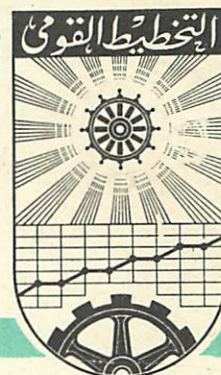


# UNITED ARAB REPUBLIC

## THE INSTITUTE OF NATIONAL PLANNING



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Fife Model in French Planning

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## I The Structure of the French Economy

### A) How Far is it a mixed Economy?

The word mixed Economy applies only partly to the French situation: For the productive sector is mostly operating under the general conditions of a free competitive system, as the majority of firms are private-owned and managed. A limited part only is government-owned = EDF, GDF, The coal-Mines (Charbonnages de France), Renault, SNIAS. They constitute a small proportion only of the National added value. Moreover, they have to meet the same constraints as the private sector. Their prices cannot always be fixed like in a monopoly system, but must follow the rules of the market and on the other hand they cannot go into deficits as the state gives no financial support (This is the case for Renault. For Gas & Electricity, prices are fixed by the administration. They are therefore the only government-owned firms stricto sensu

The term Mixed Economy therefore could be misleading - Yet it applies to our system because of the massive intervention of the state on the Economy. For instance, fiscal pressure - or in other terms, the part of the Administration, that is the State plus local Collectivities, and of social Security represents 43% of the GNP. This feature is true of the majority of developed industrial countries except the US; Sweden standing much above this level.

. Among the state's spending the regalian spending that is Defence, domestic spending and the current spending of the Ministries, does not amount to much, proportionately (the National Budget makes up 20% of the GNP. Defence makes up 15% of the State Budget = 3% of GNP - whereas social Security represents 20% of GNP)

. a small part only of the 43% goes into the relationships between the Administration and Business. It appears at 3 levels

- 1) - at the traditional level of infrastructures: road building, harbours, education etc..
  - 2) - at the level of financial links between the State and the enterprises, by which they are removed from a purely competitive system and placed in a system of mixed economy
- and thirdly the fiscal system that allows to apply more or less pressure, according to circumstances either on household budgets or on business. This is done through two channels
  - by way of subsidies or loans to the enterprises - a means of action which can be made more or less selective to favor a definite sector or firm or group of firm when needed.
  - or by way of specialized rules & laws: for instance: the network of regulations that after 1960 allowed middle-sized & moderately efficient firms to combine, thus setting up the present powerful industrial groups of the 70's like Grenzot-Schneider, Pechiney-Pullman

B- The Chief problems of the French Economy, which planning must solve

. Features henceforth taken for granted (no longer questioned)

. France made a stateg chorce in the early 1960's

(since 1882: a protective policy to which France became accustomed progressively high tariff dues + limited quotas of imports made France sink from 2nd industrial country to 4th or 5th

It could be hoped that being protected by her tariff harri she would have had no problem for her balance of payments - yet in late 50's met problems of Balance of Payments because had indispensable imports to make (e.g fuel, oil + equipment goods she did not make) & because was unable to produce competitive goods.

This brought about the decision to open up France to international competition - Phased over 2 steps: 1st with CECA. 2nd with EEC

This brought forth the necessity, at the outset of each period of preparation of the development Plan, to meet problems of B of Payments. Why make such a choice then? Well, it was hoped that the pressure of international competition would accelerate the rate of technical progress - and by way of consequence, that of the Country's growth. It was therefore a gamble on the future.

. French firms have successfully managed to grow

- they invest permanently and have brought forth new projects of investment without the need of state stimulation or support.
- 2nd - The industries' productivity has increased regularly

2- The 2 major preoccupations

- Notwithstanding that they regularly grow, French firms are mostly small or average-sized - Their technology at the origin was not very advanced nor their management particularly fit. They often failed to take foot on international markets & were often faced with serious competition on the domestic market.
- (Macro economic adjustments) Growth therefore can be challenged at any time, and whenever there appears a cause of disequilibrium for the B of P, the state launches on 2 kinds of economic policies: a deflationary policy to re-equilibrate the B of P but which stops the growth process - or a policy of devaluation which in the short-term allows to balance the Foreign trade but in the mean time, the medicine does not necessarily work. Moreover such a policy accelerates inflation.

