Survey of Sources of Monetary Supplies in Ireland

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I

In recent years many countries have enlarged or are enlarging national income statistics by the inclusion of financial accounts which aim at providing a quantitative framework for a monetary analysis of income formation in addition to the "real" analysis on the Keynesian model These accounts are of two kinds, namely, (1) surveys of changes in the supply of money, and (2) flow-of-funds series The basis for the application of the former to income analysis is the familiar equation between gross national income and the supply of money multiplied by its income-velocity while the flow-of-fund approach is basically an extension of the Keynesian analysis, that is to say, it aims at a monetary explanation of the strategic variables in that analysis—savings and investment

Ireland is a late starter in this field of monetary analysis Indeed, it is probably an exaggeration to say that a start has been made Various calculations are, it is true, made from time to time in Government departments, in the Central Bank or in the Central Statistics Office of such aggregates as surpluses of income, finance and liquidity in the sense in which they are defined in the more refined flow-of-fund series but these calculations have not been organised for the purposes of monetary analysis Judging by developments in other countries the survey of changes in the supply of money is the first step in the building-up of financial accounts The purpose of this paper is to suggest a beginning in that direction Although the wider question of the relevance of surveys of this kind to the analysis of income formation is briefly referred to in the closing pages, the paper is necessarily concerned mainly with an exposition of the proposed survey of changes in monetary supplies in conditions obtaining in this country

II

Definition of "money"

In accordance with modern international usage, money is defined in terms of currency and current account holdings As may be seen from Table I in the Appendix this definition suits the purpose of a monetary

analysis of income formation in this country particularly well in view of the quite remarkable stability of the ratio of money, defined in this sense, to national income

The difference between the two monetary forms is simply one of habit both are demand liabilities of the banking system The holder of a currency note, like the owner of a balance on current account, has a credit in a bank—in the first case in the Central Bank, in the second in a commercial bank Both types of credit are immediately available and generally acceptable in settlement of debts by the same process of a direct transfer of the claim on the banking system The transfer of a current account claim by a cheque is similar to its encashment which puts paper currency into circulation The transfer of cheques, assisted by the clearing arrangements among the banks, therefore, leads to a circulation of current account money which is, indeed, greater than the circulation of currency

Deposit account holdings are different They are not required to be immediately available but are placed on a time basis, and accordingly (unlike credits on current account) earn interest Credits on deposit accounts are, for this reason, treated as savings, i e , a withdrawal of money from current circulation The decision as to whether a given credit is spendable cash (on current account) or saving (on deposit account) depends, it is true, on the depositor whose original intention may well be modified, especially as the banks in general do not insist on any notice regarding encashment of deposits Unlike currency or current account money, however, deposit holdings do not circulate and, before they are used for payment, they are either converted into currency or are credited to a current account By and large, therefore, the treatment of current account holdings as spendable cash and of credits on deposit account as savings is good enough for the purpose of the survey.

Although deposit holdings are excluded from the "supply of money" they are, of course, an important part of liquid holdings whose monetary significance is emphasised by their frequent description as "near-money" They are, therefore, included in a supplementary survey of overall liquidity

In calculating the "supply of money" proper as well as overall liquidity, only the amounts belonging to the public, i e , outside the banking system and the government, are generally included Having regard to the fact, however, that in this country a commercial bank is the Government's banker it was decided not to omit government current and deposit accounts Moreover, owing to statistical difficulties, no adjustment in the "money supply" has been made either in respect of currency held by the commercial banks or in respect of current accounts representing items in transit With regard to liquid holdings, the avail-

able data permit a breakdown of the total among amounts held by the public within the State, by banks, by Departmental Funds and by holders abroad At this exploratory stage of the survey, overall liquidity comprises in addition to short-term claims on the Government (exchequer bills, prize bonds and savings certificates) only deposits at the Associated Banks and at the Post Office Savings Bank including Trustee Savings Banks Insurance savings and deposits at Building Societies are excluded

Sources of money

The principal initial sources of additional supplies of money are domestic bank credit creation (by way of bills, loans, advances and investments) external income and external capital inflows while external payments and capital outflows constitute the main reductions The statistical information reflecting these developments is contained in the country's balance of payments statement and in the balance sheets of the banking system

The initial influence of external payments and receipts on the internal supply of money is measured by the change in external monetary reserves which is equal to the difference between receipts from sales abroad of goods and services and external capital inflows on the one hand and, on the other, payments abroad for purchases of goods and services and external capital outflows With external capital movements netted, this influence during 1961 was as follows

BALANCE OF PAYMENTS 1961 (£ MILLION)

Change in external holdings		External payments and receipts	
Associated Banks	+7 8		
Central Bank	+6 8	Exports of goods and services	+290 8
		Capital inflows (net)	+13 4
Post Office Savings Fund and Savings Certificates' Reserves	+0 1		
			+304 2
		Imports of goods and services	—289 5
Other Exchequer Reserves	—		
	+14 7		+14 7

It should be noted that, at this stage, only the initial influence of external monetary transactions on the internal supplies of money is considered While it is self-evident that for each monetary payment from abroad there is a corresponding receipt at home, that receipt may eventually take the form of currency or of a credit on current account or of a savings deposit It may also be directly invested abroad and join the capital flows The counterpart in the several categories of

external monetary reserves to a given payment from abroad which is retained at home cannot, therefore, be always decided by reference to that payment The important thing to note is that the payment is included in the aggregate of these reserves

A few concrete examples may make the point clearer In the case of a payment from abroad in British currency exchanged for Irish currency at a commercial bank, that bank acquires a claim on the Bank of England which, if redeemed directly through the bank's agent in Britain, will lead to an increase in its credit balance with the agent Per contra, the Irish commercial bank will have reduced its holding of Irish legal tender which will be in due course replenished by a transfer of an external balance to the Central Bank Thus, eventually, a payment from abroad which is converted to and retained in Irish legal tender currency leads to a pro tanto increase in the external holdings of the Central Bank If the payment from abroad is in the form of a cheque drawn on an external bank lodged to the credit of the payee's current or deposit account at an Irish bank, that bank acquires a corresponding internal liability offset by an equivalent external asset

In addition to changes in the several categories of the monetary reserves resulting from developments in external payments and receipts, there are movements within the aggregate of these reserves due to internal transactions Rediscounting of exchequer bills, which is of growing importance, represents a transfer of external assets from the Central Bank to the Associated Banks A similar transfer takes place when the Minister for Finance draws on his balances at the Central Bank (e g counterpart funds) because, as noted earlier, a commercial bank is the Government's banker That increase in external reserves at the commercial banks is offset by a similar increase in the credit on the government current or deposit account It should also be noted that the figures relating to external monetary reserves are affected by revaluations which have no corresponding actual payments or receipts and hence no direct influence on the internal supply of money Finally the Central Bank acquires certain internal assets—for instance, in respect of the payment of subscriptions on behalf of the Government to the International Monetary Fund—which, clearly, by-pass the internal supply of money

The following table gives details of the external monetary reserves since 1954 The numbers in the bottom line of the heading to the table refer to the columns in the "survey of the sources of monetary supplies" given in the appendix *

*Similarly in all the tables throughout the text All the tables are in two parts The first (upper) giving the absolute balance sheet figures, the second (lower) the changes during the respective years It is, of course, the second (lower) part which relates to the factors increasing or decreasing the current supply of money

