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Abhandlungen

Central Bank Money and Interest Rates: Independent Monetary Policy Tools?

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I. Introduction: Money Markets and the IS-LM Tradition

In the *IS-LM* world, varying the quantity of high-powered money by means of open-market operations in long-term securities was meant to be the main monetary policy instrument. The capital market rate of interest moved inversely to the quantity of money because the demand function for bonds for obvious reasons is inversely related to bond yields. According to *Poole* (1970) central banks could likewise fix the capital market rate of interest and take the quantities of bonds and money, necessary to defend that rate, as endogenous. The question whether to fix the quantity of money or the rate of interest then ought to be answered by looking at the kind and strength of prevailing macro shocks.

The "New Consensus" in macroeconomics[1] (*Alvarez* et al. (2001)) acknowledged the role of the money market as the main operating field of central banks. Initially, theorists quite naturally applied the well known wisdom of the working of the capital market. *Goodhart* ((1989), 293) held that monetary policy operations could be executed in terms of monetary aggregates or of interest rate setting, "though, of course, one is the dual

* During the preparation of this paper I profited a lot from continuous debates with Felix Geiger, Arash Molavi Vasséi, Oliver Sauter, Kai Schmid and Sybille Sobczak. The usual disclaimer applies.

[1] The *IS-LM* model had fallen into disgrace for various reasons: It had no proper place for the real-interest effect on effective demand; with positive inflation, the *IS-LM* graph produces a muddle as the one curve depends on real, and the other on nominal interest rates. The banking sector, credits deposits and short-term interest rates were absent. Fixing the high-powered money supply, in a literally sense, was no practical option for central banks as this puts the solvency of the commercial banking sector at risk in times of cash demand shocks. The macroeconomic consequences of supply shocks could hardy be understood properly when, in the twin AS-AD model, price level increases led to lower goods demand through the notorious real-balance effect, given a fixed quantity of money (but rising oil prices let reasonable people associate a loss of real income whereas macro theory proclaims a deficiency of real balances).

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of the other". He endeavoured to convince the economic profession that practical monetary policy uses the interest tool, years before *Taylor* (1993) offered his famous rule. All this basically seemed to boil down to a late justification of British Post Keynesianism à la *Kaldor* (1982) who, in his debate with Friedman, had discovered that the surprising finding of a stable money demand function depended on base money being endogenously provided by central banks.

But actually there was more to tell. *Woodford* (2003), whose contribution to the "New Consensus" was praised by *Goodhart* (2002) for "having narrowed the gap between academics and practioneers", starts his seminal book with a bow to *Wicksell* (1898); the latter's hypothetical image of an integrated financial system, where all commercial banks move in step with each other and where all transactions are performed by way of book entries, serves as a reference point for Woodford's idea of a "cashless" economy. Here, money is not merely endogenous but virtually inessential for a central bank's power to control inflation by means of interest rate policies. Hence, there is a deeply rooted reason for the irony that, at present times, when central banks practically all around the world have embarked on a course of issuing money seemingly without bound, academic macro theory has advanced to a state where the variable *M* (i. e. money in various aggregates) has dropped from the main equations.

This leads to the basic issue of this paper: if it can be proven that interest rate policies work even in a world with a zero stock of base money, the introduction and variation of the quantity of money may provide an *additional* instrument that can be applied at will. Thus the brief inquiry into the hypothetical world without an aggregate demand for base money serves as a starting point in order to clarify the main question: whether the political management of short-term interest rates is just the mirror image of the central bank's supply of base money or both activities represent *independent* tools of monetary policy (*Goodfriend* (2002)).

At present, the quantity of money plays no active role in most central banks' policy decisions. This may reflect a "technical progress" in practical monetary policy making – or a retreat from former knowledge and strategies that comes at the cost of less efficient macro stabilization. If we should find that money supply management besides the variation of short-term interest rates indeed is irrelevant for containing goods market inflation, the "superfluous" monetary instrument may nevertheless be a useful tool that can be employed in the pursuit of further central bank goals, namely the stabilization of asset markets.

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The following Chapter II explores various analytical set-ups of the market for high-powered money, where the distinguishing features depend on the way how money is used by market agents and on the policy framework chosen by the central bank. Chapter III gives a short impression of the use of money balances and interest rates in practical policy making. Chapter IV concludes with a recommendation to use open-market transactions in long-term securities as an additional policy tool in "critical" situations: in deflationary depressions and periods of asset market bubbles.

II. Alternative Designs of a Market for Money

1. The Cashless Economy: Sophisticated Barter?

Woodford's allusion to Wicksell is misleading. He links the notion of a cashless economy to the assumption of perfect financial markets without frictions. But this usually means that all financial assets basically are alike; there is no à priori reason for any one IOU to fulfil the role of a generally agreed-upon means of payment. And this appears to imply that we have a system of intertemporal barter with only relative prices, but no monetary economy (*McCallum* (2005); *Boianovsky/Trautwein* (2006)) – which signals a clear contrast to *Wicksell* who spoke of a "pure credit economy" ((1898), 70), but, without embarking on an in-depth discussion of the issue, took for granted that a means-of-payment function of bank money is unchallenged.[2]

In order to explore the roots of Woodford's vision, assume an economy with competing currencies and flexible exchange rates between them. One of the money-issuing banks may be called a central bank, but this institution has no privileged position. Assume also that reserve requirements in terms of central bank money are not enforced and cash is not used. It has been argued that in such a society the central bank has no power to control the price level (measured in whatever standard); this conclusion was drawn on the premise that central bank accounts no longer can be qualitatively distinguished from commercial bank accounts

[2] Another difference is that saving-investment imbalances form the centre of interest in Wicksell's, and later in Keynes's work, but not in Woodford's, as he mainly studies a pure consumption model. The evolving literature on the New Keynesian model including financial frictions (e.g., *Canzoneri* et al. (2008)) is not relevant in the context of this paper as this literature is not focused on the topic of two independent monetary policy instruments.

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(*De Grauwe*/*Costa* (2001)). Given this premise, the central bank's status is reduced to that of a private agent. It has nothing to offer that other agents unconditionally need. To understand the operational features of such a market system, we should conceive of commercial banks writing credit and deposit contracts in terms of various private bank monies M_{com}, which are demanded by non-bank agents for payment purposes.[3]

If the central bank wished to slow down macroeconomic activity it could try to "crowd out" private customers by asking additional credit from commercial banks, offering interest rates above the market clearing level. Commercial banks then grant the central bank deposits denominated in units of its own private bank money M_{com} (Table 1). Given the non-profit character of the central bank's behaviour, it could outbid any private credit demand. The obtained deposit factually represents no claim against the issuing commercial bank, which does not promise to deliver anything else than units of its own bank money.[4] The central bank may use this account to buy goods and services, but this would counter its intention to slow down macro activity. Therefore the deposit should be held, which obviously imposes some retarding effect upon overall effective demand.

