

# The Political Economy of French Monetary Policy

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## I. Introduction

The purpose of this paper is to analyze the monetary policy decision process in France over the recent years. Since the end of World War II the French banking system has been submitted to several series of reforms. The most significant one took place between 1966 and 1971. In order to achieve more competition the authorities allowed the expansion of bank activities and the unchecked opening of new branches and reduced the regulatory differences between various types of banks. Finally, a very important reform was instituted in 1971 when the refinancing system, consisting of quasi-automatic rediscounting of trade acceptances, was replaced by the operation of the money market (*marché monétaire*).

We have chosen to concentrate on the September 1976 to December 1980 period and to compare monetary policy during this period with that of the preceding and especially of the following ones. In August 1976 a new government was appointed. Raymond Barre, its Prime Minister, decided to follow a more stringent monetary policy than previously and to this effect to control the expansion of the money supply. He instituted the announcement of monetary growth targets while implementing his policy by systematically using credit expansion ceilings (which had been used since 1973).

In May 1981, a socialist President of the Republic was elected who strongly opposed Raymond Barre's policy. Under the presidency of François Mitterrand a new and much more interventionist economic policy was announced and implemented through a series of legislative changes including nationalization of the banking system and of the leading industrial concerns. A series of measures of which the increase in Government spending (of 27 percent for fiscal 1982), financed in part by a record deficit of approximately 100 billion francs, strained the position of the franc. It seems likely that under these conditions factors affecting monetary policy will also have changed significantly although at the time of writing the instruments of this policy have not been altered significantly.

By focusing our attention on the Raymond Barre years we hope to deal with a homogeneous period, stable in terms of institutions, instruments, and objectives. Results obtained for this period could be compared

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to those of the preceding and following periods. Our findings, although limited in scope, should be more meaningful than those produced by the study of a longer period. But even during this limited interval a disturbance has occurred. On March 13, 1979 the European Monetary System was introduced compelling the French monetary authorities to keep the franc's exchange rate in a 2.25 percent fluctuation band around a central parity. The possibility that this was a turning point in French monetary policy should also be explored.

The organization of our paper is as follows: In the second section we will describe the intellectual climate, that is, the theories or ideas which seem to prevail among monetary policy decisionmakers, and state the official objectives of monetary policy and the instruments assigned to them. In the third section we will turn to the problem of the hierarchy of goals in monetary policy. This is an important issue given the specifics of the French technique of monetary control and the utilization of the financial system to stimulate particular sectors of the economy. In section four we will relate the authorities reaction function to their "utility function," analyze this reaction function and compare results for our reference period with those for former and especially latter ones.

This paper assumes that the reader has some knowledge about the French institutional setting.

## II. Official Thinking

### 1. *The intellectual climate*

All the individuals involved in the monetary policy decisionmaking process must have some idea of how the world functions. When formalized such ideas become models. They inform the decisionmakers what changes to make to achieve given goals.

The academic community has produced a host of economic models stressing in particular what instruments to use to reduce inflation. Many of its members have criticized central bankers for not following recommendations arising from these models.

In the case of France, one of the difficulties in understanding why monetary authorities do not seem to follow any normative economic model when deciding monetary policy lies in the definition of who the monetary authorities are. A diagram showing links between various institutions involved in monetary policy would be misleading. Take intervention in the money market. Theoretically, it should be conducted by the Banque de France. In fact, at least two seemingly independent institutions, the Caisse des Dépôts et Consignations (CDC) and Crédit Agricole lend more to the money market than does the Central Bank.<sup>1</sup> Their activity is coordinated at

<sup>1</sup>For an analysis of the techniques involved in French monetary policy, see R. Raymond and J.H. David.

the ministerial level. The Directeur du Trésor at the Minister of the Economy has the upper hand on monetary policymaking. But his own decisions are subordinated to those of the Prime Minister. Under the previous political majority the President of the Republic and the Prime Minister themselves were involved in the design of monetary policy. Thus it is very difficult to locate responsibility in the hierarchy.

Returning to normative formal models of the economy, one wonders to what extent they are used by policymakers. In the case of France, as in most other countries, the answer is probably a mixed one. Most French high-ranking civil servants have received a pragmatic economic education (at institutions such as Ecole Nationale d'Administration) with less emphasis on modern economic theory than that advocated by most academics.<sup>2</sup>

Researchers at Banque de France and also at Institut National de la Statistique et des Etudes Economiques (INSEE), at Commissariat Général du Plan and at other public sector institutions are engaged in theoretical studies of the French economy and its monetary sector. The main output of these studies is a "theory of the overdraft economy"<sup>3</sup> developed especially at the Banque de France and various econometric models.<sup>4</sup> Although these models are used for simulations and forecasts, it is difficult to assess their importance in the policymaking process.

## 2. *The objectives of monetary policy*

In an article written towards the end of his tenure Raymond Barre defined the objectives and the instruments of his economy policy. For him: "l'inflation (constitue) en réalité la plus grave menace pour la croissance et l'emploi . . . la lutte contre l'inflation (est) prioritaire et (doit) s'inscrire dans la durée"—the fight against inflation should receive top priority and be of permanent concern. In order to achieve this objective he defined four instruments:

- control of the money supply achieved through credit control (credit ceilings). Interest rates should not be less than the inflation rate and long-term rates should be greater than short-term rates,
- reduction of the budget deficit,
- stabilization of real incomes and purchasing power,
- stabilization of the franc.

These objectives and these instruments, as expressed by R. Barre, are very general. Only the first and the last are of concern to us here. R. de la Genière, Governor of the Banque de France, has on several occasions

<sup>2</sup>A good analysis of who French civil servants are and among other things how they are trained can be found in Ezra Suleiman. Civil servants at the Direction du Trésor are described by Nigel Adams.

<sup>3</sup>Concerning the "overdraft economy" see V. Lévy-Garboua and G. Maarek, 1978 and 1982.

<sup>4</sup>A survey of these models has been published by the Commissariat Général du Plan. For a discussion of the integration of financial variables see R. Sterdyniak and H. Villa.

expressed a more precise view about monetary policy in France, which according to him should have three objectives (not really different from those of Raymond Barre). He presents and justifies them in the following way:

—the first objective of monetary policy is *to provide money to the economy*. R. de la Genière seems to believe in the quantity theory of money and in the relationship between inflation and monetary growth that it implies; but at the same time he considers that money should not be controlled irrespective of changes in other indicators. Therefore we should have a second objective which is:

—*to regulate interest rates*, in order to keep short-term rates slightly above the inflation rate and long-term rates above short-term ones. R. de la Genière contrasts this objective with the consequences of a purely monetarist policy under which interest rates can fluctuate widely and initiate a disruptive process if high interest rates are themselves a cause of inflation (as R. de la Genière assumes).

—the third objective is *to control the foreign exchange rate* by manipulating interest rates and thus influencing capital movements, as well as by intervening on the foreign exchange market.

