

# POPULATION AND POVERTY

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## **Introduction**

The debate on the influence of demographic issues in economic development and poverty has been going on for a long time. But the statistic and econometric methods implemented along the last century have endowed it with a new perspective, as they allow for the validation or rejection of hypotheses on the basis of empirical evidence.

Most of the research recently carried out on this field goes along this line. As soon as a new theory is formulated, an appropriate model, usually connected with some of the available statistical techniques, is selected and tested on real data, and conclusions derived from it. The limitations and pitfalls of this methodology depend, to a great extent, on the quality and appropriateness of the data employed.

This paper intends to comment on some of the connections between population patterns and poverty reduction that are now widely accepted. The first and second sections of it will deal with the availability of data on poverty, both in the developed and the developing countries, pointing up some of their problems and limitations for international comparisons and macro-economic analysis. The rest of the paper will comment on some relations between changing demographic patterns and poverty reduction that have been recently tested on the basis of the existing statistical information.

## **The concept and measurement of poverty**

The main problem associated with poverty measurement is that there is not a unique, universally accepted, definition of poverty.

Poverty is a complex and multidimensional phenomenon that can be approached from different perspectives. Being deprived of the minimum survival resources to the point of starvation is an obvious one, but by no means the only one possible. Poverty can also be considered from a broader point of view. The European Council, for example, in the declaration issued in 1984, stated that “the poor shall be taken to mean persons, families and groups of persons whose resources (material, cultural and social) is so limited as to exclude them from the minimum acceptable way of life in the Member State in which they live”. Already Adam Smith, in this same line, defined poverty as the impossibility to satisfy the needs that worthy people, even from the lower social ranks, could not do without, according to the uses of the country in which they live.

When analysing the concept of poverty three main approaches can be identified:

- a) Poverty as deprivation. The poor are those who are deprived of the essential needs. This definition corresponds to the concept of absolute poverty.
- b) Poverty as exclusion. The poor are those who are excluded, due to a lack of resources, from what is considered the usual way of life in the community or country where they live. This kind of poverty is known as relative, as it is anchored on the level of living of the population of reference.
- c) Poverty as dissatisfaction. The poor are those who feel that their income level does not allow them access to what they consider the minimum living standards.

There are different methods to measure poverty, depending on the adopted approach.

Measuring poverty consists basically in providing two figures: the number of poor in the population and the intensity of this poverty, or poverty gap. The reference for the calculation of these two figures is the poverty line, which is the level of income below which an individual will be classified as poor. The proportion of persons whose income is below the poverty line will provide the incidence of poverty in the group. The poverty gap or difference between the poverty line and the real income enjoyed by the individuals classified as poor will measure the intensity of this poverty, that is to say, how poor these poor are, or how far they are from reaching the line.

The different conceptions of poverty are associated with different definitions of the poverty lines, and will consequently provide different poverty figures for the same population group.

The poverty line associated with absolute poverty could be calculated by implementing a basket of basic needs and evaluating the cost of these needs at the market prices of the country. Anyone whose income is not enough to provide access to these basic needs should be classified as poor.

But deciding which goods and services should be included in this basket is not an easy task. For this reason, absolute poverty lines are usually calculated by establishing the

minimal nutritional needs, and the products that would cover them according with the nutritional habits of the country: this is called the food basket. The cost of this basket is evaluated at market prices and then multiplied by a number corresponding to the weight that non-nutritional basic needs are supposed to have in the general basket. This figure varies substantially from one country to another, due to the fact that the needs identified as basic in rich societies extend much more beyond the nutritional needs than they do in developing countries. Actually, they rank from values somewhere between 3 and 4 in the richest countries, to values slightly above 1 in the poorest ones. The fixing of this weight introduces a factor of relativism in the interpretation of the so-called absolute poverty line.