Table 1

A Commercial Bank's Credit to the Central Bank

central bank		commercial bank	
$\Delta deposit$	$\Delta debt$	$\Delta credit$	$\Delta deposit$

Paying off the debt works simply by deleting the above balance sheets entries. Paying interest to commercial banks requires the central bank to take out additional loans (a Ponzi-type "solution") or to grant deposits to commercial banks in units of central bank money M_{CB}. Both alternatives tend to depreciate the exchange rate of M_{CB} vis-à-vis M_{com}. This result in no way depends on the credit contract being written in terms of M_{com}. Consider the central bank issuing bonds denominated in M_{CB}, which then are bought on account of these securities' high interest rates.

[3] In what follows the competitive aspect of private currencies is neglected; the commercial banking system is shown as an aggregate entity and M_{com} is the composite commercial bank money.

[4] Contrary to the case in a standard monetary economy, the commercial bank does not expose itself to a liquidity problem when extending credit to customers.

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Assume that payments are made by using existent deposits denominated in M_{CB} units (Table 2).

Table 2

Central Bank Sales of M_{CB} Assets

central bank		commercial bank	
	$-\Delta deposit$	$-\Delta deposit$	
	$+\Delta bonds$	$+\Delta bonds$	

Irrespective of whether demanding loans or selling securities, the central bank can exert only a limited influence upon the macroeconomy. It acts as a private agent who mops up money balances and "blocks" the monetary circular flow by refusing to buy goods, comparable to a saving or hoarding shock. This kind of spanner-in-the-works behaviour is unlikely to curb macroeconomic activity in any substantial way as private market agents basically do not need either central bank money or bonds. The relative-price effect induced by the central bank's high-interest-rate offers deters some credit demand, but private agents can contract using any M_{com}; and if the central bank embarks on a course of huge borrowing, an expected-devaluation effect will compensate the offer of high interest rates. Thus the scope for monetary policy in a world of private competing currencies is clearly limited.[5]

2. A Cashless Economy with a Single Means of Payment

In the following, a set of assumptions is chosen that also may not appear realistic, but conceivable as a limiting point of the further development of a monetary economy. Thus it is useful to analyze the working of monetary policy in a setting where

– private non-banks do not hold cash and make payments by transferring commercial bank accounts instead;

[5] The argument can be restated in terms of simple open-economy macro theory: imagine a country in a flexible-exchange-rate world that accumulates, by offering high interest rates, ever rising amounts of foreign debt, but refrains from increasing its imports. In its balance of payments, this capital import represents additional foreign reserves. Borrowing has no impact on the exchange rate as long as credit contracts are denominated in foreign currency. The behaviour of the debtor country will exert only a limited depressing effect on the world economy, if at all. Investment policies of the lending country are hardly hampered.

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– no minimum reserves related to bank accounts have to be maintained; and
– commercial banks have improved their techniques of interbank clearance so that they no longer need any positive working balances of base money (which usually are held in form of accounts with the central bank).

This kind of a monetary order may well be envisaged as a scenario that completes the promises of the IT Revolution in the sphere of finance; the essential feature here, however, is that only central bank accounts offer final settlement of any debt contract (*Goodhart* (2000)).

Woodford appears to envisage this economic order as a cross between a barter and a monetary system. He suggests a fragile habit of market agents using central bank money as a unit of account; they seem to be aware of viable alternatives.[6] Nevertheless, the cashless economy is meant to be a *monetary* order where aggregate demand for base money is shrunk to a minimum or vanished altogether, because private agents no longer use cash but transfers or electronic payments instead, and accounting and transfer procedures within the commercial banking system have further improved so that buffer stocks of working balances are no longer needed. An economy with these features is said to be free from all "monetary frictions". As a consequence, "central-bank liabilities have no special role to play in the payments system that results in a willingness to hold them despite the fact that they yield a lower return than other, equally riskless short-term claims" (*Woodford* (2003), 31).

Put differently, money is assumed to be deprived of its liquidity premium[7] that enforces pecuniary interest payments on all other assets in

[6] "The special feature of central banks [...] is simply that they are entities whose liabilities happen [!?] to be used to define the unit of account [...]. There is perhaps no deep, universal reason why this need be so [!?]; it is certainly not essential that there be one such entity [...]. Nonetheless [...] given the evident convenience of having a single unit of account [...], one may well suppose that this function should properly continue to be taken on by the government, even in a world of highly efficient information procession" (*Woodford* (2003), 37).

[7] This non-pecuniary yield once was defined as "the advantage of holding money as security against possible difficulties in meeting obligations shortly to fall due" (*Pigou* (1912), 424; cf. *Keynes* (1937)). The reasons given for this loss of the liquidity premium are only partly convincing. A perfect payment technology surely reduces the demand for excess and precautionary balances. But in an evolutionary world, occasions for profitable transactions come up at random; it appears impossible to organize a netting out of multilateral claims on a real-time basis. One might suspect that the idea of removing a demand for money balances rests

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an ordinary monetary economy (*Keynes* (1933/34); *Riese* (1987)). If central bank money bears no liquidity premium, the demand for it is zero. In order to induce private agents to hold this type of money the central bank has to pay interest rates on its deposits.[8] It is still debatable whether this type of economy should be labelled "monetary", but *McCallum* (2005) concedes that a general price level can be defined if people stick to the habit of quoting prices in units of central bank accounts; and the path of prices can be controlled, in principle, if the central bank varies the attractiveness of holding these accounts.

How can this statement be verified? Although central bank accounts are the economy's unique money of account, commercial banks *as a group* still face no liquidity problem when creating credit contracts because there is no cash demand on the part of the public and no minimum reserve requirement. But they need central bank accounts when making transfers on behalf of their customers. If a commercial bank A executes a transfer order of one of its clients in favour a private agent's account with bank B, both banks' stocks of central bank balances are adjusted accordingly (Table 3). In general, both banks keep accounts with the central bank that serve as buffer stocks in the payment process. An equivalent pattern of the payment process would make use of interbank accounts denominated in M_{CB}.

Table 3

Payment Transfer Between Commercial Banks

bank A		bank B	
$-\Delta M_{CB}$	$-\Delta deposit$	$+\Delta M_{CB}$	$+\Delta deposit$

on the vision of "collapsing the future into the present" (*Hahn* (1980), 132), i. e. the implicit assumption of a perfect set of future markets. Moreover, the occurrence of crises, bankruptcies and wealth losses, which typically trigger a demand for solvency, seem to be neglected.