EXTERNAL MONETARY RESERVES
£ million

Date		Associated Banks	Central Bank	Departmental Funds	TOTAL
		13	14	15	16
December	1954	121 3	86 6	37 1	245 0
	1955	85 7	80 2	31 8	197 7
	1956	88 4	77 3	17 3	183 0
	1957	90 5	85 9	13 5	189 9
	1958	104 9	87 3	13 6	205 8
	1959	103 5	86 8	19 9	210 2
	1960	103 6	89 2	17 1	209 9
	1961	111 4	95 9	17 2	224 5
	1962	115 1	104 3	14 6	234 0
Change during	1955	−35 6	−6 4	− 5 3	−47 3
	1956	+ 2 7	−2 9	−14 5	−14 7
	1957	+ 2 1	+8 6	− 3 8	+ 6 9
	1958	+14 4	+1 4	+ 0 1	+15 9
	1959	− 1 4	−0 5	+ 6 3	+ 4 4
	1960	+ 0 1	+2 4	− 2 8	− 0 3
	1961	+ 7 8	+6 7	+ 0 1	+14 6
	1962	+ 3 7	+8 4	− 2 6	+ 9 5

Domestic creation of credit by way of bills, loans, advances and investments is likewise only an initial source of additional supply of money That this is so is perhaps best illustrated by the fact that an increase in credit may, and frequently does, lead to a reduction in monetary reserves rather than to an increase of money in the sense of internal currency circulation and current accounts Indeed the main purpose of this paper is to present statistically the relationship between the initial sources of monetary supplies and the actual supplies of money which appear to move in line with developments in national income *

Balance-sheet "explanation"

The items to be "explained" are the constituents of money as earlier defined, namely, credits on current accounts and currency circulation Both these items appear as liabilities of the banking system and, since the two sides of a balance-sheet are equal, can be interpreted in terms of the remaining liabilities and all the assets of the system Among the latter are included the external monetary reserves, referred to above, except external holdings in the Departmental Funds which will be briefly analysed also

At this point it may be felt that the "explanation" concerns itself with a triviality, a self-evident mathematical identity It should not, however,

*The survey is based on balance sheet statements relating to specific points of time, it does not purport to be a record of all the transactions that are daily taking place but merely a record of their effect, at certain successive dates, on the size and distribution of assets and liabilities of the banking system

be forgotten that the whole structure of national income statistics rests on a similar self-evident identity between national product on the one hand and the total of consumption and investment (including the balance on external payments) on the other Both monetary surveys and national income accounts are therefore essentially balance-sheet explanations, the purpose of which is to bring into focus, in a complicated reality, the elements that seem the most important * Leaving aside for the present the wider question of the relevance of these explanations to the analysis of income formation, the proposed survey will, it is hoped, contribute to a better understanding of the function of the banking system regarding the supply of money and, more significantly perhaps, regarding the means of that supply

The essential characteristic of money, on which the survey is based, is that it is a liability of the banking system The essential characteristic of the banking system, in turn, is its power to undertake obligations constituting money The survey, therefore, apart from being an aggregation and re-classification of the assets and liabilities of that system, provides a factual background for an examination of its economic role which is to ensure an adequate supply of money The power to undertake monetary liabilities depends on the capacity to honour the corresponding obligations For the Central Bank this power is limited by the statutory obligation to maintain full convertibility of its notes at par with sterling In the case of the commercial banks, the monetary obligation is of two kinds—to provide either external funds for payments abroad or legal tender currency which the banks purchase with external balances The banks' power to undertake monetary liabilities depends therefore on adequate holdings of external assets In addition to revealing the causal interrelation between these assets and internal monetary supplies, the survey shows the extent to which it is possible to influence the supply of money by means of commercial bank credit Moreover, together with the exchequer account, the survey gives some precision to short-term government debt

For these purposes, the various assets and liabilities of the banking system are added together and regrouped into fairly homogeneous aggregates, the movements of which give an indication of the origins of monetary supplies Up to a point, these movements show also the factors influencing the demand for money However, it is possible to identify, with any accuracy, the sectors to which the additional monetary supplies actually flow, only as regards current account money Currency circulation is assumed to be entirely in the hands of the public

*Cf Richard Stone "A system of social accounting is a practical means of describing what is taking place in an economic system *insofar as this can be expressed in terms of transactions between a set of accounts drawn up on the double-entry principle*" (italics mine) Income and Wealth, Series I, Bowes & Bowes, Cambridge

Current account money

The following is the consolidated balance sheet of the Associated Banks "within the State" as at 31st December, 1962 (1)

Liabilities	£000	%]	Assets	£000	%]
Capital paid up	5,622	1 3	Cash	42,454	9 8
Reserve & Undivided Profits	7,910	1 8	Bills		
			(*a*) Government	6,222	1 4
Notes in Circulation	297	0 1	(*b*) Other	6,765	1 6
Current Accounts					
(*a*) Government	5,584	1 3	Loans and Advances	218,653	50 7
(*b*) Other	155,319	36 0	Investments		
Deposit Accounts			(*a*) Government	18,634	4 3
(*a*) Government	1,195	0 3	(*b*) Other	11,486	2 7
(*b*) Other	241,160	56 0	Premises	4,515	1 0
Acceptances	2,155	0 5	Liability of Customers for acceptances	2,155	0 5
Other Liabilities	11,803	2 7	Other Assets "within the State"	5,031	1 3
			External Holdings (net)	115,130	26 7
Total	431,045	100 0	Total	431,045	100 0

As may be seen, current and deposit accounts make up the bulk—93 6 per cent of the total liabilities On the assets side, domestic credit by way of bills, loans, advances and investments and external holdings account in the aggregate for 87 4 per cent of the total Therefore, although a full "explanation" of any one item would have to be given in terms of all the other remaining items, no serious departure from absolute reality is caused by restricting the balance-sheet specifically to current and deposit accounts on the one hand, and to credit creation and external assets on the other, with the remaining entries shown as a balance —

Consolidated Balance Sheet of the Associated Banks "within the State" as at 31st December, 1962 (2)
(£000)

Liabilities		Assets	
Current Accounts		Bills	
(*a*) Government	5,584	(*a*) Government	6,222
(*b*) Other	155,319	(*b*) Other	6,765
Deposits Accounts		Loans and Advances	218,653
(*a*) Government	1,195	Investments	
(*b*) Other	241,160	(*a*) Government	18,634
		(*b*) Other	11,486
		Other Domestic Assets (net)	26,368
		External Holdings	115,130
Total	403,258	Total	403,258

The assets side indicates the main ways in which credits on current or deposit account arise Bills, loans, advances and investments are all forms of lending, the proceeds of which constitute the credit In the case of external holdings, the credits arise through lodgments of cheques drawn on banks abroad or of foreign currency Credits may also be created by paying in a corresponding amount of internal currency over the counter The credit in this case offsets the amount of currency withdrawn from circulation and kept in the bank ("cash" included in "other domestic assets, net") The purchase by a bank of premises or of equipment may also give rise to a credit on current or deposit account

With special regard to the balancing item "other domestic assets (net)" it may be noted that it represents entries which, apart from accounting for relatively small amounts individually, are fairly stable over time, except cash which includes deposits at the Central Bank The latter have been rising in recent years To this extent the increase in cash may be treated as an understatement of external assets which reappear in the external holdings of the Central Bank Acceptances are contra-entries and cancel themselves out To the extent that they are discounted abroad, their influence on external supplies of money is via movements of external assets Changes in external assets arising out of revaluations are offset by corresponding changes in internal liabilities (reserves)

The "explanation" of the principal supply of money, namely, credits on current accounts at the Associated Banks, may, therefore, be summed up in the following equation —

Current Accounts = Bills, Loans, Advances and Investments plus external holdings plus other domestic assets (net) less deposit accounts

The aggregate balance sheet of the Associated Banks, rearranged in accordance with this explanation, is given on opposite page

Currency

The second constituent of the supply of money, namely, note and coin currency, is a liability of the Central Bank whose balance sheet for the purpose of the survey may be summed up on opposite page

Agency accounts comprise the outstanding amounts kept on behalf of the Minister for Finance relating to proceeds from the American Loan and Grant and balances appertaining to the International Monetary Fund and the International Bank for Reconstruction and Development

The influence of Central Bank operations on the internal supply of money is best illustrated by way of concrete examples with an explanation of the way they are recorded in the survey.

