

SOME REFLECTIONS FOR A STUDY ON LABOR UNDERUTILIZATION

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I. INTRODUCTION

One of the main characteristics that development theory associates with a situation of underdevelopment is the existence of redundant labor in the whole economy, but especially in agriculture. It is pointed out that this problem is determined by a lack of employment opportunities outside the rural sector and that the rural migration toward cities that occurs in spite of such lack of employment opportunities produces labor redundancy in urban centers of the underdeveloped countries. Therefore, besides the question of rural labor underutilization, manpower becomes underutilized in the larger cities as well. And because of fairly rapid rates of population growth simultaneously with low expansion of opportunities for industrial work, the amount of underemployment and unemployment not only continues to exist but even tends to accelerate. (1, p. 126). This waste of resources, according to one the main implications arising from the theory of labor underutilization, means that policy measures have to be formulated to promote a better resource allocation. This in turn implies that underutilized labor be readily available for new uses — an assumption that is generally adhered to — and, less frequently

(1) — HARRIS, John R. & TODARO, Michael P. — Migration, unemployment and development: a two-sector analysis. *The American Economic Review*, Wisconsin, 60 (1), Mar. 1970.

admitted, that those counted on the manpower reserve agree to change occupation.

In Latin America, it has been estimated that all sources of unemployment would yield a rate of underutilization of available labor time in 1960 of 25% (2, p. 3, 5). In the Northeast of Brazil, similar calculations give a figure for the rural and urban sectors of 37% and 21%, respectively, in 1970 (3, p. 86, 89). Although data on these questions leave much to be desired, it is generally recognized that labor underutilization represents one of the main topics for development planning. This explains the volume of discussion that has been centered on underemployment and unemployment, which in spite of its intensity remains a subject in need of theoretical explorations that would be relevant for new and more convincing empirical research. In fact, there is still much skepticism about the underemployment issue (4, p. 23) and the factual findings remain unsatisfactory (5, p. 222). Urban underemployment, for instance, is as much a product of casual observation. This has led Myrdal to suggest that the fundamental difficulty involved in empirical studies of the subject "lies in the analytical framework that has guided these inquiries" (6). Of course, more research is required; meanwhile, what one can do in theoretical terms is to make clear what one has in mind in such a way as to enable an attempt at more adequate and pertinent empirical research, and in a way that would dismiss doubts like those raised by Wellisz who points out the inconclusiveness of the empirical work about labor underutilization in underdeveloped economies. Such a view casts doubts on the existence of the phenomenon itself, thus running against the feelings of those who experience the realities of underdevelopment.

The main purpose of this paper is to present an alternative way of looking at the question, capable of empirical verification. It departs from the conventional treatment of the problem which uses the zero or low marginal productivity characteristic as its basic trait. The latter argument is critically inspected through Section II and the paper's main proposition is set out in Section III.

2 — THORBECKE, Erik. *Employment and growth in the strategy of Latin American development: implications for the seventies*. CAS/Serv. H/X. 19, CIES/1941 rev. 1, Aug. 19, 1971.

3 — GOODMAN, David & CAVALCANTI, Roberto. *A industrialização do Nordeste*. Rio de Janeiro, IPEA/INPES, 1971. v. 1 — A Economia regional.

4 — For a review of this point, associated with the names of people like Viner, Haberler, Schultz, A. K. Sen, see Stanislaw Wellisz. Dual economies, disguised unemployment and the unlimited supply of labour. *Economica*, London, 35 (137), Feb. 1968.

5 — MYRDAL, Gunnar. *Asian drama*. New York, Pantheon, 1968.

6 — Idem.

II. A CRITICAL PRESENTATION OF THE USUAL APPROACH TO LABOR UNDERUTILIZATION

If one is to look for a paternal figure in this question of underemployment (7, p. 82, 87) one will find instead a maternal one, for it was Joan Robinson who first — at least among modern writers — introduced the subject (8, p. 225-37). Although she was preoccupied with the reduction in productivity accompanying change in occupation in an industrial economy during a period of depression (from banker to selling apples on a streetcorner), the idea was later extended to the completely different circumstances of underdevelopment. Here it was observed that labor tended to exceed minimum requirements in agriculture, thus prompting one to pose that, given the size of the labor force, underemployment could be considered as a situation in which a withdrawal of a certain amount of the labor factor to other activities, would not appreciably reduce total output in the sector from which it was withdrawn (9, p. 342). A parallel consideration raised in this connection was the suggestion that in underdeveloped regions those without any work, but actively seeking it, formed a rather negligible portion of the labor force, and that this was to be explained in terms of the existence of a dual society comprising a modern market sector and a larger stagnant traditional sector. In such a dual environment, conditions of family work tend to prevail in the traditional segment — which generally coincides with agriculture. This accounts for the existence of a wage for workers whose marginal productivity is zero or very low, a situation that could not hold outside of institutional arrangements for production of a family-type nature.

