On the Implementation of Monetary Programs: the Italian Case

1. Introduction

Economists hold different views on the effectiveness of monetary policies. Mr. Samuelson, for instance, believes that "they have great potency to stimulate, stabilize or depress a modern economy" (1). Gov. Carli of the Bank of Italy, looking at things from a different standpoint, feels that "by themselves, monetary policies are insufficient for the control of economic fluctuations" (2).

Be this as it may, some theoretical problems must be faced before proceeding with a discussion which, in fact, is concerned with the techniques (or instruments) through which certain monetary policies might be implemented, rather than with the choice of the policies themselves.

It is difficult to disagree with Mr. Mundell when he says that "the structure of a policy system includes instruments for the attainment of targets that are themselves only instruments on another level" (3). It is, therefore, necessary to differentiate between targets and instruments in each particular case or, more exactly, to distinguish between an aggregate which is controlled by the monetary authorities as a policy objective in itself (target variable) and those that are controlled as means (instruments) to attain such an objective.

It would seem best to select, as the target variable, an aggregate which is at the highest possible "stage in the hierarchy", to use Mr. Mundell's picturesque expression. In this respect some questions may be raised. For instance, is monetary policy to consist simply of the control of money supply or should it be extended to the control of liquidity, as the Radcliffe Report seems to imply (4)? The answer to this question will be dictated by the particular economic and institutional characteristics of the country concerned; if possible, it would seem preferable to take the more general aggregate (e.g. the liquidity of the public) which is an important determinant of the global demand for goods and services.

Assuming that the behaviour of an aggregate is linked functionally with that of the target variable, is it possible to limit all controls to such aggregate? Even economists who remain unconvinced by the behavioural rules developed by econometricians will try to evolve some theorem to justify the use of a simplifying procedure (5). Obviously one should not select an aggregate which, though attractive for its simplicity, can hardly be expected to behave in concert with the target variable. Another error would be that of always assuming a straight line relationship e.g. to believe that if the note issue rises, money supply will also rise and by the same percentage.

The establishment of "ceilings" for certain detailed aggregates is a modern feature of stabilization programs. Obviously these are short-cuts to monetary policy because in themselves such ceilings are meaningless, being established only in order to obtain a certain desired effect in terms of the behaviour of the main target variable (liquidity). If, for example, the expansion of central bank rediscounts is restricted (subject to a ceiling) this is undoubtedly done only for the purpose of stabilizing the money supply or the level of liquidity in the economy. The failure of many of these stabilization programs to achieve the main target is to be imputed, in the majority of cases, to accidental factors or to the lack of consistency in enforcing the ceilings. Unfortunately, however, the existence of such a ready-made explanation has diverted attention from the main problem which, it seems, is that of appraising the fitness of the ceilings as policy instruments in each particular case (6).

(1) P. SAMUELSON, "Reflections on Central Banking", *The National Banking Review*, Vol. I, 1963, p. 15.

(2) BANK OF ITALY, *1963 Annual Report*, p. 484.

(3) ROBERT A. MUNDELL, this Review, September 1963. On the same problem see also Mr. STREETEN, this Review, current issue.

(4) On this see A. GAMBINO, "The control of liquidity in Italy", this Review, March 1960.

(5) P. SAMUELSON, *loc. cit.*, recalls the Tobin's theorem.

(6) An article published in the IMF Staff Papers describes the ceilings currently in use in a large number of stabilization programs adopted with the assistance of the IMF. This article unfortunately does not appraise, critically, the fitness of such ceilings for the attainment of the global monetary targets. See: G. DORRANCE and W. WHITE, "Alternative form of Monetary Ceilings for stabilization purposes", IMF, *Staff Papers*, Vol. IX, No. 3, November 1962.

Another problem is that of selecting our " policy target " (7) i.e. the desired behaviour, over a period of time, of the " target variable " (liquidity). Though the goal may be the restoration of external equilibrium or the stimulation of economic growth, the monetary authorities will always try to translate such an objective into a monetary target, e.g. the maximum percentage change in the liquidity of the economy during a period of time. This guide-post of monetary policy should be flexible, frequently changed, and established only for the short-run (8).

This should not be taken as sounding as unqualified approval of the practice of " quantifying " monetary policy objectives. Nor does it mean that a " monetary budget " should be formally approved, as is done with the fiscal budget. Nevertheless the discussion of a monetary policy program would appear to acquire much greater meaning if the various implications of different policy decisions were given a numerical dimension. Though monetary policy decisions are of a qualitative order, being often designed to bring about a change in the direction of monetary phenomena (more or less credit, greater tightness, etc.) still it seems extremely useful to be able to express our policy goals in a measurable way.

The policy targets are frequently set with reference to what happened during the previous year and/or to the expected trend in other magnitudes during the current year. The objective may, for example, be that of reducing or dampening the rate of expansion (9) in money supply ruling in the previous year or of arresting it altogether; or it may be decided that liquidity should not expand more than real income or more than real income and population,

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(7) As distinct from the " target variable ".

(8) It is not difficult to agree with Mr. Samuelson that automatic formulas should not be used (e.g. an increase in liquidity of three per cent per year); they would be nothing but " a single act of discretion which transcends in both its arrogance and its capacity for potential harm any repeated acts of foolish discretion that can be imagined ". See: P. SAMUELSON, *loc. cit.*

(9) Attention should be called to the practice of setting as a policy target, and in certain inflationary situations, a change in the rate of change (e.g. slowing down the rate of expansion, reducing it to one half or one third and so on). When inflation is deeply rooted (sliding scale system for wages etc. etc.) it is felt only when it takes the form of an " acceleration " in the rate of monetary expansion. A slowing down is often similar, in its impact, to deflation. This is because a certain rate of inflation is expected and taken into account by the business community; only a significant change in its rate will determine those reactions (forced savings, larger investment etc.) which are a typical concomitant of inflation (or of deflation).

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and so on. Needless to say, under stable conditions there is no need to set a policy target; and in this case neutral policies will be adopted. The monetary authorities will " lean against the wind " i.e. confine themselves to smoothing out excessive liquidity fluctuations due to seasonal or accidental factors.

After selecting the target variable and the policy target, the monetary authorities will be faced with the difficult task of handling the weapons in their armoury in the most efficient manner so as to approach the target as closely as possible. It is exactly with the aim of helping in this strategy that this article has been written. Its purpose is primarily that of constructing a simple model that might be of some use to the authorities in the conduct of monetary policy. It was prepared with data relating to the Italian economy and is designed to cover short periods of time (one year or less).

2. A monetary policy model for Italy

This simple model of monetary policy is designed merely to illustrate the interrelationships existing between the behaviour of certain magnitudes, on the one hand, and total liquidity changes, on the other (10). Its basic components, or elementary pieces, are a few detailed aggregates, easily quantifiable with reference to existing statistics, fairly homogeneous in composition and reflecting, in their behaviour, certain macro-economic phenomena (e.g., the budget deficit, the external payments position, etc.). Six basic detailed aggregates were selected and grouped into two categories i.e. autonomous and sensitive (see Appendix Table 2).

The behaviour of some aggregates cannot be easily influenced, at least in the short-run, by the monetary authorities. They cannot be considered policy instruments, and were classified as " autonomous factors ". They are:

(1) *Balance of payments* i.e. the change over a time period in the net external position of the banking system, including, in the Italian case, the Bank of Italy, the Italian Exchange Office (UIC) and the commercial and savings banks. The behaviour of this variable stems from previous decisions and economic conditions, and thus

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(10) For a more detailed description of a similar model applied to Latin American economies see my " Bases analíticas de la politica economica ", CEMLA, Mexico City, 1960.

cannot be easily influenced by the monetary authorities, at least in the short-run. Under a flexible exchange-rate system this aggregate might have to be classified among the "sensitive factors" since the central bank would, presumably, use monetary reserves in most cases for the purpose of influencing liquidity rather than for stabilizing the exchange rate.

