

**Recent Trends in Monetary Policy:
Some Further Considerations**

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RECENT TRENDS IN MONETARY POLICY: SOME FURTHER CONSIDERATIONS

by

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Introduction

A recent paper by Kelleher (1) undertakes three tasks:

1. To outline a framework for monetary policy which links both public and private sector credit creation.
2. To examine recent monetary experience.
3. To provide an outline of the role of fiscal policy in facilitating monetary stability.

This paper examines each of these areas in the light of the author's findings.

A Framework for Monetary Policy

Despite the central position which the monetarist/fiscalist debate occupies in macroeconomic literature, an operational outline of the manner in which fiscal policy contributes to monetary formation in Ireland has been noticeably absent. The publication, by Kelleher, of a definition of monetary (M3) growth which explicitly incorporates Government borrowing is therefore greatly welcome. The classification of the counterparts of monetary growth by Kelleher, however, differ in some important respects from alternative presentations. These differences are highlighted beneath. Table 1 presents the incremental consolidated balance sheet for the banking system, 1976-1979. It contains two alternative measures of Balance of Payments disequilibrium or foreign exchange market pressure. Official External Reserves adjusted for allocations of SDRs (item A4-L7) corresponds closely to the Official Settlements concept of the Balance of Payments and "focuses attention on the balance of transactions which the monetary authorities undertake to influence the exchange rate" (2). Official External Reserves adjusted for SDR allocations plus the Net External Assets

**TABLE 1: Incremental Balance Sheet of the Consolidated Banking System
— December to December, 1976-1979**

	£ million			
	1976	1977	1978	1979
<i>Liabilities</i>				
L.1 Currency	49.4	47.2	79.4	120.5
L.2 Current Accounts	63	144.9	163.5	7.5
L.3 Deposit Accounts	237.7	265.6	691.6	666.5
L.4 Government Deposits	97	64.5	-103.7	-16.6
of which: L4A Departmental Funds*	67.5	51	-165	-21
L4B Other Government Deposits	29.5	13.5	62	4.4
L.5 Net External Liabilities of Commercial Banks	93.3	264.7	-4.5	24.8
L.6 Acceptance Liabilities	-13.9	14.6	0.3	-7.7
L.7 S.D.R. Allocation	0.0	0.0	0.0	10.3
L.8 Capital and Reserves	134.8	81.0	48.9	76.7
L.9 Other Liabilities	90.5	79.4	104.5	72.7
Total:	751.8	961.9	980.0	954.7
<i>Assets</i>				
A.1 Non-Government Lending	410.7	445.4	817.2	999.7
A.2 Acceptance Credit	-20.2	106.1	18.5	-124.4
A.3 Government Lending	59.3	159.3	73.2	201.6
A.4 Official External Reserves	279.5	245.2	51.2	-277.2
A.5 Premises	6.5	8.8	13.5	27.5
A.6 Other Assets	16.0	-2.9	6.4	127.5

Source: Central Bank Quarterly Bulletin 1980 (1) Table 22.

*Budgets 1977, 1978, 1979, 1980.

TABLE 2: Changes in the Money Supply and its counterparts 1976-1979

	£ million			
	1976	1977	1978	1979
<i>Liabilities</i>				
1. Money Supply (M3) (= L1 + L2 + L3)	350	458	935	795
<i>Assets</i>				
2. Private Sector Credit (A1 + A2 - L6)	404	537	835	883
3. Net Government Lending (A3 - L4)	-38	95	177	218
4. Net Non-Monetary Assets of banking system (= A5 + A6 - L8 - L9)	-203	-154	-134	6
5. Official External Reserves less SDR Allocation (= A4 - L7)	280	245	51	288
6. Net External Assets of Licensed Banks (= -L5)	-93	-265	+5	-25

Source: Table 1. All figures rounded.

TABLE 3: Changes in the Money Supply and Counterparts 1976-1979
(derived from Kelleher op cit.)