Conducted as a rule from the point of view of demand, the theoretical analysis of underemployment centers on the proposition of zero labor marginal productivity (10, p. 279-80, 284). Alternatively, disguised unemployment has been defined, in circumstances characterized by institutional restrictions, as "a situation in which wages per man

7 — Underutilization of labor involves both open unemployment and underemployment. The former, however, does not seem to fit appropriately the conditions of a less developed region (GOODMAN & CAVALCANTI, op. cit. note 3, give figures of 2.7% and 0.4% for open unemployment in the urban and rural sectors of Brazil's Northeast in the first quarter of 1970). So when one refers to underemployment (or disguised unemployment) in a context of underdevelopment, this almost coincides with the idea of labor underutilization.

8 — ROBINSON, Joan. Disguised unemployment. *The Economic Journal*, London, v. 46, June, 1936.

9 — NAVARRETE JR., Alfredo & NAVARRETE, Ifigenia M. de. Underemployment in underdeveloped economies, In: *The economics of underdevelopment*. New York, A. N. Agarwala & S. P. Singh eds Oxford University Press, 1963.

10 — WONNACOTT, Paul. Disguised and overt unemployment in underdeveloped economies. *Quarterly Journal of Economics*, Cambridge, Mass., 76 (303), May 1962.

are below the rate that would give the lowest cost per work unit" (11, p. 287-8). Demand is also a dominant perspective in empirical investigations (12). As a consequence, the inquiry into the causes of the existence and persistence of labor underutilization does not escape from raising the questions of why demand for labor by firms is low, why employment opportunities outside agriculture are not opened at a sufficiently rapid rate to take account of population growth and migratory phenomena. Reduced stock of productive equipment constitutes a standard reply, to which is added the policy implication that by raising capital accumulation one can put into use that labor reserve, available as a resource for planning (13). More completely, it is conceived that manpower can be withdrawn from agriculture toward industry without visibly affecting the former's output, and in this sense labor underutilization represents authentic hidden savings. Nevertheless, it is not explained how this reorganization can be accomplished, although the analytical tools have been used abundantly and even convincingly to show how a segment of redundant labor in agriculture can be transformed into productive labor in the industrial sector.

The experience of industrialization in underdeveloped areas, whether planned or not, has been responsible for a wave of pessimism concerning the ability of the secondary activities to absorb manpower. In the search for factors that explain this phenomenon there is scarcely any reference to the willingness of labor to change occupation. Instead, a great deal of ingenuity has been applied to hypothesizing about the role of the services sector in labor absorption and about the laziness of industrial activities to provide employment. Galenson (14, p. 151-2) for instance, proposes that a highly productive manufacturing sector constitutes a powerful stimulant for the creation of employment opportunities in the services sector of the developing economies. Baer and Hervé qualify Galenson's hypothesis by pointing out that if modern industry requires a substantial services sector to function, it may be possible that this will constitute the main way of alleviating the employment problem (15, p. 207). Other people prefer to stress the fact that the services sector is already a large source of employment in low income countries — a possible contention to Colin Clark's thesis — and that what happens during industrialization is that the compartment of tertiary activities

11 — Idem.

12 — Cf. WELLISZ, op. cit. note 4, p. 44-51, esp. notes on p. 48-9.

13 — Cf. MYRDAL, op. cit. note 5, p. 2043. See also FEI, John C. H. & RANIS, Gustav. *Development of the labor surplus economy*. Homewood, Illinois, Irwin, 1964. Ch. 4, passim.

14 — GALENSON, Walter. Desenvolvimento econômico e expansão do emprego por ramos de atividades. In: *Subemprego, problema estrutural*. Petrópolis, Vozes, 1970.

15 — BAER, Werner & HERVÉ, Michel. Emprego e industrialização nos países em desenvolvimento. In: *Subemprego, problema estrutural*. Petrópolis, Vozes, 1970.

induced by demand (supposedly the modern one) expands at the cost of the residual, supply-oriented compartment (non-wage employment, car-warhens etc.) (16, p. 521).