BALANCE-SHEET "EXPLANATION" OF CURRENT-ACCOUNT MONEY
£ million

Date	Domestic Credit (bills, loans, advances & investments) (A)	Time Deposits (B)	Surplus of Domestic Credit (C)=(A-B)	Other Internal Assets (net) (D)	Net External Assets (E)	Current Account Money (F)=(C+D+E)
	4	8	12	17	13	28
Dec 1954	164 0	188 5	−24 5	18 6	121 3	115 4
1955	195 3	183 4	11 9	9 7	85 7	107 3
1956	195 5	182 6	12 9	9 0	88 4	110 3
1957	202 8	190 2	12 6	13 2	90 5	116 3
1958	200 6	197 8	2 8	16 8	104 9	124 5
1959	212 3	201 9	10 4	15 4	103 5	129 3
1960	227 4	210 7	16 7	18 3	103 6	138 6
1961	242 0	226 2	15 8	20 7	111 4	147 9
1962	261 8	242 4	19 4	26 4	115 1	160 9
Change during						
1955	+31 3	− 5 1	+36 4	−8 9	−35 6	− 8 1
1956	+ 0 2	− 0 8	+ 1 0	−0 7	+ 2 7	+ 3 0
1957	+ 7 3	+ 7 6	− 0 3	+4 2	+ 2 1	+ 6 0
1958	− 2 2	+ 7 6	− 9 8	+3 6	+14 4	+ 8 2
1959	+11 7	+ 4 1	+ 7 6	−1 4	− 1 4	+ 4 8
1960	+15 1	+ 8 8	+ 6 3	+2 9	+ 0 1	+ 9 3
1961	+14 6	+15 5	− 0 9	+2 4	+ 7 8	+ 9 3
1962	+19 8	+16 2	+ 3 6	+5 7	+ 3 7	+13 0

CENTRAL BANK, DECEMBER 1962
(£ thousand)

LIABILITIES		ASSETS	
Currency circulation		External holdings	104,332
Legal tender 91,180			
Consolidated Bank Notes 208		Bills re-discounted and other internal assets	15,190
Coin 4,174			
	95,562		
Clearing and deposit accounts of Associated Banks	8,124		
Agency Accounts	488		
Reserve & Surplus Income	15,220		
Other Liabilities (net)	128		
TOTAL	£119,522	TOTAL	£119,522

Example 1

Lodgments at Associated Banks of cheques drawn on extern banks rose by £10 million resulting in a corresponding increase in credits on current account and in external holdings

ASSOCIATED BANKS

(*a*) Liabilities	Assets
current accounts + £10 million	external holdings + £10 million

The banks lodge £3 million at the Central Bank

ASSOCIATED BANKS

(*b*) Liabilities	Assets
current accounts + £10 million	deposit at the Central Bank (cash) + £3 million external holdings + £7 million

CENTRAL BANK

(*c*) Liabilities	Assets
commercial banks' deposits + £3 million	external holdings + £3 million

The increase in internal credit of £10 million, corresponding to the rise in external assets, was *fully* recorded in the balance sheet of the commercial banks as in (*b*) above In the survey, the relevant entries for "sources of the supply of money" are in Columns 13—net external assets of Associated Banks (£7 million) and 17—other internal assets of Associated Banks (£3 million) The sum of £3 million is, however, shown also in Column 14—external assets of the Central Bank Therefore that part of the external holdings in the Central Bank, which arises out of deposits by commercial banks, appears in Column 21 among "factors operating to decrease the supply of money".

Example 2

The Minister for Finance draws £3 million from the Counterpart Fund Account and places this sum to the credit on the government current account at Bank of Ireland (an Associated Bank)

CENTRAL BANK

(*a*) Liabilities	Assets
counterpart fund — £3 million	external holdings — £3 million

ASSOCIATED BANKS

(*b*) Liabilities	Assets
government current accounts +£3 million	external holdings +£3 million

In the survey this transaction is recorded as an increase in Columns 28 (current account money) and 13 (external assets of Associated Banks) and as a reduction in Column 14 (external assets of the Central Bank) and in Column 22 (other liabilities of the Central Bank) In other words the survey records (1) the internal shift of external assets leaving the total unaffected and (2) the monetisation of an internal deposit at the Central Bank, the decrease of the liability of the Central Bank being recorded as a reduction of "factors operating to decrease the supply of money"

Example 3

Legal tender currency outstanding increased by £2 million

CENTRAL BANK

(*a*) Liabilities	Assets
legal tender currency outstanding +£2 million	external holdings +£2 million

The Central Bank pays, on behalf of the Minister for Finance, £2 million to the International Monetary Fund and accepts an Irish Government's security to that amount

CENTRAL BANK

(*b*) Liabilities	Assets
legal tender notes outstanding +£2 million	external holdings +£2 million external holdings — £2 million internal assets +£2 million

In consequence of the changes on the assets side, the increase in currency recorded in Column 27 is not reflected in the external assets of

the Central Bank (Column 14) Instead, the increase in the internal assets at the Central Bank is recorded in Column 18 as a "factor operating to increase the supply of money"

Example 4

The Minister for Finance places to the credit of the government current account the proceeds of an issue of Irish exchequer bills to the Associated Banks to the amount of £5 million

ASSOCIATED BANKS

(*a*) Liabilities	Assets
government current account + £5 million	government securities + £5 million

The Associated Banks rediscount the bills at the Central Bank which pays by a draft on its external balance

ASSOCIATED BANKS

(*b*) Liabilities	Assets
government current account + £5 million	external holdings + £5 million

CENTRAL BANK

(*c*)	Assets
	external holdings − £5 million
	internal assets + £5 million

In the survey this transaction is recorded as an increase in Columns 28 (current account money) 13 (external assets of the Associated Banks) and 18 (internal assets of the Central Bank) and as a decrease in Column 14 (external assets of the Central Bank) In other words, the shift in external assets left the total unaffected but a monetisation of government debt ("other factors operating to increase the supply of money") led to an augmentation of the internal supply of money

After the preliminary examples, illustrating the treatment of transactions through the Central Bank, the "explanation" of movements in currency circulation is easily described in the following equation

currency circulation = external holdings plus rediscounts and other internal assets less Associated Banks' deposits and other liabilities

The following table gives the actual figures arranged in this fashion

Balance sheet "explanation" of currency

CENTRAL BANK
£ million

Date	External Assets	Rediscounts & other Internal Assets	Total ASSETS (=Liabilities)	Associated Banks' Deposits	Other Liabilities	CURRENCY
	A	B	C=A+B=D+E+F	D	E	F=C−D−E
	14	18		21	22	27
December						
1954	86 6	4 1	90 7	1 3	11 0	78 4
1955	80 2	8 1	88 3	0 6	8 5	79 2
1956	77 3	10 4	87 7	0 6	9 1	78 0
1957	85 9	7 0	92 9	0 6	10 0	82 3
1958	87 3	6 6	93 9	4 5	9 0	80 4
1959	86 8	8 0	94 8	3 9	11 2	79 7
1960	89 2	10 9	100 1	4 7	11 3	84 1
1961	95 9	11 5	107 4	5 3	12 0	90 1
1962	104 3	15 2	119 5	8 4	15 6	95 5
Change during						
1955	−6 4	+4 0	− 2 4	−0 7	−2 5	+0 8
1956	−2 9	+2 3	− 0 6	—	+0 6	−1 2
1957	+8 6	−3 4	+ 5 2	—	+0 9	+4 3
1958	+1 4	−0 4	+ 1 0	+3 9	−1 0	−1 9
1959	−0 5	+1 4	+ 0 9	−0 6	+2 2	−0 7
1960	+2 4	+2 9	+ 5 3	+0 8	+0 1	+4 4
1961	+6 7	+0 6	+ 7 3	+0 6	+0 7	+6 0
1962	+8 4	+3 7	+12 1	+3 1	+3 6	+5 4

