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INTEREST RATE POLICY IN  
PRACTICE, A REVIEW WITH SOME  
IMPLICATIONS FOR THE IRISH  
BANKING SYSTEM IN THE EMS

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March 1994

Working Paper No. 46

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## **INTEREST RATE POLICY IN PRACTICE**

### **A review with some implications for Irish banking system in EMU**

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With increasing monetary integration worldwide and especially in Europe, Ireland's banking system has become increasingly influenced by monetary policy actions taken in other countries. External influence will be even more important in EMU, and it will be important to understand and contribute to the discussion - only now beginning - about how monetary policy should be implemented in EMU. Whether or not EMU comes into place on time, international financial integration is likely to continue, and it becomes important for us to understand the procedures and motivations for monetary policy actions in other countries, and especially at the Bundesbank.

The purpose of this paper, then, is to review some of the mechanics adopted by various central banks in influencing interest rates. Our focus is on European central banks, and specifically on the Bundesbank, the second most important central bank in the World, and one which may be used as a model for the proposed multinational European Central Bank. As has been noted by a number of surveys<sup>1</sup>, an almost bewildering array of techniques is used by the central banks of industrial countries, sometimes seemingly contradictory in approach<sup>2</sup>. The differences extend to the type of asset used in transactions, the maturities at which transactions are conducted, their timing and frequency. It is possible to interpret these differences as deriving from differences in the development of institutions and markets in the different countries,

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<sup>1</sup>Kneeshaw and van der Bergh (1989), Batten et al. (1990), Kasman (1992).

<sup>2</sup>An example here is the fact that the main posted interest rate (discount rate) is normally below interbank market rates in some countries, but above them in others.

and in historical accidents rather than deriving from a fundamentally different approach to policy-making. Nevertheless, the differences probably do result in differences in the performance of the financial markets, both in regard to the volatility of interest rates and the degree to which (and manner in which) deposit resources mobilized by the financial system are onlent to private borrowers.

The paper is arranged as follows: we begin by clarifying the role of short-run interest rate policy in the wider context of monetary policy formulation, before turning to a review of the policy instruments used by the Bundesbank. We then ask why the toolbox of interest rate policy is such an elaborate one, and discuss the key characteristics of interest rate procedures which are common to most central banks and are exemplified in the Bundesbank's methodology. The role of reserve requirements which has become quite a contentious issue, is discussed in the following section. The paper concludes with some general observations about likely future trends in operating procedures and highlights a couple of areas where Ireland may be differentially affected. There are boxes on: aspects of the instruments used; a sketch of Irish operating procedures; why central banks are secretive; the discount rate; and why interest rates are not simply pegged.

#### *The role of interest rates in monetary policy*

This paper is not about the ultimate objectives of monetary policy, which might include control of inflation and stabilization of aggregate economic activity, or the balance of payments. Nor is it about the so-called "intermediate" objectives, which are usually monetary variables over which the authorities are thought to have more reliable control, and which are themselves a strong influence on the ultimate objectives. At the level of the ultimate and intermediate objectives, interest rates may or may not play an important role. Intermediate objectives for monetary policy have often, for example, been couched in terms of aggregate bank credit, or aggregates of monetary assets such as bank deposits. But such targets have been

announced for periods of a year or more. In the very short-run nearly all central banks have in recent years focussed on interest rate policy. In particular they have attempted to push interest rates to levels consistent with achieving the intermediate targets, and have then tended to operate defensively to stabilize the interest rates at those levels.

There is an important tension between stabilizing interest rates and ensuring that monetary expansion (and hence inflation) does not get out of hand. Interest rates do not provide a "nominal anchor" that can tie down the price level on a long-term basis. Accordingly, monetary policy cannot consist solely in an interest rate policy but must be guided by reference to supplementary indicators and objectives. When it comes to the operational day-to-day and week-to-week actions, however, all of the industrial countries do manage interest rates as the main means of implementing monetary policy.