The economy therefore may be disequibrated also by the increase of prices which accelerates spontaneously - Again the state resorts to a deflationary policy which will also stop the economy's growth. Therefore although the firms were capable of managing their growth, there were 2 sources of macro economic disequilibrium, related to the B of P & to the prices. Consequently French Planning has constantly had in view the necessity of facing 4 sources of disequilibrium: the 2 already mentioned, but also the problems of labor & those of Public Finances. This is what is called the Magic Square Experience shows that the attempt to solve one kind of disequilibrium led to foster another one. The solution of Problems of the B of P has often been achieved to the detriment of full-employment goals.

I How the French Economy is represented by Fifi Model

A The Model Itself

1- To each problem in the French Economy corresponds one part in Fifi model

A Fifi provides an unsophisticated model of the growth of the enterprises

a- The model of growth of the enterprises is a production function model with constant coefficient in which the productivity of labour for the terminal year, and for each sector of production, is projected in an exogeneous way

In the Plan's terminal year, the intermediate consumption and the level of employment are proportionate to the level of Production.

The rate of investment, that is the ratio between investment and added value, is a linear function of the rate of growth of added value. This comes to selecting for an operational hypothesis, a constant marginal coefficient of capital

. In Fifi model there are 8 sectors: agriculture, food & agricultural industry, energy, transports & ecommunications, housing & services, Public works & buildings, Other services, Commerce, and the Industry stricts sensu - (which represents 33% of the French GNP but also  $\frac{3}{4}$  of France's exports. The model for the Industry is more sophisticated. We shall see later on a number of its features, especially from the viewpoint of the formation of prices. But the industry is also represented by a Cobb-Douglas production function that is with substitutable factors. Owing to the abundance & reliability of the available data for the industry, it is also represented by a great number of statistical data concerning the

operation of its sectorial account by which the receipts & the spending are described..

a special econometric attention is applied to calculate the level of the receipts & of the spending

Furthermore it is represented by the fine-tuning of a number of items in its sectorial account, according to foreign competition. Those items are

- . Labor productivity
  - . The rate of self-financing (that is the ratio between indistributed profits & the gross formation of fixed capital.
  - . and lastly, the wage-slide, that is the differential between the rate of wage increases in the economy and that of the industry.
  - . The model describes 6 administrative agents: the Civilian & the military budget of the State, the budgets of local collectivities; that of semi-public agencies of economic action; social Security; private and foreign administrations - All the sources of income & the forms of spending receive thorough description, as well as the modes of financing in case of a deficit-
- W Whereas the spending patterns of these administrations are generally described in an exogeneous way & are thus fixed by the Public Powers, there is one specific economic relation for each source of (income (taxes, or individual social-insurance contribution.)

All the tools of the economic policy are thus introduced from both viewpoints of income & spending.

(b) This feature of Fifi Model is determined by the specific Characters of the Organization of the French Planning System in which

- the industrial enterprises have an important part in the process of "Concertation" (mutual consultation, harmonization and adjustment between social groups & economic agents)

- in the following years, the Public Powers must clarify and implement the economic guidelines & conclusions propounded by the Plan.

(We are not going to develop this point as it will receive thorough treatment next time)

## A 2

### a) Price Formation

In the model, industrial prices are formalised differently from other prices. This gave rise to the fundamental concept of "an economy under foreign competition" (L'économie concurrenceé) from which the chief characteristics of the model stem.

There are 3 kinds of price - formation processes utilised in the model.

- That of the "sheltered" sector, that is the sector responsible for little or no foreign trade exchanges. It is the case for Building, Public Work, services, trades, housing and the farming and food industries. All the items of spending in the sectorial account are described nominally, that is in current values, through more or less simple econometric relations.