Government short-term-debt operations

Although the accounts of the banking system are sufficient to "explain" changes in current account money and currency circulation, to ensure consistency with the balance of external payments it is necessary to bring into the survey the external holdings of the Departmental Funds These can be divided into two categories, namely (1) reserves against liability to depositors in the Post Office Savings Bank and to holders of Savings Certificates, and (2) other exchequer reserves, e.g. in the Social Insurance Fund and Sinking Funds For the purpose of the survey, external holdings included in the first category are treated as external reserves kept in the exchequer against all short-term government debt to the public while those in the second category are treated as a straightforward withdrawal of money from

current circulation, i e as a "factor operating to decrease the supply of money" In December 1962, external reserves against short-term government liabilities to the public and other exchequer reserves amounted to £13 0 million and £1 6 million, respectively The total balance sheet with regard to the former may be summed up as follows —

SHORT-TERM GOVERNMENT DEBT TO THE PUBLIC DECEMBER, 1962
£ million

External holdings	13 0	Deposits at the Post Office Savings Bank	114 7
Amounts transferred to the Exchequer	175 2	Savings Certificates	35 6
		Prize Bonds	21 1
		Exchequer Bills issued to the public	
		a) Within the State 9 3	
		b) Elsewhere 7 5	
			16 8
TOTAL	188 2	TOTAL	188 2

It is to be noted that some of the figures are in the nature of estimates The figures assume that deposits at the Post Office Savings Bank not retained in external reserves are automatically transferred to the exchequer either as a ways-and-means advance or a purchase of exchequer bills (not included in the figure relating to exchequer bills issued to the public) Estimates of external holdings of short-term government debt have been made only regarding exchequer bills

As may be seen from the following table, the inclusion in the survey of the external holdings in Departmental Funds and of government short-term-debt operations does not affect the total "supply of money" The main influence of these factors is reflected in the formation of monetary savings by the public, on the one hand, and their re-introduction, through the exchequer, into current circulation, on the other Thus taking the change in the figures for December 1955 and 1956—when there was no issue of prize bonds and of exchequer bills to the public—the total money withdrawn from current circulation by way of deposits at the Post Office Savings Bank and of holdings of savings certificates amounted to £4 5 million Of the external reserves held in the Post Office Savings Bank and in the Savings Certificates Reserve Fund, £11 2 million were sold The withdrawals from current circulation by way of savings and the proceeds from the sale of external holdings were advanced to the exchequer, i e were placed to the credit of the government current account In addition, £3 3 million of external holdings in other Departmental Funds were sold and the proceeds advanced to the exchequer

During 1962, the change in external holdings, a reduction of £2 6 million, relates entirely to external reserves against liability to depositors at the Post Office Savings Bank and to holders of savings certificates In addition, current monetary savings in the form of claims on the Government rose by £11 8 million Assuming that the total, i e £14 4 million, was advanced to the exchequer, current monetary supplies increased by £2 6 million more than current monetary savings re-introduced through the exchequer

THE INFLUENCE OF GOVERNMENT SHORT-TERM-DEBT OPERATIONS ON THE SUPPLY OF MONEY

£ million

Date	Factors operating to increase the supply of money			Factors operating to decrease the supply of money						
	External Holdings of Departmental Funds	Short-term Govt Debt transferred to the Exchequer	Total	Deposits at the Post Office Savings Bank	Savings Certificates	Prize Bonds	Exchequer Bills*	Total short-term Public Claims on the Govt	Exchequer Reserves	Total
	15	19						23	24	
Dec										
1954	37 1	70 8	107 9	77 0	23 1	—	—	100 1	7 8	107 9
1955	31 8	81 6	113 4	82 2	23 9	—	—	106 1	7 3	113 4
1956	17 3	97 3	114 6	84 9	25 7	—	—	110 6	4 0	114 6
1957	13 5	113 9	127 4	87 8	27 0	7 7	2 6	125 1	2 3	127 4
1958	13 6	122 1	135 7	91 2	27 8	10 2	6 3	135 5	0 2	135 7
1959	19 9	130 8	150 7	96 3	29 5	14 2	9 0	149 0	1 7	150 7
1960	17 1	148 0	165 1	101 6	31 4	16 7	13 8	163 5	1 6	165 1
1961	17 2	160 8	178 0	107 5	33 5	19 0	16 4	176 4	1 6	178 0
1962	14 6	175 2	189 8	114 7	35 6	21 1	16 8	188 2	1 6	189 8
Change during										
1955	− 5 3	+10 8	+ 5 5	+5 2	+0 8	—	—	+ 6 0	−0 5	+ 5 5
1956	−14 5	+15 7	+ 1 2	+2 7	+1 8	—	—	+ 4 5	−3 3	+ 1 2
1957	− 3 8	+16 6	+12 8	+2 9	+1 3	+7 7	+2 6	+14 5	−1 7	+12 8
1958	+ 0 1	+ 8 2	+ 8 3	+3 4	+0 8	+2 5	+3 7	+10 4	−2 1	+ 8 3
1959	+ 6 3	+ 8 7	+15 0	+5 1	+1 7	+4 0	+2 7	+13 5	+1 5	+15 0
1960	− 2 8	+17 2	+14 4	+5 3	+1 9	+2 5	+4 8	+14 5	−0 1	+14 4
1961	+ 0 1	+12 8	+12 9	+5 9	+2 1	+2 3	+2 6	+12 9	—	+12 9
1962	− 2 6	+14 4	+11 8	+7 2	+2 1	+2 1	+0 4	+11 8	—	+11 8

*including estimated external holdings

Overall liquidity

In compiling the supply of money, accumulation of liquid holdings is generally regarded as temporary withdrawal of money from current circulation This is in accordance with the functional definitions adopted, of money as means of payments and of liquid holdings as

store of value There is another difference Money is essentially a claim on the banking system Liquid holdings, apart from time deposits at the banks, i e deposits at the Post Office Savings Bank, Savings Certificates, Prize Bonds and Exchequer Bills, are claims on the Government The monetary significance of the latter difference is, however, probably less important than it appears because, should the holders decide to encash their claims on the Government, the exchequer would in all likelihood have to fall back on the banking system to meet its liabilities in excess of the Government's external reserves It is, therefore, reasonably accurate to affirm that all liquid holdings constitute a potential supply of money at one remove The conversion of these holdings into actual money does not involve a corresponding withdrawal of money by the debtor (i e the banking system and the Government) For these reasons current changes in liquid holdings have an important bearing on future supplies of money Statistics regarding the overall liquidity position can be easily derived from the proposed survey and are given in the table on the following page

III

Although the primary output of this paper is to propose—in outline—a framework for a survey of the sources of money, it seems appropriate to return briefly to the general question of the applicability of such a survey for the purpose of explaining changes in national income

National income statisticians are often critical of their colleagues engaged in compilations of monetary statistics on the grounds that the latter have no support in an accepted theory, the implication being that national income accounts are based on the Keynesian theory As has been noted already this claim is not entirely valid National income accounts, no less than the monetary accounts, are based on a self-evident identity The true support which the Keynesian theory lends to the national accounts rests on the use of the same terminology, not always let it be added, with advantage to clear thinking because while the same *concepts* are used, their *content* is often different One need only refer to the government's deficit which in national income accounts is treated as dissaving and not the Keynesian source of expansion!* The contrast

