1. INTRODUCTION
The method of fix-price equilibrium has been extensively used in the last ten years in an attempt to provide an analytical representation of the reinterpretation of the keynesian theory of unemployment put forth in the sixties by Clower and Leijonhufvud. The literature is growing and already well developed; ground-laying contributions are due to Drèze, Benassy, Barro-Grossman, Halinvaud. All these works deal with highly aggregate two-sector models and make standard convexity assumptions on consumers preferences and standard concavity assumptions on the aggregate production function.

In a recent paper (Fitoussi and Georăescu Roosen 1980) the common structure of these models is examined and some criticisms concerning the assumed properties of the production function are put forward. The issues involved are all have Georăescu Roosen's flow-fund theory of production (for which see e.g., Georăescu Roosen 1971a and b) in the background and include: among others: the Marx-flavored distinction between labor and labor-force, the explicit analysis of the time-length of the production process, the influence of the length of the workday on the level of unemployment. In the paper, however, an alternative aggregate model is outlined but its analytical discussion is only partially carried on.

Aim of the present paper is to reformulate the assumptions underlying Fitoussi-Georăescu Roosen's two-sectoral macroeconomic model and to develop a systematic analytical discussion of its properties. The paper is organized as follows: section 2 contains the list of the assumptions characterizing the model, together with all the relevant definitions and notations; section 3 contains the discussion of the behavior of the two aggregate economic sectors: consumers and producers, in each of the possible situations occurring according to the fix-price formulation (zero, one, or two quantity constraints); section 4 contains the classification of the price-wage parameter space in the four typical regions of the fix-price literature (keynesian unemployment, repressed inflation, classical unemployment, underconsumption) together with a detailed analysis of the sign of the static employment and output multipliers and of the problem of triviality and non-existence of equilibria.

The answer to the last two problems (particularly the second: there are entire open regions in the price-wage parameter space for which no fix-price equilibria exist) is somewhat unexpected and sharpens the contrast with the existing literature.

2. ASSUMPTIONS
2.1. The period for which the market process is described is so short that: (i) the size of the population remains constant; (ii) the tastes of the population are invariable; (iii) there exists a constant number of production units operating with a given technology.

2.2. During the same period only one trading act takes place in each market.

2.3. The price vector cannot be affected by the behavior of the economic agents - consumers, producers, government. Consumers seek to maximize their utilities and firms seek to maximize their profits by adjusting the quantities they buy or sell to the given prices and to the constraints on trade in which they can possibly incur on markets where aggregate demand and supply can only be made to coincide by a rationing procedure. The government simply spends some given funds at the given prices and is never subject to rationing.

2.4. In addition to monies there are only two commodities: a homogeneous labor and a general consumer good, hereafter called "commodity". The productive process is assumed to be completely integrated, and the capital...
market nonexistent. Natural resources are ignored altogether. The land on which the productive process takes place is fixed, and nothing is due for its use.

2.5. No economic agent can, or wants to, stock the commodity, either because of complete perishability or otherwise. As a consequence, the commodity is produced and consumed entirely within the period.

2.6. Money stocks at the end of the period have an indirect utility for consumers as a store of value, and constitute the primary object of concern for firms by definition of profit maximization.

2.7. In contrast with the previous two, the dimension of labor is twofold, since its contribution to the productive process as a fund element is duly emphasized. On one hand the operation of any industrial plant presupposes the simultaneous utilization of some segment of the existing labor-force, measured in number of men, on the other hand the description of the actual outcome of the process requires the specification of the time during which the plant is in operation within the period, measured in hours. The distinction has its counterpart in the consumer's utility maximization problem, where the argument entering the utility function in the standard consumption-leisure trade-off is the number of working hours, but the macroeconomically relevant variable, size of the labor-force, results as the number of consumers willing to supply a positive amount of labor-time.

2.8. The asset reservation problem is completely ignored; all individuals and firms are identical.

2.9. The only observable states are of the kind currently described as fix-price equilibria with rationing. In other words, there exists an invisible hand, or auctioneer, which coordinates the decisions taken by the economic agents in order to make them consistent with a given price vector and among themselves, so that the constraints on trade individually perceived by the various agents - and entering their maximization programs - coincide with the ones obtained for them on the markets where the various outcomes of those programs require the rationing procedure to be in operation.

2.10. The preferences of each consumer are represented by the following standard utility function:

\[
U(x, l, m') = b \ln x + c \ln (B - l) + d \ln m' \quad \text{where:}
\]

- \(x\) is the amount of the commodity consumed within the period,
- \(l\) is the working time performed within the period,
- \(m'\) is the stock of money held at the end of the period,
- \(B\) is the biosociological maximum number of working hours that can be performed in the period.

The budget equation, according to the assumptions above, reads as follows:

\[
w l + m = px + m' \quad \text{where:}
\]

- \(p\) is the price of the commodity,
- \(w\) is the wage rate,
- \(m\) is the stock of money held at the beginning of the period.

The outcome of the decisions of all consumers, identical as they are by assumption, is therefore completely

\[b, c, d > 0 \quad b + c + d = 1\]

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/2/ See Georgescu-Roegen 1971a on this respect. The distinction is at least partially overlapping with the marxian distinction between labor and labor-force.

/3/ For a given plant this number may vary between a minimum, corresponding to the safety level of operation, and a maximum, corresponding to full capacity.

/4/ This coincides with the length of the working day, provided only one shift is used. The problem of the number of shifts is not studied in this paper.

/5/ The current trend, both in theoretical and empirical works, is to collapse the two dimensions in one. As understressed in Georgescu-Roegen 1971b, "...the closest element revealed...from current statistical information...is the number of man-hours supplied during the year...Such data...do not even provide some indirect index of the average employment during the year. Certainly, 1600 man-hours may be the result of 400 men each working four hours as well as 200 men each working eight hours."