An Empirical Analysis of the Composition of Financial Wealth in Italy

The aim of this article is the empirical analysis of the composition of the financial assets of the Private non bank Sector.[1] The analysis takes off from the problem of estimating in a consistent manner an econometric model of the monetary and financial sector.

First of all, we examine the structure of a demand function for financial assets which permits analysis of the speed of adjustment of the actual composition of wealth toward that desired. In particular, the speed of adjustment may differ both in different markets and according as to whether the disequilibrium regards preexisting stocks or the flows creating new assets.

We then present the problem of formulating the demand functions in such a way that the budget equation of the Private Sector be satisfied, thus ensuring consistency between the different functions. We therefore propose specifying demand functions for the different financial assets which are perfectly symmetrical with regard to the explanatory variables, including those assets known as "cushion variables".[2] This specification is obtained on the assumption of a process of gradual adjustment effected for the composition of the overall financial wealth of the Private Sector, instead of for each individual asset. Finally, we examine empirically the distribution of the total financial assets of the Private Sector between deposits, bonds, and foreign assets. Shares are not included in the definition of financial wealth in order to avoid the particular problems of valuation and allocation of earnings on capital account.

1 In this article the Private non bank Sector (or Private Sector for brevity) is defined as the sum of Firms and Households, thus conforming with the aggregates which appear in the «financial accounts» of the Bank of Italy (*cf. Relazione annuale della Banca d'Italia,* from 1964 until 1971).

2 J. Tobin and W.C. Brainard, «Pitfalls in Financial Model Building», in *The American Economic Review,* Papers and Proceedings, May 1968.

The total volume of financial assets therefore reflects both the difference between savings and investment within each of the units which make up the Private Sector (firms and households), and the difference between total savings and investment in the same sector.[5] The monetary authorities, through the creation of the appropriate quantity of monetary base, influence interest rates and thus investment and financial liabilities; they, then, also enter in determining the creation of financial wealth.[6] More precisely, while the level of interest rates influences the overall creation of financial assets, the structure of the rates enters in determining the composition of financial wealth; at the same time the demand for the different assets influences the structure of the rates of return.

We study the demand functions of the different assets between which financial wealth is distributed considering the same explanatory variables in all the equations and using appropriate statistical methods in order to ensure that the budget contraint is satisfied. The effect of a variable in one financial market must then be accompanied by an effect of opposite sign in at least one other market.

We should remark, however, that it may be better not to consider financial wealth as symmetrically distributed between all the different financial assets. A first exception can be made for currency in circulation. The demand for currency, intimately related to transactions requirements, may be considered as a prior claim on wealth.

Although even currency in circulation may be considered a form of "store of value", competing with other assets, in economies which are financially poorly evolved, the available empirical evidence for Italy suggests that the importance of interest rates in the demand for currency is rather limited; the major determinants are instead consumption and the compensation of employees.

It seems a better tactic, therefore, to estimate first the equation for currency in circulation, subtract the quantity of notes and coin demanded from total financial wealth, and then examine

5 This holds only approximately, that is on the assumption that debts are not increased for the purpose of acquiring financial assets.

6 For a model of the relationships between the monetary base, real flows and financial assets see section 4 of the article: "I finanziamenti e le attività finanziarie in un modello macroeconomico", which appeared in *Contributi alla ricerca economica,* Servizio Studi della Banca d'Italia, Banca d'Italia, Rome, December 1971.

Finally, the advantages resulting from the use of appropriate statistical methods which constrain the coefficients, so as to satisfy the budget equation, become evident in estimating econometric models of the financial and monetary sector.

1. Creation and Distribution of Financial Wealth in the Economy

The object of this article is to determine, first of all, the total amount of financial assets in the Private Sector, and then to find the structural equations which enable us to explain, consistently, the distribution of financial flows and financial wealth between the different categories of assets.

Assuming that income, consumption and investment in the Private Sector (or, what is the same, the excess of savings over investment realised in the same sector), as well as changes in financial liabilities, are given — or explained by suitable equations — then the total increase of gross financial wealth in the Private Sector is determined. Specifically, the increase in the total financial assets is determined by the external financing of the Private Sector — obtained either domestically or abroad — and the creation (destruction) of financial assets resulting from the surplus (deficit) on current account of the balance of payments, and from the net debt (credit) position of the public administration:

$$\Delta AFT_E \equiv S_E - I_E + \Delta PF_E = (I_{SP} - S_{SP}) + (X - M) + \Delta PF_E$$

AFT_E = total financial assets (gross financial savings) of the Private Sector [3].

PF_E = financial liabilities of the Private Sector.

I_E = investment in the Private Sector.

I_{SP} = Public Sector investment [4].

S_E = savings in the Private Sector.

S_{SP} = Public Sector savings.

X = exports.

M = imports.

[3] The subscript E is used in conformity with the Italian version of this paper (« Un'analisi empirica dei flussi finanziari e della composizione della ricchezza finanziaria dell'Economia » - F. Modigliani, F. Cotula, *Moneta e Credito:* Mar.-Jun. 1973) where E stands for « Economia », the Italian expression for Private Sector.

[4] The Public Sector is also defined in conformity with the aggregates appearing in the « financial accounts » of the Bank of Italy.

On the assumption that the Private Sector continuously calculates what its optimal wealth composition should be, given risk aversion and market conditions, and continuously adjusts its own portfolio toward this optimum, then the observed share α_i will correspond to the equilibrium share $\hat{\alpha}_i$.

If instead we suppose the existence of an adjustment period, varying between the different markets and according to the costs of re-establishing portfolio equilibrium, and if we assume that adjustment of stocks need not necessarily be carried out within the chosen time unit, then it is customary to introduce an adjustment process of the form:

$$[2] \quad \Delta A_i(t) = \gamma\,[\hat{A}_i(t) - A_i(t\text{-}1)] = \gamma\,[\hat{\alpha}_i(t)\,AF(t) - A_i(t\text{-}1)]$$

It may be of interest however, also in determining the equilibrium rate of return in the different markets, to allow for different speeds of adjustment for pre-existing stocks and for the allocation of new flows of financial savings. The relative importance of the stocks and flows of financial assets in determining market rates depends in fact on the speed with which the Private Sector readjusts its portfolio composition to eliminate disequilibria in the structure of its stocks. As a limiting case we could imagine that the Private Sector does not engage in sales of existing stocks and tends instead to re-equilibrate its portfolio through the appropriate distribution of new savings flows.