Two other aspects of underemployment theory deserve attention. One is the consideration that, apart from qualitative differences in labor input — a question seldom dealt with, and which should be taken into account —, the usual way of analyzing underemployment assumes a standard of what full-time work should be in terms of hours per day, days per week and weeks per year (17, p. 2047). This assumption is generally made without due regard to what traditions, attitudes and institutions — not to mention nutrition levels — have established as a norm (18, p. 17). As a result, when underemployment is measured and the amount of actual idleness ascertained, a differing norm is introduced, defining full employment. "This norm represents the outsider's view of how much people ought to work, not the view of the people concerned" (19, p. 2058). It is only natural then that many economists define chronic underemployment in very broad macro terms considering not individual workers but abstract labor units, thus indicating the extent of underemployment in so many man-hours (20, p. 304). By resorting to abstract reasoning, the argument for the withdrawal of labor reserves from the congested sectors, on the supposition of its ready availability for other uses, hardly comes as a surprise.

Following from the point above, the second aspect relates to the common assumption in underdevelopment theory that underutilization of labor is involuntary, *i.e.*, members of the labor force who make little or no useful contribution to production do so only for lack of alternative, and that once they are presented with work opportunities, they will take

16 — BHALLA, Ajit S. The role of services in employment expansion. *International Labour Review*, May 1970.

17 — MYRDAL, *op. cit.* note 5.

18 — In West Pakistan, findings of a study on the duration of the work week shown for the working section of the labor force reveal an amplitude ranging from 52.8 to 57.0 hours. Pakistan. Ministry of Labor. Department of Manpower and Employment. *Report of the I.L.O. on manpower survey in Pakistan*. Karachi, 1958.

19 — MYRDAL, *op. cit.* note 5. In this passage, Myrdal calls attention in the theory of underemployment to its "lack of clarity on crucial points".

20 — SOVANI, N. V. Underemployment micro and macro and development planning. *Indian Economic Journal*, Apr. 1955.

them up (21, p. 962). This has much to do with the concepts of open unemployment that an insufficiency of effective demand brings about in industrialized economies. But, perhaps more relevant to a critical appraisal of underemployment theory, such an assumption of involuntary idleness depends for its validity on more general suppositions — like rationality in attitudes, standardized working conditions and fluidity of markets — whose nature has not been fully explored in the context of dual economies.

Accepting the assumption of involuntariness implies that the individuals concerned be willing to change from their present source of earning a living, or that the same individuals might be interested in extending their monthly working hours. This touches on questions of individual preferences, values and habits which an analysis of underemployment based solely on demand considerations is not likely to handle adequately. Due to such an inappropriate way of setting out the problem, one can only find empirical evidence for underutilization of labor that stresses supply aspects, such as surveys about the effects on agricultural output of the withdrawal of rural labor and studies that impute a marginal product to rural labor (22). So, when Harris and Todaro complain about the lack of an adequate analytical model to account for the unemployment phenomenon (23, p. 126) one is tempted to guess if this can be accomplished by a change of focus to the supply side. It is worth stressing in this context that to the unsatisfactory character of underemployment theory, one may add the almost exclusive attention paid to rural labor oversupply, while the question in densely populated urban areas, aggravated by rural migration toward cities, has been largely overlooked (24, p. 138). But it is to the issue of finding an analytical framework that might be useful for enlarging the basis of understanding of the underemployment subject that this paper is mainly addressed, and it is to this core point that we now turn.

21 — According to MYRDAL, op. cit. note 5.

22 — WELLISZ, op. cit. note 4, p. 45. See also O'BRIEN, F. S. & SALM, Cláudio L. Desemprego e subemprego no Brasil. *Revista Brasileira de Economia*, Rio de Janeiro, 24 (4): 105, out./dez. 1970. In this interesting article, O'Brien & Salm give a summary presentation of criticism about disguised unemployment theory.

23 — HARRIS & TODARO, op. cit. note 1.

24 — TODARO, Michael P. A model of labor migration and urban unemployment in less developed countries. *The American Economic Review*, Wisc., 59(1), Mar. 1969.

III. INDIVIDUAL PREFERENCES AND LABOR UNDERUTILIZATION

Underemployment, as interpreted conventionally, like unemployment, appears as entirely involuntary, in the sense that the underemployed workers would want to work full-time and productively, were they confronted with the opportunity to do so. Idle labor thus characterized only needs the provision of work opportunities for the elimination of idleness.

