

**Government Borrowing, Bank
Liquidity and Interest Rates**

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Special Article

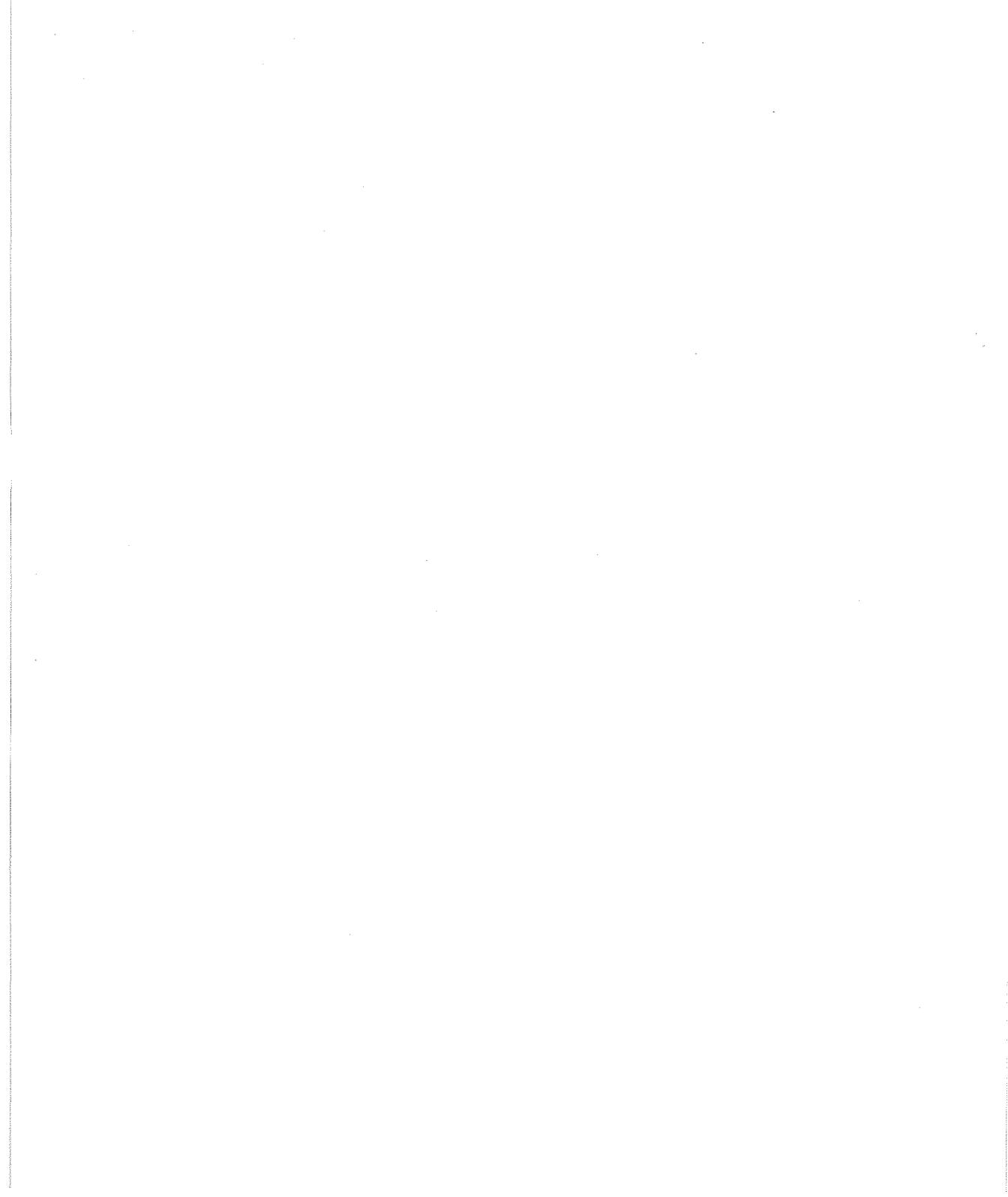
in

**QUARTERLY
ECONOMIC
COMMENTARY**

January 1981

**J. DURKAN
J. O'LEARY**





GOVERNMENT BORROWING, BANK LIQUIDITY AND INTEREST RATES

by

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Introduction

Ireland's participation in the EMS, the introduction of exchange controls, and the break in the traditional parity between the Irish pound and sterling brought about a totally new environment in which changes in domestic bank liquidity came to play an important role in determining the level of Irish interest rates.