They consist of intermediate consumptions, salaries & wages, social insurance contribution, taxes, interest costs as well as many other minor posts.

In order to pass from the exploitation cost data to more operational data stated in terms of overall turnover figures - and consequently in terms of prices (the prices being obtained by dividing the turnover expressed in current values, by the production, expressed in value) a satisfactory evaluation of profits must be secured.

The profits are defined through a pattern of behaviour in "self-financing" (auto-financement) in which the rate of self financing or relationship between the level of undistributed profits and the gross formation of fixed capital in value remains constant.

- In the "administrated sector" where the mixed economy is best illustrated, *Stricto sensu*, prices are fixed by various agencies. For instance, farming prices are established by the EEC, the state fixes the prices of energy, transports and communications where a number of government-owned enterprises are to be found. Such prices are therefore exogeneous and correspond to decisions made at the level of the economic policy-makers.
- Lastly the "exposed sectors" that is the sector receiving the full blast of international competition. It consists chiefly in the industry. We have said before that the French industry is fragile. This fundamental feature gave rise to the fundamental theory of an "economy under foreign competition". The French firms are never in a position to impose their own prices or even to have an impact on the price-formation process, either on the French & the foreign markets whatever the origins of the products, French or Foreign, Industrial prices must be the same on foreign markets as they are on domestic markets - though of course domestic prices may differ from those of foreign markets. But what

matters is to note that they are entirely fixed by the foreign industrial competitions.

As occurs in the other sectors, the industry offers a pattern of self-financing together with investment needs in volumes. Such investments allow the growth of its production capacity. Whenever the resources for self-financing are insufficient the industry will not grow fast enough. Or else the industry's profits are limited as the charges increase, and because the international competition establishes the prices at a level which is too low to permit a sufficient earning capacity for the French industry.

The domestic demand of industrial commodities tends to grow quicker than the production because the income distributed by the whole of the productive sector-and chiefly by the protected sector and by the administrations increase at a quicker pace. And therefore the external balance in industrial goods may be easily degraded, which, as we have already pointed out in the first part of our expose, may lead to a slowdown or a stop in the economy's growth.

One of the major objectives therefore of our French plan has been to avert such a degradation and ensure a stable and regular growth. To that effect, the Public Powers may utilise all the tools of economic policy which are introduced in the model.

The structure of the industrial model as it is described, therefore gauges a number of variantal properties, that is, the reactions of the endogeneous variables of the model whenever an exogeneous variable is modified - in particular

when the instrumental variables which describe the tools of the economic policy are being altered). Those variational properties differ basically from those of the majority of foreign major models which are mostly based on the keynesian theory, whereas our Fifi model is based on that of the "economy under foreign competition".

In a Keynesian model, the growth of the production and of employment initiated by the domestic demand, whenever the economy is not in a situation of serious under employment of its labour force, leads to a disequilibrium of the Balance of Trade. In our model, it is possible to show that a set of economic policy measures can be adopted so as to ameliorate both the Balance of trade and the level of employment.

We feel that this fundamental feature of Fifi model should be developed more thoroughly on the 2nd seminar which ought to go further into what has been more superficially described today.

The formation of incomes & of consumption is much less original than the rest of the model

- except for one point = it is extremely detailed in its approach, which makes it possible to apply a number of very delicate measures of economic policy.)

One part of the primary incomes is provided by the productive sector: it consists in the wages & salaries of individual entrepreneurs (craftsmen, shopkeepers, farmers etc...) Another part is made up by the salaries paid by

the Civil service - the essential element here being the nominal increase of the mean income in the overall economy. It is evaluated through an econometric relation of the Philips' curve type, in which the nominal mean income is a function of the overall level of prices and unemployment rates. For each productive sector of the economy as well as for the administrations - for the wage earners and for the individual entrepreneurs a "wage slide" is exogeneously projected. We recall that it consist in the differential between the rate of increase of wages in the sector under observation, and the rest of the economy.