(2) *The Treasury's* cash position on budgetary account i.e. the change over a time period in the net cash position of the Treasury (consisting, in Italy, of its current account balance with the Bank of Italy, the Treasury bills outstanding and held by the Bank or banks and any other net credit — or debit — balance with the banks and any other net credit — or debit — balance with the Bank of Italy) only insofar as such change can be traced to current budgetary transactions, as distinct from capital transactions such as public debt management or Treasury's lending to or borrowing from the economy or banks. As noted in the case of the "balance of payments" these cash movements reflect previous decisions (the budget) which, at least in the short-run, cannot easily be modified. Obviously it may be objected that a certain latitude for manoeuver exists, as, for instance, by "delaying" or "speeding up" the execution of programs already approved by Parliament, as is currently done in Italy. Nevertheless a significant change in fiscal policy needs time to take effect.

(3) *The wheat stock-piling program*: i.e. net change, over a period of time, in the outstanding amount of wheat bills held by the Bank of Italy and by the commercial banks. These bills in Italy are equivalent to cash and eligible for automatic rediscount at the Bank of Italy. The behaviour of this aggregate or factor will reflect, chiefly, the size of the wheat crop and the official wheat prices. Once the wheat legislation has been adopted, the central banker can estimate this factor but not influence it.

Aggregates or factors which in the Italian case can be influenced more directly and effectively by the monetary authorities and which, therefore, are more amenable to central bank control, are:

(1) *Banks' exchange transactions*: the change in course of time in the net foreign exchange position of commercial and savings banks. This factor was classified as "sensitive" because the Bank of Italy, in past years, has often laid down some rules binding the banks to certain overall objectives in their foreign exchange operations (see p. 143).

(2) *Treasury capital transactions*: in the Italian illustration, the change over a time period in the Treasury's cash position (its current

account balance with the Bank of Italy, Treasury bills outstanding and held by the Bank of Italy and by commercial banks and other debts and credits with the Bank of Italy) only to the extent that it can be traced back to capital account transactions with the economy which consist, chiefly, of public debt issues or withdrawals, lending to the economy or to official agencies, collection of postal savings funds, and so on. The behaviour of this aggregate can be affected by simple administrative decision, with an impact that is felt rather rapidly. The decision taken at the beginning of 1963 to withdraw at maturity about 200 milliard lire of ordinary Treasury bonds was definitely aimed at obtaining immediate results in terms of liquidity, as were those taken early in 1964 when new issues of securities were placed with the public rather than with the Postal Savings Fund (CC DD), which is a public agency indirectly financed by the Treasury.

(3) *Rediscounts and advances*: in Italy this item covers the change over a period of time in the total volume of rediscounts and advances extended by the Bank of Italy or by the UIC to banks and to Special Credit Institutes. Though in other countries the discretionary power of the central banker may be limited by statutory regulations, in Italy these operations are left to the discretion of the central bank and have always been one of the main instruments of monetary policy.

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A definitional equation, based on the equality of assets and liabilities in the central bank balance-sheet, links these detailed aggregates to a more global aggregate representing the monetary liabilities of the monetary authorities, to the public and to banks, here also called "central bank money" (CBM).

The "sensitive factors" are assumed to be manipulated by the monetary authorities with a view to influencing the behaviour of this aggregate, situated at a "higher stage in the hierarchy". The monetary liabilities of the central bank include, in Italy, the note issue, banks' deposits at the central bank and also Treasury and wheat stock-piling bills, held by commercial banks and considered as liquid as cash. In brief, CBM consists of the note issue plus banks' liquid assets other than currency.

The definitional equation which explains the changes, during a period of time, in CBM in terms of the autonomous (ΔAF) and sensitive factors (ΔSF) is as follows:

Autonomous factors (ΔAF) + Sensitive factors (ΔSF) +
Unclassified items (ΔU) = Central bank money (ΔCBM)
The following Table 1, shows these equations (11) for 1960-63
(Appendix Table 2):

TABLE I

CENTRAL BANK MONEY AND FACTORS

(figures in milliards of lire)

	ΔAF	ΔSF	ΔU	ΔCBM
1960	384	− 277	13	120
1961	332	266	− 40	558
1962	75	592	1	668
1963	− 592	1,354	− 60	702

As already observed, ΔCBM could not be regarded as a monetary target on its own ground, but only an instrument for the achievement of the general target (change in total liquidity).

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(11) An illustration of these equations for 1960-63 and for Italy can be found in Appendix Table 2.

In order to have a unified picture of the broader field of monetary policy, an effort was made to merge the data included in the consolidated balance-sheet of the Bank of Italy and of the Italian Exchange Office with additional data on banks' liquidity and on the balance of payments. To this effect data on *Treasury bills* and *wheat stock-piling bills held by commercial banks*, and on *the banks' net foreign exchange position* were taken from available statistical series and worked into the central bank balance-sheet. Thus, " net assets " in this revised balance-sheet of the central monetary authorities would include (1) *Gold and foreign exchange reserves of the banking system*, including therein the net foreign exchange position of commercial banks; (2) *Credits against the Treasury* of the monetary authorities and Treasury bills held by commercial banks; (3) *Wheat stocking bills*, held by the Bank of Italy or by banks; (4) *Rediscounts and advances to banks* and to Special Credit Institutes by the Bank of Italy and UIC. On the liabilities side we find (1) *The note issue*, held outside the Bank of Italy; (2) *Commercial banks' deposits* with the Bank of Italy; (3) *Treasury bills and wheat-stocking* bills held by commercial banks as part of their liquidity. This theoretical balance-sheet can easily be constructed by taking the consolidated balance-sheet of the Bank of Italy and UIC and adding (on both sides) the items pertaining to banks. (net foreign exchange position, Treasury bills, wheat-stocking bills).

Only annual net changes were taken and shown in Appendix Table 2. By definition, the algebraic sum of these changes should be zero; if one item is isolated (CBM) it is this that will be the algebraic sum of all others. In determining the sign of the factors of the equation, one should first ascertain whether the data represent a change in a net asset or in a net liability (−) of the central monetary authorities (note that a net foreign exchange

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Before discussing the behavioural relationship existing between ΔCBM and the total liquidity change, it will be necessary to describe two further factors which are only in part sensitive to central bank control. They are responsive principally to the behaviour of banks and of the public. They represent the variations in liquidity stemming from changes in banks' liquidity ratios, r (12) and in the cash preference ratios of the public, c (13).

For the purpose of taking them into consideration in our equation, the liquidity impact of changes in r and c will have to be quantified (14). Appendix Table 3 shows the changes in the last four years in these coefficients and their liquidity impact.

We now have three important factors (ΔCBM, Δr and Δc) which, when added together, give the total " primary expansion " (PE).

The only remaining problem now is that of relating primary expansion (PE) to total liquidity expansion, i.e. to our " target

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liability of commercial banks is shown, in this presentation, as an asset of the central bank as if the Central Bank, and not foreign banks, had transferred liquidity to banks). Any increase in assets, or decline in liabilities, should have a plus sign; a decline in assets or an increase in liabilities would have a (−) sign. The opposite rule applies for central bank money creation (CBM: increase = +).