[8] According to *Friedman* (1969), paying interest on base money removes an alleged inefficiency of the provision of legal tender: a basic welfare-theoretic argument is that the supply of any good that can be produced at zero cost should be enlarged up to the full saturation quantity. The implicit welfare loss due to a scarce quantity of money can be compensated by an interest payment. Friedman's argument however appears somewhat dubious because it is questionable whether a payment technology can be gauged by applying the same criteria as in the case of standard consumption goods.

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Today, the aggregate net stock of these interbank M_{CB} balances is positive. But this habit indicates a dead weight loss if holding these balances yields no interest. As each payment transfer between private nonbanks (in a closed system) implies an outflow and an inflow of M_{CB} at the same time, the commercial banking system, in principle, can perform its payment services with a zero aggregate stock of central bank money. In this case, performing the task of a payment transfer from bank A's client to bank B's client requires an interbank credit in M_{CB} terms between both banks where A "goes short" for the duration of the credit contract (Table 4).

Table 4

Payment Transfer and Interbank Credit

bank A		bank B	
	$-\Delta deposit$ $+\Delta debt$	$+\Delta credit$	$+\Delta deposit$

There is thus a market for central bank money accounts even if the net stock of this monetary aggregate at the margin, in a perfectly flexible and efficient banking system, should be zero (of course, the following holds also if the money stock is positive). Accordingly, there must be a market price for acquiring the temporary possession of M_{CB} accounts: a (mostly short-term) money rate of interest i_{CB}. In a stationary economy, the interbank money rate of interest will hover around zero as the credit demand on the part of those commercial banks that are deficit units is perfectly matched by the credit supply of surplus banks. But obviously the central bank may intervene on the money market, which then serves as the starting point for monetary policy operations.

Assume that the aggregate level of money demand L and its elasticity with respect to interest rates both are zero. This mirrors, on the one hand, the supposed success of optimizing interbank clearing technologies and, on the other hand, the non-option of refusing the execution of private transfer orders. The supply of central bank accounts can be determined at will. *Woodford* (2000) simply suggests that the central bank establishes a horizontal supply curve *M,* which signals that it stands ready to credit additional base money on demand at the stipulated rate of interest i^*_{CB} (Figure 1). The central bank operates as the market maker by fixing the equilibrium rate of interest, it is free to choose any level of i_{CB}

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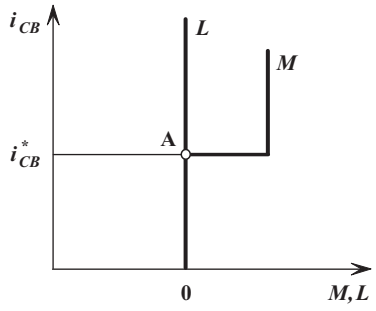

Figure 1: Market for a Zero Quantity of Money

without varying the quantity of money.[9] Supply and demand forces in the interbank credit market cannot induce i_{CB} to deviate from i^*_{CB}. If $i_{CB} > i^*_{CB}$, commercial banks borrow accounts from the central bank; if $i_{CB} < i^*_{CB}$, they place excess M_{CB} accounts with the central bank.

Given the specific case of a zero quantity of M_{CB}, solutions to the left of point A are ruled out (the quantity of money cannot be negative), but market shocks may well shift L to the right. Monetary policy does not rely on any type of open-market operations that vary the quantity of money, it works exclusively by way of relative-price effects, i.e. through variations of the short-term rate of interest. As no commercial bank can evade this cost effect in the daily payment process, each is forced to pass on central bank interest movements onto credit contracts, thereby transmitting the monetary policy impulse to goods and labour markets.

It is claimed that "monetary policy without money" represents the core of central banking, and that different patterns of central bank behaviour in various countries or historical episodes are to be considered as "inessential" modifications of the basic pure logic of interest rate policy.[10]

[9] The upward-sloping part of M is drawn to indicate the hypothetical case of a quantity restriction on the supply side.

[10] "At the root of this influence is the central banks' ability to create and remove as much balances from the system as they wish, at whatever price they wish. The price of balances, representing what could be earned on them at the end of each day, is the overnight rate. As such, central banks are able to set the overnight rate to any particular level if they so wished by standing ready to buy and sell as much balances as needed at that rate, effectively becoming the market maker for the whole system. In practice, the key difference across central banks is the manner in which they choose to utilize this ability" (*Disyatat* (2008), 7; cf. *Woodford* (2003); *Bindseil* (2004)).

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Moreover, if the variation of any quantities of central bank money are supposed to be inessential for the monetary transmission mechanism in the special case analyzed above, i. e. when the banking sector has learned to economize on the use of central bank money to the maximum extent, the quantitative use of money supply operations in the "real" world, where we still observe quite substantial stocks of base money in existence, may even appear as an additional instrument of monetary policy making (*Goodfriend* (2002); *Keister* et al. (2008); *Disyatat* (2008)). The following Sections try to examine these hypotheses.

3. The Floor System: Generalizing the Liquidity Trap

Let us assume that the demand for central bank balances L is strictly positive and interest-rate elastic. A simple reason is a less than perfect interbank transfer technology; "banks face uncertainty about their final account balance that prevents them from being able to meet their requirement exactly" (*Keister* et al. (2008), 44). This induces commercial banks to keep precautionary balances, the amount of which obviously reacts inversely to the rate of interest. Further motives might be given by the existence of minimum reserves on commercial bank deposits and/or a demand for cash on the part of the non-bank public.

Supply of central bank balances M is provided in various ways. The standard procedure consists of short-term credits, perhaps on a repo basis, where the initiative to enter these contracts is on the part of commercial banks. The central bank supplies base money along a horizontal line M at the chosen target interest rate i^*. The intersection with money demand L gives the equilibrium point A (Figure 2).

A deposit rate (equal to i^*) remunerates voluntary holdings of money balances with the central bank; i^* thus determines a floor for interbank money market rates, causing a kinked money demand function L. In order to make the deposit facility effective, the central bank uses open-market operations in long-term securities as an additional instrument that varies the quantity of money balances in the economy ("non-borrowed reserves"). Under the no-cash provision these balances are held with the commercial banks, which in turn place these funds in central banks accounts. With open-market purchases of an amount AB, the money market equilibrium settles at point B. Notice that the target rate can be maintained *and* the quantity of money balances can be shifted independently, without running the risk of hitting the zero-bound to interest rates.