This paper looks at the main influences on bank liquidity and examines the sources of changes in it over recent years since 1975, with particular reference to 1979 and 1980. The purpose is to highlight the relationships between bank liquidity and the Government Borrowing Requirement and show how the manner in which the Government finances its deficit can affect the level of interest rates.

The size of the annual Government deficit has now grown to such large proportions that the manner in which it is financed has become an important policy issue. By illustrating the effects on interbank rates and gilt yields it is hoped that the paper will contribute to the debate about whether the deficit should be financed by monetary or non-monetary means and whether the Government should borrow abroad or from the Central Bank.

Exchequer Financing and Bank Liquidity

Technically, bank liquidity may be defined as the ability of the commercial banking system to place deposits with the Central Bank. In practical terms it has to do with changes in the amount of money in the system and the associated movement in interest rates.

Very many factors affect the level of bank liquidity such as the size of the trade deficit and capital flows, but one of the most important, if only because of its size, is the Government Borrowing Requirement. In 1980, for example, this amounted to £1,217m. or 14½ per cent of GNP.

The money market is influenced on a daily basis by the levels of Government disbursements and revenues. In general, all other things being equal, a net disbursement causes bank liquidity to improve and tends to put downward pressure on interest rates. Government deposits at the Central Bank are reduced and bankers' primary liquidity or balances at the Central Bank are increased.

*John Conway is an employee of the Investment Bank of Ireland Limited. This article is adapted from a paper entitled "Irish Commercial Bank Liquidity" read to the 3rd Annual Dublin Economics Workshop Policy Conference at Killarney, October 1980. The author wishes to acknowledge the help and comments of referees. He remains solely responsible for errors and omissions and all opinions expressed.

However, the Government must finance these disbursements one way or another. They represent an obligation on the part of the Government to pay, and it may do so simply by printing the money, borrowing from the banking system, from external sources, or from the non-bank private sector. The manner of financing will have different implications for bank liquidity, interest rates and long bond yields.

If the Government funds from the non-bank private sector, through small savings or gilt sales, there will be an offsetting fall in a bank account elsewhere in the system, so the net effect on liquidity is nil. However, the more the Government wants to borrow through fixed interest securities, the higher the yield level at which it must do so. Should funding from the non-bank private sector exceed net disbursements in any period, the effect is a squeeze on liquidity.

If the Government funds by borrowing from the commercial banks, a matching asset is created in the combined balance sheet of the commercial banking system, the money supply expands but again the net effect on liquidity is nil. However, if the Government borrows from the Central Bank, this will improve liquidity, since there is an injection of funds into the commercial banking system. All other things being equal, interest rates would tend to fall.

The effect on liquidity of the Government borrowing abroad depends on how this affects the balance of payments and official reserves position. A trade deficit will drain liquidity because in effect, bank deposits are converted into imported goods. A capital outflow similarly causes a drain. But this can be neutralised by Government foreign borrowing which leaves official reserves unchanged. Conversely, a trade surplus, capital inflow, or indeed a rise in official external reserves for whatever reason will cause an improvement in liquidity because it creates commercial bank deposits, and thereby improves the banks' ability to place deposits with the Central Bank.

Developments during 1975-1978

The period 1975-1978 was in the sterling parity, pre-EMS era. The fixed exchange rate and free access to the London market meant that Irish interest rates were determined by those in the UK. Because the rules of the game were different then, an analysis of changes in Irish bank liquidity during those years is of little relevance to understanding interest rates movements today. However, a few points are worth noting from Table 1.