*The "Keynesian" implication can presumably be read into the equation between national product and national expenditure which "generates" it The latter includes expenditure by public authorities and may be financed by a budgetary deficit However, in the national income accounts, the current budgetary position is treated as a specific item in the table relating to savings and capital formation In that table, current budgetary deficit is a deduction from the amounts available for investment from personal and corporate savings Bearing in mind that personal savings are a residual item, the absence of a budget deficit would presumably mean a pro-tanto increase in the estimate of personal savings, and possibly a smaller deficit in the balance of external payments to the extent that the latter may also contain a residual element The main point is that the figure for capital formation is calculated independently and the savings counterpart is estimated to equate it There is no direct statistical connection between the current budgetary position and the gross national product

MONEY AND LIQUID HOLDINGS

£ million

Date	Money					Liquid Holdings							Overall Liquidity		
		Current Accounts			Total	Bank Deposits		Short-term government Debt on the public within the State						of which —	
	Currency	Govt	Other (incl Local Authorities)	Total	(excl Govt Current A/C)	Govt	Other (incl Local Authorities)	P O Savings Bank Deposits	Savings Certs	Prize Bonds	Exchequer Bills	Total	Total	Govt	Other (incl Local Authorities)
	A	B	C	D=A+B+C	E=A+C	F	G	H	I	J	K	L=F+G+H+I+J+K	M=D+L	N=B+F	O=E+G+H+I+J+K
	27†	28				5	6+7	23*							
31st December															
1954	78 2	10 0	105 4	193 6	183 6	3 6	184 9	77 0	23 1	—	—	288 6	482 2	13 6	468 6
1955	80 0	8 5	98 8	187 3	178 8	0 9	182 5	82 2	23 9	—	—	289 5	476 8	9 4	467 4
1956	79 0	9 2	101 1	189 3	180 1	0 7	181 9	84 9	25 7	—	—	293 2	482 5	9 9	472 6
1957	83 3	9 5	106 8	199 6	190 1	2 0	188 2	87 8	27 0	7 7	2 2	314 9	514 5	11 5	503 0
1958	82 0	11 7	112 9	206 6	194 9	3 0	194 8	91 2	27 8	10 2	3 4	330 4	537 0	14 7	522 3
1959	80 7	8 9	120 4	210 0	201 1	1 3	200 7	96 3	29 5	14 2	5 2	347 2	557 2	10 2	547 0
1960	84 6	9 7	129 0	223 3	213 6	0 8	209 8	101 6	31 4	16 7	8 2	368 5	591 8	10 5	581 3
1961	90 2	8 8	139 1	238 1	229 3	0 8	225 4	107 5	33 5	19 0	8 9	395 1	633 2	9 6	623 6
1962	95 5	5 6	155 3	256 4	250 8	1 2	241 2	114 7	35 6	21 1	9 3	423 1	679 5	6 8	672 7
Change during															
1955	+ 1 8	− 1 5	− 6 6	− 6 3	− 4 8	− 2 7	− 2 4	+ 5 2	+ 0 8	—	—	+ 0 9	− 5 4	− 4 2	− 1 2
1956	− 1 0	+ 0 7	+ 2 3	+ 2 0	+ 1 3	− 0 2	− 0 6	+ 2 7	+ 1 8	—	—	+ 3 7	+ 5 7	+ 0 5	+ 5 2
1957	+ 4 3	+ 0 3	+ 5 7	+10 3	+10 0	+ 1 3	+ 6 3	+ 2 9	+ 1 3	+ 7 7	+ 2 2	+21 7	+32 0	+ 1 6	+30 4
1958	− 1 3	+ 2 2	+ 6 1	+ 7 0	+ 4 8	+ 1 0	+ 6 6	+ 3 4	+ 0 8	+ 2 5	+ 1 2	+15 5	+22 5	+ 3 2	+19 3
1959	− 1 3	− 2 8	+ 7 5	+ 3 4	+ 6 2	− 1 7	+ 5 9	+ 5 1	+ 1 7	+ 4 0	+ 1 8	+16 8	+20 2	− 4 5	+24 7
1960	+ 3 9	+ 0 8	+ 8 6	+13 3	+12 5	− 0 5	+ 9 1	+ 5 3	+ 1 9	+ 2 5	+ 3 0	+21 3	+34 6	+ 0 3	+34 3
1961	+ 5 6	− 0 9	+10 1	+14 8	+15 7	—	+15 6	+ 5 9	+ 2 1	+ 2 3	+ 0 7	+26 6	+41 4	− 0 9	+42 3
1962	+ 5 3	− 3 2	+16 2	+18 3	+21 5	+ 0 4	+15 8	+ 7 2	+ 2 1	+ 2 1	+ 0 4	+28 0	+46 3	− 2 8	+49 1

†The figures for currency in this table relate to the average of Saturday figures in December Those in Appendix 2 relate to 31st December

*External subscriptions to Exchequer Bills are excluded

is rather that while national income accounts are used in a generally accepted "real" theory of income formation, monetary statisticians, by means of various analyses of financial statistics, search for a generally acceptable monetary theory of income formation The "surveys of the sources of monetary supplies" are the incidental result of this search

To quote J J Polak of the International Monetary Fund

> "The assumption of a constant ratio of income to money obviously implies that the income stream cannot change except as the quantity of money changes If, therefore, we can explain changes in the quantity of money, we would have a satisfactory explanation of income by means of a monetary analysis"

Now, as far as this country is concerned, the assumption of a constant income velocity of money is certainly more than a purely hypothetical one It is a verifiable fact and there can be little reasonable doubt that there is a strong cause-and-effect relationship between changes in the supply of money and in national income The crux of the matter, however, is in the direction of that relationship do changes in the supply of money cause changes in income or is it the other way round?

The second tenet of this monetary approach to income formation is aptly described by Dr Holtrop of the Nederlandsche Bank —

> "If one analyses monetary phenomena with the purpose of getting some guidance for monetary policy, one must necessarily use a model in which monetary policy can find its place If we believe that by monetary policy we can exert an influence on the creation of money, and maybe also on the propensity of the business community to hoard or to dishoard, and if we further believe that the exertion of such influence will affect the course of inflationary or deflationary process, then, for the exposition of our ideas, we must choose a model in which the creation and cancellation of money and the acts of hoarding and dishoarding are treated as autonomous factors "

In fine, the usefulness of the monetary approach to income formation depends on two assumptions, namely, that (1) changes in the su pply of money are the initiating causes of changes in income, and (2) changes in the supply of money are subject to monetary policy

The suitability of this approach to any given economic situation depends therefore on whether or not these assumptions accord with the facts of the situation As far as the prevailing conditions in this country are concerned, and insofar as economic questions ever get resolved, the validity of the first assumption (relating to the direction of the causal relation between the supply of money and income) appears to have been resolved rather definitely in the negative There is general agreement with the view expressed in "Economic Development" prepared

by the Secretary of the Department of Finance, that in this country "a dynamic has to be found and released and it is not necessarily increased capital investment, though this may be called for to support a higher rate of development once it is set in motion" The Study quotes with approval Professor Cairncross' statement that "the nerve centre of the whole forward movement may be, not in finance, but in entrepreneurial capacity" The second assumption, required by the purpose of the analysis, namely, that changes in the supply of money are subject to monetary policy, is also largely inapplicable to the conditions in this country *

As may be seen from the survey proposed in this paper, a monetary explanation of income must take into account not only internal creation of credit but also changes in internal supply of money originating in external trade and payments Indeed, in some countries a clear-cut distinction between "money of foreign origin" and "money of domestic origin" is in use with the inference that only the latter, i e "money of domestic origin" (internal credit creation) falls within the purview of domestic monetary policy Such an inference is not entirely correct Exports may increase because new industries are established with government grants or because of tax concessions Similarly, imports may be reduced by means of tariffs or quotas Internal fiscal and monetary steps may stimulate the inflow or discourage the outflow of capital All these are autonomous changes brought about by internal policy Besides, in discussing the survey it has been noted that internal credit expansion may, and frequently does, lead to a reduction in "money of external origin" rather than to an increase in the internal money supply All these and similar considerations indicate that some changes in "money of external origin" are or can be brought about by