	£ million			
	1976	1977	1978	1979
<i>Liabilities</i>				
1. Money Supply (M3) (L1 + L2 + L3)	350	458	935	780
<i>Assets</i>				
2. Private Sector Credit (A1 + A2 - L6)	391	552	836	850
3. Government Borrowing Requirement less Sales of Debt to Non-Bank Public (A3 - L4A + L10)	315	308	558	779
4. Net Non-Monetary Assets of banking system (A4 + A6 - L8 - L9 - L4B)	219	182	192	93
5. Net External Assets of Public Authorities (A4 - L7 - L10)	-44	+45	-272	-736
6. Net External Assets of Licensed Banks (-L5)	-93	-265	+5	+20
Domestic Credit Expansion = 2 + 3				
External Finance = 5 + 6				
Public Authorities = Central Bank + Government				
L10 = Exchequer foreign borrowing				

Source: C.B.Q.B. Winter 1979. Budget 1976, 1977, 1978, 1979.

of the licensed banks (items A4-L7-L5) corresponds closely to the Balance of Non-Monetary Transactions concept. This broader measure is relevant when a country's Central Bank is capable of mobilizing the foreign exchange assets of commercial banks to mitigate the impact of payments imbalances on Official External Reserves. In such instances the latter alone convey an incomplete measure of the pressure to which the national currency is exposed in the foreign exchange market. Table 2 reorganises the consolidated balance sheet into changes in the money supply (Row 1) and its counterparts. These counterparts may be classified as domestic (Rows 2, 3 and 4) and external (Row 5+6). A decline in the external counterpart is generally taken as evidence of excessive credit expansion by the domestic banking system and impairs the banking system's capacity to support the exchange rate.

Kelleher's classification of the money supply and its counterparts, which differs in some important details of construction and interpretation from Table 2, is given in Table 3. It explicitly incorporates the contribution of the Government, through its Budgetary Policy, to Domestic Credit Expansion (DCE) and provides an alternative measure of exchange market pressure, namely, External Finance.

External Finance

The Government is consolidated with the banking system in respect of its 'monetary' transactions in Table 3 and the Government and Central Bank are jointly termed 'the Public Authorities'. Net foreign borrowing by the Exchequer is treated as an increase in the External *Monetary* Liabilities of Public Authorities. It is also a component of Domestic Credit Expansion (DCE) attributable to the Government. (The force of this treatment is to regard Exchequer borrowing as if the Central Bank incurred those borrowing from a foreign monetary authority and made domestic loans of equivalent value to the Exchequer.) The sum of the Net External Assets of the Public Authorities and the Licensed Banks is termed External Finance. This measure of exchange market pressure is used by Kelleher in preference to those already mentioned. It is a broader measure which embraces the foreign liabilities of the fiscal authority. It is also, however, subject to some reservations. First, exchange market pressure may, in part, be reflected by movements of the exchange rate itself. External Finance takes no account of such movements. Second, Balance of Payments disequilibrium concepts measure the value of transactions which can be regarded as "official financing", "compensating" or "accommodating" (Veil op cit). The inclusion of all Exchequer foreign borrowing in External Finance implies that all such borrowings have been undertaken for Balance of Payments purposes. It thereby fails to distinguish between 'autonomous' and 'compensating' official capital inflows. It is the latter which point to payments imbalance and indicate exchange market pressure. It is possible that net direct exchequer foreign borrowing provides a better measure of 'compensating' inflows. Third, External Finance treats official and private capital asymmetrically. The former are treated as external monetary liabilities (i.e. constituting a direct claim on Irish Reserves) while the latter are not. There appears to be little justification for this procedure other than to regard official capital inflows as 'non-productive'. It is doubtful that all official capital inflows can be made to bear this interpretation. Finally, an accurate measure of External Finance requires that both External Assets and Liabilities be valued at current exchange rates. The figure employed by Kelleher for net Exchequer foreign borrowing are taken from Budget tables and are valued at historical exchange rates.