This type of poverty line is calculated in many countries, and used for micro-economic studies. As long as the weight is kept constant, economic growth neutral in terms of income distribution will be reflected in a reduction of the incidence and intensity of poverty. But as a different weight is fixed in each country, either following ad-hoc criteria or using the statistical information collected on the average expenditure of the households, there are some pitfalls in using these lines for international comparisons and macro-economic analysis.

Relative poverty is measured with relative poverty lines. According with the definition, poverty is not associated to deprivation of basic goods and services, but to the fact that the individual is excluded from the goods and services that most of the population enjoy: a poor is someone who is poorer than the others, irrespective of the level of living that he/she enjoys. The poverty line for the determination of relative poverty is so related to a parameter of the income distribution, such as the 50% of the average, or the 60% of the median population income.

This is the poverty line calculated in the countries belonging to the E.U. The main characteristic of it is that economic growth neutral in terms of income distribution will not be reflected at all in the incidence and intensity of poverty, as an upward shifting of the distribution will produce a similar move upwards in the average or the median. Relative poverty lines do not exactly measure poverty. What they basically indicate is the incidence of inequality in the lower part of the income distribution. A country with an equal distribution of income would not record any poverty at all, irrespective of the level of living enjoyed by the population. Obviously, these poverty lines are not suited for international comparisons.

Subjective poverty is based on personal perceptions and degree of satisfaction of the individuals with their amount of available income. The information provided by them is processed according to some established methods in order to produce a poverty line. It has been empirically proved that the minimum needs, as perceived by the individuals, are very much related to their current income levels and consumption patterns. In any case, although these subjective lines provide interesting information on the general perception about satisfaction of needs, they are unsuitable for international comparisons and macroeconomic analysis.

There is a general claim on the need for an international poverty line that could provide worldwide comparable poverty figures. But there are significant conceptual and methodological problems involved, so that there is not much hope that this goal could be attained, at least in the near future.

## **Poverty in developing countries: the Millennium Development Goals**

The United Nations Millennium Declaration, made in September 2000, marked a strong commitment of the international community with sustainable development and eradication of the many dimensions of poverty. As a result, eight Millennium Development Goals, with associated targets and quantifiable indicators, were developed from the Declaration.

The first of these Goals is the eradication of extreme poverty and hunger, and one of the targets associated with it is to halve, between 1990 and 2015 the proportion of population with an income below 1\$ per day, measured in purchasing power parities.

This statement sets a poverty line meant to measure extreme poverty. Although it is not particularly fit for inside analysis within rich countries, it is a very useful reference for international comparisons of poverty and cross-country studies in the developing regions. Most of the research carried out lately on the relations between demographic patterns and economic development is based on this standard.

This line is widely accepted from a conceptual point of view in the developing world. But for the practical purpose of implementing international comparisons it also has a number of problems and pitfalls, most of them related to the dubious quality of the existing data.

Information on income is collected from households through surveys that in these countries are not implemented on a regular basis. Comparisons based on information collected in different years, or even in different times of the year –before or after the rainy season- will very probably introduce spurious sources of differentiation, and much the same can be said about calculation of purchasing power parities. The lack of material and human resources that is endemic in these countries, together with the weakness of their statistical systems, adds to the difficulties of getting reliable information for the analysis of the connections between population and development issues.

## **Demography and poverty**

Relation between demography and poverty is by no means a new issue. Malthus, in his Essay on Population published in 1798, already hinted to a relation between population growth and impoverishment, to the point of urging couples not to marry and have children unless they could afford to support them. The belief, long held, that population growth has a negative impact on income growth is based on the argument that population growth tends to overwhelm natural resources and capital.

These theories have not been confirmed by experience. But on the other hand, the opposite view, that is, that population growth leads to an increase of income, cannot either be sustained on a general basis, as many counterexamples show. The fact is that a

growing population in a dynamic setting will contribute to create new sources of wealth, stimulate innovation, increase commercial relations and generate economies of scale, but a growing population in a static, non-creative setting will only mean that an equivalent amount of wealth will have to be divided into an increasing number of individuals.

