's time to the present day remains a crisis-management strategy which throws up the fabulous 'moral hazard' problem for the currency school.
- 73 Correspondingly, the holding of money reflects the opportunity of a disequilibrium.
- 74 In the teleological interpretation, stability policy attains its passive moment by reacting to the sins of the past; in the monetaristic version,

by the fact that for instance the state budget has been financed by an expansion in money supply; in the Keynesian version, by the fact that for instance the effects of an expanding state budget on the balance of payments were not taken into account.

- 75 Represented in this essay by Greenfield and Yeager (1986) as interpreters of a dynamic version of the banking function.
- 76 Represented in this essay by Goodhart (1987, 1989) as the advocate of a market-orientated form of the banking function.
- 77 This applies at least to the (final) suspension of Peel's Bank Act by opening the discount window completely in 1866. See also Bagehot (1874), p. 14, p. 87. In respect of the fixing of equilibrium constellations, the methodological deficit of not being able to grasp the character of monetary crises as a surge to liquidity which is caused by a predetermined money supply, persists into modern monetary theory. This methodological deficit thus leads to the fact that the stability of money demand functions can only be justified purely empirically and not, as would be correct in terms of market logic, by linking it to the openness of the discount window. In contrast, Bagehot is fully aware that the allocation function of the interest rate breaks down at a predetermined money supply: 'any notion that money cannot be had at any price merely raises the alarm to panic, and this to a level of insanity'. Bagehot (1874), p. 30.
- 78 An excellent example of this is provided by gold automatism founded in quantity theory – the rules of the game – with purchasing power priorities as its heart and the holding of money as a short-term disruptive factor. In today's monetary balance of payments theory this pattern can be found again in the long-term determination of interest rates and the short-term setting of interest rates as the consequence of a differing supply of money within economies.
- 79 In contrast, Keynes (1936) surrenders himself to this equilibrium constellation by linking the interest-rate dependent demand for money to a given supply of money and consequently, contrary to his own intentions, understands it as a ('temporary') market constellation which, via an alteration in the real value of money, leads back to the equilibrium. This 'Pigou effect', moved as a real balance effect by Patinkin (1956) in the mid-1980s into the centre of a modernized quantity theory, forms without a doubt from a historical perspective of theory formation the Archimedean point of the demolition of the Keynesian construction.
- 80 Bagehot's linking of the liquidity preference theory to a market constellation of disequilibrium implies an equilibrium constellation in which money does not fulfil an economic function. Thus seen, the non-existence of money in a theory of a goods-market equilibrium is a result of the circumstance that money has fulfilled its economic function with the fulfilment of contracts; that is, the payment and repayment of credit. This circumstance, however, does not help the neo-classical theory of General Equilibrium out of the dead-end it finds itself in by ignoring the monetary function. For the functionlessness of money in the equilibrium constellation changes nothing in terms of the necessity of monetarily justifying the contracts which form the basis of the equilibrium constel-

lation. One can thus interpret Bagehot as a theorist of the disequilibrium of a monetary theory of production, as Keynes (1936) in the commemorative volume for Spiethoff had in mind.