According to R. de la Genière, foreign exchange control is important not only because France is bound by the rules of the European Monetary System but also because a depreciation of the franc is inflationary (by raising the cost of imports and because adherence to fixed foreign exchange rates provides discipline to French firms which then have to compete with goods produced in less inflationary economies).

Academic economists whatever their persuasion must present internally consistent theories to the scientific community. They may criticize R. de la Genière's objectives by pointing out that monetary policy can at best be used to achieve only one of them given the fact that they might contradict each other. R. de la Genière agrees that contradictions could exist in the short run. However, for him the act of government consists of reconciling them by proper policy measures. Unfortunately, he does not explain what these measures should be.

Obviously, academic economists may also point out that the justification of the three objectives may not be theoretically sound, that for instance high interest rates cannot be at the same time consequences and causes of inflation. Unfortunately, we do not know of any formal model which would incorporate all the features that R. de la Genière attributes to the French economy and thus would properly explain their coexistence.

For all the reasons mentioned above, R. de la Genière recommends that changes in French monetary policy should be *gradual* and allow inflation to be reduced over several years without upsetting interest and exchange rates. He points out that in today's very unstable international environment, this policy should also smooth out the consequences of dollar fluctuations on the French external sector.

### III. Priority Ranking in Monetary Policy

As mentioned already, French monetary authorities attempt to control the money supply by limiting the volume of loans extended by the financial system.

The technique used consists of forecasting for the coming year changes in gold and foreign reserves of the Central Bank and Treasury financing needs. Given a target increase for the money supply, the desired growth of loans to the economy can be set as a difference (see Appendix). However, a problem arises. Several specific sectors of the economy (housing, exports, industrial development, agriculture, local entities) receive support from the government, in particular through subsidized loans (*crédits aidés*<sup>5</sup>). Restricting the volume of these loans would defeat their purpose. Therefore, their expansion is less severely limited than that for "ordinary" loans. In the latter case, monthly "ceilings" are fixed for each bank.

The credit ceiling method causes many problems concerning competition between banks (which *de facto* are given quotas) and efficient allocation of resources.

From the monetary authorities' point of view there is also a hierarchy of goals problem: given the total money expansion targets, what growth rate should be permitted for the different money supply sources? In particular, how severely should the expansion of subsidized loans be limited?

No public information is available concerning the bargaining process through which the expansion of privileged loans is decided. Nor do we know by which decisionmaking process ordinary loan increases are finally arrived at. It is only by studying actual figures presented in Table 1 that we can venture some assumption about the public authorities' hierarchy of goals.<sup>6</sup>

The total growth of the money supply over the 1977-1980 period, 60.4 percent, is quite close to the overall growth objective of 55.2 percent. This seemingly good result is diminished by the fact that, except for 1980, actual growth was systematically greater than the announced objective. The stability of the target growth rate, which has only been lowered by 1.5 percent in four years shows that the authorities were able to stabilize this rate at an average of 12.5 percent but not to reduce it significantly.

In a tightly regulated and controlled financial system it would seem easy for the authorities to control the sources of the money supply. Why then were the French authorities unable to reduce monetary growth in a more drastic fashion?

The answer to this question may be that control is applied to only one money supply source, ordinary loans, while other "uncontrolled" sources

<sup>5</sup>Methods used by the authorities to channel low interest loans to certain sectors of the economy are described by F. Aftalion, 1981.

<sup>6</sup>We have performed a similar analysis for the 1976-1978 period. See F. Aftalion and P. Poncet.

Table 1  
Growth of Money and of Monetary Sources (end of year figures)

	1976	1977	1978	1979	1980	1981	1982
M2 growth objective	—	12.5%	12.0%	11.0%	11.0%	10 %	12.5–13.5%
Realized growth		13.9%	12.2%	14.4%	9.8%	11.4%	11.5%
M2 end of period (billion francs)	879.9	1002.0	1124.5	1286.4	1411.4	1573.8	1754.9
<u>Sources of M2</u>							
Gold and foreign reserves	41.3 (4.7%)	46.3	55.7	63.0	88.2	81.8	31.9
Treasury debt	120.3 (13.7%)	121.4	124.8	137.1	130.8	165.2	197.6
Loans from banks	915.9 (104.1%)	1041.8	1154.6	1351.6	1559.2	1786.4	2104.2
Nonmonetary funds	- 125.0 (14.2%)	- 134.1	- 146.9	- 183.2	- 233.1	- 253.1	- 346.7
Other	- 72.7 (8.3%)	- 73.4	- 63.8	- 82.1	- 132.9	- 206.5	- 232.2
<u>Loans from banks:</u>	915.9 (104.1%)	1041.8	1154.6	1351.6	1559.2	1786.4	
Controlled loans	678.6 (77.2%)	742.8	807.8	879.9	1007.9	1143.7	
Uncontrolled loans	167.4 (19.0%)	225.3	274.0	349.5	401.0	514.8	
Accruals, etc.	69.9 (7.9%)	73.7	72.8	122.2	150.3	127.9	

(Some slight discrepancies exist between figures in this table).  
SOURCE: Rapports annuels du Conseil National du Cr dit.

sometimes behave differently than forecasted by the central authorities.

"Gold and foreign reserves" more than doubled during the period but the growth of this item contributed only 8.8 percent to the money supply growth. Even less important was the contribution of the Treasury's debt (2 percent of monetary growth).

"Controlled loans" accounted for 77.1 percent of the money supply's source at the end of 1976 and grew by 48.5 percent over the total period; the growth of this category contributed 61.8 percent to the money supply growth. Detailed analysis shows that the ceilings imposed by the authorities most of the time effectively limited ordinary loans extended by banks. "Uncontrolled subsidized loans" accounted for only 19.0 percent of the sources of the money supply at the end of 1976 but grew by 139.5 percent to account for 28.4 percent of the sources of M2 at the end of 1980. This growth represents 43.9 percent of the growth of M2. Whether it was intentional or due to a slippage is difficult to assess.

Within the category of "uncontrolled loans" the most spectacular growth was that of loans to housing (*crédits à l'habitat*) with a growth of 67.6 billion francs (360 percent) (see Table 2). This can be explained by the introduction of a reform of credit incentives in this sector, which took effect in 1978-79. To the extent that the consequences of this reform may have been miscalculated, this particular increment in the growth of the sources of M2 could have been unintentional. But since the increases in the other uncontrolled loans, even if not as strong, are quite important, it seems reasonable to assume that the government's policy of channeling funds to specific sectors had a higher priority than the control of the money supply.

Table 2  
Uncontrolled Loans (billion francs)

	End 1976	1977	1978	1979	1980
Loans in foreign currency	53.2	67.1	67.2	79.9	124.2
Exports	66.0	87.5	103.1	119.6	124.3
Special investments	9.9	24.7	30.8	35.1	38.8
Housing	14.7	23.5	44.1	81.7	82.3
Other	23.6	23.6	28.5	33.2	31.4
Total	167.4	226.4	273.7	349.5	401.0

(There are slight statistical discrepancies with data in Table 1).