A first attempt at amplifying the traditional adjustment process is made by separating the re-allocation of pre-existing stocks from the distribution of the additional flow of assets. Remembering that:

$$\hat{\alpha}_i(t)\,AF(t) - A_i(t\text{-}1) \equiv \hat{\alpha}_i(t)\,\Delta AF(t) + [\hat{\alpha}_i(t)\,AF(t\text{-}1) - A_i(t\text{-}1)]$$

we can formulate the hypothesis:

$$[2a] \quad \Delta A_i(t) = g_1\,\hat{\alpha}_i(t)\,\Delta AF(t) + g_2\,[\hat{\alpha}_i(t)\,AF(t\text{-}1) - A_i(t\text{-}1)]$$

It is readly verified that if and only if $g_1 = g_2 = \gamma$ equation [2a] reduces to [2]. Thus [2a] is a generalization of [2] which allows for the possibility of different speeds of adjustment in the allocation of new financial savings and in the balancing of the initial stock. The first term on the right indicates the change in the distribution of the remainder between the other assets. Furthermore, this procedure allows us to leave out of consideration from the other equations those variables which more appropriately explain the behaviour of the currency in circulation.

2. The Demand Functions of the Different Categories of Assets

Let us assume that the Private Sector, in deciding the composition of its financial assets, will tend to maximise the utility expected from wealth and, on average, has a certain degree of aversion to risk. Given this, the theory of portfolio choice explains the share of a category of financial assets as a function of:

a) the expected nominal return of the asset itself (R_i^e);

b) the expected nominal return of alternative assets (R_j^e);

c) the risk attached to the asset itself, or, more correctly, the effect that inclusion of this asset in the portfolio of individual operators has on the riskiness of the total portfolio (σ_{ij});

d) the expected rate of change of prices ($\dot{P}^e$).

Further, the desired share of an asset in total wealth is explained by other special factors of an institutional kind:

e) income (Y), as an approximation for the volume of transactions, since financial assets also include means of payment, the demand for which is a function of transactions;

f) the distribution of wealth (DIS), since operators with different levels of wealth and financial sofistication will desire wealth of different compositions;

g) fiscal actions (dF), which slow down the process of creation of some assets and thus tend to modify the desired structure of wealth.

Formally, defining α_i as the observed percentage of the ith asset in total wealth and $\check{\alpha}_i$ as the desired share of the same asset, we have:

$$[1] \quad \hat{\alpha}_i(t) = \left(\frac{\hat{A}_i(t)}{AF(t)}\right) = f(R_i^e, R_j^e, \sigma_{ij}, \dot{P}^e, Y, DIS, dF)$$

where A_i is the stock of the ith financial asset and AF is the sum total of financial assets.

A_i which results from current financial savings and the second term that which results from re-adjustment of pre-existing stocks.

Equation [2a], however, is a form which is particularly hard to test since the function $\hat{\alpha}$ multiplies both the flows and the pre-existing stocks, with consequent problems of multicollinearity and insufficient degrees of freedom. We therefore make the approximation:

$$g_1 \alpha_i(t)\,\Delta AF(t) \simeq g_1 \frac{A_i(t-1)}{AF(t-1)} \Delta AF(t) = g_1 \hat{\alpha}_i(t-1)\,\Delta AF(t);$$

dividing both sides by AF (t—1) equation [2a] becomes:

$$[2b] \quad \frac{\Delta A_i(t)}{AF(t-1)} = g_1 \frac{A_i(t-1)}{AF(t-1)} \frac{\Delta AF(t)}{AF(t-1)} + g_2 \hat{\alpha}_i(t) - g_2 \frac{A_i(t-1)}{AF(t-1)}$$

which may also be written, after a few simple algebraic operations, in the following form, comparable to equation [4] below:

$$[2c] \quad \frac{A_i(t)}{AF(t)} - \frac{A_i(t-1)}{AF(t-1)} = (g_1-1) \frac{A_i(t-1)}{AF(t-1)} \frac{\Delta AF(t)}{AF(t)} + g_2 \hat{\alpha}_i(t) \frac{AF(t-1)}{AF(t)} + - g_2 \frac{A_i(t-1)}{AF(t-1)} \frac{AF(t-1)}{AF(t)}$$

$$= (g_1-1)\,\alpha_i(t-1) \frac{\Delta AF(t)}{AF(t)} + g_2 \hat{\alpha}_i(t) \frac{AF(t-1)}{AF(t)} - g_2 \alpha_i(t-1) \frac{AF(t-1)}{AF(t)}$$

In the case g1 = 1 the flows of financial savings are distributed according to the equilibrium composition, within the time unit under consideration.[7] This assumption, although it may seem clearly realistic, may be inappropriate in a time unit which is sufficiently short, such as a quarter, because of the existence of transaction costs and economies arising from negotiations of substantial size.

7 In this case, the first term on the right of equation [2c] disappears and we obtain a form almost identical to that of equation [4], with the one difference that in [2c] the function $\hat{\alpha}_i$ and the term α_i (t-1) are multiplied by $\frac{AF(t-1)}{AF(t)}$.

Accepting this assumption, [2a] becomes:

$$\Delta A_i(t) = \hat{\alpha}_i(t)\Delta AF(t) + g_2[\hat{\alpha}_i AF(t-1) - A_i(t-1)]$$

which may be compared with [4a] below.

This could be the case, particularly, when there is portfolio disequilibrium between bonds and foreign assets, and the Private Sector does not wish to change the share of deposits.

A second way of extending the traditional stock adjustment process is to specify the process of gradual adjustment with reference to the share of the different assets in total wealth. We could likewise formulate the hypothesis that adjustment of the composition of wealth is also delayed by a learning process: defining $\alpha_i^* (t) = \left(\frac{A_i (t)}{AF (t)}\right)^*$ as the optimal share of category A_i, perceived at time t, with respect to total wealth, we may suppose that this perceived optimal share adjusts toward the optimal long term ratio $\hat{\alpha}$ according to the process: [8]

$$[3] \quad \Delta\alpha_i^* (t) = \gamma [\hat{\alpha}_i (t) - \alpha_i^* (t\text{-}1)], \text{ or: } \alpha_i^* (t) = \gamma \hat{\alpha}_i (t) + (1\text{-}\gamma) \hat{\alpha}_i^* (t\text{-}1)$$

As a first approximation we assume that the portfolio adjusts itself without lags to the optimal share calculated at time t, $\alpha_i^* (t)$; this implies that $\alpha_i^* (t)$ coincides with the observed share $\alpha_i(t)$.