A first conclusion widely accepted is that there is little evidence supporting the idea that population growth is having an effect -either positive or negative- in income growth. The trend of income is due to other facts not much connected with the size of the population. In what concerns economic development, population growth is generally considered a neutral factor, and its positive and negative effects usually tend to cancel out.

Still, although the growth of population numbers does not have a clear impact in development and poverty reduction, the changes in population age structure are a determinant issue, as the economic prosperity recently arising in a number of countries seems to prove. So the relation between poverty and demography is not so much linked to population growth but to changes in reproductive patterns and fertility rates.

### **Poverty and fertility**

There seems to be a clear relation between poverty and fertility, between proportion of poor and fertility rates, at least at macro-economic level. The relation is not so clear when we compare, within a country, the fertility rates of households in the lower and upper quintiles of income, particularly in developed regions. But when considering the set of developing countries there is a clear positive correlation between percentage of poor and average number of children per woman, as several studies have proved (UNFPA 2004; Mason and Lee 2004).

Although correlation does not necessarily guarantee the existence of a causal relation, a number of arguments have been given in favour of the assert that poverty can account, to a significant extent, for the high fertility rates in most Sub-Saharan countries.

One of them is the positive contribution of children to the household economy. In developing countries children very often involve themselves in paid activities, even at a comparatively early age, thus bringing home an extra income that, although small in itself, can eventually amount to a significant share of the household budget, as has been stated in a number of publications (Eastwood and Lipton 2001, Merrick 2001).

Another reason often mentioned is that in countries with a high infant mortality rate the parents will be inclined to have more children in order to ensure that enough of them will survive and grow up. The massive emigration taking place now from poor to rich countries could eventually contribute to reinforce this trend. This is often known as the demographic poverty trap: because in poor countries infant mortality rate is high, parents tend to have more children, and that in turn ends up in a further impoverishment of the country.

In connection with this an interesting point has also been analysed. Parents are interested in the fact that enough number of their children reaches adult age, partly

because they expect to be fed by them when they are old. In countries where pension systems do not appear as attainable in the mid term a child can mean a long term investment for the parents. Still, it has been proved (Stecklov 1997, Lee 2000) that transfers from parents to dependent children exceed by far the transfers from adult children to their elderly parents, so that this attitude of parents could be considered a sort of parenthood-trap.

The influence of poverty on fertility rates is more difficult to analyse at micro-economic level. Although new fertility attitudes are usually started by the upper class, high educated women, they usually leak very quickly through the less educated population in the country, so that in a very short period the initially negative correlation between family income and number of children does not show any longer. Also the opposite can happen, particularly in developed countries, where affluent couples can eventually be ready to have more children on the grounds that they have enough means to provide them all with a good education, while the poorest families will tend to concentrate their resources on a smaller number of off-springs.

### **Fertility and poverty: demographic transition and the demographic dividend**

After consideration of the influence of poverty in fertility rates it is interesting to analyse the other side of the question: how does fertility affect poverty.

A high fertility rate means an increase in the number of children and, consequently, other things being equal, an increase in the dependency rate of the population. This, in principle, is supposed to be a hindrance for development. Children consume much more than they produce, even in traditional settings, and high fertility levels generally have negative effects on health and education unless the country is prepared to increase the resources allocated to these services at a similar rate, which is not usually the case. Moreover, it has also been proved (Eastwood and Lipton 1999, 2001) that fertility growth not only slows the economic growth, but also skews the distribution of consumption against the poor, so that an increase of fertility has not only an anti-growth, but also an anti-poor effect.