- (i) In 1975/76, increases in official foreign reserves were the major source of bank liquidity. The Government borrowed abroad, despite the fact that the balance of payments deficits were low, and used the money to build up its balances at the Central Bank. One activity tended to neutralise the effect on liquidity of the other, but the extent of foreign borrowing was greater than the buildup in Government balances at the Central Bank.
- (ii) In 1977, Government foreign borrowing was much lower, but the rise in official external reserves was due mainly to a rise in the net external liability of the commercial banking system. The strong expansion in credit could not be

met from domestic monetary sources, and borrowing from the London market was necessary.

- (iii) In 1978 the Government partly ran down the deposits which it had built up over the previous three years with the Central Bank, and this was the major source of liquidity in that year. The change in the official external reserves was minimal.

TABLE 1: Sources of Changes in Unborrowed Bank Liquidity 1975-1979

	1975	1976	1977	1978	1979
Currency	-45	-49	-47	-79	-121
Official External reserves	+181	+280	+245	+51	-277
Change in government position* at Central Bank	-69	-105	-61	+100	+112
of which:					
1 Govt. deposits** Central Bank	-107	-97	-65	+104	+13
2 Govt. securities at Central Bank	+52	-8	+4	-4	+96
3 Exchequer Overdraft Facility	-14	-	-	-	+3
Total change in liquidity	+67	+126	+137	+72	-286

Source:

Central Bank Quarterly Bulletins.

Notes:

*An increase in government indebtedness to the Central Bank or a reduction in its balances at the Bank is denoted by a plus sign.

**An increase in government deposits at the Central Bank is denoted by a minus sign because it has an adverse effect on bank liquidity.

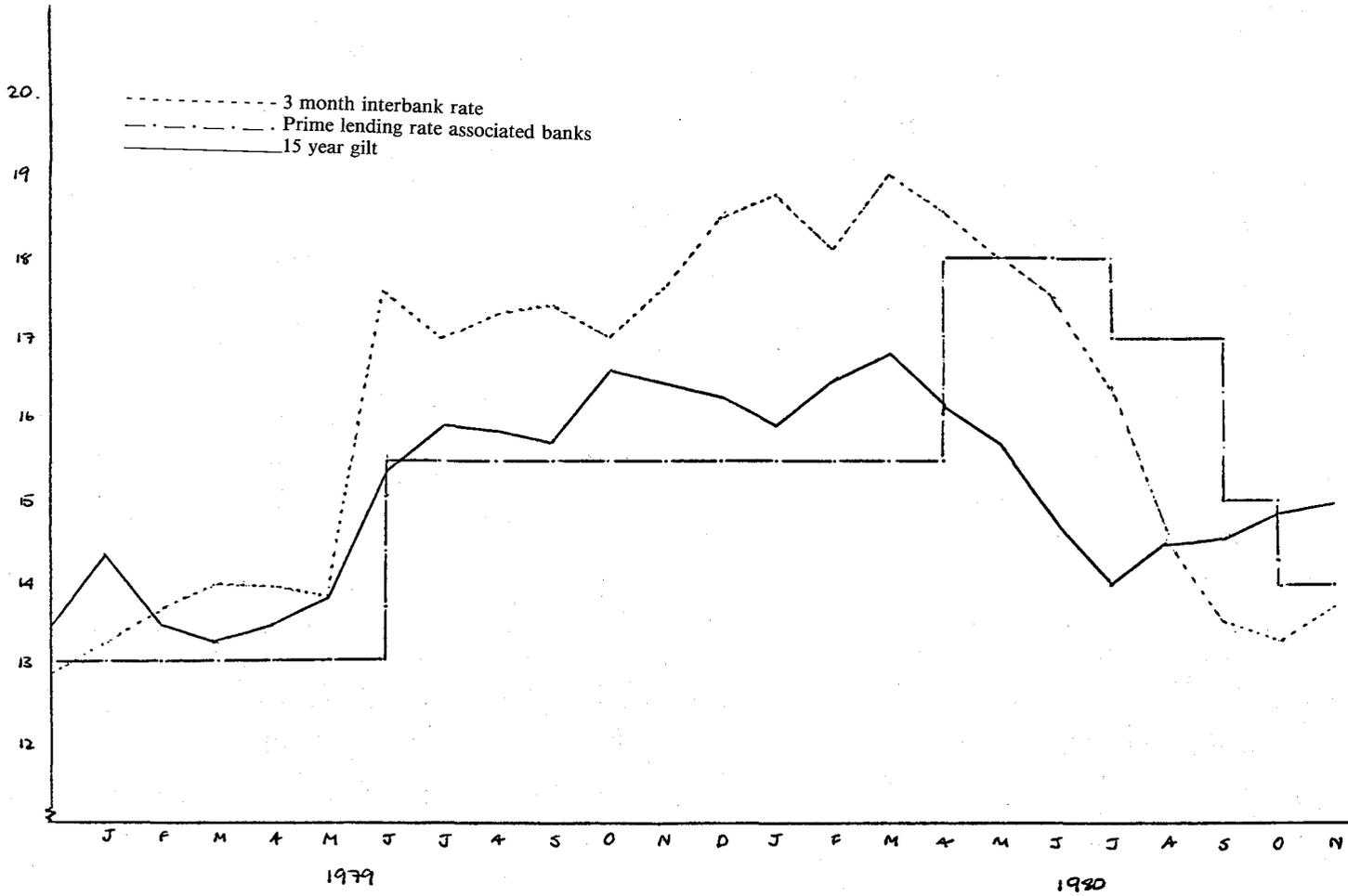
The data in these tables have been extracted from the Consolidated Balance Sheet of the banking system and the Summary of Assets and Liabilities of the Central Bank in the Statistical Appendix to Central Bank Bulletins.