The balance of payments factor — Item (1_a) — is measured by the change in a net asset (net gold and foreign exchange reserves of the banking system); a surplus (i.e. an increase) is shown by a plus sign, a deficit by a minus sign. Item (1_b) represents a credit against the Treasury and an increase (i.e. a Government deficit) is shown with a plus sign (the same applies to item 1_o, 2_b and 2_o). The item 2_a represents a liability to commercial banks if banks have a net creditor position (their foreign exchange balances are assumed to have been taken over by the central bank) or an asset, if banks have a net liability position as is the case in Italy. An increase, in the latter case, will be indicated with a plus sign.

For a reconciliation of the above presentation with that of the Bank of Italy (see GAMBINO, *loc. cit.*) it must be noted that the algebraic sum of $1_{(a)}$ and $2_{(a)}$ should be equal to the " foreign sector " and that the sum of $1_{(b)}$ and $2_{(b)}$ should be equal to the " Treasury Sector " except for changes in banks' holdings of Treasury Bills, here included. Item $1_{(o)}$ is the same in both presentations.

(12) The coefficient r is found by dividing banks' liquidity defined to include cash in vaults, deposits with the Bank of Italy, Treasury bills and wheat stock-piling bills by their total sight and savings deposits.

(13) It is found by dividing total currency with the public by total liquidity of the public.

(14) The computation of Δr and Δc is effected by comparing banks' liquidity in any one year (actual values) with the liquidity that would have existed if r had not changed from its previous year level. If the actual values are higher than the calculated values, a minus sign will be used for the difference between the two magnitudes (Δr) since the banking system would have absorbed (and therefore, sterilized) a certain amount of liquidity. Δc is calculated in the same way.

variable ". This problem presents no difficulty since it is sufficient to apply to PE the credit multiplier formula (15).

$$\text{TE (total expansion)} = \text{PE} \; \frac{1}{r + c \, (1-r)} \; (16).$$

The model thus relates the changes in our detailed aggregates to the changes in our target variable. It is useful in analysis, forecasting and programming once its limitations are borne in mind.

Appendix Table 4 shows, for Italy, the implicit credit multiplier which was obtained by dividing total expansion by primary expansion, and the calculated multiplier, based on the coefficients r and c, as they existed at the beginning of the period and the above formula; the differences are minimal and can be imputed to rounding of figures and other errors. It will be noted that in recent years the height of the credit multiplier coefficient has been constantly rising from 2.3 in 1960 to 2.6 in 1961, 2.7 in 1962 and a peak of 2.8 in 1963. What this means is that a certain injection of liquidity will have now a greater effect, in terms of total liquidity, than in 1960. As is known, at the root of the multiplier action is the fast turnover of deposits and loans by the banking system.

3. Recent monetary trends and policies in Italy

The series of tables presented in the statistical appendix represent an application to Italy of the monetary policy model described in the previous section. The existence of a model, in itself an interpretation of relationships, simplifies a great deal the work of analysis as a preliminary to programming.

As can be seen in attached Chart 1 and Table 2, the annual expansion rate of total liquidity of the public (17) — the main target variable of monetary policy — quickened from 14 per cent in 1960 to a record high of 18 per cent in 1962; then the rate tapered off to 13.2 per cent in 1963. It must be noted that the slackening in the course of last year would be much more dramatic if shorter periods

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(15) See: ERICH SCHNEIDER, " The determinants of the Commercial Banks' Credit Potential etc. ", this Review, September 1955.

(16) The coefficients r and c are those existing at the end of the previous period.

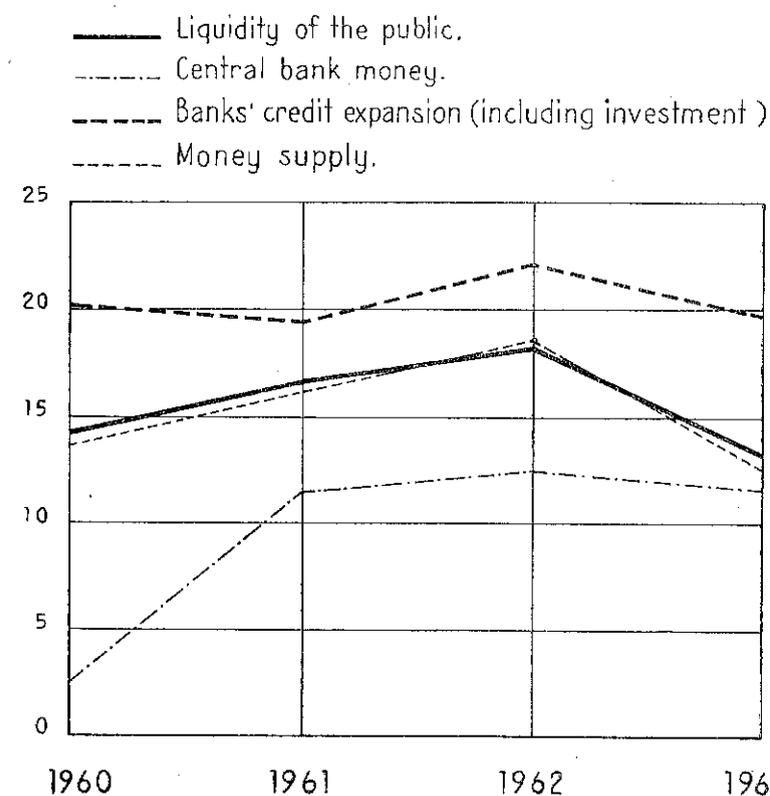(17) Currency, demand and savings deposits.

TABLE 2

TRENDS IN SELECTED MONETARY INDICATORS

(in per cent)

	Liquidity of the public	Central bank money	Banks' credit expansion (including investment)	Money supply
	A	B	C	D
1960	14.04	2.53	20.01	13.69
1961	16.67	11.46	19.48	16.34
1962	18.03	12.31	22.03	18.26
1963	13.22	11.52	19.54	12.79

CHART 1 - TRENDS IN SELECTED MONETARY INDICATORS

(annual percentage increases)

——— Liquidity of the public.

—·—·— Central bank money.

— — — Banks' credit expansion (including investment)

— — — — Money supply.

1960   1961   1962   1963

were taken (quarters, months). The variations in money supply show similar trends: a quickening in the rate of increase from 13.69 per cent in 1960 to 18.26 per cent in 1962 and a slowing-down to 12.79 per cent in 1963.

If our attention is focussed on central bank money (ΔCBM) we find (see Chart 1) that the changes are much sharper from 1960 to 1961 while the slow-down in 1963 is less pronounced. The reason for this will appear quite evident as we proceed in the discussion and deal with the pronounced fluctuations in coefficients r and c. The rate of expansion in banks' credit remains rather stable throughout the period under consideration.

PRIMARY EXPANSION AND MAIN FACTORS   TABLE 3
(expressed in per cent of total)

|	Autonomous factors	Impact of changes in cash preference ratios and in banks' liquidity ratios	Sensitive factors
	A	B	C
1960	56	81	- 37
1961	35	32	33
1962	8	33	59
1963	- 82	12	170

These were the results of a series of policy decisions which first gave free rein to the expansion and more recently have curbed it. Appendix Table 4 is summarized in Chart 2 and Table 3 which indicate the weight of the main factors responsible for the liquidity trends in each year.