*This is not to say that changes in the supply of money are entirely independent of monetary policy In the special circumstances which arose during 1956, for instance, domestic credit barely moved up owing to strained bank liquidity which necessitated credit restraint The major influence in that year was a reduction in the original supply of money by way of payments abroad largely in excess of external receipts This was offset by monetisation of public debt, which must be considered as an act of monetary policy in the broad sense of the term As far as bank credit is concerned, however, its role is predominantly a passive one of "restoring" the supply of money to the level required by developments in external trade and payments, domestic private spending on consumption and investment and in government activity In an interesting passage, "Economic Development" has this to say on the role of credit as a source of capital in addition to the sources mentioned earlier (in paragraph 3), namely, current savings, external reserves and investments and external borrowing —

"Lest there should be any feeling that to the three sources of capital mentioned in paragraph 3 a fourth should be added, namely, credit creation, it is well to dispel this notion right away, because this cannot be an independent source of capital Resources could be raised in this way only at the expense of one or more of the three ways specified in paragraph 3 Credit creation cannot be a real source of capital except by setting idle resources to work or by attracting resources from consumption The second of these is covered by 'current savings' Setting idle resources to work would, in our circumstances, lead immediately to increased imports If balance of payments deficits were caused, they could be financed only by drawing on external capital or by incurring external debt "

internal policy measures *but the predominant influences must be looked for elsewhere* Most of the variation in imports can be accounted for by developments in incomes and production Capital movements, likewise, appear to be in the main induced by the general state of the economy and profit expectations rather than caused by specific policy measures. Domestic autonomous changes are probably more pronounced in the development of exports but most economists will, I think, agree that changing conditions in markets abroad, fluctuations in external prices and foreign import restrictions, over which authorities in this country have little control, are of at least equal importance It, therefore, appears that for the purpose of providing guidance for economic policy, a monetary explanation of additions to the flow of income resulting from export earnings and inflows of capital and of losses through imports and capital outflows offers little gain over the more familiar explanations under the "Keynesian" label Indeed in so far as a purely monetary approach predisposes the uninitiated towards an analysis which pinpoints the responsibility for changes in income on credit expansion, there is some risk that it will lead to wrong inferences Even if one assumed credit expansion to cause a proportionate increase in income, it could be the main explanation of changes in income only on the further assumption of equality in external payments on goods and services account with subtractions from income through imports matching exactly additions to income from exports The balance of payments figures could not support such an assumption albeit as a very rough approximation In fact, a comparison of developments in external monetary reserves and in internal bills, loans, advances and investments shows that changes in the domestic income stream arising from external trade in goods and services and from capital movements are more important than changes arising from internal credit creation

Monetary explanations of income, which stress changes in the supply of money arising from credit creation and external transactions, assume tacitly an unlimited demand for money and credit, i e they assume that all the available money and credit is automatically spent on consumption and investment and thereby injected into the income stream But, as can be readily seen from the survey, there is a significant difference, both absolutely and in the direction of year to year changes, between the original supplies of money and the amounts of money consistent with (or as the monetary analysis would have it, generating) national income Such explanatory value as the table contains does not therefore lend support to the view that changes in the supply of money cause proportionate changes in income The stability in the income velocity of money, despite large variations in the original sources of money, suggests that the opposite interpretation, namely, that changes in income are the cause and changes in money the consequence, may be more

Appendix 2.—Survey of the Sources of Monetary supplies (£ million)

Date	Domestic credit creation to				Time deposits at banks				Surplus of domestic credit				Net External Assets				Other factors operating to increase the supply of money				Other factors operating to decrease the supply of money					Total other factors (20-25)	Supply of Money			Date
	Gov't	Loc. Auth.	Other	Total (1+2+3)	Gov't	Loc. Auth.	Other	Total (5+6+7)	Gov't (1−5)	Loc. Auth. (2−6)	Other (3−7)	Total (4−8)	Assoc. Banks	Central Bank	Dept. Funds	Total (13+14+15)	Internal Assets (other-net) of Assoc. Banks	Rediscounts & other Internal Assets of the Central Bank	Short-term Gov't Debt transferred to the Exchequer	Total (17+18+19)	Deposits at Central Bank	Other Liabilities of the Central Bank	Short-term public claims on Gov't	Exchequer Reserves	Total (21+22+23+24)		Note & Coin circulation	Current Acct's	Total (12+16+26)	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23*	24	25	26	27	28	29	
31st Dec.																														31st Dec.
1954 ...	22·9	9·1	132·0	164·0	3·6	—	184·9	188·5	19·3	9·1	−52·9	−24·5	121·3	86·6	37·1	245·0	18·6	4·1	70·8	93·5	1·3	11·0	100·1	7·8	120·2	−26·7	78·4	115·4	193·8	... 1954
1955 ...	33·9	9·6	151·8	195·3	0·9	0·1	182·4	183·4	33·0	9·5	−30·6	11·9	85·7	80·2	31·8	197·7	9·7	8·1	81·6	99·4	0·6	8·5	106·1	7·3	122·5	−23·1	79·2	107·3	186·5	... 1955
1956 ...	32·1	10·8	152·6	195·5	0·7	0·1	181·8	182·6	31·4	10·7	−29·2	12·9	88·4	77·3	17·3	183·0	9·0	10·4	97·3	116·7	0·6	9·1	110·6	4·0	124·3	− 7·6	78·0	110·3	188·3	... 1956
1957 ...	33·7	10·4	158·7	202·8	2·0	0·1	188·1	190·2	31·7	10·3	−29·4	12·6	90·5	85·9	13·5	189·9	13·2	7·0	113·9	134·1	0·6	10·0	125·1	2·3	138·0	− 3·9	82·3	116·3	198·6	... 1957
1958 ...	26·8	10·2	163·6	200·6	3·0	—	194·8	197·8	23·8	10·2	−31·2	2·8	104·9	87·3	13·6	205·8	16·8	6·6	122·1	145·5	4·5	9·0	135·5	0·2	149·2	− 3·7	80·4	124·5	204·9	... 1958
1959 ...	22·4	10·2	179·7	212·3	1·3	—	200·6	201·9	21·1	10·2	−20·9	10·4	103·5	86·8	19·9	210·2	15·4	8·0	130·8	154·2	3·9	11·2	149·0	1·7	165·8	−11·6	79·7	129·3	209·0	... 1959
1960 ...	19·1	10·0	198·3	227·4	0·8	0·7	209·2	210·7	18·3	9·3	−10·9	16·7	103·6	89·2	17·1	209·9	18·3	10·9	148·0	177·2	4·7	11·3	163·5	1·6	181·1	− 3·9	84·1	138·6	222·7	... 1960
1961 ...	24·8	12·4	204·8	242·0	0·8	0·4	225·0	226·2	24·0	12·0	−20·2	15·8	111·4	95·9	17·2	224·5	20·7	11·5	160·8	193·0	5·3	12·0	176·4	1·6	195·3	− 2·3	90·1	147·9	238·0	... 1961
1962 ...	24·9	12·4	224·5	261·8	1·2	0·2	241·0	242·4	23·7	12·2	−16·5	19·4	115·1	104·3	14·6	234·0	26·4	15·2	175·2	216·8	8·4	15·6	188·2	1·6	213·8	+ 3·0	95·5	160·9	256·4	... 1962
Change during																														Change during
1955 ...	+11·0	+ 0·5	+19·8	+31·3	− 2·7	+ 0·1	− 2·5	− 5·1	+13·7	+ 0·4	+22·3	+36·4	−35·6	− 6·4	− 5·3	−47·3	− 8·9	+ 4·0	+10·8	+ 5·9	− 0·7	− 2·5	+ 6·0	− 0·5	+ 2·3	+ 3·6	+ 0·8	− 8·1	− 7·3	... 1955
1956 ...	− 1·8	+ 1·2	+ 0·8	+ 0·2	− 0·2	—	− 0·6	− 0·8	− 1·6	+ 1·2	+ 1·4	+ 1·0	+ 2·7	− 2·9	−14·5	−14·7	− 0·7	+ 2·3	+15·7	+17·3	—	+ 0·6	+ 4·5	− 3·3	+ 1·8	+15·5	− 1·2	+ 3·0	+ 1·8	... 1956
1957 ...	+ 1·6	− 0·4	+ 6·1	+ 7·3	+ 1·3	—	+ 6·3	+ 7·6	+ 0·3	− 0·4	− 0·2	− 0·3	+ 2·1	+ 8·6	− 3·8	+ 6·9	+ 4·2	− 3·4	+16·6	+17·4	—	+ 0·9	+14·5	− 1·7	+13·7	+ 3·7	+ 4·3	+ 6·0	+10·3	... 1957
1958 ...	− 6·9	− 0·2	+ 4·9	− 2·2	+ 1·0	− 0·1	+ 6·7	+ 7·6	− 7·9	− 0·1	− 1·8	− 9·8	+14·4	+ 1·4	+ 0·1	+15·9	+ 3·6	− 0·4	+ 8·2	+11·4	+ 3·9	− 1·0	+10·4	− 2·1	+11·2	+ 0·2	− 1·9	+ 8·2	+ 6·3	... 1958
1959 ...	− 4·4	—	+16·1	+11·7	− 1·7	—	+ 5·8	+ 4·1	− 2·7	—	+10·3	+ 7·6	− 1·4	− 0·5	+ 6·3	+ 4·4	− 1·4	+ 1·4	+ 8·7	+ 8·7	− 0·6	+ 2·2	+13·5	+ 1·5	+16·6	− 7·9	− 0·7	+ 4·8	+ 4·1	... 1959
1960 ...	− 3·3	− 0·2	+18·6	+15·1	− 0·5	+ 0·7	+ 8·6	+ 8·8	− 2·8	− 0·9	+10·0	+ 6·3	+ 0·1	+ 2·4	− 2·8	− 0·3	+ 2·9	+ 2·9	+17·2	+23·0	+ 0·8	+ 0·1	+14·5	− 0·1	+15·3	+ 7·7	+ 4·4	+ 9·3	+13·7	... 1960
1961 ...	+ 5·7	+ 2·4	+ 6·5	+14·6	—	− 0·3	+15·8	+15·5	+ 5·7	+ 2·7	− 9·3	− 0·9	+ 7·8	+ 6·7	+ 0·1	+14·6	+ 2·4	+ 0·6	+12·8	+15·8	+ 0·6	+ 0·7	+12·9	—	+14·2	+ 1·6	+ 6·0	+ 9·3	+15·3	... 1961
1962 ...	+ 0·1	—	+19·7	+19·8	+ 0·4	− 0·2	+16·0	+16·2	− 0·3	+ 0·2	+ 3·7	+ 3·6	+ 3·7	+ 8·4	− 2·6	+ 9·5	+ 5·7	+ 3·7	+14·4	+23·8	+ 3·1	+ 3·6	+11·8	—	+18·5	+ 5·3	+ 5·4	+13·0	+18·4	... 1962