Developments during 1979

In 1979, the situation in Irish financial markets changed radically. The break in the link with sterling and the separation of the two capital markets caused severe adjustment problems.

Table 2 shows the sources of changes in bank liquidity on a quarterly basis over the year. The graph shows the movement of the three month interbank rate, the Associated Banks' Prime Lending rate and the yield on a long dated Government security.

From an initial over-stretched position — there was a shortfall in secondary liquidity of £103m for the Associated banks and £84m for the licenced banking system as a whole at the beginning of the year — liquidity deteriorated markedly and necessitated very substantial support from the Central Bank. This support peaked at £416m at the end of the third quarter. The position at the end of December was complicated by the phased adjustment to the new primary and secondary liquidity ratios.



Source: Central Bank Bulletin
 Table: Ireland: deposit and other selected interest rates

Clearly, the fall in the level of official external reserves was the major contributory cause of the liquidity squeeze. They stood at £1,252m at the end of December 1978. By the end of 1979 they were £975m, a fall of £277m or 22%. This happened because the size of the trade deficit was much higher than originally forecast, due mainly to the doubling of our oil import bill, but also to the excessive growth in domestic credit. Public sector foreign borrowing for the year was in the region of £500m. Had the government not funded abroad, the loss of reserves and the liquidity squeeze would have been even more severe. The rise in Government indebtedness to the Central Bank of £112m also tended to mitigate the severity of the squeeze.

TABLE 2: Major Sources of Changes in Bank Liquidity During 1979 (£m)

	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Full year</i>
1. Unborrowed Liquidity					
Currency	-13	-28	-40	-40	-121
External reserves	-114	-144	-60	+41	-277
Change in govt. position at Central Bank	-55	+235	-14	-54	+112
<i>Of which:</i>					
1 Govt. deposits at Central Bank	-100	+197	+15	-99	+13
2 Govt. securities at Central Bank	+36	+47	-29	+42	+96
3 Exchequer O/D Facility	—	—	—	3	+3
4 Exchequer Bills at Central Bank	9	-9	—	—	—
2. Borrowed Liquidity					
1 Bills Rediscounted					
i ACIBS*	-11	—	—	—	-11
ii Exchequer Bills	+53	—	—	-11	+42
	+42			-11	+31
2. Central Bank Advances					
i Secured Advances to Assoc. Banks	+134	+85	+57	-52	+224
ii Short term credit facility	—	+11	+33	+13	+57
Total Central Bank Support	+176	+96	+90	-50	+312
3. Secondary liquidity shortfall	+27	+16	-30	n.a.	n.a.

