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FOOD POVERTY IN LATIN AMERICA

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SUMMARY The paper begins looking for a conceptual framework for the analysis of poverty in general and of food poverty in particular. After discussing these problems and some related ones, such as malnutrition, food needs and underconsumption, a theoretical integration is attempted between the concept of "entitlements" developed by Amartya Sen and the concepts of ways of access and satisfiers, and of sources of household well-being developed by the author of this paper. Conclusions arise from this conceptual framework including the distinction between the human need for food and the animal's food needs, providing the distinctions between food poverty and insufficient nutrition. In addition, the conclusion is reached that food needs are primarily satisfied via commercial means, implying that the source of well-being, the shortage of which leads to food poverty, is current income. Therefore, the determining factors of food poverty must be sought among the determining factors of household income, where the conceptual framework of "entitlements" is particularly fruitful.

The text then takes a quick look at ways of measuring poverty and reaches the main conclusion that the dominant method used in Latin America, which I have christened as a variant of the Normative Food Basket, is in fact an excellent way of measuring food poverty.

Based on the above conclusions, the author proceeds to analyze poverty and food poverty in the last twenty years in the region. In contrast, estimates made by Alexander Schejtman (Joint Agricultural Division CEPAL-FAO) on malnutrition in Latin America, in addition to data on child malnutrition from UNICEF, are also presented. The evolution of poverty in Latin America in the 70s and 80s is complemented with analysis of the socio-demographic characteristics of homes and with analysis of the association between certain macro-economic variables and food poverty. In both cases, an attempt is made to express the empirical variables analyzed with the concepts developed in the first part.

BACKGROUND

In this section I propose to resume, with neither details nor an explanation, a series of conceptual conclusions that, though they may be provisional, I have found useful in structuring my work in poverty, and which I propose to use in this paper to introduce what I call food poverty.

As I have said elsewhere, any conceptual look at poverty goes back to basics: the generic conception of basic human needs and the specific way in which they exist in a concrete human society.

Therefore, in the beginning I must state that:

a) Through his labor, man does not only change nature but also himself. Therefore, human abilities and needs are just as produced as goods and services. The above gives us three consequences: Firstly, the historical nature of human needs, Secondly, the rejection of the idea that needs originate from he who needs as if he were their original source. In other words, the rejection of the abatement of needs since for the individual they are as attributes for a substance. Thirdly, a rejection of the view that holds production as a mere instrument in the service of the satisfaction of pre-existing needs, which leads to a much more complex idea of the relationships between production and needs which acknowledges, however, the determining nature of production (1).

b) Despite the fact that the historical starting point for production was the original set of man's biological needs, this origin also led to needs generated by production which direct the process of ulterior production. This historical and ever more multilateral, more universal nature of human needs, contrasting with the permanent and biologically determined needs of animals, may be seen in two ways. In the

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humanization of man's biological needs, which Marx expressed brilliantly in his famous introductory sentence to Criticism of the Political Economy: "Hunger is hunger, but hunger satisfied with cooked meat, food with a knife and fork, is a hunger very different from that of he who devours raw meat using hands, nails and teeth" (2). Also, the historical nature of human needs is seen in the creation of new needs, of a non-biological nature, such as scientific curiosity, esthetic needs and religious needs.

c) Determining concrete social needs in a specific society is a complex task, for which only very general methodological guides, at best, have been developed. Here I should point out that the nature of the production process (working conditions) and the nature of the consumption process (restitution and reproduction of the effort of labor), are the fundamental elements that must be analyzed to understand the formation of social needs. For example, as J. P. Terrail said, "as trade relationships expand and beat back precapitalist production and consumption forms, traditionally domestic activities (cooking, sewing and mending, child care) tend to escape to an ever greater extent from the family environment. This change favors the phenomenon of women in the workplace, which in turn accelerates the change. Family lifestyles tend to undergo in-depth change. The concentration of production means the mass urbanization of the population and the availability, for the work force, of suitable forms of housing and transport. Increasing the average necessary degree of qualification of the work force and the disappearance of traditional ways of passing on knowledge mean the generalization and prolongation of public instruction, etc." (3).