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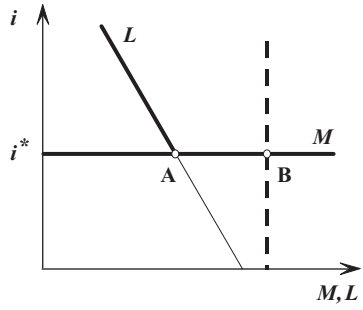

Figure 2: Market for Central Bank Reserves

The constellation illustrated in Figure 2 resembles the well-known case of a liquidity trap where market agents at very low interest rates have become indifferent to holding bonds or cash. Open-market purchases of additional bonds on the part of the central bank have the effect of enlarging the money supply without any pressure on interest rates. In a way, this also can be interpreted as a case where two monetary policy instruments, the quantity of money and the rate of interest, are independent from each other; however, the low interest rate here will be considered an involuntary "corner" solution rather than a deliberate policy choice.

In contrast to this case, Figure 2 assumes that i^* is an "optimal" rate of interest (derived from a formal calculus or more simply from a Taylor Rule) chosen with respect to macro stabilization problems; at first sight, it can be set at any level. As a second step, the central bank then can choose any $M > L$ at i^* in order to achieve further objectives. Goodfriend suggests to assign money supply policies to the management of "broad liquidity services", i.e. to the goal of stabilizing financial markets.[11]

At equilibrium point B, commercial banks keep an additional quantity AB of central bank balances, pushed into the system by open-market

[11] "Households and firms are routinely subjected to liquidity shocks in which the flow of current income is insufficient to finance desired expenditures. Broad liquidity services are valued because they minimize the exposure of households and firms to the external finance premium. [...] Holding interest on reserves fixed, an increase in bank reserves would increase the aggregate supply of broad liquidity. Thus, open market operations would have the potential to manage productively the aggregate quantity of broad liquidity in the economy independently of interest rate policy. A central bank could increase broad liquidity in the economy by using newly created reserves to acquire less liquid assets or by financing a temporary government budget deficit" (*Goodfriend* (2002), 3).

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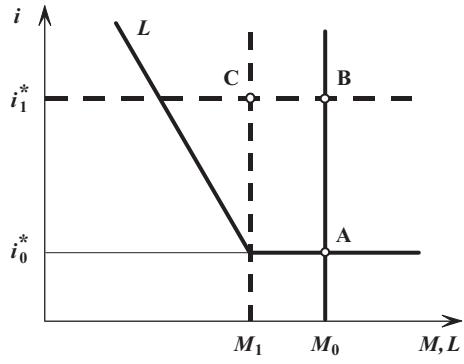

Figure 3: Monetary Restriction with Two Instruments

purchases, because these balances are "equivalent to safe government debt with a floating daily rate of interest" (*Goodfriend* (2002), 3). Inducing private agents to hold accounts with the central bank by way of attractive pecuniary yields raises the question how to define the quantity of central bank money. Usually, base money is made up of notes in circulation and central bank accounts. But if one group of commercial banks *lends* these accounts by paying interest rates to the central bank while another group holds these accounts as an *investment,* one might argue for a net concept where excess holdings of base money invested in central bank accounts are deducted from the gross amount.[12]

The more basic question is whether the two-instruments claim really holds irrespective of the level of interest rates. Assume that the state of the macroeconomy needs stabilization and the policy rate is increased from i_0^* to i_1^* (Figure 3). With given money supply and demand, market equilibrium shifts from point A to B where commercial banks now "invest" an amount $M_0 - L(i_1^*)$ in central bank accounts. But as it makes no sense for the central bank to continue with expansive open-market operations at the previous scale, reserve supply might be lowered from M_0 to M_1 (although this reduction is not necessary to enforce the interest rate increase). The market then settles at C.

Now imagine that the decision to increase the policy rate is accompanied by a shifting money demand from L_0 to L_1, which can easily be un-

[12] During the current banking crisis, both groups of banks fell into one: EMU banks borrowed large amounts from the ECB and reinvested these funds in the ECB's deposit facility.

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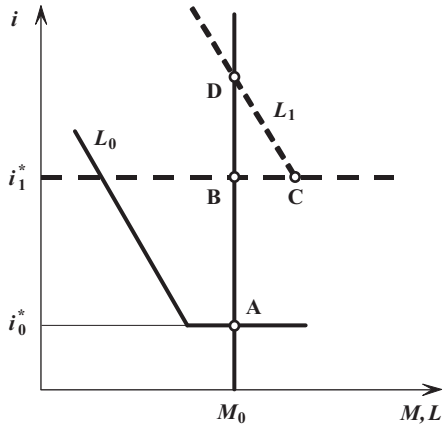

Figure 4: Monetary Restriction with Fixed Money Supply

derstood as the by-product of an overheating economy (Figure 4). The management of the money supply then becomes a more intricate issue. In case of vigorous money demand and a fixed money supply at M_0, an excess demand BC for base money would emerge at the new fixed policy target rate i_1^*. It is an contentious issue how the banking system can get along with this type of a liquidity deficit. First of all, the answer depends on what exactly constitutes the monetary base demand L_1:

– If market agents use cash, note circulation usually forms a large part of base money. It is then beyond dispute that, in order to prevent bank runs, non-banks should never feel any restriction when they wish to switch between cash and bank accounts. As a consequence, (expected) note circulation should be deducted from practical monetary policy analysis.

– A similar argument can be put forward with respect to minimum reserves. This requirement can only be met if the central bank provides the banking system with the overall amount of necessary reserves. Therefore, this part of the monetary base also has to be "guaranteed".

As a consequence, more or less, monetary policy can only allow a market solution for the precautionary part of the commercial banks' working balances; this part usually is rather small. Moreover, the central bank is caught in a fix: it has to give up either its interest rate or its money supply target. If the central bank allows an endogenous determination of the quantity of money, there is only one policy instrument left: the rate of in-

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terest. The market then clears at C. This outcome does not look very convincing from a monetary policy point of view: it is true that refinancing costs of commercial banks' activities have risen, but this represents only a relative-price effect in the transmission process that is not necessarily sufficient to curb the boom. After all, the amount of base money has increased, commercial banks do not notice any liquidity shortage, and therefore the credibility of the central bank's restrictive move might be challenged.

A much more radical way of monetary stabilization would be the attempt to activate the second monetary policy instrument, the supply-side control of the monetary base. If the central bank decided to keep the volume of repo transactions at M_0, depending on the strength of the perceived liquidity need on the part of commercial banks, the shortage of base money will cause the interbank market rate to diverge from the target rate; this "liquidity effect" makes the market settle at point D. However, if the effective market rate cannot be predicted with certainty, the dynamic control and stabilization of goods demand, via the whole term structure of interest rates, is severely impeded. In order to preclude the occurrence of disturbing interest rate volatility, which might also send irritating signals to foreign exchange markets, central banks often choose a market organization where there is also an upper limit for interest rate movements. This will be shown in the next step.