According to this reasoning, the self-employed laborer, owning his limited means of production, "must always enjoy full employment since each individual is free to work as long as he considers the real reward he obtains a sufficient inducement for his efforts" (25, p. 225). The equivocation in such a line of interpretation lies in not considering that the worker may be voluntarily idle for reasons which should be sought in the whole attitudinal and institutional system in which the individual lives. It is not difficult to imagine situations where full employment may be hindered by institutional constraints. As a highly speculative example to illustrate the last assertion one can look at the type of petty retail trade that has developed on the streets of the larger Brazilian cities — Recife being a conspicuous case. Legal restrictions — whose enforcement fluctuates between loose and tight periods — interfere with the amount of work effort that the so-called *ambulante* can supply (26). In fact, during the time of more severe control of this practice by the authorities, it may well happen that the self-employed individual voluntarily limits his working hours.

This leads one to review the distinction between "full-time" and "part-time work", usually set up on the basis of a rigid definition of working hours. To use Bhalla's words,

"In the predominantly agrarian economies the assumption of a fixed length of working day is invalid in respect not only of peasant agriculture but of petty trades and services as well. The self-employed themselves determine the length of their working day" (27, p. 534).

One should add that decisions like this must be governed by preference scales that assimilate the overall external conditions acting on the individual, and that this assimilation lies in the nature of the formation of an individual's preferences among consumer goods in a tropical region, which do not envisage the inclusion of an overcoat or a heating system. So it seems necessary to consider institutional conditions as well as

25 — ROBINSON, op. cit. note 8.

26 — Perhaps in the prostitution trade — a certainly less respectable example — of low income cities something similar may exist.

27 — BHALLA, op. cit. note 16.

attitudes that are moulded by institutions. If we were to dispense with restrictions on consumer's sovereignty, the conclusion that the self-employed laborer must always enjoy full employment could very likely be true. The neglect of individual functions of preference in the interpretation of underemployment may explain the questioning of whether waste of labor consists in idleness on the part of the workers or in their working without producing anything, or both (28, p. 2045). And if idleness exists, as is admitted by Rosenstein-Rodan (29, p. 2053, n. 1) one has to discover whether those involved feel really idle. By referring to preference scales, utility functions or indifference maps in this connection — and I believe this should be done — an attempt could be made at clarifying the meaning of underemployment in a way that could also be subject to empirical verification.

To work, an individual has to make a choice between labor and leisure — a choice that is associated with mental dispositions. This means that the shape of his utility function will have to be examined so that it may be checked whether idleness is involuntary or not, if a situation of maximum utility is enjoyed or not, and if he is readily available for other employment. On the other hand, work represents disutility. There is much scope then for Myrdal's contention that by implying zero marginal productivity of labor, one would be running against the assumption of rational attitudes which accompanies the idea of disutility in work. In fact, asks Myrdal,

“Why should workers continue to work though they are producing anything? More particularly, why don't they stop working at a level above zero marginal productivity?” (30, p. 2053).

It thus seems plausible to suppose that the worker is led to choose the amount of work he actually performs by conditions that his utility horizon establishes. Or stated differently, the worker exhibits general preferences that make him desire to work to the extent to which he is induced; in cases, however, where institutional constraints determine otherwise, he may be working less than he desires.

Let us elaborate a little more this idea: the manner in which preferences influence the decision about how much to work. As we know from textbooks of economic theory, the rational consumer supplies labor as a means of acquiring income, and that the opportunity cost of labor corresponds to the amount of leisure sacrificed for work performance. The individual is then confronted with an option between more income or more leisure. His psychological dispositions are summed up in the utility-preference map, on which the market considerations are superimposed. The final result under conditions of free choice, as every

28 — MYRDAL, *op. cit.* note 5.

29 — Apud MYRDAL, *op. cit.* note 5.

30 — *Idem.*

economist knows, is that the consumer maximizes utility by performing the amount of labor that yields equality between the individual's rate of substitution of income for leisure and the wage rate. There is no need for the consumer in an underdeveloped, supposedly labor-surplus, economy to behave differently. What might well happen here is that the conditions that map out the utility-preference scale depend on a very different set of external circumstances which are worth stressing (31, p. 530). Those circumstances must be related not only to habits concerning the duration of the work week, considerations about self-employment and family-work and so on, but it is also indispensable to link them with nutritional aspects.

