

LESSONS AND PROSPECTS

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Towards the middle of the Third Development Decade of the United Nations, that is after twenty-five years of international discussions and activities on development, increasingly the need has been felt to draw lessons from experience. As the most important international institution in this field the World Bank (1984) contributed to this endeavour by its publication **Pioneers in Development** to which ten authors contributed.

Rapid development of disturbing factors, however, reduces the likelihood of duplication, if now the Middle East Technical University follows with a comparable attempt. One of these disturbing factors will be discussed towards the end of this essay, namely the factor of automatization. Since the authors of this issue have been requested, however, first to give their views on what we have learned from the past, this subject – lessons from the past – will be taken up to begin with.

The lessons I want to elaborate upon are well known to anybody involved in development cooperation, research or policies. At most therefore the way in which they are identified may contain something novel, if at all. A first lesson may be formulated as the shift from **scarcity of physical (or financial) capital** as a major impediment to the scarcity of **human capital**. In the early studies much emphasis was laid on the need to complement a developing country's savings by financial transfers (financial "aid"). Even so the larger part of investment financing flew from national sources. In addition, the larger part by far of foreign currency originated from international trade (exports of goods and services), a fact also overlooked by part of public opinion.

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As observed, the emphasis on capital scarcity as a main reason for slow development had to be shifted, partly at least, towards the scarcity of human capital, that is, skills at a number of levels – from skilled manual labour to managerial skills. The process of **industrialization** was supposed to be the main means to reduce poverty and the increase in agricultural productivity as a precondition to that process. Both policies require government activities: extension services to raise agricultural productivity, education of farmers and the creation of infrastructure as a basis of manufacturing, as well as the organization of an educational system to supply the necessary quantities of skilled workers of various levels. The civil service itself equally wanted a number of able administrators. So indeed a multifaceted investment in human beings (the investment in human capital) is required in addition to the financial capital flows mentioned.

If for some time it was believed (also by the World Bank leadership) that manufacturing industries would come into existence through private initiative, if only infrastructural provisions would be made available by public investment, this appeared to be too American a view. In other industrializing countries private initiative and private capital supply were insufficient to take care of the superstructure and also required supplementary government activities. This was not necessarily a socialist (or communist) policy. Examples may be given from this author's country, the Netherlands, as well as from Turkey. In Holland in 1902 the Dutch State Mines (DSM) were established because, in the government's opinion, private capital was able only to take care of part of the total investment in **coal mining** needed. Holland at that time had one or two socialist members of parliament on a total of one hundred MPs. It may be interesting to add that DSM developed very successfully. For half a century it was more productive than private coal mines, which supplied about one-half of total coal production. Later, when coal mining was no longer profitable, DSM succeeded in transforming itself into one of the big chemical corporations.

A second example of the need for public investment in and running of enterprises in the Netherlands refers to **farming**. Notwithstanding the high standing of private Dutch agriculture, a number of state farms are run. These are farms on newly reclaimed land, the so-called "Zuiderzee polders". Experience with earlier farms on reclaimed land (the so-called Haarlemmermeer area, around the national airport

Schiphol) had shown that this type of farming was too risky for private farmers: the first generation went bankrupt. This was the reason why another policy was followed for the Zuiderzee polders. During an initial period of some years farms of optimal size are established and run by the government, which after the initial period sells these farms to private farmers, carefully selected on their abilities from those applying.

Similarly in other Western European countries a number of industrial enterprises are publicly owned. Among them is Turkey, with its well-known state economic enterprises, created for similar reasons as the Dutch State Mines.

A second lesson to be drawn from experience is the **importance of self-reliance** as one of the psychological preconditions for development. If not a sufficient number of a country's population is willing to start an enterprise and to rely on their own abilities to succeed such a population is unable to become more prosperous and to emerge from the poverty level characteristic for feudal societies. This aspect of development policy is elaborated most completely by Gunnar Myrdal (1968, 1970).