The two previously mentioned measures of exchange market pressure treat all official capital inflows as 'autonomous'. External Finance treats all official capital inflows as 'accommodating'. Neither measure is precise. The former will (in a fixed exchange rate economy) understate exchange market pressure, the latter will overstate it. Unfortunately, the absence of widespread agreement on a method of distinguishing between both types of inflow suggests that all the alternative measures discussed are useful but biased.

The Government Contribution to DCE

The contribution of fiscal policy to monetary formation is given as

item 3 of Table 3 by Kelleher and is derived from Official Budget Statistics. Budget statistics cannot, however, be reconciled with official monetary statistics without certain modifications, as Table 4 illustrates. Column (a) contains revised updated statistics from the Central Bank Quarterly Bulletins. Column (b) contains provisional outturn statistics from Budget tables. Column (c) records the discrepancies between both series. These arise in part from inadequate recording and updating of Budget statistics. Official Budget statistics, for instance, understate gross Exchequer borrowing from the banking system in 1976 by £13m. The budget failed to record an Exchequer repayment of £11m to the Central Bank and understated Exchequer borrowing from the commercial banks by £24m. A second source of discrepancy arises principally from the use of different accounting conventions. Budget tables record departmental funds as the only Government deposits held with the banking system. Central Bank statistics indicate that 'other government deposits' are additionally held. For Exchequer purposes an expenditure is deemed to have taken place during the accounts period (financial year) in which it was sanctioned. When such expenditures are sanctioned, departmental funds held by the Exchequer at the Central Bank are debited and the Paymaster General's account is correspondingly credited to permit issue of payment. This is the principal account contained in 'Other Government Deposits'. No monetary effects arise until these balances in the Paymaster General's account are drawn down. If they are not fully drawn down in the financial year in which they were sanctioned the monetary effects of Exchequer financing are partly carried over to the next financial year. In these instances Budget statistics understate the size of Government deposits with the Banking System. A variety of other accounts, in addition to the Paymaster General's, are also classified as with 'Other Government Deposits'. These appear to contain extra-budgetary funds and to be relatively small. These also create a discrepancy between budgetary and monetary statistics for Government deposits with the banking system. The understatement of Government deposits with the banking system contained in Budget tables (£29m in 1976) has contributed to an overstatement of net bank lending to the Exchequer (£16m in 1976) in each of the four years 1976-1979. The amounts in general have been small except in 1978 when they were sizeable and resulted mainly from the large build-up of 'Other Government Deposits'. In that year the uptake of Government securities by the Associated Banks was about £100m below the amount indicated by the secondary ratio requirements due to tight bank liquidity. It is possible that this led to delays in the issue of Exchequer payments from the Postmaster General's account while alternative funding was being arranged.

Table 5 presents updated figures for Exchequer borrowing amended in the light of the above consideration. These amended Budget statistics are consistent with official monetary statistics. Items 2, 3, 4 and 5 are treated as final figures. Exchequer borrowing from the non-bank public (item 1) is determined residually via the Exchequer borrowing requirement identity. The amended figures for this item differ from those employed by Kelleher

TABLE 4: Net Government Borrowing from Domestic Banking System 1976-1979

	1976			1977			1978			1979		
	(a)	(b)	(c) = (a) - (b)	(a)	(b)	(c) = (a) - (b)	(a)	(b)	(c) = (a) - (b)	(a)	(b)	(c) = (a) - (b)
	Central Bank Data	Budget Data	Discrep- ancy	Central Bank Data	Budget Data	Discrep- ancy	Central Bank Data	Budget Data	Discrep- ancy	Central Bank Data	Budget Data	Discrep- ancy
1. Gross Borrowing from Banking System	59	46	13	159	154	5	73	67	6	202	204	-2
of which: Commercial Banks	70	46	24	154	154	-	67	67	-	103	104	-1
Central Bank	-11	-	-11	5	-	5	6	-	6	99	100	-1
2. Government Deposits with Banking System	97	68	29	64	51	14	-104	-165	61	-17	-21	4
of which: Departmental Funds	68	68	-	51	51	-	-165	-165	-	-21	-21	-
Other Government Deposits	29	-	29	13	-	14	61	-	61	4	-	4
3. = 1 - 2. Net Government Borrowing from Banking System	-38	-22	-16	95	103	-9	177	232	-55	219	225	-6

Source: (a) Central Bank Quarterly Bulletin 1980 (1). Tables 15 and 22.