4. Two Variants of a Corridor System

In the corridor (or channel) system the central bank fixes three different types of interest rates: besides the target rate i^*, chosen to stabilize the macroeconomy, and the deposit rate i_{dep} that remunerates central bank accounts, a marginal lending or penalty rate i_{pen} serves as a ceiling for movements of the interbank money market rate. Whenever the latter exceeds the former, commercial banks can earn a profit by borrowing money from the central bank and lending it to other market participants. This possibility of arbitrage precludes a rise of the market rate above the penalty rate. If both rates are equal, market agents are indifferent between holding reserves or borrowing at the penalty rate; therefore the base money demand function L is flat in this region (Figure 5).

At the lower bound, with the market rate of interest equalling the deposit rate, banks likewise are indifferent between lending disposable liquid reserves in the interbank market and keeping these reserves in form

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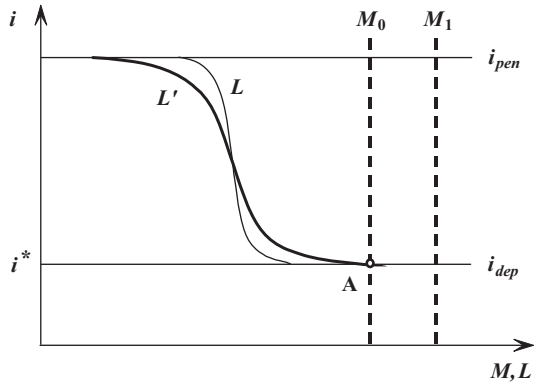

Figure 5: Floor-Ceiling Money Market with Increase in Uncertainty (Money Demand L')

of central bank accounts at the minimum rate i_{dep}. Inside the corridor, the negative slope of L reflects the opportunity costs of holding any amount of base money. Commercial banks now are assumed to be uncertain of whether they face the risk of a deficit or excess reserve; this causes the L function to mirror smoothly the transition between the various perceived states of commercial banks' liquidity. If the uncertainty about the occurrence of shocks increases on behalf of commercial banks, their demand curve flattens out (*Poole* (1968); *Whitesell* (2006); *Keister* et al. (2008)).

The next crucial decision on the part of the central bank is where to place the policy target rate. If it is set equal to the deposit rate (as in Figures 2 and 5), the central bank acts as the "lender of first resort". It stands ready to supply whatever amount of reserves commercial banks demand at the i^* level. Given this organization of the market, one might say that there is no money market at all because all commercial banks deal with the central bank directly, but not with each other. The central bank offers liquidity at the most favourable terms. The market rate of interest therefore cannot rise above the policy rate i^*, as long as the supply of base money is kept in a position where it intersects the horizontal part of the demand curve. A shortcoming of this market structure is that central bankers cannot use the movement of an interbank interest rate, and its difference to the policy rate, as sources of information about liquidity needs in the financial system.

An interbank money market would open up only if the quantity of supplied reserves were restricted so that the intersection of M and L' is lo-

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cated to the left of point A. In these rationing cases, the assurance of unlimited lending at the penalty rate i_{pen} prevents the market rate of interest from exceeding this upper bound. The minimum supply of high-powered money, which is necessary to keep i^* effective for the whole market, is M_0 (this quantity of reserves has to be adjusted accordingly if money demand shifts to the right). If money supply is increased via open-market operations to, say, M_1, commercial banks will place the excess amount at the central bank by using the deposit facility.

In the case of a monetary restriction, all three interest rates rise. This has no bearing, in principle, on the quantity of reserve supply. Even if money demand should increase during a boom, there is always some M_1 that guarantees the independence of money supply and demand. As already mentioned above however, it makes no sense to push excess liquidity into the market if the central bank aims to dampen economic activity. If Figure 5 is considered after the shifting of the interest corridor and a right-shift of money demand, an effective monetary restriction requires M to be located at the level M_0, or to the left of it – but this implies the market rate of interest to rise beyond the policy rate.

A somewhat different image emerges if the central bank chooses to place the target rate i^* in the midst of the corridor (Figure 6). In that case, refinancing operations have to be "fine-tuned": the market rate of interest can only be defended at the target rate level if the money supply meets exactly the quantity of reserves demanded by the commercial banks, i.e. M' is endogenously determined, given the policy target rate and commercial banks' money demand (point A). Moreover, as money market shocks cannot be ruled out and banks' reactions might drive the interbank rate towards the upper or lower bound, the opportunity costs of using either of the two central bank's facilities ought to be roughly symmetrical so that the market rate, on average, equals the target rate. If the banks' money demand function should become less elastic with regard to the rate of interest, the corridor should be narrowed, in order to dampen interest rate volatility (*Woodford* (2000), *Whitesell* (2006)).

In the "centred corridor" type of the money market the quantity of reserves and the policy target rate cannot be chosen independently from each other. If the money market should rise beyond i^* or i_{pen} additional funds have to be made available to commercial banks, thus adjusting M to L; in case of falling market interest rates, excess liquidity has to be mopped up, which implies a netting out of excess money supply and deposit holdings. Restrictive interest rate policies with an unchanged

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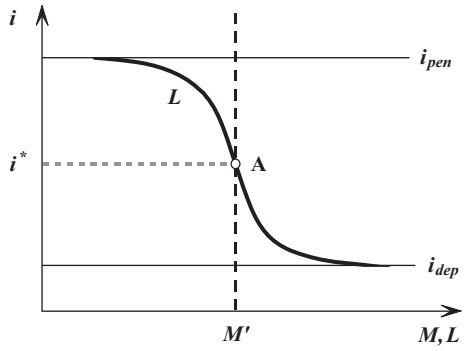

Figure 6: Target Rate in the Centre of an Interest Channel

money demand curve requires a smaller money supply; the scenario of an upward-shift of the corridor and a strong right-shift of *L*, reflecting vigorous banking business and dynamic credit growth, will lead to a rise in the level of interest rates, accompanied by larger quantities of reserves.

III. Monetary Policy Without Money?

Up to now, only the Central Bank of New Zealand, but neither the Fed nor the ECB have adopted the money market floor system where target and deposit rates coincide (*Keister* et al. (2008)). Both adhere to (different versions of) a channel system where the target rate is located in the middle of a corridor that is determined by a marginal lending and a deposit facility. In these cases, it is extremely important for the central bank to gauge commercial banks' money demand in quantitative terms in order not to drive the interbank money market rate towards the borders of the corridor.[13] A successful liquidity management that aims to avoid this kind of imperfection is likely to succumb to the temptation of adjusting base money supply to commercial banks' needs. As a consequence, we end up in a world of monetary policy without money: the quantity of money aggregates is a mere by-product of policy making.