This example illustrates the path to be followed for an analysis of concrete social needs suggested by the author. Now, let us explore other paths often adopted in practice though their conceptual framework, methodology and limitations are rarely made fully explicit.

The aid of the experts, especially in the field of food, is often enlisted to determine social needs. Nutritionists, it is supposed, are in a better position than anyone to determine a human being's nutritional needs. However, as we shall see from examples further on, it is one thing to determine protein, energy, etc. needs and another very different thing to establish food needs, not to mention, for the time being, basic elements for a human diet, such as fuel for cooking. That is, what experts in nutrition can contribute, putting the enormous difficulties present in that determination of needs to one side, is only one small step. The next one, transforming these requirements into a food basket or a diet, is a matter where it is difficult for there to be experts who can provide the answers or external normative guidelines.

Whereas the nutritional requirements of cattle may easily be transformed by an exercise in linear programming into the balanced feed that maximizes the rancher's profits, in human food -except perhaps in the case of slaves- we cannot think of balanced feed/foods. The problem of diet is determined culturally.

Another possible path, not exclusive of the former but perhaps complementary, useful more than anything else for non-food needs, is the analysis of legislation and popular demands. This was what I did, for example, when I defined some of the items of the Normative Basket of Essential Satisfiers in 1982. The needs for education and leisure are obvious. The rules stipulated in national legislation lay down minimum norms defining the basic satisfiers (4). Whether or not these norms reflect adequately the population's real needs is a question that has not been answered. This procedure finds little application in the field of food.

Another path consists of going directly to the population and attempting to capture its sense of what is necessary and desirable. This method has been used to masterful effect by Mack and Lansley (5) in Great Britain, and recently copied in Bogota by a Columbian government team under my guidance. It consists of defining a list of goods, services and activities that could be considered necessary. For each of the elements on the list a sample population is asked if it feels an item mentioned is necessary or simply desirable but not necessary. Afterwards, to identify situations of poverty, as was the case in the aforementioned examples, the population may be asked if it has these items or not, and if not, whether this is out of an inability to cover their cost. The first set of questions allows what a society as a whole or a part thereof considers necessary to be determined.

Obviously, this procedure also has its weaknesses and it must be borne in mind that it discovers the perception of need and not needs themselves. However, it seems very interesting to explore its potential use for human nutrition. In the two surveys mentioned above, the problem of food is faced in a very generic way, through critical items such "a special meal on Sundays or occasions such as birthdays" or "milk everyday for the children", since the purpose of both exercises was to analyze poverty and, therefore, all basic needs. Nevertheless, a survey of this kind concentrated on food would be very interesting. For example, it is well known that one of the fundamental methodological problems of defining food baskets is the initial list of foods to include.

This list is normally chosen based on the foods that make up the largest part of a family's food expenditure. Objections may be made to this manner of proceeding since the reality observed is taken as a basis for the norm, without verifying if families consume these foods, and only these foods, because they want to or because their resources are limited. An alternative path could be to consult the population as to whether or not it

considers necessary a food drawn from reasonably wide-ranging lists. Critical items, determined by living and working conditions, such as the consumption of food outside the home, or others determined more by custom, such as the role of food in social intercourse and community life, would also be aspects worthy of treatment in a survey of this kind. The importance of this focus is that it questions the idea that the researcher may define basic satisfiers without consulting the population.

A creative combination of all the focuses mentioned could be the recommended path to take in order to look at the definition of basic satisfiers in a concrete society.

Taking up the initial thread; let us now look at food need and try to define the concepts of malnutrition or deficient nutrition and food poverty. The starting point in the case of food is the humanization of the aforementioned biological needs. From the viewpoint of biology, human food need is exactly the same as that of certain animal species. However, as we glimpsed with the quote from Marx (2) on different types of hunger, from the viewpoint of the satisfaction of human needs, human food must be seen as a complex phenomenon, where not only what is eaten, but also how it is prepared and consumed, are important factors. What is eaten, how it is prepared, how it is eaten and in the company of whom, are elements that make up the human food need. Eating like animals do, without cutlery, plates, table and chairs, is one of the most extreme ways of offending human dignity, degrading man to the category of animal, as torturers through the ages have known so well. Satisfying a human being's nutritional requirements, though a condition of the human food need, is not a sufficient condition. To the extent that, for humans, eating is much more than nourishing themselves, the food need is defined with social, and not solely biological norms. I understand food poverty as that home situation that does not allow access to "the types of diet" developed by Townsend (6), and participation in the activities that involve the consumption of food (such as entertaining friends, celebrations, parties, etc.) that "are normal or at least are widely encouraged or approved of in the societies to which they belong" (Ibid). I would understand malnutrition as the insufficient ingestion of foods or their inadequate assimilation, eventually leading to weight loss and other symptoms. This paper deals with the subject of food poverty, and in terms of access to diets that would not shame those who consume them (7).