The autonomous factors (AF) greatly diminished their inflationary impact from 56 per cent in 1960 to 8 per cent in 1962; in 1963 they turned into a strongly contractive element. Needless to say, this reflects the change in the Italian balance of payments position throughout the period under consideration: an external position throughout the period under consideration: an external surplus of 320 milliard lire (US $512 million) on the average during 1960-61 gave way to a huge deficit of 778 milliard lire (US $1,245 million) in 1963. The other elements, also listed as autonomous i.e. the Treasury cash position on budgetary account and the wheat stocking bills, also exercised an expansionary impact, but not for

large amounts, except perhaps in 1963 when the budget deficit amounted to 193 milliard lire (see Appendix Table 2).

The factors which only indirectly can be controlled by the monetary authorities (Δc and Δr, i.e. the monetary impact of changes in banks' liquidity ratios and in the cash preference ratios of the

CHART 2 - PRIMARY EXPANSION AND FACTORS
(in per cent of total expansion)
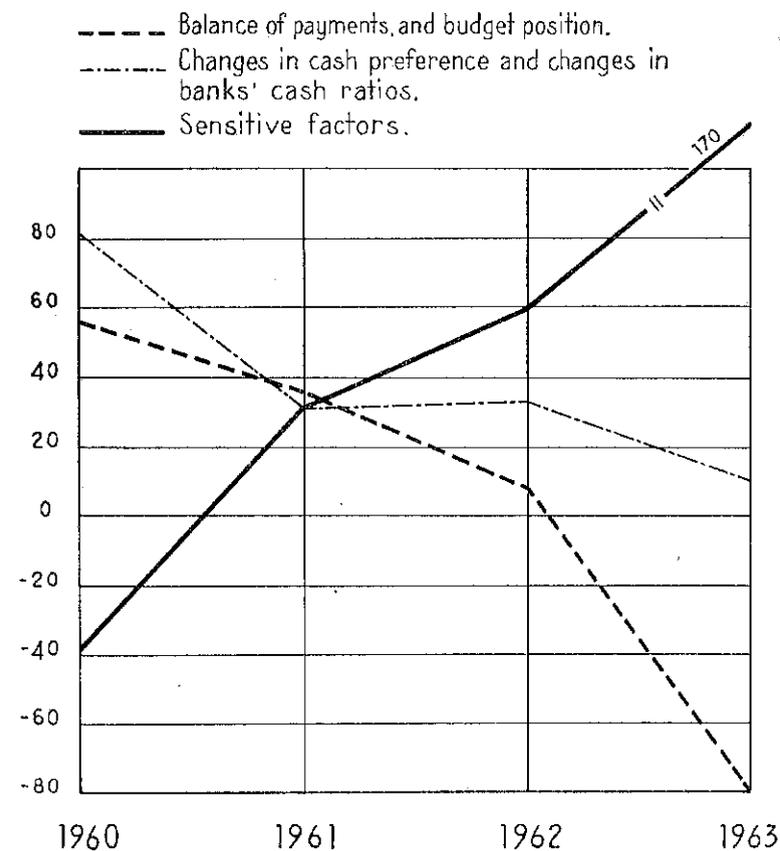


public) exercised a pronounced inflationary impact, at first, but then gradually lost their vigor. In 1963 their impact was only equivalent to 12 per cent of the primary expansion. As can be noted in Appendix Table 4 the expansion resulting from the reduction in banks' liquidity ratios amounted to 461 milliard lire in 1960 (r declines from 29.7 to 25.1 per cent), about 230 milliards in both

TABLE 4

THE COEFFICIENTS r AND c

	Cash preference ratios A	Banks' cash ratios B
1959	19.29	29.66
1960	18.35	25.13
1961	18.11	23.23
1962	17.55	21.54
1963	17.71	20.74

CHART 3 - CHANGES IN CASH PREFERENCE AND BANKS' CASH RATIOS

---- Cash preference ratios
——— Banks' cash ratios
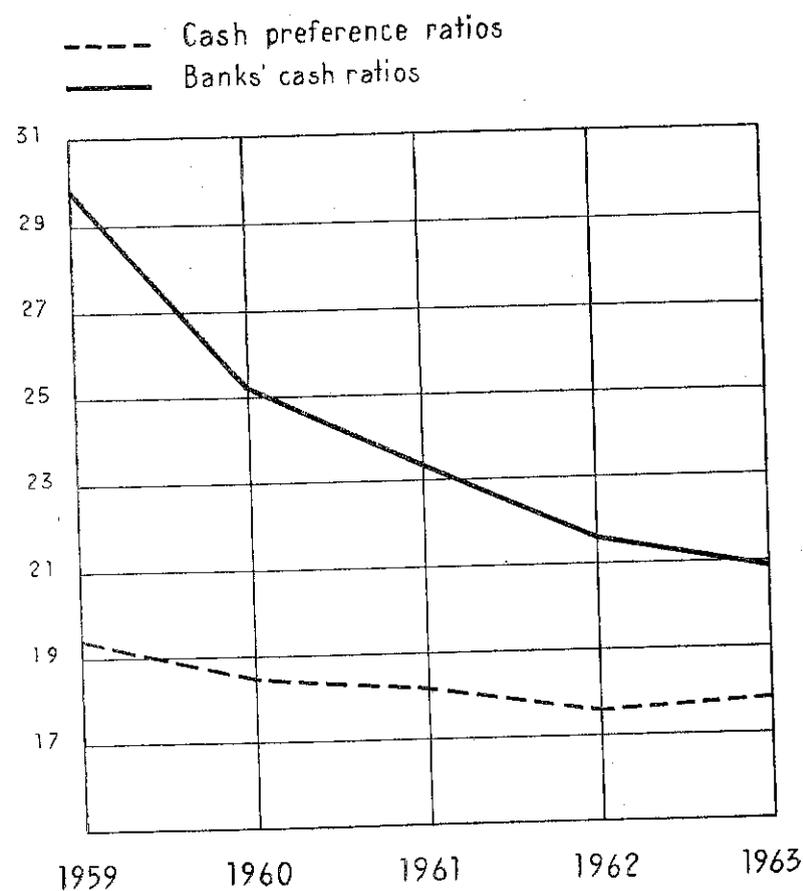
1961 and 1962 and 129 milliards in 1963. It should be remembered that in 1959 banks, after a period of depressed economic activity, had accumulated an ample margin of excess reserves and that in 1962 compulsory reserve requirements of banks were reduced from 25 to 22.5 per cent.

The three sensitive factors (banks' foreign exchange transactions, public debt management and rediscounts and advances) exercised a contractionary impact in 1960; more recently they became increasingly expansionary. In 1963 they were practically the only factor of expansion large enough to provide an offset to the significant contraction originating in the balance of payments deficit, and to determine over and above it, a 12 per cent increase in CBM.

Appendix Table 2 shows the behaviour of the sensitive factors during 1960-63. With respect to each of them note that:

(a) Banks' exchange transactions: a regulation introduced in November 1959 allowed Italian banks to maintain their own foreign exchange position; in August 1960 banks were required to eliminate before December 1960 their net foreign indebtedness. The Bank of Italy provided, under a swap basis, foreign exchange up to a certain maximum. In October 1962 the August 1960 regulation was revoked. In August 1963 the Bank of Italy brought moral pressure to bear on banks; they were asked to stop increasing their net foreign indebtedness. In a nutshell these were the policy decisions affecting this aggregate; it must be noted that the Bank of Italy has often tried to soften the rigidity of these rules with *ad hoc* transactions such as swaps of foreign currencies and deposits of foreign exchanges balances with banks.