The secondary incomes are accurately described through the transfer payments done by the social security system or directly by the State. This was the case lately for the transfer of income effected for the French farmers. Primary & secondary incomes make up the whole of the household income . The latter ones pay taxes, and then separate their available income between saving & consumption. This part of the model has no particularly original features except that it is very sophisticated in its econometric formulation (the saving function and above all the 'Stone model' applied to household consumption.

II B<sub>1</sub>

The preparation of the 5-year plan is phased over 2 periods of one year each.

Phase I leads to deforming the chief mean-term options which the Public Powers will submit to the Nation's examination and acceptance. Phase II consists in working out thoroughly what had hitherts been mere options. Finally the Report of the Commissariat an Plan concludes this perparatory work which must afterwards, be approved by the Parliament like any government-initiated bill.

Within both phases, there are sort of beat-time periods in which a key macro-economic projection is performed. The first projection opens with phase 1, and for instance, for a Plan ending in the year 1980, it would begin by early 1974. This initial projection actually operates likes a forecast that is to say that

- The model is made to function with the value of the coefficients of explicative variables previously tested by econometrics.
- And conventional economic policy is applied as a working hypothesis. It mostly consists in either pursuing the current economic policy or in projecting its current trend.

This initial projection especially gauges out a number of macro-economic elements of disequilibrium =

For the 6<sup>th</sup> Plan (that covered the 1970-1975 period) the projection for 1975 was characterized, should no specific economic policy be applied, by a deficit of the B of P, and of public finances and by unemployment. Those deficits as we have already pointed out, might have slowed sown or stopped the economy's growth. But as the elaboration of the Plan progressed, it integrated more & more the economic policy

propounded by the Commissariat du Plan or by the whole of the "concertation" apparatus and already approved by the public powers.

Between the initial forecast and the final projection associated to the Report on the 5-year plan, there are about 10 projections corresponding to the beat-times of the planning-process unfolding about a hundred "technical" projections - technical because they allow the exports to improve gradually the quality of the results secured.

b2

But FiFi model, though it is a simulation model & not an optimization model also allows to make economic choices concerning problems related to one definite sector of field. We should like to give 2 examples both related to problems of the Balance of Payments.

- The reduction of the French Coal Industry

In France Coal-extraction is expensive. In 1970, when the VI<sup>th</sup> Plan was being prepared, there were several macro-economic surveys advising to quicken the shift from coal to oil (40 tons of coal extracted in 1970, and projections for 1975 standing at 25 tons).

But two elements worried the public powers.

- first this shift might diminish employment in the mine-districts.
- secondly, the Balance of Payments which was already unsettled might be worse off since it meant more import of oil.

a number of exogeneous (variables were then introduced in Fifi model they consisted in increased oil imports, but also in lowered costs of the energy destined to the productive sector. The ex-nost results were extremely surprising: the energy imports were roughly compensated by improvement of the Balance of trade; that improvement was related to a quicker progression in industrial production which made up for the decrease in the domestic fuel production; and on the whole, the decrease in employment in the coal-district was also compensated by an increase of employment in the industry. At the level of macro-economic balances, that is those contained within the Magic Square, to accelerate the reduction of coal production did not modify sensibly the economic conditions and therefore the social disadvantages of such a policy became more salient since it meant that the mine workers would have to face difficult re-employment problems. Of course, Fifi did not take such human aspects into account. The Public Powers, disregarding Fifi's neutral conclusions opted for a quickened reduction of the coal production.

#### A 2nd Case: Immigration

Immigrants, in spite of their limited income, have usually a very high rate of saving and will transfer a large part of their wages abroad. This weighs exante on the balance of current operations.

The Ministry of labour therefore undertook a survey for the reduction of immigration. As was the case with the French coal-Mines, a number of exogeneous variables were changed in the model; reduction in the number of immigrants; related reduction in currency transfers reduction of a number