[13] The Federal Reserve usually attempted to achieve this object by engaging in daily quantitative interventions in the market for Federal Funds. Manipulating the volume of high-powered money thus is an instrument for reaching an interest rate target, but no additional tool for monetary policy making. Until recently, there was no deposit rate in the US money market. Hence, Figure 6 applies with the specification $i_{dep} = 0$.

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This has not always been the case. The Bundesbank's way of money market control at its beginning was still anchored in the interwar gold standard traditions[14], but during the 1970s it took up the growing influence of monetarism in academia. The typical Bundesbank wording of "keeping money scarce" was understood literally by many Bundesbank officials and professional observers, not to speak of the public, which may have helped to establish a peculiar anti-inflation credibility (*Beyer* et al. (2009)). The 1973–74 monetary restriction stands out as an attempt to implement the monetarist idea of actively using the supply of high-powered money as a central bank tool. On other occasions, the purposeful non-sterilization of money supply effects of foreign-exchange transactions had a similar effect. In general, quantity restrictions in the money market were applied, if necessary; the Bundesbank did not shrink back from allowing temporary panics on the money market, with interbank interest rates rising into double digits. A remarkable success of this type of liquidity management can be seen in the fact that narrow money and bank credit aggregates reacted in a systematic fashion to the course of the Bundesbank's interest rate policy.

From the mid 1960s up to the early 1980s, three monetary-restriction episodes were followed by macroeconomic recessions, which found their through in 1967, 1975 and 1982, respectively (Figure 7). In all three periods, we can observe a fairly similar working of a monetary transmission process. The volume of bank credit, if plotted against credit interest rates, shows an anti-clockwise movement. The extension of bank loans is reduced along with rising interest rates; this pattern, if read with an analytical credit market diagram in mind, hints to a reduction of banks' credit supply (shift of the supply curve to the left), whereas in the depth of the recession, credit volumes shrink with decreasing interest rates (which shows a downward shift of the credit demand curve).

The Bundesbank's invention of monetary targeting also spilled over to the US. In 1979, the internal and external weakness of the dollar required a drastic stabilization. Usually the Fed had chosen a narrow corridor for the Federal Funds rate as its policy target. But given the high rating of the employment target in US policy making, and the factual obligation to defend every interest move in the public, it proved difficult to

[14] For an illuminating survey of the roots of the "Reserve Position Doctrine", i.e. the idea that central banks ought to control a quantity of base money, see *Bindseil* (2004).

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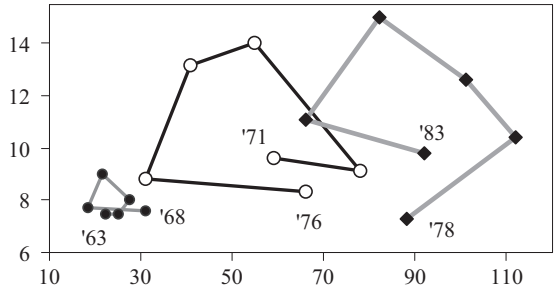

Figure 7: Three Credit Market Cycles: New Bank Loans to Private Non-Banks (DM Bill., Abscissa) and Bank Credit Interest Rates in Germany

organize a stable majority in the Federal Open Market Committee that would vote for drastic interest rate increases. Volcker realized that "when you have to make an explicit decision about interest rates all the time, people don't like to do it" (quoted in *Lindsey* et al. (2005), 216), and therefore promoted a strategic move, which sought to persuade the public that a "fundamental" new regime for safeguarding the dollar was implemented, and which circumvented the troublesome task of justifying each single interest rate decision.[15]

The strategy of using narrow monetary aggregates to control macro variables turned out to be extremely complicated and susceptible to various estimation problems. More than once, Volcker and his colleagues admitted to feel "lost" and "confused" about what they were actually doing (*Bindseil* (2004)). The Fed let the "monetarist experiment" fade out in autumn 1982. After returning to moderate inflation, there was no need for drastic interest rate moves, thus the temptation to use monetary targets as a smokescreen for unpopular decisions on interest rates was no longer given.

Also the ECB tried to avoid the impression that the quantity of high-powered money was a purely demand-determined variable. As a "successor" of the Bundesbank, which made money supply control its trademark, it was hardly recommendable to downgrade any symbols of the belief in the quantity theory (*Woodford* (2008)). Over the period 1999–

[15] "The Committee recognized that the switch to a reserve-based approach to monetary control would be more likely to allow the federal funds rate in the short run to move as necessary to whatever level would prove consistent with more restrained money growth and lower inflation" (*Lindsey* et al. (2005), 214).

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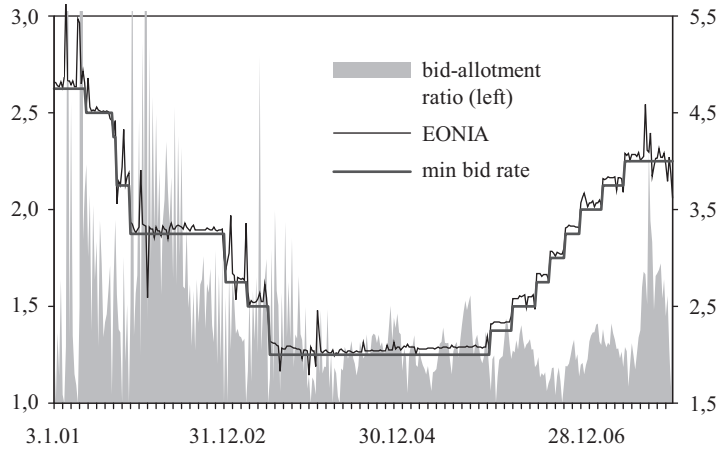

Figure 8: Excess Demand for Base Money, EMU Overnight Interest Rate and ECB's Stipulated Minimum-Bid Interest Rates for Repo Transactions

2007[16], the ECB improved the liquidity management in a substantial way, marginal lending and deposit facilities were taken up less and less, and the volatility of money market interest rates decreased. After the transition to variable-rate tender repos in 2000, the ECB improved its estimation of commercial banks' effective money demand so that the main refinancing operations succeeded to clear the money market.