In December 1961, for example, the UIC had on deposit with commercial banks an amount of $302 million; these deposits were effected in order to maintain banks in a liquid position (as they are equivalent to Eurodollar deposits which could be used for domestic transactions) and they were — as they were called — liquidity injections. They were discontinued when the reduction in reserve requirements from 25 to 22.5 per cent in January 1962 eased the liquidity conditions of the banks.

The net foreign exchange position of banks (18) moved from a debtor position of $175 million in December 1959 to a balanced position in December 1960. Gradually a net creditor position was

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(18) Excluding the external lire accounts and inconvertible currencies.

built up amounting to $93 million in October 1962. Following the repeal of the limit to foreign borrowing of October 1962 Italian banks took large Eurodollar deposits and borrowed abroad a total net amount of $750 million up to August 1963. There followed a reduction in foreign indebtedness amounting to $311 million from August 1963 to the end of March 1964.

Appendix Table 2 shows only the overall impact in lire of these operations. In 1960 these transactions resulted in a contraction of 112 milliard lire. After 1960 (when the limits were applied) and up to October 1962 (when the ceilings were revoked) the impact was negligible. From October 1962 through August 1963 the expansive impact of these transactions was very heavy. In 1963, notwithstanding the repayments effected after August, the overall expansive impact amounted to 410 milliard lire.

(b) Treasury capital transactions: this aggregate is rather complex owing to the large number of transactions covered and the difficulty of securing statistical data. These transactions can be classified into four mains classes: (1) collection of savings through the postal accounts; (2) public debt management; (3) issue of Treasury bills; (4) security purchases and loans through the Postal Savings Fund. The Annual Reports of the Bank of Italy enabled Table 5 below to be constructed; it gives the detail of the amounts shown in Appendix Table 2 under "Treasury Capital Transactions".

TREASURY CAPITAL TRANSACTIONS   TABLE 5
(borrowing from the market = −)

	1960	1961	1962	1963
	(in milliards of lire)			
1. Collection of savings (Postal Savings Fund)	−211	−272	−371	−422
2. Bonded Public Debt (Capital movements)	...	129	135	156
3. Treasury bills	− 45	− 97	− 28	131
4. Principal lending and purchases of securities by the Postal Savings Fund . . .	226	267	342	532
5. Unclassified (*)	−158	− 28	82	135
Total	−188	− 1	160	532

(*) Including foreign debt, medium-term debts and credits and, for 1960, the public debt management.

Treasury capital transactions exercised a contractive impact in 1960-61 but became increasingly inflationary in 1962 and, especially, in 1963. In fact, during the latter year they were the largest single factor of expansion. The detailed Table above indicates that two items show the most significant changes: (1) Treasury bills: the net sales during 1960 through 1962 of Ordinary Treasury bills to banks and to the public (on tap) exercised a contractive impact. In 1963 there were net purchases i.e. an expansionary impact, of about 131 milliards, in large part owing to the new method of flotation (since from December 1963 OTB have been sold by tender and subscriptions outside of banks were barred), and also because of the new regulation requiring banks to hold at least 10 per cent of their compulsory reserves in cash. (2) Net lending and investment by the Postal Savings Fund more than doubled from 1960 to 1963 reaching a total of 532 milliard lire; the difficult financial position of local authorities and the strain of the capital market explain this massive aid by the Postal Savings Fund to the economy in 1963.

(c) Rediscounts and advances to banks: this item represents the advances made by the Bank of Italy (and the Italian Foreign Exchange Office - UIC) to banks and to Special Credit Institutes, secured by eligible commercial bills and Government or Government - guaranteed securities. Credit to banks by the Bank of Italy is granted at the latter's discretion; banks, normally, deposit at first a certain volume of securities with the Bank of Italy and thus obtain a line of credit, which is then utilized as the need arises. The Bank of Italy includes in its statistics any unused credit overdraft as a component of banks' liquidity; this procedure was not followed in this model because, for the sake of consistency, the same should have been done in the case of the public's liquidity (i.e. unused overdrafts should be included), but this was not possible for lack of data (19). In April 1964 the total amount of unused lines of credit of banks at the Bank of Italy, amounted to 317 milliard lire.

Rediscounts and advances increased by 23 milliard in 1960, and by about 200 milliards, on the average, during 1961-62; in 1963 the

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(19) Banks' liquidity includes, in this model, cash on hand, deposits with the Bank of Italy, Ordinary Treasury Bonds (OTB) and wheat-piling bills; the latter are automatically rediscountable with the Bank of Italy.

expansion doubled to 412 milliard lire. Some of these advances are secured by foreign exchange deposits and are made available by the Italian Foreign Exchange Office.

4. The model as a tool for programming

The model developed in this article shares with other models of interrelationships the weakness of being in large part based on definitional equations which, in our case, were derived from the equality of assets and liabilities in the balance-sheet of banks. Though it is correct to take them ex-post, one should be careful in using them for programming (e.g. ex-ante) because of the reciprocal influence of the various elements, which react on each other in unpredictable ways. If the " sensitive factors ", for instance, should change, all other factors would feel the impact and be diverted from their normal behaviour path.

In analysing 1963 trends in Italy one cannot state, for instance, that it would have been sufficient to keep the " sensitive factors " within the limit of 955 milliards in order to contain the liquidity expansion within a maximum of six per cent (20). Most likely, under such different assumptions, the disequilibrium in the payments balance would have been smaller; or banks might have preferred to keep lower, or higher, liquidity ratios, and so on. Furthermore, as the Governor of the Bank of Italy has often pointed out, there are close links between credit expansion and the behaviour of the capital market, so that it becomes even more difficult to assess, for a longer time horizon, the consequences of alternative policies (21).

The *coeteris paribus* assumption is more likely to be valid in the very short-run; hence, any programming (monetary budget) based on this model should cover only very short periods (e.g. three months). The monetary budgets in fact must be continuously revised on the basis of what is known, or of what can be assumed, about the behaviour of factors which can only be forecast.

Attention should be called to the delay with which statistics on the more general aggregates become available. In Italy, for example, the central bank balance sheet becomes available with a time lag of about one month; but the data on money supply and overall liquidity of the public are generally released with a delay of up to four months. The game of guessing the present, or the immediate past, is not an absurd exercise but a very useful policy guide. Hence the need for a model which would enable us to move from a few known detailed aggregates (such as the balance of payments results, or the budget data) to the target variables.

In constructing a *monetary budget*, the order of our analytical steps will have to be inverted: The first step would therefore consist of the establishment of a *policy target*; the *second step* is the forecast or calculation (if known) of the likely change in the coefficients c and r, and of the impact of such a change in coefficients i.e. of Δr and Δc; *the third step* is that of calculating the *primary expansion* (total expansion divided by the multiplier) and, subsequently, the expansion in Central Bank Money (i.e. $PE - \Delta c - \Delta r = \Delta CBM$); *the fourth step* is that of estimating, or of calculating, the autonomous factors; the *fifth step* is that of deriving, by difference, the sensitive factors ($\Delta CBM - \Delta AF = \Delta SF$). The monetary authorities will then have to apportion the amount available among the three sensitive aggregates and their detailed components.

In Table 6 below an illustration is given of a monetary budget for Italy for 1964 based on an " assumed " policy target of a 7 per cent expansion in liquidity during the current year.

This illustration and the severe assumptions made concerning the payments and Treasury deficits would warrant the conclusion that a considerable increase in the " sensitive factors " would be consistent with a moderate rise in liquidity of, say, seven per cent. The implications of different policy choices for 1964 in terms of detailed aggregates can readily be seen from this model.