There is no need to assume that the indifference map of a typical individual in a less developed region will look different from the convex-to-the-origin common version. In fact, though general influences may come from diverse sources, rational attitudes seem to operate in such a way as to render more difficult the substitution of income for leisure when more work is realized. The slope — or more amply, the shape — of the indifference curves will reflect the relevant considerations concerning leisure and the demand for income. What one has to weigh carefully, however, is the importance to be ascribed in less developed areas to nutritive elements in forming the utility-preference scale. This point, which is usually neglected in the economic literature (32, p. 992), is certainly of much significance for the people who live on subsistence diets, or even below. This fact has prompted Leibenstein to suggest that one must distinguish between the supply of labor-time and the supply of work, and between average and marginal product per man and average and marginal product per unit of work, for "there is an obvious and clear cut relationship between income and output, and furthermore, it is clear that up to some point, the effective work units are increased as wages are increased" (33, p. 66). Experimental and empirical evidence appears to support the relation of calorie intake and other nutritive elements to output, either directly or indirectly through their effect on debilitating diseases, absenteeism, lethargy etc., as noted by Leibenstein

31 — The measurement of underemployment is complicated by the existence of self-employment and domestic modes of production under which it is extremely difficult to distinguish between work and leisure and to determine the rate of transformation between them. There may be no underutilization of labour-time in petty trades and services, since persons engaged in them often work long hours, either in the same activity or in different casual activities, for very low earnings. (BHALLA, op. cit. note 16).

32 — Modern economic literature has given little attention to nutrition and levels of living and their relationship to labor input and labor efficiency. (MYRDAL, op. cit. note 5).

33 — LEIBENSTEIN, Harvey. *Economic backwardness and economic growth*. New York, Wiley, 1962.

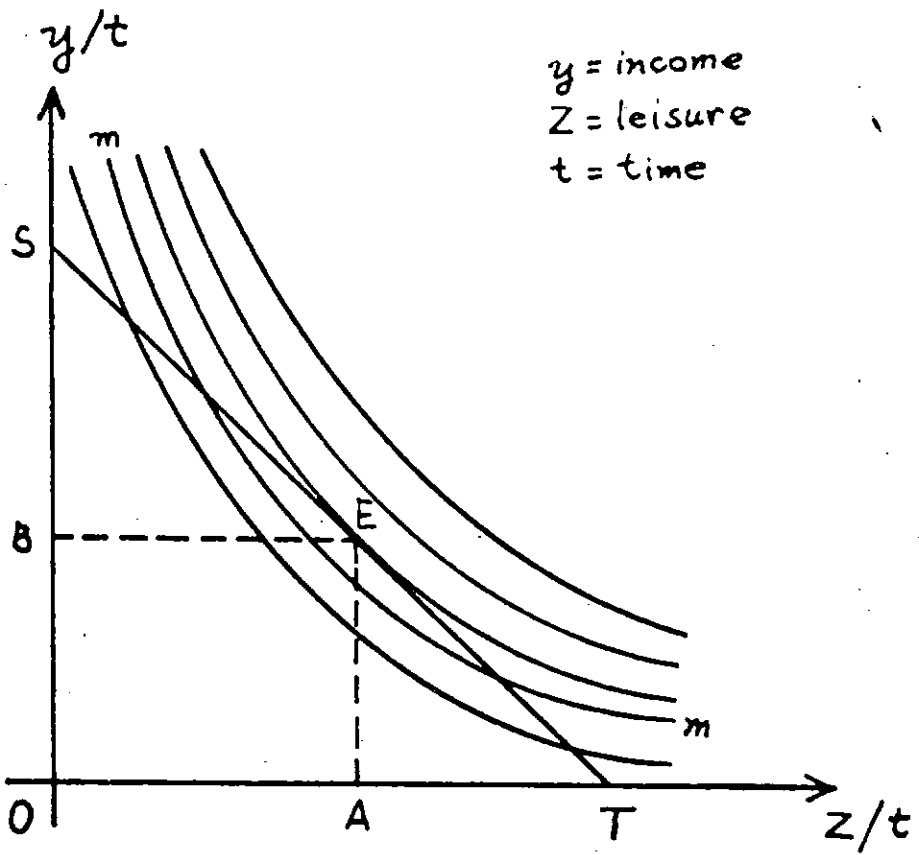


Figure 1

(34). This means that the productivity of a group of men depends on their wage, for a higher wage makes possible an increase in consumption from levels which are currently much below efficiency levels. And that in a backward region, an increase in consumption is desirable not only for its own sake — as is the case in an advanced economy —, but also for its stimulating effects on production by adding to the health and productive vigor of the working population (35, p. 281).