SOURCE: Rapports du Conseil National du Crédit.

Note however that starting in 1978 the authorities tried to hamper the growth of uncontrolled loans by gradually integrating them into the "ceilings."

The socialist government has continued to control monetary growth

and has used the same techniques as its predecessor. In 1981 and 1982 M2 grew by 11.4 percent and 11.5 percent respectively. These rates are lower than those of the previous period. Loans from banks expanded relatively faster than M2, which again was due to the behavior of uncontrolled loans (at least in 1981). The total of gold and foreign exchange reserves and Treasury debt has remained stable; the decrease of the former was compensated by the increase of the latter.

During 1981 and 1982 monetary growth was checked even more than before because banks increased their "nonmonetary" and "other" sources of funds (especially: long-term debt and equity, borrowing from financial nonbanking institutions and from foreign banks).

#### IV. Monetary Policy Reaction Functions

By studying the actual behavior of monetary authorities on the money market and on the foreign exchange market various authors have tried to reveal their objectives directly. In this case the technique used consists in fitting a reaction function to observed data. The monetary authorities' control variables (the interest rate on the money market, or the level of reserves on the foreign exchange market in the case of France) are regressed against whatever variables seem to influence official behavior. There are several problems with such a rough approach.<sup>7</sup> Our purpose is not to discuss these problems here but to report whatever significant results were obtained to date and to present and analyze our own.

##### *1. Some results from the literature*

A great number of empirical estimates of reaction functions have been published to date. These functions are either single equations used to analyze policymaking behavior or are part of a multi-equations system modeling some endogenous variable such as the exchange rate. Only very few of the reaction function studies are devoted to France. These use as reaction function instruments either the money market interest rate or the level of gold and foreign exchange held by the central bank.<sup>9</sup>

F. Aftalion and P. Artus and H. Stydernaik estimated structural models of the French foreign exchange market. Both studies found that for 1968

<sup>7</sup>A discussion of these problems is presented at this conference. See J.E. Alt and J.T. Woolley.

<sup>8</sup>Some analyses of macroeconomic policy performed by using reaction functions are surveyed by J.E. Alt and J.T. Woolley. Recent work on multiequation systems include that of W.H. Branson, H. Hattunen and P. Masson and E.C. Suss.

<sup>9</sup>French banks can either borrow directly from the central bank by discounting certain well specified loans, or borrow from the money market (*marché monétaire*). Other participants to this market are the Banque de France and various financial nonbanking institutions. By its daily intervention the central bank keeps the overnight rate on this market above its short-run targets.



to 1973 and for 1971 to 1976, authorities intervene proportionally to the difference between the actual exchange rate and some target rate. The latter authors also show that the central bank raises the interest rate on the money market when foreign interest rates rise, when official reserves fall, when the franc depreciates or when the franc is expected to depreciate (that is, when the export/import ratio falls).

R. Pinçon has studied the behavior of the authorities on the money market over the 1966 to 1978 period. By using quarterly data he estimated the following equation:

$$(1) \quad TX_m = 0.46 (TX_d)_l + 1.95 TCH + 1.34 \left(\frac{\Delta P}{P}\right)_l + 0.59 \left(\frac{\Delta Q}{Q}\right)_l \\ t: \quad (6.25) \quad (4.22) \quad (5.94) \quad (5.82) \\ + 1.18 \left[\epsilon \left(\frac{MM}{GDP}\right)_l\right] + 1.07 ENC - 2.07 \\ (6.30) \quad (5.11) \quad (-2.86)$$

with  $R^2 = 0.962$  and  $DW = 2.00$ .

Symbols have the following meaning:

$TX_m$ : money market overnight rate,  $TX_d$ : Eurodollar 1 month rate,  $TCH$ : German mark rate (in francs),  $\Delta P/P$ : quarterly price increase (in %),  $\Delta Q/Q$ : quarterly industrial production change (in %),  $[\epsilon(\frac{MM}{GDP})_l]$ : gap between the (money supply)/GDP ratio and its long-term trend X 100,  $ENC$ : dummy variable used when credit ceilings are applied,  $( )_l$ : indicates variables smoothed over several periods by using Almon's method.

Pinçon's results indicate that the central bank raises the money market interest rate when the dollar interest rates rise and when the franc depreciates vis-à-vis the German mark. It also shows that the money market interest rate rises more than proportionally to the inflation rate, that it rises with production and that it decreases with the velocity of money.

## 2. The model

We will assume that monetary authorities are trying to maximize a utility function which has two types of arguments: a policy instrument (the money market interest rate for instance) which takes the value  $X(t)$  at time  $t$  and a target variable  $Y(t)$  (the rate of some foreign currency). A general form of this utility function could be:

$$(2) \quad U(t) = -a X(t) - b X(t)^2 - c[X(t) - X(t-1)]^2 - Y - e Y(t)^2 \\ - f[Y(t) - Y(t)^*]^2$$

where all the coefficients are positive ( $a$  and  $b$  would have positive signs in  $U$  if the policy instrument is the level of gold and foreign reserves).

The meaning of such a utility function is that authorities would like the

levels of the policy instrument and of the target variable to be as low as possible. They would also like changes of the policy instrument between one period and the next and differences between the target variable and some optimal value  $Y(t)^*$  (which may change through time) to be as small as possible.

If authorities view the target variable as being influenced by the policy instrument as well as by an exogenous variable  $Z$ , their behavior will be constrained by what they see as a reduced form of a model representing the economy:

$$Y(t) = Y(X(t), Z(t))$$

$\left(\frac{\delta Y}{\delta X}\right)$  is negative if  $X$  is the interest rate and positive if it is a change in reserves, given that the exchange rate  $Y$  is expressed in  $F/$  units of foreign currency).

By maximizing their utility under this constraint authorities will react to changes in the economy. They will change  $X(t)$  in such a way that:

$$(3) \quad X(t) = -\frac{a + d\left(\frac{\delta Y}{\delta X}\right)}{(b+c)} - \frac{f}{b+c} \frac{\left(\frac{\delta Y}{\delta X}\right)}{\alpha X} [Y(t) - Y(t)^*] - \frac{e}{b+c} \left(\frac{\delta Y}{\delta X}\right) Y + \frac{c}{2(b+c)} X(t-1)$$

This reaction function could be linearly dependent on several policy variables; if these are independent in the utility function their coefficients would have the same meaning as those of equation [3]. The same general form of reaction functions would also prevail if there were two independent policy instruments (the money market interest rate and the level of gold and foreign exchange reserves).

A reaction function such as the above should be fitted over some adequate period. Too short periods contain too little information and can not yield significant results. Too long periods could contain shifts in policy which blur the overall results. Therefore it is important to identify periods of sufficient length during which a consistent monetary policy could have been conducted.