A suitable and highly fruitful framework for the analysis of the factors that determine hunger and, especially, of famines is, in my opinion, that of entitlements developed by Amartya Sen (8). The concept of entitlements refers to "the ability of persons to obtain food [and other goods, I would add] through the legal means available in a society, including the use of production and commercial possibilities, entitlements vis á vis the State , and other methods..." A person's set of possible entitlements depends on two parameters: his initial lot and the "map of entitlements of exchange with nature and other persons (which must be interpreted in the same wide sense as entitlements themselves, including, for example, rights acquired with respect to the State)" (Ibid). Therefore, a person may find himself in conditions of poverty due to a very small initial lot, in which case his poverty could be structural, or due to an unfavorable displacement in his exchange entitlements map (e.g. a drop in the relative prices of goods sold compared to goods bought), in which case poverty may be transitory. This strategy is useful both for analyzing the conditioning factors of poverty on the level of specific homes and to analyze the general poverty rate on a social level. For example, in most Latin American countries, wages fell in real terms during the nineteen-eighties, which can be seen as a negative displacement in the map of the exchange entitlements of those who sell their labor, and which led to an increase in poverty among wage-earners. By way of contrast, the death of an active adult in a home is a reduction in its initial lot and may also mean its impoverishment. Amartya Sen has fruitfully applied this conceptual strategy to hunger and especially famines.

In different papers, I have developed analytical strategies that complement that of entitlements. These are the forms of access to basic satisfiers, the analysis of the Mexican legislative framework establishing the rights of the population to satisfy basic needs, a typology of the modes of production prevalent in the Mexican economy and a strategy to analyze the sources of household well-being, closely linked to the typology of forms of access (4,9,10). The usefulness of the analytical framework of entitlements is improved by integrating these concepts. For example, typifying social and class rights and those of particular strata within the classes allows us to define the initials lots of each population group in this aspect. The typology of forms of access in a set society is an indispensable step in the configuration of both initial lots and the map of exchange entitlements. As Amartya Sen himself states: "The exchange entitlements of a person depend, naturally, on his position in the class structure, as well as on the modes of production in the economy" (11).

WAYS OF MEASURING POVERTY

In this section, I shall try to quickly go over the different methods of measuring poverty, in order to show that the method most often used in Latin America and to a certain extent in the world is, in fact, a way of measuring food poverty.

I have called this method the Normative Food Basket (NFB) method (1,10). It consists of the following steps: a) Based on information taken from income and household expenditure surveys, and based on the recommendations of nutritional needs by age, weight and size, sex and type of activity, a NFB is defined for the average population (or for each household). This consists of a list of foods and quantities of each one that, for the group in question, satisfy the predefined nutritional requirements (normally proteins and energy). Then, the quantities of the

foods are multiplied by the prices which, in principle, each home pays, although in practice this is often done with one set of prices (or a rural and an urban set). The result of the multiplication and sum of the costs of all the foods is the total cost of the food basket. (We should note that fuel and all other costs associated with food cooking and consumption are excluded). This cost is interpreted as the extreme poverty, or indigence, line. b) This line is then divided by what is known as Engel's coefficient (the % of family expenditure spent on food) to obtain what is known as the poverty line. c) The poverty line, normally expressed in per capita terms, is then compared with the income, also per capita, of the home. Homes with a per capita income lower than the poverty line are considered to be poor.. Those with an income lower than the extreme poverty or indigence line, are classified as extremely poor. Persons receive the same classification as the home. To see why with this method we are measuring what I have called food poverty, I should describe some of the steps in greater detail and make their implications specific.