But the situation changes when a period of high fertility rates is followed by a fertility reduction. The initial impoverishment originated by the previous baby boom often acts as an incentive for dynamic populations to make an extra effort and develop some extra initiatives in order to survive. And just when these new patterns have become common practice in the country, the children born in the high fertility period will access to the labour market and the number of producers grows. In the meanwhile the lower fertility of subsequent years has reduced the number of children. Dependency rate decreases dramatically, and so does the ratio consumers/producers. The result of an increase in the working force, combined with the fact that this working force is loaded with less family obligations, and in a stage of their life cycle in which consumption is at its peak will create a booming market, that will stimulate investors to develop new ideas and start new businesses. Also, a better financial situation will change the attitudes of population in a number of issues. People will have means to improve their health status. Having fewer children, they will probably be ready to provide them with a better education, so contributing to further development. On the other hand, they will be able and ready to make higher savings for retirement in view of the increase of their life expectancy, and

that will mean an increase in the capital stock of the country. And a lower number of children will allow women to enter the labour market, fertility reduction having thus a multiplier effect in the labour force growth.

This virtuous process resulting from the fact that the decline of children, -that is to say, of consumers- is immediate when fertility rate diminishes, while the decline of labour force is delayed for 40 years or more, is described as the demographic dividend.

The demographic dividend accounts for a significant part of the development process in a number of countries, that have managed to make the most of the advantages derived from it. Several examples can be mentioned both in developed and developing countries, the example of China being a paradigmatic one. It is widely accepted that the difference in the development patterns followed by South Asian and Sub Saharan countries can to a great extent be explained by the demographic dividend

On the other hand, it is obvious that not every country is going to benefit from the change in fertility patterns to the same extent. In order to make the most of it, the country should be prepared to absorb this avalanche of new, young labour force and provide jobs for them. Otherwise this mechanism might end up in an increase in unemployment rates and a growth of poverty and consequently, unhappiness and social instability. In those cases the situation can eventually be alleviated through massive migration outflows, which can contribute in the mid term to the start of a trend of development, as will be seen later.

Sound economic policies can make all the difference in the capitalisation of the demographic transition. Political stability, openness to trade, good governance and educational attainment are usually mentioned as essentials.

A point to consider is whether economic development will always lead to a reduction of poverty. It is generally accepted that in the long run development has a neutral effect on the income distribution, so that in the end the vast majority of the population benefits from it. But this might not be the result in the short term. Inequality very often tends to grow at the beginning of the process, because not all development policies are necessarily pro-poor. The fact, already mentioned, that the richer families are usually the first to benefit from the demographic dividend adds to this effect.

The responsiveness of poverty to economic development depends significantly on the initial conditions of the country. There is some empirical evidence that the effect of economic development on poverty reduction is stronger in countries where income inequality is initially lower and educational attainment higher. (Ravallion and Datt, 1999; Ravallion 2004). On average it has been estimated (Asian Development Bank, 2004) that an increase of a 1% in the per-capita income of a country will reduce the poverty rate by a 1,5%.

The incidence of the change of fertility patterns in poverty reduction has been empirically proved at macro-economic level with the help of cross-national regression models (Bloom and Williamson, 1998; Kelley and Smith, 1995, 2001). Also some estimations on the differences in the demographic dividend at micro-economic level for all countries have been carried out (Cutler, Poterba et al, 1990) by using a standard age-profile of consumption and productivity for all countries, so that the influence of

national differences in age profiles of production and consumption is eliminated, and the improvements are only due to demographic variables. These models do not capture the effects of the adequacy of policies implemented, good governance or other factors that can enhance or limit the effect of the demographic dividend.

This method has been used to estimate the effect of the demographic dividend in poverty reduction in each country or region (Mason and Lee, 2004). According to this analysis, the regions that have most benefited from it have been Asia and Latin America. Between 1960 and 2000, the demographic dividend reduced poverty rates by 19,5 % in Latin America and by 16,2% in Asia. In the Sub Saharan Africa, on the contrary, the effect was slightly negative during this period. -2,8%.

The question that remains to be answered is whether the positive effects of the demographic dividend will continue when the children from the baby boom reach retirement age. The number of producers will diminish as a consequence of fertility reduction, and the dependency rate will grow. It is generally assumed that population and fertility differentials will be balanced through migration, and that this will have a positive effect both in rich and in developing countries.