Equation [3] can then be rewritten in the form:

$$\alpha_i (t) - \alpha_i (t\text{-}1) = \gamma \hat{\alpha}_i (t) - \gamma \alpha_i (t\text{-}1)$$

or equivalently:

$$[4] \quad \frac{A_i (t)}{AF (t)} - \frac{A_i (t\text{-}1)}{AF (t\text{-}1)} = \gamma \hat{\alpha}_i (t) - \gamma \frac{A_i (t\text{-}1)}{AF (t\text{-}1)}$$

which has the same left hand term as [2c].[9] It is interesting to note that [4] may also be rewritten in the form:

$$[4a] \quad \begin{aligned} \Delta A_i (t) &= \alpha_i (t)\, AF (t) - \alpha_i (t\text{-}1)\, AF (t\text{-}1) \\ &= \alpha_i (t\text{-}1)\, \Delta AF (t) + AF (t) [\alpha_i (t) - \alpha_i (t\text{-}1)] \\ &= \alpha_i (t\text{-}1)\, \Delta AF (t) + \gamma\, AF (t) [\hat{\alpha}_i (t) - \alpha_i (t\text{-}1)] \end{aligned}$$

where the first term on the right is the change in A_i which results from the allocation of current financial savings, and the second term indicates the flow necessary to adjust disequilibria among the

8 F. Modigliani, « The dynamics of Portfolio Adjustment and the Flow of Savings through Financial Intermediaries » in: *Savings Deposits, Mortgages and Housing* - Studies for the Federal Reserve - MIT - Penn Economic Model, Ed. by Jaffee and Gramlich, Lexington Books, Lexington, 1972.

9 Cf. footnote 7.

stocks, in order to approach the desired long term composition. We can see that by testing demand functions in the form of [4] we are able to take into account the different adjustment speeds for the flow distribution and the elimination of stocks disequilibria without encountering the estimation problems of [2a].[10]

3. The Specification of the Demand Functions and the Budget Equilibrium of the Private Sector

The Private Sector has a demand function for each individual financial asset and liability, subject to the constraint that the sum of the quantities of the different assets and liabilities demanded be equal to net financial wealth. Let us assume, as we mentioned in paragraph I, that income, consumption, investment, and changes in financial liabilities are all given. So that the overall amount of financial assets in the Private Sector is also given; one can then examine the distribution of this aggregate between the different categories of asset (A_i) other than currency, with the constraint that their sum be equal to total financial wealth (AFT), net of currency in circulation. Defining: AF = AFT — CIRC, where CIRC = currency held by the Private Sector, it must be the case that:

$$[6] \quad \Sigma\, A_i = AF, \text{ or } \Sigma \frac{A_i}{AF} = 1$$

10. We could now relax the assumption that the portfolio adjusts itself without lags to the optimal share α^* (t) calculated at time t - ie., we could include a rebalancing lag as well as a learning process. This, however, leads to demand functions in which the speed of adjustment depends on the rate of growth of assets and is no longer a constant, so that the equations become non-linear (cfr .Modigliani, op. cit.). Since this implies substantial difficulties of estimation and requires the use of scanning methods, we limit ourselves, given also the limited number of observations available, to testing a modified version of [4a] in which it is allowed that the coefficient of $\alpha_i(t\text{-}1)\Delta AF(t)$ in [4a] be different from 1. Thus, instead of equation [4], we get the following equation to be tested:

$$[5] \quad \frac{A_i(t)}{AF(t)} - \frac{A_i(t\text{-}1)}{AF(t\text{-}1)} = (\hat{\delta}\text{-}1) \frac{A_i(t\text{-}1)}{AF(t\text{-}1)} \frac{\Delta AF(t)}{AF(t)} + \gamma \hat{\alpha}_i(t) - \gamma \frac{A_i(t\text{-}1)}{AF(t\text{-}1)}$$

In fact, the specification of [5] is only a heuristic way of superimposing a gradual adjustment of new savings flows without introducing a consistent process of gradual adjustment of pre-existing stocks related to the transaction costs.

Furthermore, the sum of the coefficients of each of the explanatory variables of the n demand functions must be equal to zero.

In order to satisfy these conditions, which guarantee budget equilibrium, a first procedure is to derive the specification of the nth demand function using the balance constraint [6] and to assume that the role of "cushion variable" in absorbing the effect of variations in financial wealth is performed by one particular asset. This may be arbitrary, particularly when we examine the distribution of financial wealth between different categories of deposits. In the case of two financial assets e.g. bonds and deposits, if we assume for the first asset, bonds, the adjustment process of equation [2] and the long term demand function $\hat{A}_1(t) = [c_1 + \beta_1 (R_1 - R_2)]$ AF (t), the current demand equation for the first asset can be written as:

$$[7a] \quad A_1(t) = \gamma c_1 AF(t) + \gamma \beta_1 (R_1 - R_2) AF(t) + (1-\gamma) A_1(t-1)$$

Using [6], we can then deduce the following demand equation for the second asset, deposits, which acts as a "cushion variable":

$$A_2(t) = AF(t) - A_1(t) =$$
$$= AF(t) - \gamma c_1 AF(t) - \gamma \beta_1 (R_1 - R_2) AF(t) - (1-\gamma) A_1(t-1)$$

This latter expression may be rewritten in the form:[11]

$$[7b] \quad A_2(t) = \gamma (1-c_1) AF(t) + (1-\gamma) \Delta AF(t) + $$
$$- \gamma\beta_1 (R_1 - R_2) AF(t) + (1-\gamma) A_2(t-1)$$

From [7b] it is clear that the demand for asset A_2 is a function both of the stocks and of the creation of financial assets, since it is affected by the share $(1-\gamma)$ of $\Delta AF(t)$ which does not immediately flow into asset A_1.

Alternatively, we can assume a demand function of type [4] which permits us to relax the restriction that the role of "cushion variable" is performed by one financial instrument alone. In fact, with the aid of [4], we may study the gradual adjustment of each

11 J. Tobin and W. C. Brainard, *op. cit.*, p. 1.

financial asset category, using demand equations which are simmetrical with respect to their variables. In the case of only two financial assets, analogously to [7a] and [7b], we have the two equations:

$$[8a] \quad \frac{A_1(t)}{AF(t)} - \frac{A_1(t-1)}{AF(t-1)} = \gamma c_1 + \gamma \beta_1 (R_1 - R_2) - \gamma \frac{A_1(t-1)}{AF(t-1)}$$

$$[8b] \quad \frac{A_2(t)}{AF(t)} - \frac{A_2(t-1)}{AF(t-1)} = \gamma c_2 - \gamma \beta_1 (R_1 - R_2) - \gamma \frac{A_2(t-1)}{AF(t-1)}$$

In the case of the distribution of financial wealth between two assets (or groups of assets) the values of γ in the two equations are necessarily equal. The budget constraint implies that: $c_1 + c_2 = 1$.