The procedure's critical point is moving from the "extreme poverty" (cost of the NFB) to the poverty line. The first observation to be made here is that although the food basket is highly detailed, the other satisfiers-for which there is not even a generic list of items-end up in a big black box whose cost is the only thing we know about it. In other words, whereas in food an attitude that could be defined as "normative" is adopted, in the other needs there is a position that could be described as "revealed needs" to draw a similarity with the theory of revealed needs developed by Paul Samuelson. Based on the income and household expenditure surveys, we are looking for the population stratum that fits the following two requirements: its acquisition of food places it above nutritional requirements; and being the lowest income stratum among all those that fit the first requirement (in practice, the group with a food expenditure closest to the cost of the food basket) (12). The food habits of this group can be used as a basis for the definition of the food basket. In addition, the food expenditure percentage of this group (its Engel coefficient) is the figure used to change the extreme poverty line into a poverty line. We know the group chosen satisfies its nutritional requirements, but we do not know its situation in other needs. The implicit assumption made explicit by Oscar Altimir in his pioneering work on the subject is "that those homes above the minimum food threshold are also above the minimum thresholds for other basic needs" (13). As has been shown in work by Beccaria and Minujin (14) in Argentina, Katzman in Montevideo (15) and the Regional Project to Overcome Poverty of the UNDP (16) in many Latin American countries, the empirical evidence shows overwhelmingly that this assumption is false. Its falseness is not only empirical, since the assumption bears with it an implicit distinct conception of the satisfaction of basic needs. In effect, if we think for a moment about the heart of the assumption, we will see that it implies a process of simultaneously coming close to satisfying all needs, which is the same as saying that there is no kind of hierarchy between them, nor individual variation in the order of satisfaction. It would suffice to observe one to know what the situation of all the others is. Since the satisfaction, real or potential, of food is the hardest to observe empirically, it would be better to observe education or housing satisfaction and immediately obtain the general overview. In reality, as Mack and Lansley have shown in their exhaustive study in Great Britain (5), poverty needs "constant action to seek out the balance between different sets of needs. This is an action that never works. Impossible decisions have to be taken as to which needs will remain unsatisfied. Some will neglect basic aspects of clothing to ensure adequate food while others will make do with a monotonous diet so their standards in more visible aspects of life will be acceptable. As living standards fall more and more below the minimum, even this limited degree of choice is lost" (17).

If the assumption that is used as the basis for the NFB procedure is not only empirically false but conceptually weak, we should ask ourselves if the poverty and extreme poverty lines, drawn as they are, measure anything. In the average of the reference stratum, whose diet is used to construct the food basket, and whose Engel coefficient is used to transform the cost of this basket into the poverty line, it is obvious that directly comparing per capita food expenditure with the per capita cost of the food basket is the same as comparing total expenditure or the per capita income of the household with the poverty line. Let us formalize this. Let Er be the average Engel coefficient for the reference stratum chosen. By definition, this will be equal to:

$$Er = G_{ar}/G_r \qquad [1]$$

Where G_{ar} and G_r are food and total expenditure respectively, per capita for the reference stratum. Let us also recall that the poverty line is obtained thus:

$$LP = LPE/E_r \qquad [2]$$

Where LP and LPE are the poverty and extreme poverty lines. The condition of poverty is often defined as:

$$G_r < LP \qquad [3]$$

However, the reader should see that this is the same, for the reference stratum, as:

$$G_{ar} < LPE \qquad [4]$$

Since all one has to do is divide both sides of [4] by Er to obtain [3].

This proves, coincidentally, my statement that Altimir's assumption (13), that he who satisfies his food need satisfies all needs, is the same as saying that the chosen reference stratum (known only to satisfy its food need) is not poor, making the whole NFB procedure a case of circular reasoning (18).