(b) Budget 1977, 1978, 1979, 1980.

TABLE 5: Exchequer Borrowing 1976-1979 (Amended)

	£ million			
	1976	1977	1978	1979
1. Domestic Non-Bank Public*	218	238	234	327
2. Domestic Banking System (Gross)	59	159	73	202
3. Net Foreign Borrowing	297	199	338	485
4. Reduction in Departmental Funds**	-68	-51	+165	+21
5. (= 1 + 2 + 3 + 4) Exchequer Borrowing Requirement	506	545	810	1,009

*1 = 5 - (2 + 3 + 4) Includes miscellaneous borrowing.

**A minus sign denotes an increase in departmental funds.

Source: 2 - C.B.Q.B. 1980 (1) Table 22.

3 - C.B.Q.B. 1980 (1) Table 55; 1979 - Central Bank Estimate, p. 55 op cit.

4 - Budget 1977, 1978, 1979, 1980.

5 - Budget 1977, 1978, 1979, 1980.

TABLE 6: Changes in the Money Supply (M3) and its Counterparts 1976-1979

	£ million			
	1976	1977	1978	1979
<i>Liabilities</i>				
1. Money Supply (M3) (L1 + L2 + L3)	350	458	935	795
<i>Assets</i>				
2. Private Sector Credit (A1 + A2 - L6)	404	537	835	883
3. Government Monetary Financing* (A3 - L4 + L10)	259	294	515	678
4. Net Non-Monetary Assets of banking system (A5 - A6 - L8 - L9)	203	-154	-133	6
5. Net External Assets of Public Authorities (A4 - L7 - L10)	17	46	-287	-747
6. Net External Assets of Commercial Banks (-L5)	93	-265	+5	-25

*Government Monetary Financing = Government Borrowing Requirement less Exchequer Borrowing from the Domestic Non-Bank Public.

Source: Tables 2 and 5.

(see Table 1 op cit) and imply a resultant adjustment in the calculation of the Government's contribution DCE (item 3 Table 3), arising principally from the misclassification of 'Other Government Deposits' (item L4B Table 3). These adjustments to Table 3 are undertaken and presented in Table 6 which also benefits from the use of more recently updated monetary

TABLE 7: D.C.E. 1976-1979

D.C.E.			Government Contribution to D.C.E.			Non-Government Contribution to D.C.E.		
Year	£m	as a % of previous year's money supply (M3)	£m	as a % of previous year's money supply (M3)	as a % of DCE	£m	as a % of previous year's money supply (M3)	as a % of DCE
1976	663	27.1%	259	10.6%	39%	404	16.5%	61%
1977	831	29.7%	294	10.5%	35%	537	19.2%	65%
1978	1350	41.4%	515	15.8%	38%	835	25.6%	62%
1979	1561	37.3%	678	16.2%	43%	883	21.1%	57%

statistics. Table 6 and Table 2 are formally identical apart from the treatment of Exchequer Foreign Borrowing.

The money supply (in Tables 2 and 6) may be expressed as $M3 = R + D$ where R refers to the external counterpart (rows 5 + 6) and D refers to the domestic counterpart (rows = 2 + 3 + 4). The external counterpart in Kelleher's framework is External Finance. The domestic counterpart is $DCE - \Delta$ Net non-monetary assets. A decline in net non-monetary assets involves a withdrawal of money from current circulation by the banking system which must be deducted from DCE to obtain the domestic counterpart hereafter called Net Credit Expansion (NCE).

Combining the assumption of monetary equilibrium and a fixed exchange rate yields $\Delta R = \Delta M^d - \Delta D$ which suggests that any Net Credit Expansion in excess of the growth in money demand leads to a corresponding decline in External Finance. NCE and not DCE is the appropriate instrument in relation to External Finance.