We must remember, however, that the coefficients of [8a] and [8b] are obtained on the assumption that the flow of new savings is redistributed according to the equilibrium composition within the time unit under consideration.

If we abandon the assumption of instantaneous adjustment of the savings flow, as in the case of [2b], we can ensure the budget equilibrium of the Private Sector by following an analogous procedure to that already proposed - i.e. deriving the specification of the nth demand function using the balance constraint [6]. Still considering two financial assets, given the demand function of type [2b] for the first category of assets:[12]

$$[9a] \quad A_1(t) = g_2 c_1 AF(t-1) + g_2 \beta_1 (R_1 - R_2) AF(t-1) +$$
$$+ (1-g_2) A_1(t-1) + g_1 \frac{A_1(t-1)}{AF(t-1)} \Delta AF(t)$$

we get, with the aid of [6], the demand for the second asset:

$$[9b] \quad A_2(t) = g_2 (1-c_1) AF(t-1) - g_2 \beta_1 (R_1 - R_2) AF(t-1) +$$
$$+ (1-g_2) A_2(t-1) + \Delta AF - g_1 \frac{A_1(t-1)}{AF(t-1)} \Delta AF(t)$$

12 Equation [9a] is obtained from [2b] by multiplying both sides by AF(t-1), adding A_1(t-1) to both sides, and substituting $\hat{\alpha}$ for its explanatory variables (cf. [1]).

Summing [9a] and [9b] we obtain in fact:

$$A_1(t) + A_2(t) = g_2\,AF(t\text{-}1) + (1\text{-}g_2)\,AF(t\text{-}1) + \Delta AF(t) = AF(t)$$

Equations [7a, b], [8a, b], [9a, b] have been derived for the simplified case of only two categories of financial asset. For a number of assets greater than two we face the problem of abandoning the assumption that the speed of adjustment is equal in the different markets. If we consider three assets, e.g. deposits, bonds and foreign assets, we may expect a priori that the speed with which disequilibrium between deposits and bonds, or between deposits and foreign assets, is adjusted will be greater than the speed with which wealth is redistributed to change the relative shares of bonds and foreign assets, given the share of deposits. At least, this would be expected when the adjustment speed of the composition of wealth is determined by transaction costs. In the case of three assets, referring to [8a, b], or rather to [4], which is the form of the demand function which we will use to develop the empirical part of this article, for unequal values of γ in the different markets we have the three equations:

$$\frac{A_1(t)}{AF(t)} - \frac{A_1(t\text{-}1)}{AF(t\text{-}1)} = \gamma_1 c_1 + \gamma_1\,\beta_{1,2}\,(R_1\text{-}R_2) + \gamma_1\,\beta_{1,3}\,(R_1\text{-}R_3) - \gamma_1 \frac{A_1(t\text{-}1)}{AF(t\text{-}1)}$$

$$\frac{A_2(t)}{AF(t)} - \frac{A_2(t\text{-}1)}{AF(t\text{-}1)} = \gamma_2 c_2 - \gamma_2\,\beta_{2,1}\,(R_1\text{-}R_2) + \gamma_2\,\beta_{2,3}\,(R_2\text{-}R_3) - \gamma_2 \frac{A_2(t\text{-}1)}{AF(t\text{-}1)}$$

$$\frac{A_3(t)}{AF(t)} - \frac{A_3(t\text{-}1)}{AF(t\text{-}1)} = \gamma_3 c_3 - \gamma_3\,\beta_{3,1}\,(R_1\text{-}R_3) - \gamma_3\,\beta_{3,2}\,(R_2\text{-}R_3) - \gamma_3 \frac{A_3(t\text{-}1)}{AF(t\text{-}1)}$$

were : $c_1 + c_2 + c_3 = 1$. Further, when $\gamma_1 \neq \gamma_2 \neq \gamma_3$, if we want to respect the long term budget balance conditions, i.e. $\beta_{1,2} = \beta_{2,1}$; $\beta_{1,3} = \beta_{3,1}$; $\beta_{2,3} = \beta_{3,2}$, then we must allow the short term effects of the explanatory variables to be different in the different markets. In other words, the symmetry of the long term effects of changes in the interest rates in the different markets becomes inconsistent with symmetry of the short term effects. If we wish to keep the same specification for the demand functions of the different assets, then we can satisfy the budget constraint both in the short and in the long run only on the assumption that $\gamma_1 = \gamma_2 = \gamma_3$.

4. Empirical Results

4.1. *Unconstrained estimates of the equations.*

The aim of the statistical tests is to estimate the distribution of financial wealth between the following assets of the Private Sector:

a) deposits, defined as the sum of bank and postal deposits;

b) bonds, defined as the sum of bonds issued by the Government, special credit institutions and firms;

c) foreign assets, defined as the (net) outflow of domestic capital.

First of all, the individual demand equations of the form [4] were tested, without any restrictions on the coefficients aimed at satisfying the budget constraint and the results are recorded in table 1.

The demand for deposits, the demand for bonds, and the demand for foreign assets are explained as a function of the rates of return of the different assets; of an index of the instability of these rates; of expectations about rates and about the price level; and, finally, of financial wealth. Income also appears among the explanatory variables as a proxy for transactions, which require means of payment or other highly liquid assets.

The terms entering the three demand functions are the same except for the expectations about rates of return, and their instability, which we assume to influence only the division of wealth between bonds and deposits. In addition, we have included a dummy in the demand for foreign assets to allow for the effects of fiscal policy.

From the results shown in Table 1, obtained by estimating separately the demand functions for deposits, bonds, and foreign assets, we notice that there are two which are opposite to that we would expect. The first relates to the effect on deposits of expectations about the behaviour of interest rates on bonds, and the second to the effect on the demand for bonds of the differential between their rate of return and that on shares in the U.S. capital market. In fact the quantitative effect of this last variable is very small and it may be ignored. Further, from the results of Table 1, we note that neither in the short nor in the long term are the budget equilibrium conditions respected. Indeed, the sum of the constants, which indicate the desired share of each asset in financial wealth, is not equal to one, nor is the sum of the coefficients of the other explanatory variables equal to zero.[13]

Table 1A at the end of this paper presents quantitative estimates of the average response of each asset to variations in the explanatory variables.

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13 We remember that underlying the functions — or, rather, function [4] — there is the assumption of instantaneous adjustment of new savings flows.