*Agricultural Commodity Intervention Bills.

n.a. = not applicable (see text).

Sources: Central Bank Quarterly Bulletins.

(i) *First half 1979*

An examination of the figures on a quarterly basis will reveal that in the first quarter the seasonally heavy trade deficit took its toll on official external reserves. Also there was a large volume of net gilt sales reflected in a £100m rise in Government deposits at the Central Bank. As a result, private sector credit growth (up 7.4%) far outstripped the increase in M3 (up 4.1%) and there was a marked deterioration in the liquidity position of the banks, especially the Associated Banks. Their indebtedness to the Central Bank rose by £176m. The non-Associated Banks' position was eased by foreign currency swaps whereby they borrowed short-term in sterling, converted into Irish pounds and covered forward at the Central Bank. This operation had the dual effect of boosting foreign exchange reserves, on the one hand, which was desirable from the authorities' point of view, and at the same time providing the banks with Irish pound resources. Because the interest differential between London and Dublin was at the time quite large, funds could be borrowed short-term in London on a covered basis at rates which were more favourable than those prevailing in the Dublin interbank market. Unfortunately, no official data are available on the size of foreign currency swaps, so it is difficult to assess the importance of their contribution to liquidity during the year.

In the second quarter, the steady repurchase of Government stock by the authorities, along with the postponement in Exchequer revenue due to the postal dispute, almost completely depleted Government deposits at the Central Bank. They fell by £197m. In the same period the Central Bank increased its holding of Government paper by £47m and the total contribution to liquidity from changes in the Government position at the Central Bank was £235m. This was partly offset by a further fall in official external reserves of £144m.

During April and May conditions in the interbank market were generally easier than in the first quarter and this was reflected in a small fall in the three month interbank rate from its level at the end of March. Short-term money rates fluctuated between 13% and 14%. This was due to the volume of gilt-edged stock — perhaps £100m — repurchased by the authorities from the institutions combined with the very low expansion in domestic credit — £26m in the two months — by the non-Associated banks. These banks did run down their net external liability by £125m in the two months but because of the modest credit demand which they experienced they were able to accommodate this element of refinancing without undue strain.

The position in June altered appreciably. Domestic credit expansion by the non-Associated banks in that month alone amounted to £80m — a rise of 5%. Private sector credit expansion by the Associated banks was buoyant throughout the quarter — a rise of 6.7% — and they were forced to increase their borrowing from the Central Bank. Because of the excessive growth in credit the bulk of this additional accommodation was provided at increasingly penal rates.

These influences put obvious pressure on liquidity and money market rates. To compound the strains, gilt prices were slashed by about nine points in a pre-emptive move by the authorities to resume funding and £100m flowed out of the money market into the Exchequer in the last two weeks of June. This was in part reflected

in a rise of £54m in Government deposits at the Central Bank between end-May and end-June.

Overnight money shot up to over 20% per annum and three month money to about 17.5% per annum in response to these developments. Still there were liquidity shortages, and the banks had recourse to the Central Bank as lender of last resort. In addition to foreign currency swaps which had been in operation for some time, the Central Bank established a new short-term credit facility. All licensed banks were allocated quotas in proportion to balance sheet size and funds were made available on an overnight and up to a seven day basis at an interest rate of 16½% per annum against the security of Government stock. The maximum facility between all the participants was £77.5m and the declared purpose of the measure was to ease out temporary fluctuations in rates while accepting the overall thrust of market forces. (*Central Bank Quarterly Bulletin* No. 2 1979).