Recent Monetary Experience

Table 7 gives the contribution of DCE to monetary growth with an analysis of the Government/non-Government shares in it.* The behaviour pattern of DCE and its constituents is broadly similar to that outlined by Kelleher (Table 2 op cit.) with the exception that both the Government contribution and (by implication) the contribution of DCE to monetary growth are overstated for each of the four years 1976-1979 by Kelleher.

Table 8 summarizes the contribution of the domestic/external counterparts to monetary growth over the same period. The percentage growth of NCE in each year was excessive as evidenced by the associated decline in External Finance. The 37.4% growth of NCE in 1978 was dramatic and was repeated in 1979. By contrast, the percentage growth of DCE was higher in each of the three years to 1978 due to the net acquisition of non-monetary liabilities by the banking system in each of those years. In 1979, however, net non-monetary liabilities remained virtually unchanged

*Government/non-Government shares in NCE are not readily available.

TABLE 8: Changes in the Money Supply (M3) and its Domestic Counterparts 1976-1979

Year	NCE		External Finance		ΔM3	
	£m	% of previous year's M3	£m	% of Previous year's M3	£m	% of previous year's M3
1976	460	+18.8	-110	-4.5	350	+14.3
1977	677	+24.2	-219	-7.8	458	+16.4
1978	1217	+37.4	-282	-8.7	935	+28.7
1979	1567	+37.4	-772	-18.4	795	+19.0

Source: Table 6.

Note: ΔM3 = NCE + External Finance.

due principally to the substantial growth of 'Other Assets' held by the banking system (item A 6 Table 1). The specific content of this item is not readily available but its growth in 1979 offset the slow-down in the growth of DCE and left the growth of NCE unchanged at its previous year's rate of 37.4%. If the growth of 'Other Assets' in 1979 stemmed directly from attempts to control DCE, then this factor needs to be considered in framing monetary controls or in setting a target for External Finance.

The deterioration in External Finance evidenced by Kelleher (Table 3 op cit.) is confirmed in Table 8. The very marked deterioration in 1979 may in fact understate exchange market pressure in that year. The break in the parity link with sterling allowed some exchange market pressure to be 'taken on the exchange rate', i.e. a depreciation against sterling. Further, if net direct Exchequer foreign borrowing were taken as a more appropriate measure of 'accommodating' capital inflows than net Exchequer foreign borrowing then the deterioration would be worse.* Net Exchequer foreign borrowing in 1979 was £459m, comprised of net direct borrowing of £509m and £50m net redemption of Government securities held by non-residents.

The Appropriate Level of Government Borrowing

Kelleher provides a useful illustration of how monetary targets might be operated in 1980 to achieve monetary stability. As noted earlier, the solution for External Finance may be expressed as $\Delta R = \Delta M^d - \Delta D$, i.e. the change in External Finance equals the difference between money demand growth and Net Credit Expansion. The zero change target for External Finance, i.e. $\Delta R = 0$, suggested by Kelleher for 1980, therefore requires that Net Credit Expansion be set equal to the growth in money demand, i.e. $\Delta D = \Delta M^d$. Since money demand is projected to grow by 18% in 1980 this implies a target Net Credit Expansion of £900m. This is divided between the constituents of Net Credit Expansion (i.e. Private Sector Credit + Govern-

*This would amount to taking L. 10 in Table 6 as Net Direct Exchequer Foreign borrowing.

ment Monetary Financing + Δ Net Non-Monetary assets of the banking system) as follows:— Net Non-Monetary assets are projected to decline £150m, implying a target Domestic Credit Expansion (DCE) of £1,050m. The amended Central Bank guidelines of 15% for Private Sector Credit imply a target increase of £640m, which leaves Government Monetary Financing determined residually at £410m. In addition, Exchequer borrowing from the non-bank domestic public is projected at £300m, which yields a target Government Borrowing Requirement of £710m.