The analyst can start from either side (once the autonomous factors and c and r are estimated) and determine: (a) the expansion in liquidity generated, under certain assumptions, by an assumed change in the sensitive factors or, viceversa, (b) the limits within which the sensitive factors should be contained in order to achieve certain policy targets.

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(20) This is calculated by taking 6 per cent of 17,318 milliards (liquidity at the end of 1962 — see Appendix Table 1) or 1,039 milliards, dividing it by 2,6 (the multiplier coefficient)=400 milliards and deducting $\Delta c + \Delta r = 97$ milliards. CBM thus equals 303 milliards; since the autonomous factors (including Δu) were equal to —652 milliards, the sensitive factors could have expanded by 955 milliards (in fact they rose by 1,354 milliards).

(21) The same criticism can be levelled at the equation of the exchange; Fisher's formula is also a definitional equation.

TABLE 6

A MONETARY BUDGET FOR ITALY FOR 1964

Description	Amounts (in milliards of lire)
1. *First step*: Policy target: (7 per cent expansion of total liquidity of the public i.e. 7 per cent of 19,607 milliard lire)	1,372
2. *Second step*: Coefficients r and c are assumed unchanged at their 1963 level (20.7 and 17.7): Δc and $\Delta r =$	—
Credit multiplier $= \dfrac{1}{.207 + .177\,(1 - .207)}$	2.88
3. *Third step*: Increase in CBM (policy target divided by the multiplier coefficient, minus Δc and $\Delta r) = \Delta CBM =$	476
4. *Fourth step*: Autonomous factors	− 420
(1) Balance of Payments . . . . −700	
(2) Treasury 200	
(3) Wheat bills 80	
5. *Fifth step*: Sensitive factors (3-4, algebraically) = ...	896

A little digression is here necessary; in the exemplification of Table 6 we have assumed the coefficients r and c to remain unchanged. This is because the Italian banking system at the end of 1963 had reached a very tight position. Banks' liquid reserves, in excess of compulsory reserve requirements (22.5 per cent of deposits) amounted to only 2.6 per cent of deposits (the unutilized overdraft at the Bank of Italy is disregarded). The free margin is so small that only minor changes are possible.

Obviously, variations in compulsory reserve requirements remain an important weapon that can be used by the Bank of Italy in order to free reserves or to tighten liquidity. If the assumption were made of a change in reserve requirements, it would become necessary to calculate Δr and include it in our monetary budget.

Coefficient c seems to follow a more stable course; it fell almost regularly from 19.3 in 1959 to 17.6 in 1962 or by about 3 per cent per year; in 1963 there was a small increase. Much will depend on the degree of credit stringency in 1964 but assumptions of near-stability or of a further small decline seem warranted.

Some economists prefer to speak in terms of credit expansion rather than of liquidity expansion. Bankers, too, when discussing monetary policy, seem to be more at ease discussing trends in banks' assets; and they are more likely to establish their targets in terms of credit expansion. Our model allows us to move from the liquidity target to the credit target by utilizing a simplified balance sheet of commercial banks. Naturally there is a rather wide margin of error (see Appendix Table 6) due to the items in the consolidated balance sheet of banks' such as the capital accounts and miscellaneous debts and credits, items which are disregarded. In programming, the steps in Appendix Table 6 must be retraced, starting from the total increase in deposits (which is part of the target), adding rediscounts, advances and other transfers from the Bank of Italy (sensitive factors) and then deducting the change in the liquidity of banks (on an assumed behaviour of coefficient r).

5. Some observations on seasonal behaviour

Once the policy target for the comparatively long period of one year has been selected, it will be necessary to appraise the implications in terms of shorter periods (e.g. quarters). This is necessary since day-to-day decisions have to be made regarding the sensitive factors and each solution must be as much as possible consistent with the overall target.

If it were not for seasonal or accidental fluctuations the problem would be quite easy as it would be enough, for example, to divide by four our yearly targets and so find the quarterly targets. But seasonal influences are bound to be pronounced; in Italy they affect the behaviour of total liquidity, of the cash preference, and of the banks liquidity ratio, as well as of the three "autonomous" factors (balance of payments, budget cash position and wheat stock-piling operations).

It is not the purpose of this article to enter into a discussion of seasonality; it was found useful, however, to review briefly the seasonal behaviour of some of the aggregates and coefficients in Italy so as to be in a better position to appraise current trends on the basis of partial data which at the time of writing extend only through the first quarter of 1964. It must be stressed that the purpose is only to illustrate a technique, not to make actual forecasts.

(a) *Total liquidity*

A five quarter moving average of total liquidity was prepared — centered in the third quarter — for the period 1959-1963. The

actual values for total liquidity showed a regular pattern of deviation from their trend line or moving averages: they were below in the first three quarters and above in the fourth quarter, as shown in Table 7.

In March of each year the level of liquidity was, on the average, 0.3 per cent below the moving average, in June, 2.1 per cent below,

TABLE 7

TOTAL LIQUIDITY - PERCENTAGE DEVIATION FROM MOVING AVERAGES

(five quarters centered in the third quarter)

Year	I	II	III	IV
1960	...	− 2.4	− 0.1	2.8
1961	− 0.6	− 2.3	− 1.6	3.3
1962	− 0.5	− 2.2	− 1.5	3.6
1963	0.3	− 1.4	...	...
Average	− 0.3	− 2.1	− 1.1	3.2

in September 1.1 below and in December, 3.2 per cent above. Assuming this seasonal pattern to be maintained in 1964, a simple calculation would enable us to establish that with a 7 per cent increase in liquidity, as a policy target, the target variable in March 1964 would be about 1.8 per cent below December 1963; in June 1964 it would also be 1.8 per cent below, in September 0.9 per cent above and, in December, naturally, 7 per cent above (22).

(b) *The coefficients* c *and* r

The same or equivalent calculations could be made to assess the seasonal deviations in coefficients c and r; their actual trends during 1960-63 are shown in Table 8 below.

_____

(22) This adjustment is done taking the December value = 100, deducting the seasonal adjustment for December (3.2 per cent), adding the assumed increase in each quarter (1/4 of 7 per cent in March, 1/2 in June, etc.) and adding (or deducting) the seasonal adjustment for each quarter. For March: $100 − 3.2 = 96.8 + 1.7 = 98.5 − 0.3 = 98.2$ $(100 − 98.2 = 1.8)$.

TABLE 8

SEASONAL FLUCTUATIONS IN COEFFICIENTS r AND c IN ITALY

	Coefficient r	Coefficient c
1959 December	29.66	19.29
1960 March	29.49	17.85
June	27.43	17.81
September	27.49	17.59
December	25.13	18.35
1961 March	26.01	17.27
June	24.14	17.19
September	25.13	17.39
December	23.23	18.11
1962 March	23.57	16.56
June	21.39	16.73
September	21.84	16.98
December	21.54	17.55
1963 March	22.81	16.83
June	21.96	17.29
September	22.07	17.18
December	20.74	17.71

It will be noted that coefficient c tends to rise in December when the public's demand for cash reaches a peak, while it drops significantly during the first quarter of each year. Coefficient r seems to follow opposite trends in those two quarters because of the flow of money from the economy to banks. The two movements cannot be said to be exactly offsetting, and they have in the past produced an expansion during the first quarter that was not too pronounced.