The conclusion drawn from the above is that the poverty line

procedure based on the NFB is a way of measuring food poverty, at least for the reference stratum. However, what happens in the other strata? Those lower than the reference, as we know from Engel's Law, which has been empirically proven throughout the world, spend greater percentages of their income on food, meaning that they cannot transform inequality [4] into [3]. However, we also know, from empirical studies, although the percentage spent on food decreases with income, the absolute value of per capita expenditure on food also increases, such that we may be sure that, on average, homes in strata lower than that used for reference would spend less, per capita, than this group on food. Thus, if the reference stratum were very small and on food spent exactly the cost of the basic basket, we could say that the NFB method of drawing the poverty line allows us to identify with almost total certainty that population whose per capita food expenditure is lower than the cost of the food basket, a population we have tentatively qualified as food poor. Although these conditions are not fulfilled, since the reference stratum chosen generally spend slightly more on food than the price of the food basket and are generally very large in number, in the last part of this chapter we interpret Latin American poverty data, calculated using the NFB procedure, as indicators of food poverty. Although it has to contain errors, the degree of error is much lower than that arising from interpreting these figures as general poverty.

As far as the extreme poverty line is concerned, I have said elsewhere (1,10) that the definition of extreme poverty as those households that, even by spending all income on food, could not satisfy food needs, is unacceptable. This is because food cannot be eaten uncooked; at least fuel and some kitchen fittings are required; because food is not eaten with the hands directly from the pot where it was cooked; at least some tools are needed to eat it; because nudity in public places is a crime the world over; and because without transportation expenses the place of work cannot be reached, to mention but a few of the most obvious contradictions (18).

To move on with the interpretation of what it means to be below the poverty line, we must go a little deeper into the procedure used to arrive at food baskets and the results obtained. We can distinguish between two ways of constructing the basic structural elements of the baskets. The first consists of observing, using balance sheets, the per capita consumption of each food and the second observes the dietary structure of some reference stratum. In general,both procedures provide the list of foods in the basket and their approximate relative proportions. After, the basket must be finely tuned so it will exactly satisfy nutritional, or at least energy, needs. There are also two procedures for this aim: linear programming or other methods. Those seeking a minimum-cost solution can use linear programming, and incorporate dietary habits -obtained from balance sheets or from income and expenditure surveys- as restrictions in the model. Those not using linear programming or not seeking minimum-cost diets, are looking for diets that give an approximate reflection of the habits of the reference stratum by satisfying nutritional requirements. The final makeup of the basket may be highly varied, depending on the reference stratum chosen or the average diet obtained from the balance sheets, the nutritional requirements that the basket has to satisfy and the procedure adopted to determine its contents.

It is illustrative to compare the food baskets defined for Mexico by COPLAMAR (19), by CEPAL-UNNP (16) by the CEPAL study led by Oscar Altimir (13) in the nineteen seventies, and the basket defined by the Salvador Zubirtn National Nutrition Institute (NNI). Altimir bases his work on the average diets obtained by the FAO's balance sheets, on the energy and protein requirements defined by the Mixed Special Expert Committee FAO/WHO of 1971, and although he did not use a linear programming model, he tried to define a minimum-cost normative food basket. In the CEPAL-UNNP work, on the other hand, the basis used was the habits of a reference stratum -generally located in the second lowest income quartile; the nutritional requirements were those decided by the 1981 group of FAO/WHO/UN experts, and it did not try to devise minimum-cost baskets, rather basically to reflect the dietary structure of the reference stratum. In the COPLAMAR work on food, which originally was part of the work carried out by the National Food System (NFS), multiple reference strata were chosen and for each one a basket was composed, using a linear programming model that introduces the food habits of each reference stratum as restrictions, expressed as maximum and minimum consumptions of each food. Finally, from the 15 solutions obtained, two that were called COPLAMAR models 1 and 2 were chosen. The first is based on the habits of the fifth national decile and the second, on the sixth urban decile. Model 1 was chosen and model 2 was used as a contrast. The nutritional requirements used as a basis were those of the NNI. Table 1 shows the differential results for Mexico obtained with each procedure. Although a strict comparison between the two options cannot be drawn, since they refer to different years, emphasis must be placed on the great difference in the proportion of foods of an animal origin in the CEPAL-70 (low content) and COPLAMAR 2 (high) baskets, with respect to the other three that have similar levels. With reference to total grams per capita in the basket, once again CEPAL-70 is at the lowest extreme and NNI at the highest. Columns 3 and 4 present the average calory and energy (high quality) requirements of the national population in the three studies. The largest difference is in proteins in CEPAL-70, 20% lower than the other three, because this study defined a protein utilization efficiency (PUE) of 0.7 for all countries, whereas that used by the COPLAMAR and NNI studies was 0.55. For its part, the CEPAL-UNNP study used a PUE of 0.6. For this paper I was not able to express the COPLAMAR baskets at a price of a date that would allow its comparison with the first two. As far as the NNI basket is concerned, I know of no studies that show its costs. In any case,