We have selected the period from September 1976 to December 1980. In August 1976, Mr. Raymond Barre became Prime Minister and announced a new monetary policy characterized by the setting of annual targets for monetary (M2) growth. Although the Raymond Barre government was terminated in May 1981, the last months of its tenure were troubled by the forthcoming presidential elections and were not typical for its policy.

In order to check that the reaction function fitted to our reference period is typical of this period we have tested it with data of the preceding as well as of the following periods. The period from the beginning of 1972,

when a "money market" was instituted in France, to August 1976, from a policy point of view, was less homogeneous than the one during which Raymond Barre was Prime Minister. From 1972 to 1976, France had two presidents and several governments; besides the "energy crisis" of 1973-74 affected the country's economic policy seriously. However, further splitting of the period could be counterproductive for the reason outlined above. The post Raymond Barre period (from September 1981 to March 1983) is homogeneous from a political point of view although it contains three discontinuities due to successive devaluations of the franc with respect to the other European Monetary System currencies.

For a dependent variable we have taken money market monthly averages of 30-day rates (*taux du marché monétaire à 1 mois contre effets privés*). The specific character of the French monetary system explains this choice. Banks and thrift institutions are participants in this market and so is the central bank. The latter intervenes by lending to the market through specialized intermediaries (*Maisons de Réescoupte*) and also by influencing the behavior of the treasurers of some of the big financial institutions that the government controls indirectly (most of the time, the *Caisse des Dépôts et Consignations* and *Crédit Agricole* lend considerably more to the market than does *Banque de France*). Money market professionals often say that the *Banque de France* can on any day bring the money market rate within  $\frac{1}{8}$  of 1 percent of its target.

It may seem paradoxical that the *Banque de France* may attempt simultaneous control of the money supply and of the interest rate. What really happens is the following. The total amount of loans supplied by the banking system is set once a year for each month of the coming year by the monetary authorities. Together with the demand for loans it determines the interest rate on the credit market. Meanwhile the cost at which banks must borrow central bank money in order to set up required reserves is also controlled, at least in the short run. Thus the profits of the banking system are influenced by central bank behavior together (and this is here the important consideration) with the rate that banks will offer nonresidents for deposits. By controlling the money market rate the monetary authorities believe they can control short-term capital movements and thus indirectly the exchange rate (this is one of the objectives stated by Renaud de la Genière—see above).

According to all official declarations the monetary authorities believe that interest rates influence exchange rates. Therefore, the dollar and German mark interest rates are obvious candidates as independent variables in their reaction function; the first because it is the major international currency (approximately two-thirds of all French imports are paid in dollars); the second because Germany is France's most important customer and supplier of goods and services.

Since the collapse of the Bretton Woods system various European governments have attempted to replace it on a regional scale, by pegging European Economic Community currencies together. The last of these at-

tempts was the European Monetary System (EMS) instituted in April 1979 and still in force at the time of writing. In every case some fixity of the franc-mark exchange rate has been pursued. For this reason too, this rate is used as an independent variable in the reaction function of the French authorities.

Monetary authorities could also respond to the internal economic situation, in particular to activity (production or unemployment) and inflation. If such is the case, the money market interest rate should be decreased when unemployment increases above some target while it should follow inflation movements as stated by Renaud de la Genière's second objective. In this section the various independent variables outlined previously will be tested.

Another obvious monetary policy instrument would be intervention on the foreign exchange market. Unfortunately, this is not public information and cannot be studied. In its place we have tested the use of gold and foreign exchange reserves.

### 3. *The 1976-10 to 1980-12 period*

Over this period we have found that the money market rate can be "explained" by the following reaction function (using monthly date):

$$(4) \quad \text{TMM} = -18.7 + 1.51 \text{XDO} + 5.41 \text{XDM} + 1.136 \text{DPR}$$

$$t: \quad (-3.23) \quad (2.94) \quad (3.31) \quad (2.21)$$

$$+ 0.885 \text{TMM}(-1)$$

$$(19.1)$$

$$R^2 = 0.933 \quad DW = 1.21 \quad F(4.46) = 160.6$$

where XDO and XDM are respectively the value of the dollar and of the German mark (monthly averages)<sup>10</sup>; DPR is a weighted average of price increases over a period of four months lagged one month (in monthly percentage changes).

By regressing TMM over changes in the consumer price index, it was found that only changes in months ranging from t-2 to t-5 have significant coefficients. DPR is an average of monthly price changes ( $\Delta P$ ) weighted by these coefficients:

$$(5) \quad \text{DPR} = 0.23 \text{DP}_{t-2} + 0.18 \text{DP}_{t-3} + 0.28 \text{DP}_{t-4} + 0.31 \text{DP}_{t-5}$$

When an equally weighted inflation measure is used in reaction function regressions only very minor changes in the various statistics occur.

We have also tested the influence of the industrial production index and of its changes lagged from one to seven months on TMM. No significant influence has been found for the 1972 to 1980 period and for various

<sup>10</sup>Data sources are:

- French money market interest rates and French gold and foreign exchange reserves: Rapports du Conseil National du Cr dit,
- exchange rates and price indices are from OECD Main Economic Indicators,
- Eurodollar interest rates are from World Financial Markets.

sub-periods. Similarly, introducing industrial production related variables in various reaction functions does not improve the fit and does not yield significant coefficients.

In equation (4) the lagged interest rate seems to largely explain the contemporary one. Indeed, by regressing TMM on TMM(-1) we find that:

$$(6) \quad TMM = 0.414 + 0.960 TMM(-1)$$

(1.0)      (22.67)

$$R^2 = 0.912 \quad DW = 1.37 \quad F(1.49) = 514.$$

However, removing TMM(-1) from the reaction function also gives a satisfactory explanation of the money market interest rate:

$$(7) \quad TMM = 18.9 + 0.936 XDO + 9.91 XDM + 1.55 DPR$$

(-3.1) (2.92)                  (4.70)                  (2.92)

$$R^2 = 0.950 \quad DW = 1.09 \quad F(3.46) = 294.$$

(after correction for serial correlation by the Cochrane-Orcutt method some positive correlation is still present).