*External subscriptions to Exchequer Bills are included.

correct, or, to put it another way, people adjust their holdings of money in the shape of currency or current accounts in proportion to changes in monetary transactions of which national income is a statistical counterpart Indeed, the most likely explanation of the remarkable stability of income velocity of money in Ireland is precisely an absence of an active monetary policy in the sense defined by Holtrop Prof Lundberg, in an interesting article reviewing developments in Sweden, argues convincingly that changes in income velocity of money are a measure of the effectiveness of monetary policy

It seems to me, however, that the attempt to segregate the causes making for economic growth between monetary and non-monetary is likely to degenerate into one of the hen and egg variety An examination of recent developments in monetary analysis in various countries has convinced me that the basic assumption which treats changes in the supply of money as autonomous variables is frequently unwarranted and is not absolutely necessary for the purpose of getting guidance for monetary policy Surely, what these analyses do explain is not so much the initiating causes of changes in income but rather the mechanism through which these causes (external trade, capital movements, investment and government operations) take their income effect It goes without saying that good monetary management will assist and bad monetary management will hinder the processes by which incomes are formed and that, to that extent, developments in the monetary sphere exert a causal influence on the pace of growth

APPENDIX 1 —MONEY SUPPLY AND GROSS NATIONAL PRODUCT, 1948-1962

Year	G N P at current market prices	Currency outstanding (*a*)		Current Accounts (*b*)		Currency and Current Acocunts	
	£ million	£ million	As % of G N P	£ million	As % of G N P	£ million	As % of G N P
1948	362 1	48 6	13 4	71 9	19 9	120 6	33 3
1949	390 3	52 0	13 3	79 6	20 4	131 6	33 7
1950	398 1	55 2	13 9	82 3	20 7	137 5	34 5
1951	420 0	58 9	14 0	86 6(*c*)	20 6	145 5	34 6
1952	478 5	63 8	13 3	88 7	18 5	152 4	31 8
1953	524 4	69 0	13 2	92 5	17 6	161 5	30 8
1954	528 1	72 2	13 7	98 8	18 7	171 0	32 4
1955	551 3	76 6	13 9	104 0	18 9	180 6	32 8
1956	560 4	76 1	13 6	102 5	18 3	178 6	31 9
1957	581 3	78 8	13 6	108 4	18 6	187 2	32 2
1958	597 0	79 9	13 4	112 8	18 9	192 7	32 3
1959	634 2	78 2	12 3	116 3	18 3	194 6	30 7
1960	668 8	80 1	12 0	126 8	19 0	206 8	30 9
1961	710	84 8	11 9	135 1	19 0	219 9	31 0
1962	764	90 4	11 8	146 0	19 1	236 4	30 9

(*a*) Average of Saturday figures—Total Monetary Circulation
(*b*) Average of Monthly Bank Return figures—within the State
(*c*) Average of ten months—Bank strike

DISCUSSION

Mr P Bourke It gives me very great pleasure to propose a vote of thanks to Mr Oslizlok for the paper which he has read to us this evening on "The Sources of Monetary Supplies in Ireland" This paper bears all the marks of careful and thorough preparation and is well up to the best standards set by the papers which this Society has heard

I find myself in some difficulty in that it is expected that the proposer of the vote of thanks will usually subject the paper to a critical appraisal, whereas I find myself happily in agreement with the facts which the author has found and substantially with the conclusions which he has drawn from them

The purpose of this paper is twofold—first, to suggest a beginning in the building up of a survey of changes in the supply of money and, as a subsidiary object, to deal briefly with the relevance of surveys of this kind to the analysis of income formation As regards the first object of the paper, I think one can only say that it has been achieved in an unexceptionable manner and, to me at least, leaves little if any room for constructive criticism

As regards the second object, Mr Oslizlok enters a controversial field His observations are provocative but open up such possibilities that they could not, I think, be dealt with except in a cursory way in the time limit imposed on speakers here this evening