While this policy experiment is extremely valuable in outlining the harmony required between monetary and fiscal actions necessary for (external) monetary stability, some difficulties, in addition to those raised by Kelleher, merit consideration.

The objective of monetary stability may prove conflict with internal stabilization objectives. The process of policy formation outlined by Kelleher involves an implicit ranking of policy objectives with the broad outlines of Budgetary policy being dictated by monetary policy. This ranking is not without its critics. In deciding on the desired feasible combination of policy objectives the advantages of reduced uncertainty associated with monetary stability should be measured against the difficulties posed for fiscal policy and incomes policy. Even if the E.M.S. participation pre-empts these considerations, some further difficulties lie in the path of successful policy implementation. We will consider problems associated with each element of the 'reserve' flow equation $\Delta R = \Delta M^d - \Delta D$ in turn.

External Finance ΔR

While the need to arrest the recent deterioration in External Finance is scarcely in doubt, the choice of specific target for External Finance, i.e. $\Delta R = 0$, taken as consistent with monetary stability is, of necessity, somewhat arbitrary. In view of its important implications for Budgetary policy, this is unfortunate. Furthermore, the target adopted could be achieved, in part at least, by semi-State bodies borrowing abroad directly in lieu of indirect foreign borrowing on their behalf by the Exchequer. Such a switch in the borrowing pattern could increase the net External Assets of 'the authorities' without alleviating the underlying exchange market pressures. If the definition of 'the authorities' were broadened to include semi-State bodies, currently ruled out by statistical considerations, the resultant target for External Finance might, subject to the nature of the External borrowings, prove more appropriate.

The Change in Money Demand ΔM^d

Abstracting from the above difficulty, the problem reduces to setting Net Credit Expansion equal to the growth in money demand. To do so requires, among other things, a stable, well defined demand for money function. The existence of such a function (for the U.K.) has recently been

questioned by the Governor of the Bank of England (3). Commenting on the very sharp fluctuations in the velocity of M3, he states, "the econometric equations, estimated earlier, neither forecast nor have since adequately explained this development" and surmises that their failure probably arises because wholesale deposits, one of the major constituents of M3, depends on relative interest rates rather than their average level. Furthermore, if an increase in average interest rates is associated with pressure on banks liquidity "the relative pattern of interest rates is liable to adjust adversely, leading to even faster growth in wholesale deposits, at least temporarily". This view is supported by Savage (4). The Governor also notes that the observed stability in the U.K., of the demand for narrow money, M1 "does not guarantee that the relationship would remain as stable under differing conditions, particularly if the authorities were to seek to control it more closely". These cautionary comments should be borne in mind in assessing the conclusions of Browne and O'Connell (5) that the demand for M3 in Ireland is stable. Also, forecasts of the demand for money are required in flow terms and these are noticeably less accurate than forecasts of the level of demand for money.

Finally, the Reduced Government Borrowing Requirement (£710m) may interact adversely with the demand for money. Any net contractionary effects on income arising from reduced Budget deficit necessitate a downward revision in the demand for money. This in turn (in contrast to Keynesian models which would imply an improvement in External Finance due to the associated reduction in import demand) implies, via the 'reserve' flow equation, a deterioration in External Finance.* With unchanged targets, this process is cumulative until arrested by a fall in domestic interest rates below foreign levels. This places a heavy adjustment burden on domestic interest rates since they may in part be governed by slowly yielding exchange rate expectations.

Net Credit Expansion NCE

The projected growth in the net non-monetary liabilities of the banking system (£150m) is arrived at summarily. The erratic behaviour of this item experienced in 1979 cautions against placing too much confidence in Kelleher's projection.

The division of the Domestic Credit Expansion target (£1,050m) does not present any significant operational difficulties in Kelleher's analysis since Private Sector Credit (£640m) is determined by the Central Bank and Government Monetary Financing (£410m) is determined residually. This division, however, carries no implications of optimality. The quantitative credit controls it necessitates imply, if they are to prove effective, rationing, allocate inefficiency and may prove destabilising for certain industries, i.e. construction. Even if the allocative criteria employed were deemed

*For a fuller elaboration of the differences between Keynesian and Monetarist modes of the Balance of Payments, see Johnson (6).