Since colinearity may exist between the dollar and the mark rates, we have also fitted a reaction function where XDO, the dollar's exchange rate has been removed:

$$(8) \quad TMM = -2.57 + 1.303 XDM + 0.567 DPR + 0.915 TMM(-1)$$

(-1.33) (1.44)                  (1.10)                  (18.8)

$$R^2 = 0.92 \quad DW = 1.34 \quad F(3.47) = 182$$

The specification of this equation is much less satisfactory than that of equation (4). So is also that of a reaction function where the dollar exchange rate is replaced by the dollar interest IDO (on one month Eurodollars):

$$(9) \quad TMM = -2.83 + 0.00 IDO + 1.43 XDM + 0.59 DPR + 0.916 TMM(-1)$$

(-0.99) (-0.0)                  (1.06)                  (1.08)

$$R^2 = 0.92 \quad DW = 1.34 \quad F(4.46) = 134.$$

Thus equation (4) describes French monetary authorities' behavior better than does any other tested reaction function. In order to compare it with the theoretical function [3] (with two target variables) objectives for XDO and XDM should also be used as variables. However there are no obvious candidates for the period under consideration. The simplest assumption that can be made, is that the foreign exchange targets were the average values for the overall period: 4.45 F for the dollar and 2.25 F for the DM. By taking these rates as the French authorities' target rates and using equation (4)'s coefficients and assuming that the value of the constant is zero, the following reaction function obtains:

$$(10) \quad TMM = 151 (XDO - 4.45) + 5.41 (XDM - 2.25) + 1.736 DPR$$

$$+ 0.885 TMM(-1)$$

$$= 18.9 + 1.51 XDO + 5.41 XDM + 1.136 DPR$$

$$+ 0.885 TMM(-1)$$

where the constant value is very close to that of equation (4). A true constant of zero in the reaction function could mean that a and d in the

utility function (2) are also equal to zero.

In equation (4) the coefficients of XDO and XDM are positive as expected and significantly different from zero (at the 5 percent level). The inflation rate during the past quarter (lagged by one month), also, has a significant positive coefficient. If the value of this coefficient were one (of which value it is not significantly different) monetary authorities would *ceteris paribus* adjust the interest rate in line with the inflation rate.

Other specifications of the reaction function, using in particular the franc-mark real rate, have been tested and have yielded unsatisfactory results.

Within the period under scrutiny the European Monetary System was instituted (March 1979). To test whether this was followed by a change in monetary policy, a dummy variable was added to the reaction function (4). It was found that the coefficient of such a variable is not different from zero. In another test a reaction function with the same variables as (4) was tested for the periods 1976–10 to 1979–3 and 1979–4 to 1980–12. Although the coefficients of the latter equation are not significantly different from zero, neither are they significantly different from the coefficients of the former. Thus we have found no evidence of a change in the reaction function.

We have already mentioned that gold and foreign exchange reserves (RES) or changes thereof (DRES) could also be used as a policy instrument. If the dollar and mark rate together with the lagged level of reserves are used to explain changes in reserves:

$$(11) \quad \text{DRES} = 26.4 - 1.609 \text{XDO} - 10.3 \text{XDM} + 0.087 \text{RES}(-1)$$

$$\quad \quad \quad (2.03) \quad (-1.43) \quad \quad (2.56) \quad \quad (3.82)$$

$$R^2 = 0.303 \quad \text{DW} = 1.923 \quad \text{F}(3.47) = 6.81.$$

A more satisfactory reaction function is obtained if the real rate (RXDM = XDMxPD/PF where PD and PF are the German and French consumer price indices) is used:

$$(12) \quad \text{DRES} = 41.21 - 19.29 \text{RXDM} - 0.0792 \text{RES}(-1)$$

$$\quad \quad \quad (4.16) \quad (-4.39) \quad \quad (-2.34)$$

$$R^2 = 0.428 \quad \text{DW} = 1.95 \quad \text{F}(2.48) = 18.0.$$

#### 4. Other periods

The fitting of a reaction function of the type  $\text{TMM} = f(\text{XDM}, \text{XDO}, \text{DPR}, \text{TMM}(-1))$  for the 1972–1 to 1976–9 period shows that the mark does not appear to be a significantly explanatory variable. The reaction function must have a different form possibly similar to the one studied by R. Pinçon. By replacing in the above relationships the dollar's exchange rate by the Eurodollar (here three months) interest rate we get:

$$(13) \quad \text{TMM} = -4.33 + 0.258 \text{IDO} + 2.86 \text{XDM} + 0.745 \text{DPR}$$

$$\quad \quad \quad (-2.41) \quad (4.08) \quad \quad (2.33) \quad \quad (1.24)$$

$$\quad \quad \quad + 0.637 \text{TMM}(-1)$$

$$\quad \quad \quad (8.27)$$

$$R^2 = 0.968 \quad DW = 1.98$$

where all the coefficients are significant and have the expected signs except that of the inflation rate which is not significantly different from zero (but is not significantly different from one either).

Following the May-June 1981 elections a new President of the Republic and a new parliamentary majority were elected. Using the reaction function technique it seems possible to investigate if a change of monetary policy occurred with the new government. In order to do so we have applied the set of variables significant for the Raymond Barre years to the September 1981 (we allowed a few months for the monetary post election turmoil to settle) to March 1983 (date of the most recent data available at the time of writing). However we have added PFM, the central franc/mark rate in the EMS, as the objective of the target variable XDM (F/DM rate).<sup>11</sup> The following regression results were found:

$$(14) \quad TMM = 9.95 + 0.627 XDO + 11.147 XDM - 14.22 PFM \\ \quad \quad \quad (1.39) \quad (0.76) \quad \quad (1.51) \quad \quad (-2.69) \\ \quad \quad \quad + 2.463 DPR + 0.453 TMM(-1) \\ \quad \quad \quad (2.99) \quad \quad (3.28)$$

$$R^2 = 0.886 \quad DW = 2.21 \quad F(5.18) = 20.28$$

where the dollar and the mark exchange rates don't have significant coefficients any more.

Much more satisfactory seems to be a reaction function where the dollar interest rate is substituted for the dollar exchange rate:

$$(15) \quad TMM = 3.45 + 0.351 IDO + 10.508 XDM - 9.705 PFM \\ \quad \quad \quad (0.85) \quad (4.67) \quad \quad (2.58) \quad \quad (-2.82) \\ \quad \quad \quad + 1.250 DPR + 0.236 TMM(-1) \\ \quad \quad \quad (2.22) \quad \quad (2.40)$$

$$R^2 = 0.955 \quad DW = 2.08 \quad F(5.13) = 56.1.$$

Notice that the value of the constant is not significantly different from zero here while all other coefficients behave as expected.

Concerning the change in reserves during the 1981-9 to 1983-3 period, a reaction function like  $DRES = f(XDO, XDM, PFM, RES(-1))$  which has been fitted for the preceding period no longer yields significant coefficients. A more satisfactory reaction function is obtained when the dollar's exchange rate and the lagged value of reserves are removed and the latter replaced by the lagged value of DRES:

$$(16) \quad DRES = 67.23 - 218.24 XDM + 191.42 PFM - 0.294 DRES(-1) \\ \quad \quad \quad (2.99) \quad (-5.14) \quad \quad (4.79) \quad \quad (-1.68) \\ R^2 = 0.676 \quad DW = 2.75 \quad F(3.14) = 9.75.$$

Notice that in none of the equations tested (not reported here) had the dollar interest rate or the real franc-mark rate significant coefficients.