Indeed, we may say that short-run implementation of monetary policy more or less reduces to asking the question: should short-term interest rates go up or down, and by how much? In this sense, monetary policy is effectively uni-dimensional. Despite occasional experiments in the past, attempts to influence the shape of the yield curve through direct market intervention are not common<sup>3</sup>. Likewise, attempts to influence the structure of interest rates as between different interest rates (for instance final borrower and lender rates) are no longer of great importance.

#### *The approach of the Bundesbank*

Second in importance worldwide only to the US Federal Reserve, the Bundesbank's monetary policy operating procedures are nevertheless at one end of the spectrum in terms of style and technique. This is true notably in two specific respects: (i) of

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<sup>3</sup>Though we will note below an interpretation of what monetary policy is doing in terms of the yield curve.

## **Aspects of specific non-lending instruments:**

### **1) Reversed transactions (in domestic securities)**

The use of reversed transactions (repos and marched sale-purchase agreements) on domestic, usually government securities, is analogous in its effect on liquidity to a secured loan. But in operational terms it has several advantages including the fact that these transactions can be implemented quickly without effect on price of underlying security. The interest rate involved need not correspond to posted rates for secured borrowing, thereby providing another element of flexibility. More generally, the authorities retain initiative in amount, timing and maturity, or duration of the liquidity action (and whether to renew) regardless of the terms of the underlying security. Thus short-term repos are used defensively, longer-term repos for framing medium-term policy.

Though these characteristics are especially valuable where money markets are undeveloped, or there is a restricted range of securities for outright purchases or sales, in practice almost all countries make extensive use of reversed transactions.

### **2) Forex swaps**

Foreign exchange is a good underlying security for use in reversed transactions. Particular advantages are:

Speed of implementation;

Freedom for authorities to choose maturities;

Depth of underlying market: allows large volumes to be traded.

But, because the foreign exchange market is typically more concentrated than the banking system generally, it is often the case that a few big banks are counterparts in forex swaps, therefore their use for monetary policy does not provide as broad a signal to the market. Furthermore, forex swaps are not well-suited to coping with permanent shifts in liquidity needs

### **3) Government deposits**

Shifting government deposits in and out of the private banking system is also a quick way of affecting bank liquidity. But there needs to be a framework agreement governing the allocation of these deposits as between the banks. Furthermore, this procedure does not tend to promote competitive behaviour or to develop the efficiency of money markets (a characteristic which it shares with forex swaps. ed defensively, longer-term repos for framing medium-term policy.

the major industrial central banks, the Bundesbank is the least active on a day-to-day

basis and (ii) it imposes high reserve requirements by current standards (at end-1991, bank reserves came to 5.5 per cent of total bank liabilities).

These aspects are interrelated inasmuch as the high reserve requirements, combined with a long averaging period for their calculation, allows banks considerable flexibility in day-to-day treasury management, and means that temporary fluctuations in bank liquidity do not result in sharp oscillations in interbank interest rates. That is why the Bundesbank does not have to intervene very actively.

The Bundesbank combines the use of posted rates and a weekly and daily regime of flexible intervention to manage the trend of short-term interest rates. The posted interest rates (which remain unchanged for weeks or months on end) provide upper and lower bounds to market interest rate movements, while the market intervention influences the movement of market rates within these bounds.

The limited development of short-term money markets in Germany (Government or private sector bills are not very actively traded, means that most of the Bundesbank's operating procedures relate to repurchase agreements of longer-term securities or of foreign exchange, and to secured lending (Lombard loans) and to a standing facility for outright sales of short-term official bills.

A plot of key German interest rates would thus include three official rates which are posted and changed only infrequently. The highest of these posted rates is the Lombard rate, the lowest is the discount rate, and in between is the rate implied in the Bundesbank's standing offer to sell official bills.

Although the discount rate is the lowest, it does not have much direct influence on market interest rates. That is because the banks have fixed quotas for access to the discount window; these quotas are always fully used. The discount rate is usually adjusted only to keep pace with movements in other rates, though sometimes its

movements can be interpreted as signals of Bundesbank policy intentions.