(c) *The autonomous factors*

When one tries to guess the present, or the immediate past, it is not necessary to make any assumptions or seasonal adjustments for these aggregates because some of them become known comparatively early. The first quarter is generally the worst for the balance of payments of Italy; the third quarter is seasonally the best. The Treasury cash position (on budgetary account) is best in

TABLE 9

TRENDS IN THE AUTONOMOUS FACTORS IN ITALY

(in milliards of lire)

	Balance of payments	Treasury cash position (on budget account)	Wheat stock-piling bills	Total autonomous factors
1960 I Quarter	− 74	13	− 9	− 70
II »	39	− 122	− 6	− 89
III »	272	66	7	345
IV »	39	149	10	198
1961 I Quarter	− 60	2	− 23	− 81
II »	101	− 255	− 2	− 156
III »	243	39	37	319
IV »	77	143	30	250
1962 I Quarter	− 53	36	− 25	− 42
II »	− 15	− 268	18	− 265
III »	209	47	27	283
IV »	− 110	150	59	99
1963 I Quarter	− 168	160	− 12	− 20
II »	− 257	− 233	− 11	− 501
III »	− 70	− 5	11	− 64
IV »	− 283	271	5	− 7

the second quarter (a surplus) and worst in the last quarter. The overall impact of the autonomous factors is small and negative in the first two quarters very large and generally positive in the third quarter; it drops somewhat in the last quarter year.

6. The outlook for 1964

The data on the actual trend of our target variable are not available for the first quarter of 1964. At the time of writing (June 1964) the only complete information on liquidity trends is that appearing in the Annual Report of the Bank of Italy referring to December 1963. More up to date information would seem essential for a country adopting a stabilization program.

The model here discussed enables a rough estimate of liquidity trends to be reached. Also the model enables us to calculate our

TABLE 10

CENTRAL BANK'S MONEY AND FACTORS

(January/March 1964)

(figures in milliards of lire)

1. *Autonomous factors*:	
(a) Balance of payments	− 272
(b) Treasury cash position (budgetary account)	191
(c) Wheat stocking bills	. . .
Total	− 81
2. *Sensitive factors*	
(a) Banks exchange transactions	− 124
(b) Treasury: capital transactions	− 180
(c) Rediscounts of advances	149
Total	− 155
3. *Unclassified*	28
ΔCBM	− 208

target variable for the rest of the year under various assumptions as, for instance, that the January-March trends were maintained.

ΔCBM and factors are estimated in Table 10 on the basis of available data. If we assume the coefficients c and r to have recorded offsetting changes then the decline in primary issue would be equal to the decline in central bank money (i.e. $\Delta PE = \Delta CBM$ or -208 milliard; Δc plus Δr is assumed equal to zero). Nevertheless, the seasonal decline in c is likely to have been larger than the seasonal increase in r during a period of credit stringency: hence the overall assumption will be made that the combined impact $\Delta c + \Delta r = 75$ milliard lire. Thus we obtain PE = -133 milliards which, if multiplied by the credit multiplier coefficient (2.9) will give the total reduction in liquidity during the first quarter of 1964 i.e. 383 milliard lire. The decline from December 1963 (19,607 milliards) is 1.9 per cent.

Let us now refer back to the calculation of the seasonal adjustment made in the previous section and, after applying it, calculate the trend in liquidity for 1964: we find an increasing trend at the rate of about 7 per cent annually.

The volume of central bank money, assuming no further change in c and r, would drop in the second quarter, increase in the

TABLE II

1964 FORECASTS BASED ON TRENDS DURING THE FIRST QUARTER

	Trend line	Seasonal Adjustment (in per cent)	Trend in liquidity (Dec. 1963 = 100)	Primary expansion	Liquidity (in milliards of lire)
December 1963 .	96.8	3.2	100.0	—	19,607
March 1964 . . .	98.4	-0.3	98.1	-133	19,224*
June 1964 . . .	100.0	-2.1	97.9	10	19,195*
September 1964 .	101.6	-1.1	100.5	177	19,705*
December 1964 .	103.2	3.2	106.4	402	20,862*

(*) Estimated values.

third quarter and expand by about 402 milliard lire in the last quarter-year. The maximum limits for the " sensitive factors " could be established as soon as the behaviour of the autonomous factors becomes known or can be estimated with greater approximation.

Partial data available for April-May 1964 seem to indicate that the " trend " established during the first quarter was being maintained at least during the first two months of the second quarter-year. During this period the external position was roughly in equilibrium and the limited deficit of the Treasury was absorbed by a reduction in rediscounts. The change in CBM was probably well below the amount required in Table II which, however, includes also June, to contain the liquidity expansion within an annual rate of 6-7 per cent.

7. Conclusions

The need for guideposts of monetary policy, expressed quantitatively and set for short periods, cannot be denied in certain situations as, for instance, when an important adjustment in the economic trend is required. Such need is felt even more keenly when fiscal and monetary authorities have to agree on an optimal policy mix. Evidently the effectiveness of tax measures for the attainment of certain goals, such as a modification of the process of income uti-

lization — e.g. shifts from consumption to investment — or an improvement in the external position, could not be appraised properly without first assessing the likely dimension of monetary phenomena at the time of implementation.

If the choice of a policy target poses complex problems, of no lesser importance is the task of implementing a program once selected: true, this belongs more properly to the realm of techniques or to the art of central banking, but even so the mass of statistical information continuously becoming available needs to be organized and digested. For this purpose, it seems best to cast it into a meaningful model of interrelationship capable of relating decisions regarding the use of monetary weapons to the probable behaviour of the general target variable.

A model of this type would be useful in analysis, forecasting and programming. When reviewing trends, it would help to gain a better understanding of what has happened or is currently happening, and to apportion responsibilities for undesired economic developments; it can also help in estimating current trends of the target variable when only partial data are known. In forecasting, it would permit a clearer grasp of what can be expected under certain assumptions. In programming it helps in the preparation of a monetary budget, capable of " translating " the general policy target into a number of limits or ceilings for the more detailed aggregates (rediscount, open market operations etc.), respecting which day-to-day decisions are to be taken.

It must be stressed that it would indeed be dangerous to establish in isolation the detailed targets in relation to past trends, without taking into account changes in other aggregates of the same constellation, because it is the combined movement of the whole group which counts. This means that it would be wrong to establish policy targets for the sensitive factors without knowing the likely behaviour of the autonomous variables which, in the short-run, follow their own uncharted course.

The Italian economic trend in 1963 and the first half of 1964 was characterized by the transition from a relatively pronounced inflation and external disequilibrum to more stable conditions. Owing to the difficulties of implementing an ideal policy-mix the task of effecting the adjustment was primarily borne by the monetary authorities. The problem was handled with great caution and without resort to direct forms of control but by manipulating,

almost exclusively factors which here have been called " sensitive ".
These policies started in the third quarter of 1963, and their impact
increased gradually in the following months to date. After a time-
lag they had a clearly visible effect in the form of a slow-down of
the rate of liquidity increase and, with a slightly longer lag, of
the rate of credit expansion. From an annual rate of increase of
about 25 per cent in September 1963 (year to year gain), banks'
credit expansion slowed down to about 13 per cent in April 1964.
The liquidity rise, amounting to an annual rate of about 18 per cent
a year ago, was slowed down by March 1964 to an annual rate
of about 6-7 per cent.