- 81 Typical of this position in the German-speaking world is Lutz (1936).
 82 Typical for this reductionism is Keynes' oeuvre, when in the *Treatise* (1929) he stressed the banking position, and then in the *General Theory* (1936) a money-bonds model without giving reasons other than expediency for this narrowing of his point of view.
- 83 Here Bagehot points out the contradictory public perception for which the Banking Department figures as a normal commercial bank despite the fact that it effectively determines monetary policy. His argumentation can be shown to be thoroughly Marxist due to the way he cites the divergence of the development of the relations of production and the insistence of the superstructure as a justification: 'We live beneath the rubble of old disputes and speak their language, although we have to deal with totally different thoughts and facts' (Bagehot, 1874, p. 83).
- 84 The Banking Department was able to perform the banking function largely independently from the Issue Department because it held considerable cash reserves on which other banks could pounce in a financial crisis. With this regulatory function it was the only financial institution which could implement the interest rate as a financial instrument – internally as well as externally. See Bagehot (1874), p. 86, and also Weber (1924), p. 180ff.
- 85 Goodhart (1987), p. 79.
- 86 Bagehot develops this in a highly original way by contrasting bankers' traditional notions about the commercial character of the Banking Department with simple facts, such as when he indicates with relish that the London stock banks, unlike the Banking Department, did not hold almost of a third of their obligations as cash reserves (Bagehot, 1847, p. 89). His remark about the dialectic of thoughts and facts on the one hand, and the old disputes and their language on the other, refers to this circumstance.
- 87 See Bagehot (1874), p. 89. The function of the interest rate will be investigated in the following major section.
- 88 Bagehot (1874), p. 14.
- 89 The actual significance of Peel's Bank Act lies in the abolition of the issuing of notes by banks of issue in favour of a currency-issuing monopoly of the Bank of England. This is true regardless of the fact that the Bank of England, as Bagehot indicates, had already for a century before the enthronement of Peel's Bank Act effectively had the monopoly as a bank of issue in the London metropolis. The nationalization of money production by Peel's Bank Act formed without a doubt a stabilizing factor for (the international standing of) England's economy. See also Bagehot (1874), p. 52.
- 90 *Ibid.*, p. 87.
- 91 In contrast, disposal over money remains in the neo-classical economy a derivative of the allocation of goods, in the Keynesian economy a derivative of the asset calculation.

- 92 Bagehot (1874, p. 89) also points to this dual function of the Banking Department.
- 93 The price level constitutes the market-consistency of the open discount window – and is thus based, as the banking school has been able to develop, on a dynamic theory of the bank.
- 94 Even a creation of deposits which accompanies credit production does not break the unity of money and credit as, seen from the point of view of market logic, two occurrences of the task of liquidity are hidden behind this one case: on the side of the bank towards credit demands, on the side of the public towards deposit demands. The credit-creation multiplier thus shows itself to be a bastard of market logic in two respects: on the one hand because it ignores the process of the reduction in the volume of money from the commercial banks to the central bank, on the other because of the folding together of two occurrences of the task of liquidity.
- 95 Bagehot (1874), p. 30.
- 96 However, it must not be overlooked that in Germany between the wars it was clearly seen that England's liquidity crisis in the second half of the nineteenth century led to a suspension of Peel's Bank Act. But such positions lacked the necessary ability to assert themselves because they reflected the questionable theoretical foundation of the Banking school. See for instance Weber (1924).
- 97 Lutz (1936) also argues along Overstone's lines (with explicit reference to him). His brilliant analysis which attributes the liquidity crisis of the German Reich in the wake of the world economic crisis to the lack of central-bank willingness to satisfy the public's demand for liquidity (and which cites the counter-example of the Bank of England) attains its import by recognizing the liquidity crisis, as in the title of his 1936 essay 'Das Grundproblem der Geldverfassung' ('The Fundamental Problem of the Monetary Constitution'). This essay has remained unique in the German-speaking world. Nevertheless, its theoretical status remains limited because it does not depart from the position of the currency school. For Lutz develops (fully consistent with market logic in the case of the German Reichsbank) a crisis-management strategy, but assumes, however, for his model of the Bank of England (inconsistent with market logic) that its crisis-management strategy reflects appropriately the position of the currency school. See Lutz (1936), particularly pp. 13, 39, 75ff, 94.
- 98 Bagehot (1874), p. 87.
- 99 *Ibid.*
- 100 A collective solution is only possible via insuring deposits.
- 101 See the first section.
- 102 Bagehot (1874), p. 22ff. It must be remembered here that in Bagehot's case the public's holding of money is directed at the cash reserve of the Bank of England's Banking Department for the reason that this performs both the central bank and commercial bank function, or to be more precise, performs both functions thanks to the Issue Department's function of issuing currency.
- 103 Bagehot (1874), p. 102.