it is worth stressing the fact that the CEPAL-UNNP costs 50% more than CEPAL-70. This is due both to the greater weight of the basket and, especially, to the higher proportion of animal products in the latter. The differences between the CEPAL-70 and NNI baskets (both based on balance sheets) would seem to be due to the differences in protein requirements and the fact that CEPAL-70, but not the NNI basket, attempts to be a minimum-cost basket. Continuing with this comparative analysis, though extremely interesting, goes beyond the scope of this paper. Let us, then, return to the original proposal that led us to this comparative analysis: improving our understanding of what it means to be below the poverty line.

The evolution of the dietary habits of the populations of Latin America in recent decades has been towards a growing weight of the proportion of foods from animal derivatives and a drop in the relative weight of basic grains (cereal and leguminous). This has been widely documented by the CEPAL/

TABLE 1
COMPARISON OF VARIOUS FOOD BASKETS FOR MEXICO

	1	2	3	4	5
CEPAL-70	20.0	979.4	2285	28.6	1.00
CEPAL-UNNP	33.0	1077.1	2139	34.8	1.53
COPLAMAR 1	30.2	1014.2	2082	35.0	n.a.
COPLAMAR 2	42.9	1184.7	2082	35.0	n.a.
NNI	30.1	1406.6	2082	35.0	n.a.

1: % of animal derivatives in the basket's weight;
2: Total weight of the basket in grams per capita per day.
3 &4: Average energy and protein (ideal) requirements per day and per person;
5: Coefficient of the basket's cost and that of the CEPAL-70 basket.

FAO Joint Agricultural Division (20).

In this historical context and in view of nutritional requirements modified between the 1971 and 1981 committees of experts, which in general terms means a drop in recommended energy and an increase in protein intakes, we must investigate what it means in food terms to be below the poverty line. The first thing to note is that it does not necessarily mean inadequate nutrition. An individual or a family nowadays can have a diet similar -after corrections to account for the changes in recommended nutritional intakes -to that which would exist as a norm if the consumption patterns of the social environment had not become more expensive, a diet that would fully satisfy nutritional requirements but below current norms based on diets with a higher proportion of animal products. However, by saying -as I do- that this person is food poor, I am introducing a concept of human diet adjusted to the socially dominant patterns in each concrete society, both in time and in space. That is to say, a person who maintains a diet for a large number of years without changing it, in a social environment where prevailing diets tend to become more expensive as a result of general increases in income, could enter the category of food poverty, without his nutritional state having altered. This concept of food poverty corresponds to the relative concept of poverty I have outlined when explaining, in the first part of this paper, my conception of food poverty. Extreme food poverty undoubtedly leads to biological deficiencies, malnutrition, absolute poverty.

The huge range of reasonably considered solutions to a food basket, that we tried to illustrate in Table 1, alerts us to several inevitable problems in any form of planning a basic human food basket which, as we have said, cannot take the form of a balanced diet. One of these problems is chosing the reference group to be used in comparisons to define this relative poverty. As Amartya Sen points out (8), when chosing reference groups one has to look at the groups the people involved actually compare themselves with, and this can be one of the most difficult aspects of the study of poverty based on relative shortages. The viewpoint of this relative poverty cannot mean, however, abandoning the overall viewpoint. More than alternatives, these viewpoints complement each other. Otherwise, the study of poverty degrades into the study of inequality. In the Indian communities of Guatemala, Peru or Mexico, where inequality is lower than in urban centers, one would end by finding very little poverty. Inadequate human nutrition is a sufficient, though not indispensable, condition for food poverty. As the INCO's (Instituto Nacional del Consumidor: National Consumer Affairs Institute) surveys on food expenditure show, the strategy adopted by families who suffer a fall in income is to substitute the cheapest foods for the expensive ones. With a purely absolute view of food poverty, we would probably find no change in the family's situation. On the other hand, with the view proposed herein of food poverty, those changes would be immediately identified as impoverishment , unless we were to modify the reference standards or guidelines. This alerts us to another problem in our viewpoint, concerning the speed with which changes should be made into norms, and if this speed should be the same both for increases and falls. During a depression, should we change the normative basket to adjust it to the reference group's lowest levels of consumption? The response of rigid relativism, as Amartya Sen has said, would be yes. In a totally widespread famine, this approach would indicate very little or zero food poverty. Standards should not be changed instantly in the event of either a boom or a depression. A person who goes to a marathon dinner one day does not feel food poor with a normal meal the next day. In pragmatic terms, the food baskets would have to be redefined based on, for example, mobile averages