<sup>11</sup>PFM changes with each devaluation of the franc or reevaluation of the mark. Such changes in parity took place in October 1981, June 1982 and March 1983.

### 5. Interpretation

One possible interpretation of our results is the following:

—*There is a typical set of reaction functions for the Raymond Barre period.* The one concerning the money market interest rate (TMM) seems to be in accordance with Mr. de la Genière objectives: it incorporates changes in inflation and is used to control the exchange rate of the franc (vis-à-vis the two major currencies).

—The change in reserves reaction function displays a positive constant, as well as negative coefficients for the exchange rates. Going back to our model this could mean that *authorities get satisfaction from accumulating reserves* (“a” has a significant positive value in the utility function while “d” is known from the TMM reaction function to be close to zero).

—By comparing the interest rate reaction functions for the Raymond Barre and for the following periods it seems that *the same objectives of monetary policy have prevailed.* However, due to the changes in the environment—the strong appreciation of the dollar between 1981 and 1983—the exchange rate of this currency has been dropped as a policy target and replaced by the dollar’s interest rate.

The institution of the EMS has brought the franc-mark central parity into focus and made it into a policy variable target.

Close values (both close to one) of the inflation coefficient show that the objective of keeping the interest rate above the inflation rate has been maintained.

Significant positive coefficients for the mark in both reaction functions show that interest rates have continuously been used in French monetary policy (this was also true for the 1970–76 period) in order to control the foreign exchange rate. Similarly significant positive coefficients for the lagged interest rate shows that in both periods authorities dislike variability in TMM (this necessarily means a positive  $c$  in the utility function).

—However different values for the coefficients of XDM (the mark rate) and TMM(–1) (the lagged interest rate) could mean that if the same objectives have been assigned to monetary policy by different governments the relative “utility” derived by them from the various economic variables has changed.

If we assume that the influence of interest rates on foreign exchange rates has not changed after 1981 ( $\frac{\delta Y}{\delta X}$  has remained constant) referring to equation (3),  $\frac{f}{b+c}$  will have increased after 1981 and  $\frac{c}{2(b+c)}$  decreased. Going back to the utility function, this could mean that in the tradeoff between variability of interest rates and divergence of the exchange rate from the EMS central parity, Raymond Barre’s government gave more weight to the former relatively to the socialist government.

This change in the utility function could be due to the institution of the EMS. However, our tests don’t allow us to infer a change in Raymond Barre’s reaction function after March 1979.

—Comparison of “changes in reserves” reaction functions for the



1976–9 to 1980–12 and 1981–9 to 1983–3 periods (equations (11) and (16)) shows that in both cases reserves are used to control the mark rate. As for the interest reaction functions, the dollar exchange rate vanishes as an argument after 1981. The other difference between the two reaction functions seems to be the magnitude of the mark coefficient and the absence of lagged reserves in (16). In terms of the utility function this could mean that  $f$  has increased relatively to  $(b + c)$  after 1981: in the second period there is more relative weight given to fluctuations in the foreign exchange rate (vis-à-vis the mark) than to the variability of reserves and the desire to accumulate such reserves.

The lagged “change in reserves” term in (16) could be due to the authorities’ attempt to regain reserves after incurring heavy losses.

## VI - Conclusion

In order to understand the monetary policy decision process in France one has to understand the particular intellectual climate of this country. Studies conducted at various public institutions show that at least at the staff level there is a belief that the French financial sector is not sufficiently market oriented to be well represented by most theories developed for the United States. Most models elaborated at these institutions take the actual system as a given and show that in this context interest rates should be used as intervention instruments.

During the Raymond Barre years, at the top executive level the main official objectives of monetary policy were the reduction of the inflation rate and the stabilization of the foreign exchange rate. Another objective was to keep short-term interest rates above the inflation rate. The instruments used to achieve these objectives were respectively: control of the money supply and control of interest rates.

The technique used for monetary control was, and still is, control of the volume of “ordinary” loans extended by banks. Inspection of money supply figures shows that although on the average M2 growth has been stabilized at 12.5 percent annually, growth objectives have been exceeded in every year except in 1980. Given the authorities’ gradualism this has prevented them from setting more stringent objectives. The reason for this lack of achievement may be that the authorities simultaneously conducted a policy of allocating “privileged” loans to certain sectors of the economy. Such “uncontrolled” loans grew much faster than ordinary ones and upset quantitative control. It appears that the objective of credit allocation took precedence over that of inflation control.

Typical reaction functions were found to explain the use of the money market interest rate and of reserves during the 1976–9 to 1980–12 period. The one explaining interest rate behavior is in accordance with official objectives.

Reaction functions which fit the Raymond Barre period best are not satisfactory either for the preceding or for the following period. Some of

the changes of behavior after 1981 may be due to changes in the environment (institution of the EMS and the appreciation of the U.S. dollar). Others may reflect a change in authorities' preference: they have traded more interest rate variability for a relatively more stable exchange rate (against the mark). This change could be due to constraints imposed by the EMS, but we have not found proof of a change in the reaction function after March 1979 when the new system was started.

## Appendix

### A Simplified Model of the French Financial Sector

Balance sheets of the central bank, the Treasury and the commercial banking system are:

Central Bank		
Gold and foreign exchange	OD	E Currency
Loans to the Treasury	$F_T^B$	RO Fractional reserves
Refinancing of commercial bank	$RF^B$	
Treasury		
Accumulated budget deficits	DB	CCP Treasury circuit deposits
	$F_T^B$	Loans from the Central Bank
	$F_T^P$	Loans from the public
Commercial Banks		
Fractional reserves	RD	D Deposits
"Ordinary" loans to the economy	C	$RF^B$ Refinancing from the Central Bank
"Privileged" loans to the economy	CP	$RF^S$ Refinancing from "Special Institutions"
	K	Equity and long-term debt

By aggregating these three balance sheets one finds:

$$OD + (DB - F_T^P) + (C + CP - RF^S - K) = E + CCP + D = M2$$

where  $DB - F_T^P = CCP + F_T^B$ .

The credit control technique consists of setting ceilings to the expansion of C and partially to the expansion of CP. The other money supply source components are not controlled, but merely forecasted.

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## Discussion

Robert Raymond\*

Mr. Aftalion's presentation of French monetary policy is interesting in many ways:

—because he is familiar with the United States, he has rightly spotlighted the differences in attitudes and institutions that divide these two countries and sometimes render the mechanisms of the French economy unintelligible to the Anglo Saxon;

—he vigorously, and at times cruelly, points out the piecemeal nature of the French financial system and the plethora of regulations that govern it;

—he does however show that these peculiarities do not prevent France from adjusting to the broad trends that affect the industrial countries, notably interest rate movements. The French economy is to a large extent open to the outside world, and the consequences of this are accepted. The fact that the administration exercises control over a great many areas of the economy should be seen as an expression of French concern for sound management, a legacy of our farming past, when we skillfully exploited our natural wealth. We love nature not when left to her own devices, but when she is well-tended. If our vines were not subjected to strict discipline through constant care and attention, they would not bring forth good wines. By the same token, we are inclined to think that one cannot simply leave the economy to develop in jungle-like disorder.