### **Migration and poverty**

From the point of view of economic development and poverty reduction, migration is a two-folded weapon, as it presents negative as well as positive aspects. It has been said that migration can be either the cause or the effect of poverty, and that poverty might be reduced or amplified by migration (IOM 2004).

Migration is frequently referred to in a negative perspective, and some of their negative effects, particularly those concerning social issues, are very often stressed. Among them, the fact that disconnection from their natural roots usually has a negative effect in the health situation of migrants. Also, massive migration inflows tend to generate a number of social problems.

In connection with poverty, the effects of migration can be very positive. On one side migration alleviates poverty at personal levels. But also the developing country providing emigrants can substantially improve its situation through the process, and this is mainly due to two facts: remittances of money from migrants and the increase of skills and knowledge that massive contact with the nationals of a more developed country will naturally bring. Actually, there is empirical evidence that the increase of international migration is positively correlated with a decline of people living in poverty (Adams and Page, 2003)

Remittances from their migrating citizens are a substantial source of income in developing countries. According to the calculations of the World Bank, remittances made through registered channels amounted to 93 billion dollars in 2003, and this figure does not include the –probably- substantial flow of transfers made through informal channels. Actually, remittances are now the second largest financial flow to developing countries, after foreign direct investment, and they more than double the size of net official finance. Also, they have the advantage of being more evenly distributed among the countries than foreign investment. (World Bank 2004).

Another additional advantage of remittances that has been pointed out is that they are usually anti-cyclical, in the sense that they generally do not decline when the developing country is going through a recession period. On the contrary, they tend to increase in difficult times.

Skills acquired in more advanced countries can come up very useful if the immigrants return to their countries of origin. Not only will they bring back with them new techniques and knowledge, but also new patterns of behaviour, more in line with the uses of developed societies, such as, for example, a democratic culture that will help improving governance and democratic attitudes in their country of origin.

The significance of the results obtained from these two positive facts will vary according to a number of circumstances. For example, a substantial proportion of the remittances will probably be used for consumption, thus alleviating poverty in the short term. But a part of it will go to family investments, improvement of education, particularly of children, the start of new family businesses and industries or community projects in the country, thus contributing to development and poverty reduction in the long run. Even the part of the remittances used for consumption will contribute to create new jobs, which will help in countries with a high rate of employment. As things are, it has been estimated that the increase, in a 10%, of the proportion of international remittances on the GDP of a country will produce a reduction of a 1,6 % in the share of people living in poverty (World Bank, 2004).

In what concerns the professional skills acquired by the immigrants, they will contribute to the development of their country of origin only if the conditions are adequate for their returning home on a stable basis. This will only be the case if the country manages to implement a development process that allows offering them reasonably attractive opportunities within the time period of a generation.

Still, not all the effects of migration are positive for developing countries. There are also some negative issues, the most significant of them being the brain-drain and human capital drain that migration generates. Migrants are not necessarily the destitute of the country. Very often they are people with some skills that they want to put to a better use in more advanced societies, so depriving their country of origin of the prospects of a budding development. This can be the case for example in India, or in some central European countries. But even unskilled migrants are usually endowed with two qualities that make them very valuable for a country that is trying to develop: they are young, and they are people with initiative.

## **Conclusions**

The analysis of the relation between demography variables and poverty rates is not an easy task at macro-economic level, as there is not a unique definition of poverty, and the existing poverty lines are generally meant only for analysis at country level. Still, the Millennium Development Goals have set a common criteria meant to measure poverty in developing countries.

In spite of their statistical limitations, data from these countries have been used to analyse the relation between demographic variables and the incidence of poverty. As a result of these studies it has been stated that a) poverty seems to be one of the determinant factors of the high fertility rates yet existing in some regions, b) although the effects of population growth on economic development are not clear, a spell of high fertility rates followed by a period of low fertility rates has a clear positive influence in economic growth and poverty reduction, producing what is called the demographic dividend, and c) migration tends to have a positive effect in developing countries, to the extent to which the remittances of emigrants are partly used for education improvement and new investments.

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