from the last ten years. As for choosing the reference stratum, the basis here should be not the satisfaction of nutritional requirements but the absence of poverty in general, based on the norms defined in the previous period.

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In 1970, food poverty (hereinafter FP), as defined above and using empirical approximations, affected 130 million people, 47% of the population. Between 1970 and 1980, the number of poor rose by 14 million, reaching 144, with a significant percentage drop: from 47% to 41%. One way of appreciating this change is calculating what could be called the marginal poverty rate, equal to the increase in the number of poor persons divided by the increase in the total population. Whereas the number of food poor rose by 14 million, the total population grew by 76, giving a marginal poverty rate of 18.4%, well below the average rate. Between 1980 and 1986, the last year for which there are empirical studies covering Latin America, the number of poor increased by 31 million reaching a total for the region of 175 million. With this increase, the percentage of poor persons -which fell in the seventies and which presumably fell in the fifties and sixties- changed direction and rose from 41% to 43%. The marginal rate in this period, when the total population rose by 49 million, is 63%, much higher than the average rate. The contrast between both periods is very marked, as shown by the fact that the marginal increase of the second period is 3.5 times greater than that in the first.

This evolution is closely related to the changes in economies during both periods, as we shall see later. However, firstly let us take a look at how this dynamic has behaved in the Region's urban and rural environments and how it has changed between countries. For this exercise we only have data on poverty for households and not per person. The FP rate in urban and rural areas, which showed great contrasts in 1970, has tended towards less inequality. In 1970, 62% of homes lived in FP, whereas the figure for urban areas was 26%, a ratio of 2.4•1. Between 1970 and 1980, the urban poverty rate fell minimally by one percentage point to 25% whilst rural poverty fell by 8 points to 54%. The ratio between them fell to 2.2:1. In the period 1980-1986, urban poverty rose very quickly from 25% to 30%, whereas in rural areas it fell another point to 53%. The ration dropped to 1.8:1. These relatively uneven changes, together with accelerated urbanization, have meant over sixteen years the complete transformation of the rural-urban structure of food poverty. In effect, in 1970 62% of the country's poor households were in rural areas; by 1980, half this number, and 41.5% in 1986. In other words, in these 16 years the FP structure was turned around from 60-40 to 40-60 rural-urban. This is partly explained by rapid migration to the cities, a process which sees poor people moving from the countryside to the city, and partly also by the fact that the crisis had a greater impact on urban areas in Latin America. This urbanization of poverty in Latin America and the seriousness of the problem of the increase in poverty during the crisis is sharply reflected in the increase in the marginal urban poverty rate in the period 1980-1986, measured in persons, a rate of 65%. This means that two out of every three new inhabitants of Latin American cities join the ranks of the urban poor.