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STATISTICAL APPENDIX

TABLE I

TRENDS IN LIQUIDITY
(in milliards of lire)

	1959	1960	1961	1962	1963
A. *Total liquidity of the public* . .	11,028	12,576	14,672	17,318	19,607
1. Currency	2,127	2,308	2,657	3,040	3,473
2. Demand deposits	4,084	4,753	5,558	6,675	7,485
3. Savings deposits	4,755	5,437	6,368	7,507	8,544
4. Treasury issue	62	78	89	96	105
B. *Banks' liquid assets*	2,622	2,561	2,770	3,055	3,324
1. Deposits with the Bank of Italy	861	755	867	1,063	1,350
2. Treasury bills	1,541	1,588	1,680	1,726	1,712
3. Wheat stocking bills	110	102	101	72	36
4. Cash	110	116	122	194	226
C. *Total central bank money* (A_1+B)	4,749	4,869	5,427	6,095	6,797
D. *Expansion in central bank money* (Changes in C)	—	120	558	668	702
E. *Total liquidity expansion* (Changes in A)	—	1,548	2,096	2,646	2,289

    Sources and methods: (A_1) *Bank of Italy Bulletin*, year XIX, No. 1, Table 2, col.
Circolazione. Less cash with banks, from Table 21. (A_2) ID., Table 10, col. *Conti correnti*.
(A_3) ID., Table 24, col. *Depositi a risparmio*, adjusted. (A_4) ID., Table 8, col. *Biglietti e
monete di Stato*.
    (B_1) ID., Table 2, col. *Aziende di Credito - Depositi*. (B_2) ID., Table 23, col. *Buoni
del Tesoro ordinari - Aziende di credito e Istituti Centrali di categoria*. (B_3), *Bank of Italy*,
Annual Report, 1963, p. 329. (B_4) See note A_1.

CENTRAL BANK MONEY: EXPANSION AND FACTORS

TABLE 2

(changes in milliards of lire)

	1960	1961	1962	1963
1. *Autonomous factors*				
(a) Balance of payments (deficit = —) . .	276	361	31	– 778
of which: current account balance . .	(171)	(226)	(156)	(– 556)
(b) Treasury (cash surplus = —) . . .	106	– 71	– 35	193
(c) Wheat stocking bills	2	42	79	– 7
Total	384	332	75	– 592
2. *Sensitive factors*				
(a) Banks' exchange position (decrease in net foreign liabilities = —)	– 112	26	283	410
(b) Treasury capital transactions (net borrowing from the market = —) . . .	– 188	– 1	160	532
(c) Rediscounts and advances to banks and Special Credit Institutes	23	241	149	412
Total	– 277	266	592	1,354
3. *Unclassified*	13	– 40	1	– 60
Total ΔCBM (1)	120	558	668	702

    (1) Note issue and short-term liabilities to banks and Treasury bills and wheat stocking
bills held by banks. Yearly changes.
    Sources and methods: I (a) *Bank of Italy Bulletin*, year XIX, VI, Table 49, col. *Saldo*

TABLE 3

CHANGES IN LIQUIDITY COEFFICIENTS
(in milliards of lire)

	1959	1960	1961	1962	1963
1. Currency in circulation	2,127	2,308	2,657	3,040	3,473
2. Total liquidity of the public . .	11,028	12,576	14,672	17,318	19,607
Coefficient c (1:2 × 100)	19.29	18.35	18.11	17.55	17.71
3. Banks liquidity	2,622	2,561	2,770	3,055	3,324
4. Total deposit liabilities of banks .	8,839	10,190	11,926	14,182	16,029
Coefficient r (3:4 × 100)	29.66	25.13	23.23	21.54	20.74
5. Correction (Δc)	—	118	35	96	− 32
6. Correction (Δr)	—	461	227	239	129

Sources and methods: (1) See Table 1, A₁. (2) See Table 1, item A. (3) See Table 1, B. (4) See Table 1, items A₂ + A₃. (5) Calculated by applying the coefficient c of the previous year to the liquidity of the public and comparing the result with the currency in circulation for that year (if the result is higher the sign is positive). (6) Calculated by applying the coefficient r of the previous year to total deposit liabilities of banks and comparing the result with banks' liquidity for that year (if the result is higher the sign is positive).

TABLE 4

TOTAL LIQUIDITY EXPANSION AND FACTORS
(in milliards of lire)

	1960	1961	1962	1963
1. Total expansion in central bank money .	120	558	668	702
2. Expansion in Treasury issue	16	11	7	9
3. Δc (correction)	118	35	96	− 32
4. Δr (correction)	461	227	239	129
5. Total primary expansion	715	831	1,010	808
6. Total expansion of liquidity with the public	1,548	2,096	2,646	2,289
7. Implicit credit multiplier	2.17	2.52	2.62	2.83
8. Calculated credit multiplier	2.31	2.57	2.69	2.83

Source and method: Item 1 and 2 from Table 1, items 3 and 4 from Table. 3. Item 8 calculated by the formula $\dfrac{1}{r + c\,(1-r)}$ (where c and r are taken from Table 3, for the previous year).

bilancia valutaria. 1(b) *Bank of Italy Yearbook*, 1963, p. 244. Items 1 and 2 (less: *movimento di capitali*) and items 4, 5 and 8. 1(c) ID., item 31, plus changes in B₃ of Table 1. 2(a) *Bank of Italy Bulletin*, Table 50, col. *Aziende di credito - Posizione netta*. 2(b) ID., Table 2, col. *Tesoro*, changes less item 1(b) above. Variations in item B(2) of Table 1, are added. 2(c) ID., Table 2, changes in item *Aziende di credito - Risconto ed altre operazioni* plus *Istituti Speciali di Credito*, less wheat stocking bills.

LIQUIDITY AND CREDIT TRENDS
TABLE 5

Simplified consolidated balance sheet of banks
(in milliards of lire)

	1959	1960	1961	1962	1963
1. Total banks' Credit	6,137	7,411	8,903	10,737	13,005
2. Total banks' Investment	1,320	1,538	1,789	2,310	2,592
Total	7,457	8,949	10,692	13,047	15,597
3. Plus: Banks' liquidity	2,622	2,561	2,770	3,055	3,324
Total Assets	10,079	11,510	13,462	16,102	18,921
4. Less: Net foreign exchange position, rediscount and advances . .	526	437	701	1,133	1,955
5. Unclassified, errors and omissions(1)	− 714	− 883	− 835	− 787	− 937
6. Total banks' deposits	8,839	10,190	11,926	14,182	16,029

Sources and methods: (1) *Bank of Italy Bulletin*, year XIX, No. 1, Table 24, *Impieghi*. (2) ID., Table 23, col. *Titoli di Proprietà* less the following: *Buoni del Tesoro ordinari - Aziende di Credito* and *Istituti Centrali*. (3) ID., Table 1, item B. (4) See sources in Table 2, items 2(a) and 2(c). (6) Table 1, items 2 and 3.

(1) This item is rather large in Italy; its variations are irregular and unpredictable. This results from the inclusion in the consolidated balance sheet of banks, of sizeable amounts held for account of the Treasury and of other entities, not shown as deposit liabilities. Bankers' checks in circulation are also included in this item.

TABLE 6

LIQUIDITY AND CREDIT TRENDS
(Changes in milliards of lire)

	1960	1961	1962	1963
1. Total banks' credit	1,274	1,492	1,834	2,268
2. Total banks' investment	218	251	521	282
Total	1,492	1,743	2,355	2,550
3. Plus: Banks' liquidity	− 61	209	285	269
4. Less: Transfers from Bank of Italy . .	− 89	264	432	822
5. Unclassified, errors and omissions . . .	− 169	48	48	− 150
6. Total banks' deposits	1,351	1,736	2,256	1,847