Other statistical tests have therefore been performed to obtain additional information about the speed with which the new savings flow tends to be distributed between deposits and bonds according to the desired longer term composition. This was done by estimating the demand functions of these two assets in the form of [9a] and [9b]. The estimate of the adjustment speed of the flow into the bond market and thus, also, of the flow into the deposit market turns out to be around 0.5 but is not significantly different from 1. For the meaning of the symbols the reader should refer to Table 1:

$$\frac{TRF}{AFI\text{-}1} = \underset{(.026)}{.076} - \underset{(.00588)}{.00509}\,(RDRCC\text{-}RMG) - \underset{(.00408)}{.00783}\,\Delta RMG\text{-}1 - \underset{(.0105)}{.00994}\,\frac{Y}{AFI\text{-}1} +$$

$$- \underset{(.00090)}{.00196}\,\dot{P} - \underset{(.00031)}{.00066}\,\sigma_{MG} + \underset{(.478)}{.572}\,\frac{TRF\text{-}1}{AFI\text{-}1} \cdot \frac{\Delta AFI}{AFI\text{-}1} + .739\,\frac{TRF\text{-}1}{AFI\text{-}1}$$

$$R^2 = .927 \quad D.W.\ 2.60 \quad S.E.\ .00523$$

$$\frac{D}{AFI\text{-}1} = \underset{(.120)}{.185} + \underset{(.00588)}{.00509}\,(RDRCC\text{-}RMG) + \underset{(.00408)}{.00783}\,\Delta RMG\text{-}1 + \underset{(.0105)}{.00994}\,\frac{Y}{AFI\text{-}1} +$$

$$+ .00196\,\dot{P} + .00066\,\sigma_{MG} + \frac{\Delta AFI}{AFI\text{-}1}\left(1 - .572\,\frac{TRF\text{-}1}{AFI\text{-}1}\right) + .739\,\frac{D\text{-}1}{AFI\text{-}1}$$

$$R^2 = .927 \quad D.W.\ 2.60 \quad S.E.\ .00523$$

Function [5] was finally subjected to test to get an estimate of the adjustment of new asset flows between deposits, bonds and foreign assets, although, as already noted, the coefficient (δ-1) cannot have a precise meaning because of the way the process of flow adjustment has been superimposed on function [4]. The results obtained using this specification are indeed quite unsatisfactory for the demand functions for deposits and bonds and improve only for the demand functions for foreign assets. The test was, however, directed particularly at the coefficient of the variable $\alpha_1(t\text{-}1)\dfrac{\Delta AF(t)}{AF(t)}$: for foreign assets the flow adjustment appears to be completed within the period considered; adjustment seems to be slower for the bond market.

The reason for the different speeds of distribution of the flow of new savings between bonds and foreign assets is not to be found in transactions costs and the possibilities of scale economies. Presumably it must instead be due to the prompter movement of those expectations which influence the outflow of capital, such as the fear of devaluation, approximated by the variable $\dot{P}$, than of those which influence, in a positive manner, the investment of financial savings in bonds.

Equations [5], [9a], and [9b] therefore do not improve the explanation of the demand functions. These instead become more complicated and assume greater collinearity between the variables. Consequently, and also because the estimates are limited to the use of annual data, it is reasonable to continue our analysis using functions of the form of equation [4], i.e. assuming instantaneous flow adjustment.

4.2. *Constrained estimates of the coefficients.*

The demand functions for deposits, bonds and foreign assets were then estimated using appropriate statistical methods to constrain the coefficients in order to ensure that individual demand functions satisfy the budget equation (cf. section 3).

The results, which relate to the same equations of Table 1, are recorded in Table 2. A constraint was also implicitly placed on the regression constant, which indicates desired percentage composition of the individual assets in overall financial wealth. Indeed, we note that the sum of the constants — in the long term solutions — is equal to 1 except for rounding errors, and this is because the third equation is not independent of the first two.[14] From the first column of the long term solutions of the regressions, estimated for the period 1951-1970 (Tables 2 and 2A), one might infer that financial wealth — as we have defined it in this article — for given interest rates and national income level, tends to be distributed in equilibrium according to the following percentages: 70 per cent in deposits, 18 per cent in bonds and 12 per cent in foreign assets.[15]

It should also be noted that, unlike the results for the independent estimates of the equations, we have obtained. for all variables, coefficients which are of correct sign and statistically significant. From the standard errors of the regressions we may note however a slight deterioration in fit.

The results of Tables 2 and 2A are of considerable interest because they allow us both to examine the magnitude of the effect

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14 We remember that the procedure followed in paragraph 3 to derive the specification of the residual equation used equation [6].

15 The composition of financial assets in the Economy (liquid assets, bonds, and foreign assets) which we can calculate from quantities observed until the end of 1970 turns out to be as follows: 67.9 per cent in deposits, 17.6 per cent in bonds, and 14.5 per cent in foreign assets. The same percentages calculated at the end of 1971 approach more closely those estimated: 68.8 per cent in deposits, 17.8 per cent in bonds, and 13.4 per cent in foreign assets (cf. *Relazione della Banca d'Italia* for 1971, Statistical Appendix, proofs, Table aP7). It should be remarked, however, that these percentage compositions are not immediately comparable with the long term solutions of the regression constants. For such a comparison we should take account of the equilibrium value of the ratio $\dfrac{Y}{AF}$; furthermore, there is no reason to believe that, in the long term, the differentials between the rates of return will disappear.

TABLE I

Dependent variable	Costant	Indipendent variables											R²	S.E.	D.W.
		RDRCC-RMG	RDRCC-REUR	RMG-RAES	ΔRMG-1	σ_{MG}	dF	$\frac{Y}{AF}$	$\dot{P}$	$\frac{D_{-1}}{AF_{-1}}$	$\frac{TRF_{-1}}{AF_{-1}}$	$\frac{AFE_{-1}}{AF_{-1}}$			
$\frac{D}{AF}$ $\frac{D_{-1}}{AF_{-1}}$	.471 (.068)	.0067 (.0029)	.0065 (.0014)		−.0003 (.0034)	.00097 (.00021)		.051 (.006)	−.0026 (.0006)	−.682 (.94)			.901	.0039	2.2
$\frac{TRF}{AF}$ $\frac{TRF_{-1}}{AF_{-1}}$	.030 (.015)	−.0113 (.0034)		−.00009 (.00011)	−.0073 (.0037)	−.00051 (.00029)		−.014 (.0059)	−.0019 (.0006)		−.202 (.078)		.823	.0047	2.1
$\frac{AFE}{AF_{-1}}$ $\frac{AFE_{-1}}{AF_{-1}}$	.035 (.006)		−.0037 (.0013)	−.00024 (.00008)			.0038 (0.032)	−.019 (.003)	.0029 (.0005)			−.305 (.045)	.905	.0042	1.8
Long term solutions															
$\frac{D}{AF}$	.691	.0098	.0095		−.004	.0014		.075	−.0038						
$\frac{TRF}{AF}$	.148	−.0559		−.00044	−.036	−.0025		−.069	−.0094						
$\frac{AFE}{AF}$	.115		−.0121	−.00078			.0124	−.062	.0095						
	.954	−.0461	−.0026	−.00122	−.040	−.0011	.0124	−.056	−.0037						

D = Bank and postal deposits, and deposits with special credit institutions.
TRF = Bonds issued by the Government, by special credit institutions and by firms.
AFE = Foreign financial assets, including currency remissions.
AF = D+TRF+AFE. Total financial assets of the Economy.
RDRCC = Average rate of return on bank deposits.
RMG = Average rate of return on bonds issued by the Government and by special credit institutions.
REUR = Short term rate of return on the eurodollar market.