At the end of June, £11m or 14% of this facility was drawn down. Taking into account the very high short rates that were prevailing in the market in the last week of June, it is somewhat surprising that a larger proportion of the facility was not drawn down.

As events in the gilt market were clearly orchestrated to resume the funding programme one would expect that the authorities would have been at pains to recirculate the money back into the system and avoid the acute shortages. It would seem appropriate that the full facility should have been drawn down in these circumstances but the non-Associated banks themselves were unfamiliar with the Central Bank's intentions and suspected that some penalty would attach.

(ii) *Second Half 1979*

The liquidity position did not improve in the third quarter. External reserves continued to fall though at a more modest rate. There was a large volume of sales of Government stock in August and early September with transfers from the private sector to the Exchequer following the end of the postal dispute. The Government had minimal recourse to the Central Bank.

Private sector credit expansion by the Associated banks was modest in July and August, but surged in September partly because of the effect of interest debiting. This necessitated further recourse to the Central Bank of £57m. Non-Associated banks' lending to the private sector continued to be strong and the combined effect of rapid credit growth (up 4.9%) and a marginal contraction in bank resources kept upward pressure on interest rates.

The rise in Government balances at the Central Bank of £99m between September and December 1979 is consistent with the substantial gilt sales which the authorities achieved, especially in the early part of November. The negative contribution which the Exchequer made to liquidity in the final quarter, of £54m, helps explain why interbank rates rose despite other favourable influences which tended to improve liquidity. These included exemption from liquidity requirement

of domestic foreign currency deposits which were financing increases in foreign currency lending within the state, greater use of the Central Bank's short term credit facility to the non-Associated banks and foreign currency swaps. In addition, the phased implementation of the new liquidity ratios announced on 8 November eased the liquidity problems of the Associated banks in particular and permitted them to reduce their indebtedness to the Central Bank by £63m (including £11m reductions in Exchequer bills rediscounted).

Developments during 1980 to date

Table 3 analyses the sources and composition of changes in unborrowed bank liquidity since the beginning of this year. Because of the delay in the publication of data it is not possible to piece together a comprehensive picture at this stage. But the main features can be made out. In marked contrast to 1979 there was relative stability in the level of our official external reserves in the first six months of the year and since then they have increased dramatically. In fact, the turn-round in the official reserves position happened from May onwards. Between the April banking make-up day and end-November they have risen by about £235m or 25%. It is not a coincidence that the precipitate drop in money market rates dates from about the same time.

During the first three months of 1980 net gilt sales were running very low due to widespread disenchantment with the budget figures. The general expectation had been that the Exchequer Borrowing Requirement would be in the region of £800m. The £896m that was announced was therefore disappointing, especially when closer examination revealed that the out-turn could be significantly higher than this. Institutional investors were concerned about the funding implications and were reluctant to commit funds to the market. In fact, the authorities had to mark prices down smartly to frustrate large-scale attempted selling. Yields on long dated Government securities climbed to almost 17% per annum by the end of March.

With the gilt market effectively closed off as a source of funding, the Exchequer had to rely on borrowing from abroad and from the Central Bank. Government External debt rose by £132m and this helped finance the seasonally heavy trade deficit, leaving official reserves little changed. The Government's position at the Central Bank deteriorated by £174m due to a virtual elimination of its deposit balances, and this was the main source of the improvement in *unborrowed* liquidity in the period.

However, total liquidity did not improve and interbank rates changed little in consequence. There was at the same time a fall in borrowed liquidity as the banks reduced their indebtedness to the Central Bank. Under the new liquidity ratios, the banking system was holding secondary liquid assets well in excess of the required minimum and adjustment to them involved a switch of £136m in securities from the Associated banks to the Central Bank. This allowed the Associated Banks to reduce their indebtedness to the Central Bank by about £168m in the quarter. Total Central Bank support to the banking system was reduced by £181m.