I think Mr Oslizlok is correct in stressing that the monetary significance of the difference between claims on the Government, such as deposits with the Post Office Savings Bank, and direct claims on the Banking system is less important than it appears because if holders decide to encash their claims on the Government, the Exchequer in all likelihood will fall back on the Banking system and it is, therefore, reasonable to affirm that all liquid holdings constitute a potential supply of money at one remove The importance of this, as I see it, is that in an inflationary situation there must be an ability to prescribe the right remedy Does one restrict the quantity of money or vary its price? Is saving too little or too much? Is Government expenditure too redistributive and not sufficiently self-liquidating?—and so on, but the Radcliffe Report, as I understand it, having made an exhaustive study, advocates as a remedy the striking more directly and rapidly at the liquidity of spenders, and if one accepts this doctrine and attacks the overall liquidity position it involves not merely control of capital issues, consumer credit, Bank advances, etc , but of the other sources that Mr Oslizlok describes in his paper as "near money"

The author's secondary purpose is the applicability of his survey in explaining changes in national income As regards the constant

income velocity of money, as indicated in Appendix I, it is rather interesting to mention that I extracted the velocity of the Ordinary as distinct from Current Government accounts by dividing them into the appropriate bank debits over the period shown in the Appendix, viz , from 1948 to 1962 I found a high degree of constancy, the figures running approximately as follows for ordinary accounts —

1948	20
1949	19
1950	19
1951	21
1952	21
1953	22
1954	22
1955	21
1956	22
1957	22
1958	22
1959	22
1960	22
1961	23
1962	23

I carried out the same operation as regards the debits on Government accounts Here, however, the variations, as one would expect, are very much greater—the figures ranging from 86 to 347—but I think one must disregard these as the issue of National Loans and other large items can have a disproportionate effect Taking the total of debits and the total of current accounts, the figures range as follows —

1948	24
1949	24
1950	25
1951	27
1952	29
1953	31
1954	30
1955	29
1956	31
1957	31
1958	32
1959	32
1960	32
1961	34
1962	33

Here, it will be noted that while there is a considerable lift in the period from 1948 to 1953 yet, notwithstanding the big variation shown in Government debits, when both are taken together for the period from 1954 to 1962 the variation is only from 30 to 33 and throughout the whole period 1948 to 1962, i e , 15 years, the velocity of ordinary accounts, measured in the way stated, varies only from 20 to 23 and from 1953 to 1962 is practically constant around a figure of 22

In the penultimate paragraph it is stated that monetary explanations of income assume that all the available money and credit is automatically spent on consumption and investment and thereby injected into the income stream In confirmation of this, it brings to my mind the Finlay lecture delivered by the late Lord Stamp in University College on October 31st, 1938, at which possibly some of those present here were present He was speaking on the subject of the bearing of recent American experience on economic theory and on this very point gave the example that if you tether a goat in a field with a rope 30 feet long and you pull in the rope 15 feet the goat must come in, but if you extend the rope from 30 to 50 feet there is no guarantee whatsoever that the goat will move out the extra distance—recent American experience having shown that the making available of ample supplies of additional credit did not ensure that these would be used and that there would be a corresponding expansion in the economy

It was an act of self-denial on the part of the author to exercise such forbearance in dealing with the questions arising out of the secondary part of his paper on which, I am confident, he had a great deal more to contribute well worth hearing, but I am sure that we all hope that the Society can look forward to hearing him again in the not too distant future on this and allied subjects

Mr A Pakenham-Walsh It does not justify the functional definition of money (currency and current account holdings) to say that it exhibits a stable relation with income In using it, deposits are excluded because they do not circulate Nor do the holdings on current account If the amounts are on current account they are not in circulation Tracing the current account process

(1) an advance is obtained by firm A The proceeds are used to pay firm B
(2) firm B may wipe out its advance or add the receipt to its current account as a credit balance
(3) the extensions of a large total of such current account balances mean, at that point of time, stored savings
(4) the situation in (3) is not fundamentally different from savings stored on time deposits

From this current accounts are as much "potential money supply"

as are post-office savings bank accounts credits For my part I prefer to go for the explanation of money movements as "Accounting" for transactions between persons making use of the money, and for money stops as "stores" of wealth

Too much perhaps is made of the influence of income on spending patterns Individuals, and to a growing extent, firms, are powerfully influenced by cash

Investment in the Keynesian sense, covers construction and the building up of stocks, but, all payments by business firms are 'investment' since they are being laid out speculatively with the intention of securing a return

Exports are not only affected by price levels and other circumstances in markets abroad but also by the psychological atmosphere around the exporters and in the exporting country for instance, the price and other challenges in the market abroad are there to be exploited

Dr Geary May I make a few comments on points in Part 3 of Mr Oslizlok's valuable paper which inevitably raises the perennial question is money a lubricating oil or a petrol? While I agree with the lecturer that it is mainly a lubricant I surmise that he is not prepared to go the whole hog since he states that a bad monetary policy will be detrimental to the economy As the other extreme, of course, we have had, and perhaps still have, the followers of Major Douglas At the height of the Douglas furore when Dr Aberhart was campaigning in Alberta, he once addressed a meeting of farmers using a diagram which was quite familiar at the time, pointing out the analogy between the money flow and the flow of blood in the human body, with heart, arteries and all the rest displayed At question time a rugged old farmer, obviously much impressed by the argument, stomped up the aisle of the lecture theatre and, using his stick as a pointer at the diagram, asked "but where is the stomach?" It seems to me that this puts the case for the lubricant, and against the petrol, theory in a nutshell

It is gratifying to those of us who are or were concerned with the national accounts to learn from the paper that there is such an excellent correlation between GNP and various currency indicators, the more especially since, as is well known, GNP contains such a large percentage of data which are merely estimates of very varying degree in statistical quality I had been impressed in the past with the correlation (though it is not so good as Mr Oslizlok's) between GNP and the Central Bank's statistics of debits to ordinary accounts I recall being disappointed at the time that the correlation was not quite so close as to enable us to make "quick" estimates of GNP the Central Bank statistics are accurate and most commendably up-to-date Unfortunately

the method was not sufficiently sensitive to record accurately the small year-to-year *changes* in GNP

The President, in conveying the vote of thanks to the reader of the paper, said that he hoped that this paper marked the beginning of the improvement of our banking and financial statistics This was a very difficult field in which progress is made only very slowly since one has to deal with very conservative institutions However, there had been considerable developments recently in Britain and, in his view, greater advances had been made since the Ratcliffe Report in the provision of financial data than had been made in the previous quarter-of-a-century.

Mr Oslizlok had made it very evident that the "first line" of our external financial reserves were held in the Commercial Banks For this reason the aggregate Divided Balance Sheet of the Banks was a key document in relation to our balance of payments The President believed that these accounts could be very considerably improved. The main directives in relation to their construction were laid down in the Report of the Banking Commission 1938 and, in his view, these directions were inadequate Furthermore, he suspected that the actual operational practice in the provision of the data by the various banks differed He felt that the time had come for the making of clear and precise operational directives for the production of these Divided Balance Sheets and he hoped that the Central Bank would take the initiative in this respect Problems of the allocation of items to "within the State" and "elsewhere", problems of valuation of assets and questions relating to the banks' own accounts and to items and transit needed considerable work He hoped that a number of these difficulties would be cleared up in the near future

In this connection he would like to direct attention to the apparently somewhat different rules applied by the Northern Ireland Banks Committee in providing data for Financial Statistics which was published by the British Central Statistical Office It was not possible to check these last-mentioned data against the figures provided in this country since the National Bank is not included in the Northern Ireland figures, being treated as a London Clearing Bank It would certainly seem desirable that the two sets of data were produced on a common set of operational directives

There were a number of other problems in relation to Financial Statistics which were being widely discussed in the world to-day These related to accounts of financial flows and to the endeavour to correlate the Real National Income Accounts and the Money Accounts It was, in his view, first necessary to clear up the Financial Statistics and the second task would be the endeavour to produce an integrated series of accounts covering both the Real and Money flows