RAES = Rate of return on the U.S. share market, as a proxy for returns in foreign capital markets.
ΔRMG-1 = Change in the average rate of return on bonds issued by the Government and by special credit institutions in the previous period.
σ_{MG} = Measure of the riskiness of investment in bonds, calculated as the ratio between the average of maximum return — on bonds — for three months and of minimum return for three months.
Y = Gross national income.
$\dot{P}$ = Rate of change of the price level.
dF = Dummy variable for the years 1963 and 1967-1970.

TABLE 2

Dependent variable	Costant	Indipendent variables												
		RDRCC-RMG	RDRCC-REUR	RMG-RAES	ΔRMG-1	Y/AF	Y/AF	$\dot{P}$	$\dot{P}$	σ_{MG}	dF	D-1/AF-1	TRF-1/AF-1	AFE-1/AF-1
D/AF − D−1/AF−1	.203 (.029)	.0089 (.0026)	.0019 (.0009)		.0079 (.0026)	.018 (.004)	.014 (.005)	−.0011 (.0005)		.0008 (.0002)	−.0065 (.0026)	−.293 (.037)		
TRF/AF − TRF−1/AF−1	.054 (.009)	−.0089 (.0026)		.000083 (.000071)	−.0079 (.0026)		−.014 (.005)		−.0017 (.0005)	−.0008 (.0002)			−.293 (.037)	
AFE/AF − AFE−1/AF−1	.035 (.007)		−.0019 (.0009)	−.000083 (.000071)		−.018 (.004)		.0011 (.0005)	.0017 (.0005)		.0065 (.0026)			−.293 (.037)
												R^2=.813; S.E.=.050		
						Long term solutions								
D/AF	.693	.0305	.0064		.0270	.062	.048	−.0037		.0027	−.022			
TRF/AF	.184	−.0305		.00028	−.0270		.048		−.0058	−.0027				
AFE/AF	.119		−.0064	−.00028		−.062		.0037	.0058		.022			
	.996	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			

TABLE 3

Dependent variable	Costant	Indipendent variables												
		RDRCC-RMG	RDRCC-REUR	RMG-RAES	ΔRMG-1	Y/AF	Y/AF	$\dot{P}$	$\dot{P}$	σ_{MG}	dF	D-1/AF-1	TRF-1/AF-1	AFE-1/AF-1
D/AF − D−1/AF−1	.304 (.045)	.0079 (.0010)	.0035 (.0010)		.0057 (.0026)	.024 (.003)	.014 (.004)	−.0016 (.0005)		.0008 (.0002)	−.0053 (.0025)	−.439 (.061)		
TRF/AF − TRF−1/AF−1	.037 (.014)	−.0079 (.0024)		.00011 (.00007)	−.0057 (.0026)		−.014 (.004)		−.0016 (.0005)	−.0008 (.0002)			−.176 (.071)	
AFE/AF − AFE−1/AF−1	.043 (.006)		−.0035 (.0010)	−.00011 (.00007)		−.024 (.003)		.0016 (.0005)	.0016 (.0005)		.0053 (.0025)			−.352 (.045)
												R^2=.847; S.E.=.0047		
						Long term solutions								
D/AF	.692	.0181	.0081		.013	.055	.032	−.0036		.0018	−.0121			
TRF/AF	.210	−.0451		.0006	−.032		−.079		−.0091	−.0045				
AFE/AF	.122		−.0101	−.0003		−.068		.0045	.0046		.0151			
	1.024	−.0270	−.0020	.0003	−.019	−.013	−.047	.0009	−.0045	−.0027	.0030			

of the different explanatory variables on a particular financial asset category, and the extent to which the same effect is reflected, with opposite sign, on the other financial assets. Thus, expectations of an increase in the price level cause a shift away from deposits and bonds to foreign assets. The net effect on bonds is about 1/3 greater than the effect on deposits, and the sum of the two negative effects determines an identical increase in foreign assets.

Quantitative indications about the effects of the different explanatory variables on the different financial assets are recorded in Table 2A. From this we see that, in the course of a year, an expected increase of one point in the rate of change of prices causes, other things equal, a fall in deposits of 70 billion lire and a fall in bonds of about 110 billion lire against an increase in foreign assets of 180 billion lire. If we expand the definition of wealth to include shares and " real " goods, then expectations of a price increase will cause additional shifts from deposits and bonds to those assets (shares and " real " goods) which do not suffer from depreciation of the currency. Further, we note that the effect of expectations of rising prices is most marked for bonds: a further confirmation of this may be had from the estimates of equations [9a] and [9b] (cf. footnote), which concern the division of financial assets solely between deposits and bonds. In this case the sign for price expectations is negative for bonds and positive for deposits, indicating that, if we ignore substitution in favour of other financial and real asets, with a rise in $\dot{P}$ increases the preference for liquidity, at least as a short term phenomenon. In other words, the preference is not to invest in bonds, probably in anticipation of further increases in the long term rates and also, possibly, of investing the excess liquidity in assets which are not subject to monetary depreciation.

Analogous considerations may be made when we examine the effect of gross national income on the quantities of deposits, bonds and foreign assets demanded. From Table 2A we can see that, to re-establish equilibrium, an increase in income of 100 billion lire requires, given financial wealth, an increase in deposits of 11 billion lire as means of payment for transactions, and an equal reduction in the total of bonds and foreign assets.

The other results of Table 2 bring out the effects of the rates of return, of their fluctuations, and of expectations about rates.

A variation of one point in the differential between the rate of return on deposits and that on bonds [16] causes a shift between these two categories of assets, in the course of a year, of about 500-600 billion lire (Table 2A). This effect is, however, neutralised if the past behaviour of rates of interest causes expectations of their further change: the increase of one point in the rate of return on bonds in the preceding period (Δ RMG - 1) determines, in fact, in the short term, extrapolative expectations of a further rise, and hence of capital losses, which cause a shift out of bonds and into deposits of the order of 500 billion lire in a year.