The Lombard rate, for lending against the security of Public Sector Securities normally provides an upper bound to market interest rates, as banks can turn to this facility instead of to the interbank market when they are short<sup>4</sup>. The standing offer to sell official bills at a posted rate provides a lower bound to interbank rates and other market rates.

On a weekly basis, the Bundesbank arranges a repurchase tender (in Public Sector securities) for the purpose of adding or subtracting liquidity from the market. Sometimes the (implied) interest rate for the tender is fixed, and participants merely propose quantities. More often, however, participants are invited to propose a schedule of amounts and prices (interest rates) at which they would like to deal. The Bundesbank chooses the amounts actually traded and the prices correspond either to each bid or to the minimum accepted bid, depending on the pricing rule which has been specified for that week's tender. This weekly procedure allows the Bundesbank to arrange to meet the anticipated demand for bank liquidity over the coming week, and more generally deal with forecast movements over a period of weeks ahead.

The Bundesbank may also intervene on any day to smooth temporary fluctuations in the availability of bank liquidity. It uses the foreign exchange swap market, to withdraw liquidity, and adds liquidity by transferring official deposits from its own account to those of the major banks.

#### *Why so many tools?*

Some of the features of the different instruments used by the Bundesbank are noted in the accompanying box. It will be seen that there are clear reasons for

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<sup>4</sup>There does not appear to be any reluctance of the Banks to access this facility, in contrast to the situation in the United States.



### **The discount rate**

In some countries, the discount rate is usually below market rates, while in others it is above market rates. The difference arises because of the different role of the discount rate in monetary policy implementation, and partly because of different ways of implementing policy. As noted in the text, the Bundesbank, whose discount rate is below the market, uses the higher Lombard rate as its ceiling for market interest rates, with use of the discount window restricted by binding quotas, and playing no direct part in monetary policy. In the US, the discount rate is also below the market, but it does play a key role, as frequent use of the discount window is subject to non-interest administrative penalties (no less real for being uncertain in form and extent) as well as a market penalty through perceptions that use of the window may signal problems with solvency. Accordingly, tightness of liquidity conditions will be reflected in an increase in the excess of the interbank ("Federal Funds") rate over the discount rate even though banks could access the discount rate.

In other countries, like Canada, the discount rate performs the function of a ceiling rate, and this is true of the Bundesbank's Lombard rate. The penalty involved in using ceiling rates is typically small, but relevant for a tightly managed Treasury division of a bank. The very high penalty rates used by some developing country central banks are often inoperative in practice or may lead to considerable volatility in money market interest rates.

supplementing traditional collateralized lending and sale of Treasury bills.

Generally speaking, the multiplicity of instruments reflects a need for adequate collateral and the authorities' desire to ensure that the effects of their intervention are transmitted smoothly across all maturities and to instruments issued by all types of issuer and held by all kinds of financial institution.

So far as smoothing different maturities is concerned, one consideration is the desirability of responding to liquidity shocks of known duration by injecting (or withdrawing) funds for the appropriate duration. That way, a liquidity shock which is likely to leave the banks short of liquidity for a certain period can be neutralised in a way that assures the banks that they will not experience treasury difficulties as

### **Why are central banks secretive?**

Central banks are very secretive about their policy intentions, and it is not altogether clear why this should be so. Some critics assert that the secrecy is used to conceal a lack of clarity in the central bank's objectives or to allow the central bank to change these objectives without having to explain and justify abandonment of their previous stance. Indeed, one of the reasons given in support of the shift to explicit monetary targeting in the 1970s was the view that this would place a tighter discipline on central banks and force them to respond to accelerating inflation even when doing so would be politically unpopular.

But there may also be good reasons for secrecy. The size of the financial markets and the inability of central banks to resist the flows of funds which emerge when the market is convinced that a policy stance is unlikely to be sustained were well evident in the crisis in the EMS during late 1992. A central bank which makes explicit a precise policy stance may find that policy stance to be less easily maintained than if market participants are uncertain about central bank objectives, and hence about the extent to which interest rate developments are attributable to central bank action as distinct from the action of other market participants (cf. Bhattacharya and Weller, 1992).

a result of this shortage, whereas if it was met by overnight funds, the uncertainty of renewal could lead to a socially unnecessary build-up of excess reserves by the banks.