If in a poor community there is a relationship between wages and work units which depends on the laborer's consumption — *i.e.*, that the quality of man-work is not independent of its price, the wage rate —, one can conceive of a minimum level for survival which corresponds to a given indifference curve between income (y) and leisure (z). Such a curve is represented by mm in Figure 1 (see p. 18), and its meaning may be associated with the idea of a lowest utility level, below which the individual could not survive. So the whole area below mm is excluded from the consumer's frame of reference as not enjoyable; and the wage rate that would take the individual to mm could be called the lowest cost per work unit. The whole indifference map in Figure 1, on the other hand, must be related to willingness and physical disposition to undertake work, thus depending on consumption levels. Let us assume now that the wage line is given by ST . In this case, E would be a point of maximum utility showing AT as the amount of work units supplied by the individual at the going wage rate (36). If we were to ascribe to the indifference map in Figure 1 a higher nutritional level than is actually the case, AT might well appear as an amount of work below some standard duration of work per unit of time. This means that if the laborer were given an increase in his level of living, AT could correspond to underemployment. The observation of AT in agreement with the conventional approach to labor underutilization may well lead to an inaccurate measure of underemployment.

It is not amazing, therefore, that so much talk has revolved around a supposed overabundance of labor in underdeveloped areas, an overabundance that strikes one who is studying the economies with concepts that do not fit adequately the set of factors prevailing there. And the empirical work involving household sample surveys tends to concentrate on asking whether the individuals are working or looking for work, temporarily away from work owing to illness, or away from work for any other reason of a temporary nature (holidays, seasonal or weather conditions, labor disputes, *v.g.*). This is the case, according to

34 — *Idem.* *Ibidem.* See also EZEKIEL, Hannan. An application of Leibenstein's theory of underemployment. *Journal of Political Economy*, Oct. 1960.

35 — According to WONNACOTT, *op. cit.* note 10.

36 — Such a wage can be interpreted not only in the usual way, but as in the case of self-employment or family-work as that rate which the individual considers he is getting — a rate that may be valued by monetary and nonmonetary arguments.

Myrdal, with manpower surveys in Pakistan and urban unemployment surveys in India (37). Even when an attempt at a more appropriate measure of the phenomenon is set out, as it happens in Brazil through the Brazilian Institute of Geography and Statistics (IBGE) National Sample Survey of Households (PNAD), one observes that data are still published and used within the traditional framework of economic theory (38). The PNAD questionnaire, nevertheless, contains items which can be used for an interpretation along the lines of the argument sketched out here.

Two final points. The first is the fact that an individual in a poor region may not be maximizing utility in deciding how much labor to supply because of institutional factors. One of these is the aspect underlined by Medina Echevarría that primary family ties may be maintained in large cities as a means of a generalized strategy for the survival of the individual (39, p. 131). In this case, uncertainties involved in looking for and holding a job may be deemed ample enough to justify the acceptance of work conditions of a family nature that interfere with maximizing utility. The second point is that one does not need to worry about certain concepts of underemployment that stress the insignificance of some activities undertaken by individuals. This is the case, for instance, with the exchange market found on the central streets of Asunción or with the petty retail trade exhibited by big cities in Brazil, like Recife or Salvador (Bahia). It is not the low earnings provided by these activities per man that can characterize underemployment. The relevant question one has to ask, in fact, concerns the availability of labor, assumedly underutilized, to new uses. This is the problem that policy makers need to know. If it is found that underemployment exists from the point of view of individual preferences, then the problem is how to attract the amount of labor underutilized, a task not difficult to carry out by wage incentives. But if, instead, idleness does not exist involuntarily, the opening up of work opportunities will not solve the problem. It will be correspondingly necessary to devise ways of modifying individual preference scales, which to a large extent seem to relate to nutritional levels.

37 — MYRDAL, op. cit. note 5, p. 2204, 2213-4. The references are to Pakistan. Ministry of Labor. Department of Manpower and Employment. *Report of I.L.O. on manpower survey in Pakistan*. Karachi, 1958; and India. Ministry of Finance. *National sample survey n. 8, report on preliminary survey of urban unemployment*, Sept. 1853. Calcutta, 1956.

38 — Compare, for instance, GOODMAN & CAVALCANTI, op. cit. note 3, p. 78-88; and Georges Pellerin. *Oferta e demanda de mão-de-obra no Nordeste*. Recife, SUDENE, Aug. 1971. p. 21, passim.

39 — ECHEVARRIA, José Medina. O subemprego nas regiões urbanas. In: *Subemprego problema estrutural*. Petrópolis, Vozes, 1970.