Fluctuations in the price of bonds (σ_{MG}),[17] which alter the riskiness of financial investment, are important in reducing (or increasing, when behaviour is more stable) the demand for bonds. The effect of σ_{MG} was quite high.[18] In other words, stable conditions in the capital market play a large and significant part in determining the purchase of bonds.

The effect on the demand for deposits resulting from a change of one point in the differential between the average rate of return on bank deposits (RDRCC) and that on short term assets on the foreign market [19] is estimated to be about 120 billion lire in the course of a year. The long run effect however is a shift of about 400 billion lire. However this difference between short term and full adjustment is probably overestimated in that, as already noted, the regressions of Table 2 were calculated imposing equal adjustment speeds in the different markets. As can be seen in Tables 1, 3 and 4, the process of adjustment appears to be fastest in the market for deposits, and slowest in the market for bonds. The latter helps to slow down adjustment speeds when they are constrained to be equal in the different market. Therefore the impact effect of a change in the differential between returns on the demand for deposits, on the one hand, and for short term foreign assets, on the other, is likely to be closer to the

16 Calculated as the average rate of return on bonds issued by special credit institutions and by the Government (RMG). It should be noted that the estimates of the coefficients of interest rates are influenced by a bias of simultaneous equations since, as noted in paragraph 1, the existing structure of the rates is one of the determinants of the composition of wealth but, at the same time, this composition also reflects the supply which depends on the structure of the rates.

17 The measure of variability in the price of bonds is explained at the bottom of Table 1.

18 In 1969, for example, the value calculated for σ_{MG} is 14.33.

19 Approximated by an index of the short term rate of return on the eurodollar market (REUR).

TABLE 4

Dependent variable	Costant	Indi… variables												
		RDRCC-RMG	RDRCC-REUR	RMG-RAES	ΔRMG-1	Y / A…	$\frac{Y}{AF}$	$\dot{P}$	$\dot{P}$	σ_{MG}	dF	$\frac{D_{-1}}{AF_{-1}}$	$\frac{TRF_{-1}}{AF_{-1}}$	$\frac{AFE_{-1}}{AF_{-1}}$
$\frac{D}{AF}-\frac{D_{-1}}{AF_{-1}}$	.292 (.051)	.0065 (.0026)	.0026 (.0011)		.0061 (.0029)	.0… (.0…)	.010 (.0047)	−.0011 (.0005)		.00065 (.00024)	−.0045 (.0023)	−.426 (.068)		
$\frac{TRF}{AF}-\frac{TRF_{-1}}{AF_{-1}}$	.046 (.016)	−.0065 (.0026)		.000045 (.000072)	−.0061 (.0029)		−.010 (.0047)		−.0021 (.0005)	−.00065 (.00024)			−.233 (.078)	
$\frac{AFE}{AF}-\frac{AFE_{-1}}{AF_{-1}}$	.046 (.007)		−.0026 (.0011)	−.000045 (.000072)		−.0… (.0…)		.0011 (.0005)	.0021 (.0005)		.0045 (.0023)			
											R^2=.807; S.E.=.0052			
Lo… solutions														
$\frac{D}{AF}$	.685	.0152	.0061		.0143	.0…	.0235	−.0026		.0015	−.011			
$\frac{TRF}{AF}$	.197	−.0278		.00019	−.0262		−.0429		−.0090	−.0028				
$\frac{AFE}{AF}$	.138		−.0078	−.00013		−.0…		.0033	.0063		.013			
	1.020	−.0126	−.0017	.00006	−.0119	−.0…	−.0194	.0007	−.0027	−.0013	.002			

long run effect. Indications to this effect are provided in Tables 1, 3 and 4, which report estimates calculated without the imposition of equal adjustment speeds in the different markets.

The estimate of the magnitude of substitution between bonds and foreign assets leaves much to be desired. This was calculated as the response to the spread between the average rate of return on italian bonds and an index of returns on the U.S. market for shares.[20] The elasticity of the demand for Italian bonds with respect to return on foreign capital markets — approximated in the above manner — necessarily turned out to be very small and hardly significant.

20 The index of returns on the U.S. market for shares had to be used because no appropriate average index of return on the foreign capital markets were available.

Finally, we abandoned the assumption of equal adjustment speeds in the different market and constrained the coefficients to satisfy budget equilibrium conditions for the short run alone (Tables 3 and 3A).

In the final set of estimates, reported in tables 4 and 4A, which uses the lagged (instead of the current) value of σ_{MG} as a measure of the risk of holding bonds, the estimated speeds of adjustment turn out to be fairly close to each other, without imposing this constraint. As a result, as can be verified from the long run solution in the lower half the of table, the long run demand functions come considerably close to satisfying the budget constraint; we also note that in this table all variables have the expected sign.

Another important advantage of simultaneously estimating the equations for the different categories of assets — which together make up financial wealth — is the reduction of the number of coefficients to be estimated, and the increase in the degrees of freedom. This comes in quite useful when the number of available observations is very limited.[21]

5. Conclusions

In this article we have proposed a method for obtaining consistent estimates of a financial model, designed to measure the size and composition of the flows and financial wealth of one sector. The method which we have described may be applied, not only to the Private Sector, to which the demand functions of this article refer, but also to the other sectors and, amongst these in particular, the banking system.

We began by making reference to an explanatory model of the overall creation of financial assets in the Private Sector. Next,

21 For the Private Sector, defined as the sum of Households and Firms, we have statistical series for financial assets from 1951 onward. For the Household sector alone there exist estimates of financial flows from 1964. With 8 observations it is impossible to estimate equations which take into account different expected rates of return, their changeability, and price and income expectations. Regrouping financial assets into three broad categories and using the method of simultaneous estimation of the demand functions gave us an increase in the degrees of freedom. This allowed us to specify demand equations for Households closer to those tested in this article. However, the empirical work done for the Household sector alone is not included in this article since research is still not completed.

we analysed the behaviour of the Private Sector in the distribution of the financial flows, assuming that operators in this sector have a certain structure of preferences. In order that the individual equations which are estimated be consistent with one another, the structural equations must be derived from a single theoretical framework, and they must be specified so as to allow for the budget constraint. In this article we have shown how — by using the proposed specification and method of estimating the demand functions — one can avoid inconsistencies among estimated equations which may arise when the different equations are estimated separately or when the nth equation is obtained residually.[22]

Assuming a process of adjustment toward the desired composition of wealth, we have derived demand functions which are perfectly symmetrical in their explanatory variables and do not need different specification even for the « cushion variable ».[23] The simultaneous estimate of all the equations thus turned out to be a relatively easy task, even for the nth equation whose coefficients depend on the preceding (n-1) equations, as did the imposition of the constraints needed to satisfy the budget equilibrium.[24]