- 104 See Bagehot (1874), pp. 30, 34, on the connection between the allocation and scarcity function. From a perspective of price theory, as will be investigated in the concluding section, the connection between the allocation function and the scarcity function can be expressed such that, with an open discount window, the interest rate of the credit market is stabilized whilst the interest rate set by monetary policy, and consequently the discount rate, keeps in short supply the liquidity preference which exceeds the needs of the credit market.
- 105 Bagehot is a pre-Keynesian only to the extent that his dynamic theory of the bank implicitly sends inflation theory back to where it belongs: the *explanation* of inflation by means of a wage-price mechanism which in the expectation of being financed demonstrates no quantity effects, as well as curbing inflation via an interest-rate policy which, via income effects, puts the wage-price mechanism out of action.
- 106 Thus, also expressly in Bagehot's work as a consequence of the public's demand for money: 'The consequence is almost a revolution in the Bank of England's policy; no determined or fixed proportion of its obligations can be declared by which the bank's reserves are determined' (Bagehot, 1874, p. 164).
- 107 *Ibid.*, p. 46.
- 108 These advantages result from the fact that the banker plays the active part in the issue of notes and the passive part in the creation of deposits. According to Bagehot, in the case of issued notes the risk exists for the public of the notes not being accepted by other economic subjects, and of the (at least technical) difficulty of redeeming them for central bank money or gold, and consequently the danger of making a loss. On the other hand the creation of a deposit business requires a collective effort – Bagehot even speaks of a voluntary and coherent effort of society – whilst in principle every banker could issue notes. Due to the necessarily high degree of organization of a deposit bank system as opposed to banks of issue, the issuing of paper money thus forms a natural prelude to deposit creation (see Bagehot, 1874, p. 46).
- 109 In the case of savings and time deposits the specific characteristic lies in binding the disposal over money to fixed terms; in the case of obligations valued by the market in the variability of the value of assets.
- 110 Bagehot expressly points out the connection between the liquidity preference of the commercial banks and deposit creation in crisis (Bagehot, 1874, p. 158).
- 111 This shows the weakness of Hayek's (1976) concept of the denationalization of money: he overlooks the fact that the abolition of private note issue meant a further development of the banking system in that it occurred in favour of the development of deposits; on the other hand he wrongly interprets it as an elimination of competition between money issuers.
- 112 And later, in the twentieth century, which will be dealt with below, contrary to the teleology of the monetary regulation of aims determined by socio-political objectives.
- 113 Bagehot indicates this defect in market logic by expressly warning about a monetary policy which serves the purpose of protecting the Bank of

England's cash reserves. Such a compensatory strategy, to which in today's monetary constitution an open-market policy would correspond, and which counters an 'undesired' expansion of the money supply, is rejected by Bagehot with the argument that it must necessarily raise the interest rate above its market level: 'But this rule [that is that the Bank of England should regulate its interest rate in accordance with the market rate] was never more incorrect than it is now for the amount of sudden demands on this reserve was never as large. The market interest rate in *Lombard Street* is not influenced by these demands. The rate adjusts itself according to the deposits in the hands of the exchange brokers and bankers and to the amount of good exchanges and securities offered to them. The outflow from the bank thus has hardly anything to do with this; if the open market did not believe that the bank would increase its rate as a consequence of such outflow, then the market rate would not increase either.' This passage incidentally also shows that a high interest rate when the discount window is open forms a therapy against an increasing liquidity preference but is not aimed at the credit market interest rate (Bagehot, 1874, p. 165).

- 114 The use of different concepts of money supply à la M_1 , M_2 , M_3 and M_4 itself indicates the inability of regulating the money supply.
- 115 Strictly speaking the latter case is a matter of a teleology of the stabilization of the interest rate because the expected inflation rate (alias the inflation rate passed down from the past) must be included in the money-supply rule. In contrast, the teleology of price-level stability requires, at the existing rate of inflation, a policy of restriction which, via a limitation of economic activity, causes a reduction of the inflation rate.
- 116 Neo-classical monetarism provides a striking example of this by propagating a dictatorship of the regulation of the money supply.
- 117 This naturally applies to both monetary and fiscal impulses.
- 118 This results from the circumstance that an equalized capital balance sheet (in the long term) merely reflects the international average of national exchange rates but not a nationally stable price level.
- 119 One can at best discuss the extent to which this can occur by means of (discretionary) periodical revaluations and devaluations of the exchange rate which equalize the differences in inflation rates. However, due to their repercussions on capital flows, they always demonstrate an element consistent with the market.
- 120 In the most favourable case instability arises with falling inflation rates; the most probable case is that instability arises at projected inflation rates or, little better, a stop-and-go policy, in the case of which an instability at a falling (or projected) inflation rate is periodically relieved by a policy of economic stimulation.

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