TABLE 9: Exchequer Borrowing; Budget Estimates and Provisional Outturns

	1976	1977	1978	1979
1. Budget Estimate of Expenditure	2300	2708	3158	3789
2. Budget Estimate of Revenue	1621	2135	2337	3010
3. (1-2) Budget Estimate of Exchequer Borrowing Requirement	679	573	821	779
4. Exchequer Borrowing Requirement; Provisional Outturn	506	545	810	1009
5. (Provisional) Forecast Error in Exchequer Borrowing Requirement	173	28	11	-230
6. Forecast Error as a % Expenditure Estimate	7.5	1	.35	6.1
7. Forecast Error as a % Revenue Estimate	10.7	1.3	.47	7.6
8. Forecast Error as % Exchequer Borrowing Requirement Estimate	25.5	4.9	1.34	29.5

Budgets 1976, 1977, 1978, 1979, 1980.

satisfactory, the possibility remains that the semi-State bodies may switch sectors and incur 'crowding out' of the Private Sector unintended by the monetary targets. As noted earlier, a Public Sector Borrowing Requirement (PSBR) target might be a useful improvement over the Government Borrowing Requirement.

The target Government Borrowing Requirement, even if unconstrained by incomes or domestic stabilization policy, might prove difficult to achieve. Government borrowing is the difference between two relatively large aggregates, Expenditure and Revenue. Relatively small forecasting errors in either, provided they are not offsetting, will result in relatively large forecasting errors in the Borrowing Requirement as Table 9 demonstrates. (For the U.K. the mean error of forecasts for PSBR has been of the order to £3 billion since 1974.) It is possible that the larger forecasting errors experienced in Ireland in 1976 and 1979 result from the political environment in which the forecasts were made and that the smaller forecasting errors experienced in 1977 and 1978 provide a more accurate assessment of the Government's capacity to meet a Borrowing Requirement target and, further, that emerging errors may be controlled by supplementary tax provisions. However, if monetary targets are to be subject, as elsewhere, to intra-annual review, the customary one year time frame adopted for fiscal policy may need to be shortened.

One component in the financing of the Borrowing Requirement, Exchequer borrowing from the Non-Bank Domestic Public which is dominated by gilt sales, may prove difficult to predict, "the effect of a change in short-term interest rates on gilt sales, and hence on the money

supply, tends to be highly unpredictable" (Savage op cit.). In 1977/78, gilt sales in the U.K. exceeded the PSBR. This difficulty occurs because the Government, to date, controls the price of gilts and market demand determines the uptake. If the Government instead controlled the quantity of gilts issued, then interest rates would become truly endogenous to the monetary sector and be governed, amongst other things, by exchange controls and exchange rate expectations. In addition to the implications of this for 'crowding out', some difficulties may remain in the division of purchases of gilts between the domestic and foreign public.

Finally, DCE as a measure of monetary ease or stringency may be subject to distortions. This may arise from financial dis-intermediation (from the banking system) offsetting movements in the money supply or from changes in the monetary environment or in the collection process for official monetary statistics, as noted in a recent Central Bank Annual Report (7). An instance of this is the change in M3 for 1978, which is given as £860m in the 1979 Central Bank Annual Report and was subsequently revised up to £935m in the Winter report of the same year. The money supply had grown by 2.3% more than initial statistics suggested.

Conclusions

Kelleher's framework is extremely valuable in identifying the harmony required between monetary and fiscal actions necessary for monetary stability. It presupposes that this is best measured by External Finance. The implicit policy mix required by an External Finance target requires more detailed consideration as does the sectoral impacts of the credit rationing which it necessitates. Furthermore, monetary targets are not subject to 'fine tuning' and may be overtaxed if forced to bear the entire burden of short run economic policy. These difficulties notwithstanding, the value of medium term monetary targets is not in doubt. The ease and simplicity which is sometimes claimed for their calculation and implementation is.

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