The most satisfactory econometric estimates are those which ensure consistency between the different equations (Tables 2 and 2A); their quantitative implications are described in paragraph 4.2. These estimates allow us to examine both the effect that the different explanatory variables have on a particular asset and the effects — of opposite sign and, when added up, the same size — on the other assets which make up financial wealth. To obtain these results, the coefficients of the explanatory variables were constrained to satisfy budget constraint both in the short and the long term; the « cost » of this restriction was having to impose equal adjustment speeds in the different markets. When we

22 In this case, by making explicit the coefficients of the residual equation which has not been estimated — using the budget constraint of the sector — we can check if the implicit regression coefficients contradict the consistency of choices within the sector, or if they express effects of unreasonable size. This making explicit of the residual structural equations, applied to model MIBI, has in fact brought out several inconsistencies and results which were hardly expected. Cfr. Banca d'Italia, Group for research into monetary and fiscal policy: *Un modello econometrico dell'economia italiana* (MIBI), C. Gnesutta, « Alcune osservazioni sulla struttura del settore monetario e finanziario del modello econometrico MIBI » (*Rivista di politica economica*, April 1971).

23 J. Tobin and W. Brainard, *op. cit.*

24 Actually, for some variables the a priori restriction of a null coefficient in one of the equations was accepted.

compare the regressions where the coefficients are constrained (Tables 2, 3, 4) with those performed estimating the individual demand functions independently (Table 1), we can in fact see that the estimated values of the adjustment speeds, especially for deposits, are reduced when the consistency condition is imposed on the equations.

The variables which were used to explain the composition of wealth — i.e. rates of return and their expected variations, a measure of risk, and the expected rate of change of prices — largely derive from the theory of portfolio choice. In addition, wealth composition is explained as a function of national income, as an index of the volume of transactions, and of changes in fiscal rules, which may affect the desired structure of wealth. We also hypothesised (cf. paragraph 2) that the desired composition of financial assets in the Private Sector might depend on the distribution of wealth between the different operators. Unfortunately, lack of data on the distribution of wealth has prevented us from testing this hypothesis. It did not prove worth-while to use the share of wages in national income since changes in the distribution of income have an effect only on the allocation of the new flow of savings and not on that of stocks already in existence.

One limitation of the empirical analysis presented in this article comes from our not having included shares amongst the components of financial wealth (the latter being defined as the sum of deposits, bonds and foreign assets owned by the Economy). The exclusion of shares has freed us from having to consider the effect on the demand for the different assets of variations in wealth which result from gains or losses on capital account. However, the possibility of building this effect into the analysis of the determinants of the composition of financial wealth is also under study; this effect will be superimposed to, and probably be different from, that arising from the flow of financial savings.

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TABLE 1A

QUANTIFICATION OF THE EFFECTS OF THE MAIN EXPLANATORY VARIABLES IN THE DEMAND FOR DEPOSITS, BONDS AND FOREIGN ASSETS

(in billions of lire)

Dependent variable	AF (2)	RDRCC-REUR (1)	RDRCC-RMG (1)	RMG-RAES (1)	ΔRMG-1 (1)	σMG (1)	$\dot{P}$ (1)	Y (2)
D		413	426		− 191	61	−165	5,1
TRF			− 719	− 3	− 464	− 32	−120	−1,4
AFE		−235		−15			184	−1,9
				Long Term Solutions				
D	69,1	606	624		− 254	89	−241	7,5
TRF	14,8		−3559	−28	−2292	−159	−598	−6,9
AFE	11,5	−772		−49			604	−6,2

(1) For a variation of one point.

(2) For a variation of 100 billion lire. We have omitted the evaluation of the short term effect of wealth; making the extreme assumption that α_i (t-1) is equal to c_i - the constant in the demand function of the ith asset - then the short term effect of a change in AF is equal to the long term effect.

TABLE 2A

QUANTIFICATION OF THE EFFECTS OF THE MAIN EXPLANATORY VARIABLES IN THE DEMAND FOR DEPOSITS, BONDS AND FOREIGN ASSETS

(in billions of lire)

Dependent variable	AF (2)	RDRCC-REUR (1)	RDRCC-RMG (1)	RMG-RAES (1)	ΔRMG-1 (1)	σMG (1)	$\dot{P}$ (1)	Y (2)
D		119	569		503	50	− 70	3,2
TRF			−569	5	− 503	− 50	−108	− 1,4
AFE		−119		− 5			178	− 1,8
				Long Term Solutions				
D	69,3	407	1942		1719	171	−235	11,0
TRF	18,4		−1942	17	−1719	−171	−369	− 4,8
AFE	11,9	−407		−17			604	− 6,2

(1) See Table 1A.
(2) See Table 2A.

TABLE 3A

QUANTIFICATION OF THE EFFECTS OF THE MAIN EXPLANATORY VARIABLES IN THE DEMAND FOR DEPOSITS, BONDS AND FOREIGN ASSETS

(in billions of lire)

Dependent variable	AF (2)	RDRCC-REUR (1)	R[illegible]C RMG (1)	RMG-[illegible] ([illegible])	ΔRMG-1 (1)	σMG (1)	$\dot{P}$ (1)	Y (2)
D		225	505		362	50	−102	3,8
TRF			− 505	7	− 362	− 50	−102	−1,4
AFE		−225		− 7			204	−2,4
			Long Term Solutions					
D	69,2	513	1146		827	114	−229	8,7
TRF	21,0		−2872	38	−2037	−286	−579	−7,9
AFE	12,2	−639		−19			579	−6,8

(1) See Table 1A.
(2) See Table 1A.

TABLE 4A

QUANTIFICATION OF THE EFFECTS OF THE MAIN EXPLANATORY VARIABLES IN THE DEMAND FOR DEPOSITS, BONDS AND FOREIGN ASSETS

(in billions of lire)

Dependent variable	AF (2)	RDRCC-REUR (1)	RDRCC-RMG (1)	RMG-RAES (1)	ΔRMG-1 (1)	σMG (1)	$\dot{P}$ (1)	Y (2)
D		165	413		388	41	− 70	3,6
TRF			− 413	2	− 388	− 41	−133	−1,0
AFE		−165		− 2			203	−2,6
			Long Term Solutions					
D	68,5	388	967		891	96	−165	8,5
TRF	19,7		−1770	12	−1655	−177	−573	−4,3
AFE	13,8	−496		− 8			611	−7,8

(1) See Table 1A.
(2) See Table 1A.

F.M - F.C.