Although there are no empirical regional studies available from later than 1986, various correlation analyses between the food poverty rate and the evolution of the per capita GDP, on the basis of the evolution of this macroeconomic aggregate from 1986 through 1990, allowed the evolution of FB to be estimated. The results must be interpreted as an estimate of FP with no changes in income distribution. This estimate indicates a total of 204 million FP in 1990, which would be 47% of the region's population, and an absolute increase in the number of food poor in this lost decade of 60 million people, 4.3 times the increase seen between 1970 and 1980. The estimated food poor percentage for 1990 is the same as the 1970 figure. This means that in terms of poverty there are two lost decades, not one. Note that these 1970 and 1990 rates are the same despite the fact that the Region's per capita GDP is much higher in 1990 than in 1970. This may be explained by two factors: a) a basic asymmetry in the relationship between the evolution of per capita GDP and that of poverty; during periods of rapid growth, poverty falls slowly whereas in periods of crisis poverty increases rapidly; and b) the change in the population's food consumption patterns, which explains that in most countries the poverty line used for 1980 and 1986 is higher than in 1990. Though the cost of the Mexican food basket is 50% higher than the one defined for 1970, the variation in the cost of baskets in other countries is much lower. In fact, those of Argentina and Uruguay fall between both studies. Brazil's baskets, representing a great weight in regional calculations, only grew by 4%; in Costa Rica and Peru there were moderate increases of 15 and 12% and in Columbia and Venezuela the increases were of a third. Projections made by the Regional Project to Overcome Poverty in Latin America of the UNDP (16) show, for an annual rise in per capita GDP of 1.28%, a 44% food poverty rate for the year 2000, very similar to that of 1986.

Most food poverty in Latin America is concentrated in a few countries. In 1986 Brazil accounted for 36% of all food poor in the region, with an absolute figure of 62 million. If we add Mexico's poor (17%, with 30 million), we have more than 50% of the total. If to these we add Columbia and Peru's food poor, we have two-thirds.

The correlation between FP and per capita GDP -with a transversal cut for 1986 with data for 12 countries- is very high. The relationship improves yet further if instead of per capita GDP expressed in market exchange rate dollars we use purchasing power rate (ppr) dollars. The best fit was with a straight line. It is interesting to analyze the deviations from this pattern. Mexico and Argentina have very similar ppr dollar

GDPs and yet poverty in Mexico is almost 2.5 times greater in Mexico (37.4% vs. 15.5%). There are even worse contrasts between Brazil and Chile on the one hand, and Costa Rica on the other. Whereas the former two have substantially higher ppr dollar GDPs than the second, they have a 60% higher FP rate (45.3% and 44.4% vs. 27.2%). Whilst the explanation of these rates lies in the much higher concentration of income in Brazil and Chile than in Costa Rica, the explanation of the first contrast seems to lie in the higher poverty line (in ppr dollars) in Mexico than in Argentina.

Measuring the poverty rate, the percentage of the total population living in conditions of poverty, must be conceived as only a first step in measuring poverty. It has to be complemented with measurements of poverty intensity that tell us how poor the poor are, and then with some integrating measurement of poverty that apart from considering the percentage poverty rate and the average intensity of poverty, considers income distribution among the poor. One such measurement is the so-called poverty gap. This measures the average distance between the income (or expenditure) of poor people and the poverty line, expressed as a proportion of the poverty line itself. This relative gap, or poverty intensity, would have to be reinterpreted from the perspective adopted here in order to obtain a direct association with lacking food resources. Given a poverty gap, the food gap would depend on it and the percentage of income (expenditure) put aside for food. Since this latter factor is variable among the poor, and the worse the poverty the higher the percentage of expenditure spent on food, a suitable calculation would require knowing the Engel coefficient for each home. In this case, the poverty gap could be calculated directly, comparing food expenditure of the household against the cost of the specific food basket for that home, and dividing the result by the basket's cost itself to standardize the data. However, we do not have that information. To approximate, we could provide the data as they were calculated in the CEPAL-UNDP research (16), and let the reader simulate different Engel's coefficients for the poor to obtain alternative poverty gap results. The intensity of poverty fell between 1970 and 1980 for the Region as a whole, from 45.4% to 43.2%. It rose between 1980 and 1986, to reach 46.1%, higher than in 1970. This means that as a result of the crisis, not only is there a greater proportion of poor people, but that they are poorer not only then in 1980, but also than in 1970. Given the very high correlation between the poverty rate (H) and intensity (I), it is to be expected that between 1986 and 1990 not only has the former increased, but also the latter. Therefore it is highly probable that in 1990 it will be very close to 50%. That is, the average income of the poor in the urban environment would be equal to the cost of the food basket. If we assume, for example, that on average the poor spend 60% of income on food, the 1990 food gap would be 40% of the cost of the basket. The reader may make other simulations.

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