TABLE 3: Major Sources and Composition to Changes in
Unborrowed Bank Liquidity 1980

	<i>£ million</i>									
	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>	<i>Sept</i>	<i>Oct</i>
Currency	-49	-6	+18	-2	+2	+24	+12	+12	-8	+8
Official External Reserves	-33	+67	-47	-31	+28	+22	+50	+151	-16	+9
Change in Govt. position at Central Bank	-10	+64	+120	+61	-19	+18	-51	-76	+149	+83
of which:										
1 Uptake of Govt. Secs.	-24	+30	-35	-19	+78	-69	+85	-3	+53	-20
2 Gov. deposits at Central Bank	+10	+38	+125	-34	+1	+13	-54	-34	+94	-27
3 Exchequer over-draft facility	-3	—	+12	+112	-114	+70	-79	—	+2	+92
4 Central Bank uptake of Exchequer Bills	+7	-4	+18	+2	+16	+4	-3	-39	—	+38
Total Change in Unborrowed Liquidity	-92	+125	+91	+28	+11	+64	+11	+87	+125	+100

Source: Central Bank Bulletins.

TABLE 4: Borrowed Liquidity 1980

	<i>£ million</i>		
	Q1	Q2	Q3
a) Bills Rediscounted			
(1) ACIBs	+38	-53	—
(2) Exchequer Bills	-7	-63	—
b) Central Bank Advances			
(1) Secured Advances to Assoc. Banks	-199	+40	-65
(2) Short term credit facility	-13	-15	-28
Total Central Bank Support	-181	-91	-93

Source: Central Bank Bulletins.

Because this support had been very expensive for the banks it was logical that the improvement in liquidity should be applied to wind it down. The overall effect on total liquidity was, therefore, negligible and the three month interbank rate remained above 18% per annum for most of the period. Bank resource growth was very sluggish while private sector loan demand remained buoyant. It is difficult to understand why these trends diverged so markedly but the trade deficit was high even allowing for seasonal factors and it appears that consumer spending was holding up well until mid-April.

Official external reserves began to improve from May onwards due to the considerable volume of foreign borrowing that was undertaken by the public sector.

Between March and August the External Government Debt rose by £97m and the net external liabilities of the State-sponsored bodies increased by £306m. This helps explain the rise of £219m in official external reserves which was the major source of the improvement in unborrowed bank liquidity in the period.

Because private sector loan demand was at a standstill, the licensed banks were able to further unwind their indebtedness to the Central Bank. They had dispensed with the rediscounting facility, amounting to £116m, by 21 May. Borrowings under the short-term credit facility were eliminated by 20 August. Curiously, secured advances were not eliminated until October. Total liquidity also improved and put downward pressure on interest rates in the money market. The three month interbank rate fell from 19% per annum at the end of March to 14.75% per annum by the end of August.

These developments all contributed to an improvement in sentiment in the gilt edged market. There were heavy purchases of stock by the domestic non-bank sector. *The Central Bank Quarterly Bulletin* No. 3, 1980, states (p. 23) that this amounted to £265m in the eight months to end August. Most of this probably occurred between March and July. In that four-month period, the yield on a long-dated Government security fell from 16.8% per annum to 14.08% per annum.

Developments in late July led to a most extraordinary situation. In the face of strong demand the authorities pushed prices ahead and sold out the outstanding issues of successive stocks. Offer prices were being made in fewer and fewer stocks until the point was reached when the whole market was "Bid only". Although this situation lasted for only a short time, the very fact that marketability could be so impaired came as a shock to many large investors.

The high level of gilt funding achieved in the summer months enabled the Exchequer to rebuild its deposit balances and repay its overdraft facility at the Central Bank. The Central Bank's inventory of Exchequer Bills was also run down.

In all, the change in the Government's position at the Central Bank took £127m of excess liquidity out of the system in July and August. In addition, the commercial banks held about £50m in excess of the primary liquidity requirement and about £100m over and above their secondary liquidity requirement on the August banking reporting date. Interbank rates would have reached lower levels had the Central Bank's deposit rate not been held at 13½% per annum.