The small spread between the EONIA (the EMU overnight money market interest rate) and the ECB's target rate (Figure 8) might be interpreted as the result of a liquidity deficit (*Linzert/Schmidt* (2008); cf. ECB (2008)). However, this spread is a structural implication of the chosen modus of repo contracts, which makes the average refinancing rate differ from the marginal rate. The main point is, however, that the EONIA spread does not react to the level of interest rates, it did not grow during the series of ECB target rate increases from December 2005 to mid 2007; therefore, it does not indicate any money supply restriction executed in order to enforce rising money market rates. The absence of such a quantity rationing can also be read off from the development of the bid-allotment ratio in the ECB's repo transactions: in the full cycle

[16] The years 2008 and 2009 are neglected in order not to mix up the peculiarities of normal monetary policy making with the financial-market turmoil of the subprime crisis and its aftermath.

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from one interest rate peak to the next, one might expect a fainting excess demand when interest policy turns expansive, and an ever more visible excess demand when interest rates are on the rise, but in the latter period this value stays around a constant value.

Contrary to each episode of monetary restriction in the Bundesbank era, the growth rate of central bank balances kept *increasing* during the ECB's interest rate hike. True, there is no target for base money in EMU. But the accommodating behaviour of monetary policy with respect to the supply of narrow money obviously also had repercussions on business conditions in the banking sector at large, on the growth of credit and of broader monetary aggregates. Despite structural breaks and evolution in the still developing monetary union, base money and broader monetary aggregates, *M1* and *M3,* show rather close relationships. Just as the ECB lets the quantity of base money supply adjust to the commercial banks' estimated needs, it accepts the path of broad money up to each point of time, when a refinancing operation is executed, as given. The evident non-controllability of *M3,* which hardly ever kept to its desired growth rate of 4.5 %, appears to be rooted in the mechanisms and working techniques of the money market.

The quantity of base money is no policy tool, neither is broad money. These aggregates are endogenously determined by activities in the banking sector, particularly by the path of credit growth. Monetary policy relies mainly on the relative-price effect that is triggered by a change of short-term interest rates: $\Delta i \rightarrow \Delta credit \rightarrow \Delta M3 \rightarrow \Delta base\ money$ (*Disyatat* (2008)). Put differently: the central bank adjusts base money supply not before its previous interest rate impulses have succeeded to alter the path of commercial banks' credits and deposits. However, the recent experience of a continuing increase of credits and deposits despite a series of restrictive interest rate moves raises some doubts whether this instrument alone is always sufficient to control activities in the banking sector. During the last "cycle" the volume of bank loans kept growing along an implicit loan supply function (Figure 9); obviously the banks did not feel restricted by the ECB's monetary policy. There is hardly any comfort that credit dynamics did not feed a goods market boom, but "only" an asset price bubble.

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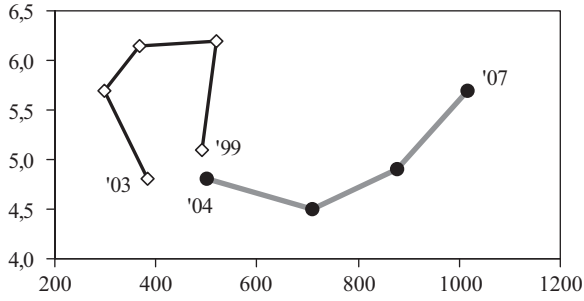

Figure 9: Two Credit Market Cycles:
New Bank Loans to Private Non-Banks (€ Bill., Abscissa)
and Bank Credit Interest Rates in EMU

IV. Taking Stock: Two Independent Monetary Policy Instruments?

Thinking in terms of elementary price theory, it is hard to swallow the message that quantities and prices of a particular good should be independent from each other. It appears that the central bank can choose to control the quantity of money or the rate of interest – but not both. The modern challenge of this old wisdom builds its message from drawing together different "corner solutions". One is the revolutionary IT case of electronic money, the case of a perfect interbank payment technology that works without frictions. All contracts are written in terms of an "imaginary" central bank money, the effective quantity of which is zero at all times because of lacking cash holdings, no minimum reserves and no precautionary money demand. Given this hypothetical state of the financial world, the central bank charges a variable price for using its base money account. This has no effect on the effective demand for base money (which sticks to the zero bound in the aggregate), but only on the demand for other assets.

The second source of the two-instrument hypothesis is the other extreme where agents keep central bank money even beyond the saturation point. In this liquidity trap, modifying the shares of money and securities in the agents' portfolios requires no change of relative prices: the rate of interest can remain constant. It is an important finding that the lower bound of market interest rate movements, which usually are determined by transaction costs, can be manipulated by a rate of interest paid on central bank deposits. The basic advantage of a deposit facility is the op-

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tion to sterilize excess liquidity in a flexible way (*Bofinger* (2001), 351), but the instrumental set-up can be generalized to enable independent movements of central bank's interest rates and base money supply, under the provision that deposit and target rates are equal and that the central bank employs open-market operations to keep its base money supply beyond the amount that is determined by the commercial banks' demand of refinancing credit.

Central bank target rates have become very important in recent years because they are calculated with an eye on macroeconomic stabilization and signal the monetary policy course. Therefore monetary authorities do not like to see the market rate of interest persistently deviate from the target rate. This is a strong argument for a floor system. On the other hand, if the central bank acts as the "lender of first resort", the interbank money market and the information flowing from it tend to dry up.

In spite of its intended generalization from the old liquidity trap case, the suggestion to treat the quantity of money and the short-term interest rate as independent policy tools appears to be biased in favour of easy-money strategies. In the current scenario of threatening depression, open-market purchases of long-term securities may provide the adequate "financial service" (*Goodfriend* (2002)) of enriching market agents' liquidity. This policy can conveniently be pursued in a floor system, less so in a corridor system because a "quantitative easing" tends to drive the money market rate towards the lower boundary.

If economic activity ought to be dampened however, and central bank interest rates are increased, it is hardly appropriate to maintain an excess money supply that is sterilized only afterwards via the deposit facility. Also in a corridor system, a policy of "controlled" interest rate increases tends to acknowledge the implicit norm of satisfying commercial banks' money demand, in order to implement the chosen path of interest rates. The fundamental drawback of this approach is that it relies only on the relative-price effect of the policy target rate on effective demand, it abandons the use of the liquidity effect: a quantitative shortening of high-powered money that forces commercial banks to tap additional sources of refinancing besides the central bank. In the era of the Bundesbank, during periods of restrictive monetary policy, banks regularly reduced the share of securities in their portfolios. Of course, this did not help the banks to gain liquidity *as a group,* but it contributed to the transmission of central bank interest impulses on the capital market and deterred the banking system from the continuation of credit growth.