Seasonal liquidity patterns, and secular trends in the net requirements of the banking system are also more appropriately dealt with by actions of corresponding maturity.

A perfectly efficient money market would effect the smoothing automatically. For example, theoretical considerations suggest, and experience confirms, that interest rates for different maturities are linked through expectations of future short-term interest rate movements. Thus a lowering of overnight rates will lead to lowering of longer rates to the extent that the lowering is expected to be permanent. Likewise, arbitrage between the instruments issued by different borrowers should ensure that an interest rate change in the market for government bills leads to a

### **Why not just fix interest rates?**

Several reasons argue against just pegging interest rates:

- The authorities will "get it wrong", choosing an interest rate which is far away from what would otherwise be the market-clearing rate; thus
- they will lose control over key elements of the central bank's balance sheet.
- Influencing rates without having an explicit peg removes some of the political pressure against interest rate increases and helps ensure that these will not be "too little and too late".
- Pegged interest rates inhibit money market development, and thereby prevent the financial sector from learning skills needed to provide efficient intermediation.
- If interest rates do not respond to changes in market conditions, the authorities cannot judge how interest-sensitive liquidity demand actually is.
- If all banks have routine access to pegged interest rates, it will be more difficult for the authorities to use requests for access to the discount window as an opportunity to investigate and sanction banks with emerging solvency problems.

predictable knock-on effect on all other instruments of the same maturity. Finally, competition between financial institutions for resources to onlend ensures that an influence effected on interbank rates will also pass through to non-bank financial intermediaries. The degree to which these linkages are perfectly effected varies from country to country, depending on the efficiency of financial markets. The degree of efficiency has increased dramatically in recent years, partly through regulatory liberalization having removed artificial segmentation between different parts of the market. Partly as a result of the improved efficiency, there has been some convergence between countries of the instruments and techniques of monetary policy that are used. Nevertheless most central banks appear to feel that markets are still

not sufficiently efficient to allow policy action to be carried out exclusively in a single instrument and at a single maturity.

*Key requirements for the tool-kit.*

Most other central banks use a tool-kit which, though different in detail from that of the Bundesbank, shares some important characteristics. These include:

ensuring that the authorities can keep the main elements of the central bank's balance sheet under control,

the ability to influence interbank interest rates progressively without having to go through elaborate formal or political processes,

a backstop in the form of effective ceilings and floors on the interbank rates<sup>5</sup> and

a way of obtaining signals from the market.

The ceilings and floors that are used are not, of course, mandatory ones, but are driven in a market setting by the published willingness of the central bank to deal at these rates. In general, there is an important distinction between control of interest rates through mandatory ceilings, which will normally entail rationing, and management of interest rates through market-clearing arrangements where the

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<sup>5</sup>The US Federal Reserve and the Bank of England are important exceptions in that it is hard to characterize their normal operations as ones in which there is a posted ceiling on interest rates. However, these are both countries in which the money market is very sophisticated and where temporary liquidity disturbances are unlikely to result in large interest rate movements. The Bank of England is a most active manager of the money market buying close-to-maturity Treasury bills in varying amounts on a daily basis and under varying terms and conditions in order to achieve its interest rate objectives.

## **Operation of monetary policy in Ireland**

McGowan (1992) provides a detailed account of the mechanisms used to manage monetary policy in the short-run in Ireland, and reveals a very active role for the Central Bank. Even before the 1992 currency crisis, discretionary interventions made by the Central Bank have frequently amounted to hundreds of millions of pounds (up to 3 per cent of GNP) over periods as short as a few weeks in recent years.

### *Discretionary support*

McGowan distinguishes sharply between what he terms discretionary support and overnight balancing. Discretionary support, i.e. money market intervention at the Central Bank's initiative (which is by far the most important quantitatively) has the objective of avoiding "unwarranted changes in domestic interest rates". By systematically undersupplying or oversupplying the market with discretionary liquidity, the Central Bank can put pressure on market interest rates. Discretionary support is normally effected through repos (secured by Irish government bonds), term deposits solicited from the banks and forex swaps. In each case, the Central Bank typically sets the maturity and calls for bids as to price and quantity.