My role here will be to explain the logic behind certain features referred to by Mr. Aftalion. Concerning the general framework of the workings of the financial system and the financing structures of the economy, I refer participants to fuller presentations given by me on earlier occasions, here and in Chicago, the latter version of which is available in a recent publication by the Federal Bank of New York.<sup>1</sup>

Here, I shall only discuss the workings of the money market and my Institute's thinking on the present role of interest rates in France; I shall conclude with some general thoughts on the assignment of priorities in monetary policy.

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<sup>1</sup> Paul Meek (ed.), *Central Bank Views on Monetary Targeting*, Federal Reserve Bank of New York, 1983.

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**Monetary Aggregates: Targets and Performance**


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	1977	1978	1979	1980	(percentages)	
					1981	1982
TARGET (M2)	12.5	12.0	11.0	10.0	10.0 (12.0)	12.5 13.5
Performance						
M2 (December/December)	14.0	12.1	14.4	9.8	11.4	11.5
M2 (Annual average)	12.3	13.2	13.4	11.7	12.6	12.3
M2 <sup>1</sup>	13.2	12.8	13.5	10.7	11.9	12.1
GDP (in money terms)	12.3	13.6	13.9	13.1	12.2	13.7
GDP (in volume)	3.1	3.3	3.1	1.3	0.3	1.4
GDP price deflator	8.9	10.0	10.5	11.7	11.8	12.1

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<sup>1</sup> Quarterly average centered on December over quarterly average centered on December for the previous year.

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## I - The Money Market

1. I contest Florin Aftalion's claim that the Bank of France does not control the money market rate. According to the author, two structural lenders dominate this market, namely the Caisse des Dépôts et Consignations and the Crédit Agricole.

The first named manages the savings banks' deposits. It invests these funds in the capital market (in the form of shares and bonds), in direct loans to certain nonprofit agencies or to local authorities, in Treasury bills, and lends the balance to banks on the money market.

The Crédit Agricole has a surplus of deposits over lending to customers; it too lends this surplus on the money market.

Nevertheless, the Bank of France can vary the interbank money market rate as it sees fit for one simple reason, which is as true in France as elsewhere, namely that it alone has the power to create or cancel central bank money at will. All it needs to do is to add or subtract one franc from the central bank money stock to affect the interbank rate. Conversely, if it wants to maintain this rate at a given level, it simply has to announce that it will intervene without limit at this level.

Were it otherwise, Florin Aftalion would have been unable to calculate a central bank reaction function.

2. To be more specific, how could the Caisse des Dépôts et Consignations and the Crédit Agricole resist a change in interest rate if this was what the central bank wanted?

The Crédit Agricole can cut its lending to other banks on the money market by holding more central bank money in its account at the Bank of France. This can only happen at the start of the compulsory reserve maintenance period (the reserves are calculated as a monthly average of daily balances at the Bank of France); this cannot last very long, for otherwise the Crédit Agricole would start to accumulate voluntary, interest free reserves, which, like the other French banks, is something it never does. All the Bank of France needs to do then is to compensate for this by injecting an equivalent amount of central bank money into the market to head off a rise in interest rates. Shortly afterwards, in order to restore the required average level of reserves, the Crédit Agricole will on the contrary have to reduce its liquidities held with the central bank, and the reverse movement will set in. In a word, this does produce short-term variations around a mean position in the portfolio of open market bills held on the assets side of the Bank of France balance sheet, and in the banks' reserves item on the liabilities side.

The Caisse des Dépôts is not in a position to create these temporary disturbances: being under no obligation to maintain compulsory reserves, it does not hold liquid funds with the Bank of France.

3. These two institutions can withdraw from the money market to build up their holdings of securities or Treasury bills. However, in that case: (i) they will not dry up the money market, since the central bank money

that they hand over to the Treasury flows back to the financial system when the government expenditures funded by the issue of Treasury bills are carried out;

- (ii) bank deposits will rise: sellers of securities receive payment, or Treasury spending funded by the issue of bills increases monetary assets held by private citizens and businesses. Central bank money demand will grow to meet the rise in reserve requirements, and the central bank can then raise its intervention rate if it sees fit.

4. In short, the Bank of France is not weak, despite the presence of a handful of big participants in the money market. Its balance sheet structure is in line with theory. Recently, the fall in its foreign currency reserves was offset by a sharp rise in its buying under its open market policy, so that on 31 December 1982 the "lending" positions of the three protagonists in the money market were as follows:

	Billions of French francs	
Bank of France		215
Rediscount	65	
Open market	150	
Crédit Agricole		66
Caisse des Dépôts et Consignations		5

The change in the structure of monetary base counterparts has restored the role of the Bank of France as principal lender in the market. But even if this were not the case little would be changed. The Bank of France could just as well control the money market rate by acting as a borrower, supposing, for example, it had created a surplus of liquidity through its foreign currency buying. Then, it could also raise compulsory reserves and so force the financial system to become its debtor overall.

## II - Money Market Interest Rates

1. For several reasons the Bank of France has never pursued a monetary base control policy as the United States and Switzerland have done. Firstly, it wants to avoid subjecting the franc to frequent, broad interest and exchange rate swings.

Above all, the ratio of corporate indebtedness to banks is materially higher in France than in the other industrial countries, except Japan, which is a good reason for avoiding sudden or sharp variations in the cost of credit. So ceilings are imposed on bank lending growth which work effectively in a country with a high level of bank intermediation.

2. On a number of occasions, however, external pressures have led to a raising of short-term rates, from which the following effects are expected:

—a slowdown in the conversion of nonresident franc balances into foreign currencies;

—a rise in the cost of forward purchases of foreign currency (i.e.,

forward selling of francs), and a greater incentive to sell forward foreign currencies for francs;

—thanks to a rise in the prime rate, a reduced incentive to finance international trade in France rather than abroad, which amounts to acting upon leads and lags.

Not surprisingly, therefore, attention is drawn to relations between interest rates in the French money market and those in other countries. Several periods need to be distinguished in this respect:

—during the period of the floating franc, which lasted from 1976 to March 1979, the monetary authorities strove to stabilize the trade-weighted exchange rate of the franc. This led the authorities to keep an eye on interest rates in the United States and Germany in particular. Having restored their external accounts to equilibrium in 1978, however, the French authorities were then in a position to ease domestic interest rates even though Eurodollar rates were just beginning their rise and German rates were remaining stable.