These excess liquidity conditions have prevailed throughout the remainder of 1980 as Irish pound private sector credit expansion has continued to be weak. In the first ten months of 1980 it increased by 9% or less than £400m. However, the Central Bank has acted to prevent a further easing in interest rates. The primary liquidity ratio was increased from 10% to 12% with effect from the November bank reporting date. This represents an increase of about £100m in the bank's legal obligation. In addition, the Central Bank has engaged in currency swaps with some banks which have taken funds out of the system. It is not possible, however, to quantify this.

Since August the gilt market has become preoccupied with the extent of this year's budget over-run and the implications for the level of funding in 1981.

Developments in international markets such as the rise in US prime rates and the sharp setback in the Treasury bond market together with the difficulties of monetary control in the UK have also been a cause of concern. It is doubtful that the authorities have achieved significant net funding in the last four months of the year. Some confirmation of this may be taken from the rundown in the Government's position at the Central Bank amounting to £232m over September and October. Faced with an actual out-turn for the Exchequer Borrowing Requirement in 1980 of £1217m and the prospect of a very large borrowing requirement in 1981, the gilt market has retreated and long gilt yields are now about 15.75% per annum.

Conclusions

Clearly, the break in the parity link with sterling and the Irish pound's participation in the EMS regime, marked a watershed. The manner of Exchequer financing and the associated changes in domestic bank liquidity became important influences on Irish interest rates.

The experience to date suggests some conclusions and a few questions about policy.

Public sector external financing has come to play a very significant part in recent years in financing not only the Exchequer deficit but also the trade deficit. As discussed earlier, foreign borrowing in 1975 and 1976 appeared to have little economic rationale as it was not required to finance the trade deficit and was applied mainly to build up balances at the Central Bank which were rundown a couple of years later.

In 1979 the strong growth in credit and a doubling of our oil import bill, combined to create a very large balance of payments deficit. In addition, the fear of currency exposure prompted the private sector to refinance out of sterling borrowings into Irish pounds.

Foreign currency borrowing by the public sector in the region of £500m was not enough to offset these pressures on the official external reserves and they fell by 22%. However, it did play an important role in preventing a more serious collapse in external reserves. It therefore served to mitigate the liquidity squeeze and the consequent rise in interest rates.

In 1980, although complete data are not yet available, it appears that there has again been very substantial foreign borrowing by the public sector, including the semi-state bodies, which has caused a marked improvement in our official external reserves. Because the favourable effects on bank liquidity were not fully offset by the actions of the Central Bank, interest rates have fallen in consequence.

Domestic interest rates have, therefore, been lower over the last two years than they would have been had the public sector's credit demands been met from indigenous sources. But the consequences have been a very sharp rise in the net external liability of the public sector and continuing imbalances on Exchequer and trade account.

The contribution of the Central Bank to Exchequer financing over the last two years has been significant. In 1979, the Government's position at the Central Bank was rundown by £180m in the first half and by £112m in the full year.

Fluctuations in the Government's position at the Central Bank are tolerable. But when a trend emerges as in the last three years when Government net indebtedness to the Central Bank has risen steadily, there may be a question about the appropriateness of this type of Exchequer financing. Because it seems to be subject to few constraints, there is a danger that the Exchequer could come to rely on it too heavily.

The level of monetary financing has been very high over the past few years and this has implications for money supply growth which may be inappropriate to our circumstances as a participant in the European Monetary System.

Non-monetary financing, which is mainly funding through the gilt market, has proceeded fitfully and totally independently of the pattern of Exchequer spending. The bulk of net gilt sales has been concentrated in relatively short periods as in June and November 1979 and March-July 1980. Government balances at the Central Bank are run down when gilt sales are low and money market conditions tend to be easier than they otherwise would be. There is a corresponding tightening when gilt sales resume and Government balances are rebuilt. Arguably this complicates monetary control.

A more consistent level of gilt funding could be achieved by a system of regular gilt auctions. This might be better suited to co-ordinating monetary and fiscal policy but it would involve a review of the authorities' role as market-maker.