### *Overnight balancing: the ceiling and floor on interest rates*

In contrast, overnight balancing is done (at the initiative of a commercial bank) at off-market interest rates. The short-term facility (STF) offering banks lending at a posted rate normally a little above market rates is the main instrument here. The size and timing of changes in the STF rate are sometimes used as a signal of Central Bank intent, though it normally moves with the market. The STF thus normally provides the upper bound to market interest rates, though it has been suspended at times of crisis. The Central Bank also normally posts a rate at which it will accept overnight deposits: this normally provides the lower bound on market interest rates in the Irish set-up.

### *Market-based or bilateral?*

There has clearly been a dramatic shift to the use of market-based instruments of monetary policy over the past decade. Bank-by-bank credit ceilings are gone, as is the interest rate cartel. Primary liquidity ratios have been lowered, thereby reducing an implicit tax which has in recent years been equivalent to about £30 million annually. Spot against forward, and open foreign exchange positions have been liberalized. Yet implementation of monetary policy is not wholly indifferent to the identity of the counterparty banks. Thus, for example "the Central Bank's views about the distribution of liquidity among the banks and its views about the influence of dominant players in the market" may influence the allocation by the Central Bank of swaps between the banks.

authorities provide (or withdraw) the sums necessary to balance or clear the market. If financial markets do not clear, the consequential efficiency losses can be severe (cf. Caprio and Honohan, 1991a).

Existence of such open-ended facilities as are implied by the establishment of ceilings and floors could threaten the first requirement, that the main elements of the balance sheet of the central bank be kept under control, as this essentially requires that there should not normally be automatic access to central bank funds for the banks - or indeed for the government. Accordingly, to the extent that there are posted rates for borrowing from the central bank, these should be sufficiently far from market rates to limit the banks' desire to rely on them. Alternatively, such borrowing could be restrained by administrative procedures or quotas. If the central bank offers a deposit or other posted facility for absorbing liquidity, it is, for more or less symmetrical reasons, also pitched sufficiently far from the market rate to induce banks normally to place surplus liquidity in the market.

An important exception here is the case of a fixed exchange rate regime. Such a regime, by allowing the banks to buy or sell foreign exchange in unlimited quantities does remove central bank control over its balance sheet. However, in the smaller countries that operate such a regime, this tends to be a stabilizing force, tightening bank liquidity when the balance of payments is in deficit and vice-versa.

The existence of buffers within which market rates move prevents undue swings in interest rates in response to unexpected surpluses or shortages of liquidity to which the central bank may not have enough time to react. In addition, the very existence of the buffers eases bank treasury planning by limiting the range of interest rates for which the banks need to plan.

Between the ceiling and floor, the interbank market interest rate is not typically left to fluctuate freely. The Bundesbank is far from being the only central bank that

intervenes on a weekly or more frequent basis to influence interest rate developments; indeed, as already mentioned, the Bundesbank is one of the least active in this regard.

These interventions are less conspicuous than changes in posted rates (or reserve requirements) and allow the authorities to act discreetly, without attracting political comment. For instance, by withdrawing liquidity through its decisions at the repurchase tender, the Bundesbank can push the general level of money market rates up without market participants being fully sure to what extent the source of the upward pressure is coming from the authorities, and to what extent from supply and demand conditions in the rest of the market. Sometimes, in contrast, the authorities will want to make a very obvious and public declaration of their intentions, and this is still available to them through changes in the posted rates. Most of the time, central banks tend to be rather secretive about their future intentions, and some part of the complexity of the toolkit comes from the desire to preserve this secrecy.

There is a certain tension between allowing flexibility and giving clear policy signals. One observer (Kasman, 1992) states that the authorities try to filter out undesired fluctuations in interest rates and signal their policy intentions. Indeed, the multiplicity of instruments in principle allow nuanced policy indications, but these are never made explicit and are rarely made absolutely unambiguous.