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Taylor interest rate policies in most cases may be sufficient in order to contain an ordinary boom with rising wages and prices. But if the central bank has already lost control of inflation, or in an asset market bubble, drawing liquidity from the markets by selling long-term securities is an appropriate additional monetary policy tool. Perhaps the current financial turmoil could have been avoided if central banks had been reminiscent of the virtues of the old "scissors strategy" (*Lutz* (1936)): the simultaneous use of interest and liquidity policies.

References

Alvarez, F. et al. (2001): Interest Rates and Inflation, in: American Economic Review, Papers and Proceedings, vol. 91, p. 219–225 – *Beyer,* A. et al. (2009): Opting out of the Great Inflation, ECB Working Paper no. 1020, Frankfurt – *Bindseil,* U. (2004): The Operational Target of Monetary Policy and the Rise and Fall of the Reserve Position Doctrine, ECB Working Paper no. 372, Frankfurt – *Bofinger,* P. (2001): Monetary Policy, Oxford – *Boianovsky,* M./*Trautwein,* H.-M. (2006): Wicksell after Woodford, in: Journal of the History of Economic Thought, vol. 28, p. 171–185 – *Canzoneri,* M. et al. (2008): Monetary Aggregates and Liquidity in a Neo-Wicksellian Framework, in: Journal of Money, Credit, and Banking, vol. 40, p. 1667–1698 – *De Grauwe,* P./*Costa,* C. (2001): Monetary Policy in a Cashless Society, CEPR Discussion Paper no. 2696, London – *Disyatat,* P. (2008): Monetary Policy Implementation, BIS Working Paper no. 269, Basel – *European Central Bank* (2008): 10th Anniversary of the ECB, Monthly Bulletin, Special Edition, May – *Friedman,* M. (1969): The Optimum Quantity of Money and Other Essays, London/Basingstoke – *Goodfriend,* M. (2002): Interest on Reserves and Monetary Policy, in: Federal Reserve Bank of New York, Economic Policy Review, May, p. 1–8 – *Goodhart,* C. A. E. (1989): The Conduct of Monetary Policy, in: Economic Journal, vol. 99, p. 293–346 – *Goodhart,* C. A. E. (2000): Can Central Banking Survive the IT Revolution? London School of Economics – *Goodhart,* C. A. E. (2002): The Endogeneity of Money, in: Schefold, B., ed.: Exogenität und Endogenität, Marburg, p. 251–264 – *Hahn,* F. H. (1980): General Equilibrium Theory, in: Public Interest, Special Issue, p. 123–138 – *Kaldor,* N. (1982): The Scourge of Monetarism, 2nd ed. New York 1985 – *Keister,* T. et al. (2008): Divorcing Money from Monetary Policy, in: Federal Reserve Bank of New York, Economic Policy Review, September, p. 41–56 – *Keynes,* J. M. (1933/34): Quasi-Rent and the Marginal Efficiency of Capital, in: The Collected Writings of John Maynard Keynes, vol. 29, London/Basingstoke 1979, p. 111–120 – *Keynes,* J. M. (1937): The General Theory of Employment, in: The Collected Writings of John Maynard Keynes, vol. 14, London/Basingstoke 1987, p. 109–123 – *Lindsey,* D. E. et al. (2005): The Reform of October 1979, in: Federal Reserve Bank of St. Louis Review, vol. 87, p. 187–235 – *Linzert,* T./*Schmidt,* S. (2008): What Explains the Spread between the Euro Overnight Rate and the ECB's Policy Rate? ECB Working Paper no. 983, Frankfurt – *Lutz,* F. A. (1936): Das Grundproblem der Geldverfassung, in: Geld und Währung, Tübingen 1962, p. 28–102 – *McCallum,* B. T. (2005): Michael Woodford's Interest and Prices,

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Carnegie Mellon University – *Pigou,* A. C. (1912): Wealth and Welfare, London – *Poole,* W. (1968): Commercial Bank Reserve Management in a Stochastic Model, in: Journal of Finance, vol. 23, p. 769–791 – *Poole,* W. (1970): Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model, in: Quarterly Journal of Economics, vol. 84, p. 197–216 – *Riese,* H. (1987): Keynes as Capital Theorist, in: Hölscher, J./Tomann, H., eds.: Money, Development and Economic Transformation, Houndmills/New York 2004, p. 60–83 – *Taylor,* J. B. (1993): Discretion versus Policy Rules in Practice, in: Carnegie-Rochester Conference Series on Public Policy, vol. 39, Amsterdam et al., p. 195–214 – *Whitesell,* W. (2006): Interest Rate Corridors and Reserves, in: Journal of Monetary Economics, vol. 53, p. 1177–1195 – *Wicksell,* K. (1898): Interest and Prices, New York 1936 – *Woodford,* M. (2000): Monetary Policy in a World Without Money, in: International Finance, vol. 3/2, p. 229–260 – *Woodford,* M. (2003): Interest and Prices, Princeton – *Woodford,* M. (2008): How Important Is Money in the Conduct of Monetary Policy? in: Journal of Money, Credit, and Banking, vol. 40, p. 1561–1598.

Summary

Central Bank Money and Interest Rates: Independent Monetary Policy Tools?

Central banks can control the macro economy by means of interest rate policies also in a cashless economy. In a monetary economy with a positive demand for base money, the quantity of money represents an additional policy tool, independent from interest rate management. This hypothesis is examined by analyzing various institutional set-ups of the money market. It is found that the two-instruments hypothesis is valid in a floor, but not in a corridor system (used by Fed and ECB). Here, central banks are led to supply base money on demand, in order to keep effective the chosen policy target rate. If strict stabilization is needed, also in an asset price bubble, monetary policy should consider a "scissors strategy" (sometimes pursued by the Bundesbank) of simultaneously increasing short-term interest rates and permitting temporarily a quantitative shortage of liquidity. (JEL E5)

Zusammenfassung

Zentralbankgeld und Zinsen: unabhängige Instrumente der Geldpolitik?

Zentralbanken können über den Zins auch eine bargeldlose Wirtschaft kontrollieren. In einer Ökonomie mit positiver Geldnachfrage könnte die Variation der Geldmenge neben dem Zins ein zusätzliches Instrument darstellen. Diese Hypothese wird für verschiedene Organisationstypen des Geldmarktes geprüft. Sie gilt in einem Floor-, aber nicht in einem Korridor-System (das Fed und EZB anwenden). Im Letzteren ist das Geldangebot endogen über die Vorgabe des Leitzinses bestimmt. Wenn eine tiefgreifende monetäre Stabilisierung notwendig wird, z. B. bei einer Vermögensinflation, sollte (wie früher ansatzweise von der Bundesbank praktiziert) eine „Zangenpolitik" angewendet werden, nämlich gleichzeitig die Zinsen zu erhöhen und die Geldmenge quantitativ zu beschränken.

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