—since the setting up of the European Monetary System (EMS), the French authorities no longer refer to American interest rates in guiding their own money market. Since March 1979, they have bowed to the discipline of maintaining a stable franc against the mark, in so far as is possible. To this end, the central bank focuses essentially on the gap between short-term interest rates in France and Germany. In periods when both countries' rates vary jointly, it is only possible to discern a link with Eurodollar rates when Germany aligns her rates with the latter in order to regulate the dollar-mark exchange rate. This strategy depends on the German authorities and on the cooperation within the European institutions.

3. Over the last two years, however, the French monetary authorities have undergone a change of attitude towards the use of money market rates as a means of defending the franc, and we believe this change to be based on objective considerations.

Several factors conferred on the franc a remarkable degree of stability between the creation of the EMS and the beginning of 1981: a temporary weakness of the mark, and a fairly steady inflow of capital. The franc came under pressure in the early months of 1981. The Bank of France handled this acute crisis notably by raising interest rates in the money market, which peaked at 20 percent in May 1981. The aim here was to stem the outflow of both resident and nonresident short-term capital, which was occurring through a great variety of channels (conversion of funds, forward currency dealings, leads and lags).

Two realignments within the EMS took place, in October 1981 and June 1982. The French monetary authorities gradually tightened exchange controls so as to throttle outflows of capital held by residents.

After June 1982, the situation looked rather different:

- (i) for residents, the outflow of capital, which had until then played an unfavorable role, ceased to have any effect;
- (ii) nonresidents had to borrow on the Eurofranc market if they wanted to



take short positions against the franc. Our exchange controls prevent the Eurofranc market from being supplied by loans or transfers from residents (French banks in particular). Any nonresident speculation against the franc therefore puts (sometimes very sharp) pressure on interest rates in the Eurofranc market.

Under these conditions, there was no longer any need to act to modify money market rates in order to attenuate currency crises at their height. On the contrary, what was needed was to tackle the underlying factors; this was the case from June 1982 until now, and especially prior to the latest devaluation of the franc in March 1983.

These underlying factors were:

—the external account deficit, which was very large in 1982 and was itself associated with a rise in “absorption” in France, at a time when it was falling in Germany and other industrial countries;

—the inflation differential between France and Germany.

Consequently, the Bank of France refrained from raising the money market rate during the foreign currency crisis leading to March 1983. Nor has it lowered rates since. The drop in official reserves in the three months prior to the March 1983 realignment was made good in the two months that followed.

At the present moment, money market and other interest rates depend primarily on the domestic economic situation. Although they have not been used in a monetarist perspective to achieve the adjustment that is needed at present, they do play an important role:

- (i) after all, we must offer the saver a return on his money. The fact that long-term interest rates have stood perceptibly above the rate of inflation has encouraged a steady expansion of bond issues. Now, the two leading borrowers are the state and the banks. The issuing costs of medium and long-term bank bonds is one of the factors that determines the bank base lending rate.
- (ii) the money market rate provides the return on primary nonresident deposits and fairly strongly influences the prime rate. These two reasons explain why it is kept above the inflation rate.
- (iii) lastly, banks’ resources also include noninterest-bearing current accounts and deposits on which interest is subject to regulation.
- (iv) overall, the cost of credit, which covers bank operating expenses and financial costs, remains higher, on average, than the underlying rate of inflation.

4. One may conclude that the Bank of France’s money market intervention rate has very frequently been affected, in recent years, by France’s external position. This dependence is attenuated, sometimes very considerably, when the authorities react to external pressures by means of one or another of the alternative policies, namely:

- exchange controls
- borrowing abroad
- intervening with the aid of currency reserves

—and, as a last resort, adjusting the exchange rate.

Each of these reactions—and I do not know whether they can be equated or not—depends on the political climate, the economic situation, and is in any case limited in scope.

### III - The Targets of Monetary Policy

1. The foregoing might be taken to mean that the Bank of France is able to call on more than the two instruments cited by Aftalion, namely the credit ceiling system and short-term interest rates. However, I utterly agree that a profusion of targets and instruments would be unwise, as this would create a risk of over-determining the economy and ultimately losing real control over it.

However, French monetary policy does not strike me as pursuing three competing objectives simultaneously, namely money stock, exchange rate and interest rate level, as Florin Aftalion suggests, and I do not think he has interpreted Mr. de la Genière's statements correctly in this respect.

The Bank of France has had but a single effective target since 1977, and that consists of the money stock M2 growth rate. I shall not go into the technical reasons for preferring this aggregate to another concept of money. I think it would be more interesting to discuss the possible choice of a credit target rather than a money stock target. I shall confine myself here to listing the following principles:

—the money target was chosen at a time when the foreign deficit was less frightening than today and could be financed without drawing on foreign currency reserves. This target permitted overall control of the three sources of new money, namely external monetary position, monetary financing (which was very low at the time) of government spending, and lending to the private sector.

—it was only from 1981 onwards that a credit target would have been more appropriate, owing to the deterioration of our external accounts; a target restricting domestic credit would have helped to reduce the current account deficit, while an overall credit target would have provided better control over the basic balance. Though true in theory, in practice this would have run radically counter to the overall thrust of economic policy after the 1981 elections. It is hard to imagine the Bank of France singlehandedly resisting the application of a programme (which included, among others, a bigger budget deficit) that had been sanctioned by universal suffrage. Such situations are familiar in other countries too, notably in our host country today.

The more restrictive phase of economic policy introduced in June 1982 and accentuated in March 1983 presupposes, *inter alia*, much slower growth in domestic credit than last year.

2. The exchange rate and interest rates do not rank on a par with monetary growth. They are secondary objectives, in the sense that these variables are not left to their own devices, and that the monetary authori-

ties enjoy only limited room for manoeuvre with respect to them.

I have already explained the variety of ways in which the authorities can react to exchange rate crises. Hitherto, the principle has been to avoid an undervaluation of the franc which would have fuelled inflationary pressures in an open economy. Conversely, it may be held that the central bank can reasonably take advantage of a stronger exchange rate to build up its currency reserves, even at the risk of temporarily overshooting its M2 target. Objectives may clash as a result, requiring settlement by means of some tradeoff, although there are means of neutralizing this inflow of liquidity.

I have also had occasion to spell out the position of the French authorities on interest rates. We view the present scale of interest rates in France as fairly well suited to the domestic situation, given that this is not our key instrument in our efforts to bring the economy back into balance, for which we are relying on a combination of a credit ceiling system and reduced "absorption" through fiscal and incomes policy.

3. This last remark is evidence of the recent improvement in the French policy mix. Governments have generally pursued two objectives over the last few years, namely keeping both inflation and unemployment in check. These may be thought irreconcilable, the one necessarily taking precedence over the other, even if the latter is not neglected. Several specific measures, many of them successful, have been directed at the labor market. At present, however, our priority is to break free from external pressures.

Persevering with money stock growth targets close to 10–12 percent is, in the Bank of France's view, the best monetary strategy in an environment that is economically, politically, internationally and, if I may be permitted a slight dig at the economists, theoretically unstable.