One argument often made is that this kind of flexibility allows the authorities to obtain signals from the market more effectively. The argument here is that, with fixed interest rates, a shift in the demand for liquidity will show up only in the net change in central bank lending. In contrast, a more flexible intervention approach can allow the authorities to detect not only the size of the shift, but also to monitor the elasticity of demand with respect to interest rates.

### *Reserve requirements*

One of the most contentious issues in the design of monetary policy operating procedures at present is the question of reserve requirements. That reserve requirements are not strictly necessary is evidenced by the fact that countries such as the UK and Australia no longer have mandatory reserve requirements. Old-fashioned theories of how monetary policy works based on static money-multipliers computed as the inverse of reserve requirements led early observers to argue that such requirements were needed as a fulcrum on which monetary policy was based. However, the need for some working balances, even in the absence of formal requirements means that policy can have an effect anyway.

However, the sharp reductions in required reserves in most countries over the past decade or so has shown that such requirements do help provide an automatic interest stabilizer. Contrary to the over-simplified view that required reserves are not reserves at all, since they cannot be run-down in response to liquidity pressures, it is evident that, within the period over which reserve holdings are averaged, banks can run down these balances for some days, so long as they build them up again sufficiently within the reserve averaging period. Thus high-frequency liquidity fluctuations can be absorbed with little or no interest rates movements by a system with high required reserves.

In contrast, low reserve holdings lead to sharp interest rate movements on a day-to-day basis unless offset by active central bank management. That is why the Bank of England has always been a very active manager of daily liquidity conditions, and also why the US Federal Reserve has had to intervene more actively in recent years with the decline in effective reserve requirements<sup>6</sup>.

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<sup>6</sup>Because of the increasing use by the banking system of non-reservable liabilities, as well as reductions in formal required ratios, bank reserves now stand at about one-half of one per cent of total bank liabilities in the US. The figure for the UK is about 0.1% and for Germany about 5 per cent (Cf. Kasman, 1992).



Unremunerated reserve requirements represent a tax on bank intermediation, and one which can lead to substantial distortions through disintermediation in modern financial systems. The impact of the tax can be reduced substantially - and perhaps eliminated - through payment of interest on required balances. Such payments are made by several smaller central banks, but in none of the large countries.

Whether the European Central Bank will opt for relatively high reserve requirements, as in Germany, or for low or nil requirements, as in the UK, remains to be seen. Pressure of international competition in the European banking market (now free as between different EC countries) will, in the interim, undoubtedly put downward pressure on the German rates.

### *Conclusion*

While monetary policy actions are directed towards short-term interest rates, the main thrust of monetary policy is to maintain a stable overall price environment, and this is being enshrined in the statutes of a number of central banks. By establishing a credible anti-inflationary policy, lower long-term nominal interest rates will be the result in the market-place. When inflationary pressures emerge, successful anti-inflationary action will often manifest itself in a downward sloping yield curve, indicating that expectations of future inflation remain low because the central bank has tightened the availability and thereby increased the cost of bank liquidity.

The effectiveness of such action may depend on the degree to which bank loan and deposit contracts are at fixed or floating interest rates. Recent experience in Europe has highlighted institutional differences between countries in this regard. Where fixed rates and longer maturities are common, an increase in interest rates will discourage or defer new borrowing, without altering the cost of servicing existing loans, or the interest income of existing depositors. The opposite is true of a regime where interest rates are predominantly at floating rates. These differences in the transmission of monetary policy may slow the convergence of monetary management

techniques in the years ahead, and could represent an important practical difficulty in achieving a smooth method of implementing monetary policy across all the members of the EMU and thus deserve close consideration.

While the Bundesbank and other central banks have devised ways of transmitting their interest rate policies reasonably effectively throughout their domestic money markets, it may reasonably be asked whether the integration of banking markets has actually proceeded far enough to ensure that action taken in Frankfurt or London in the context of EMU will have its impact on the Irish market in an uniform and fair manner. Could the Irish banks, being quite small on a European scale, be disadvantaged in perhaps having access to the monetary union's central money market only at only second-hand? This matter deserves further attention.

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