What is at stake here concerns a fundamental human problem. As most human attitudes it is partly related to innate factors and partly to a learning process. The former is given and cannot be changed unless from one generation to the next. For an individual it is the learning process that is able to change attitudes, but in a more limited way. Learning processes themselves are not only the formal learning processes supplied by schooling. Before formal learning the family environment and somewhat later the neighbourhood, and after schooling work experience add to changing, or at least developing, innate features of an individual. Part of the innate potentialities is the ability to absorb what teachers or employers are teaching; another part is the ability to draw lessons from own observations and experience. There are large differences among individuals of a given population or even race. Some are very enterprising; others more passive. Among the former are those who emigrate and help to build up new nations, of which the United States are the best-known example. Among the latter, the more passive, are those who stay where they were born. As a consequence we can expect that the poorest regions of the world are those of oldest settlement.

Self-reliance not only is required for individuals, but also for **governments** of countries opting for development. Also governments differ, as do individuals; and part of the successes of some developing countries may be due to the quality of their governments. Moreover, it is not only the degree of self-reliance of a government, but of course a series of other characteristics which matter. We will take up that aspect somewhat later.

Finally, single governments often cannot hope to attain their targets; we speak of **collective self-reliance** if governments of several or many nations pursue some objectives. The "**Group of Seventy-seven**" is the largest group which tries to give shape to collective self-reliance. Regional groupings exist on all continents and have been able to assume a common stand in some problems of common interest. In some regions, such as the Caribbean, the only possibility of success is an intensive cooperation. Unfortunately – and this occurs everywhere – shortsighted self-interest often prevents the pursuance of collective long-term interests. This not only applies to, say, the Caribbean, but just as much to Western Europe.

Governments of developing countries often are **not interested in the population as a whole**. In many countries powerful small groups – often of land owners – are the ruling class and are neglecting the interests of the majority of their people. This is one of the clearest examples of a short-sighted egocentric policy, which may well lead to disasters. This state of affairs tends to polarize world policies toward extremes and endanger world security. The increasing militarization is one of the results of polarization, unfortunately intensified by two superpowers.

As observed, there are considerable differences in the **quality of governments**. One of the qualities required exactly consists of an interest in the population as a whole, and an understanding of the long-term interests. One long-term interest is that the **size of the population** does not increase – rather the opposite. With all the limits we are facing to the supply of vital elements needed for prosperity, such as food, a clean environment, sufficient energy and several more elements, reducing the growth of population is a very important objective. It is amazing that the urgency of this objective is not yet universally understood. Unfortunately in some cases population growth is considered an instrument of power and as such abused. Long ago the argument used by militarists and some churches was simply that in that way the

number of soldiers or of adherents could be enlarged. More recently the effect of a larger population on the labour market – namely a pressure on wages – was hoped for by employers, but not, of course, openly expressed. It is a pity that only the People's Republic of China shows a clear understanding of the impact of population growth on the general level of welfare. Less drastic policies than the Chinese may be preferable; but they will require a welfare reduction in comparison to the Chinese level and this should be understood.

Some attempts to draw lessons from past experience remain unclear since a difference of opinion exists. An example is Little's (1982) conclusion about **planning**, which I don't share. From a number of errors made Little concludes that development planning must be rejected; and he prefers to concentrate on project appraisal. I don't agree with that conclusion. Individual projects cannot be appraised, in my opinion, without the framework of at least a national plan, if not even a plan covering a wider area. Instead of rejecting we must try to **improve** planning. An example of the impossibility to appraise a project without a general plan is an electricity plant. Its use cannot be estimated if we don't know to what industries electricity will be supplied.

Let us now have a look at the **future**. The lessons from the past just discussed were meant to be lessons for future policies; so the subject of the future was already involved, if perhaps implicitly.

As a starting point I propose to consider Professor Wassily Leontief's (1977) study of **The Future of the World Economy**. Any national policy plan should fit into some world-wide frame. From the latter we are able to derive, to begin with, the nation's export possibilities and the prices of both exports and imports. For most countries these three variables are important codeterminants of their feasible national production projections. Of course they will also depend on a number of variables more under control of the nation. Among these the nation's savings and the development assistance expected, as well as the development of its cost of production level require particular attention.

This essay is not meant to summarize a course in national planning. Rather we are proposing to discuss the newest developments of Professor Leontief's own thinking about the future of the world economy, as recently set out in a seminar in the Netherlands on September 27 and 28 (1984), organized by the training centre "De Baak", Noordwijk, The Netherlands.

Leontief's new view is based on the collection of an immense quantity of new information especially on the impact of to-day's and the foreseeable future's **automatization** potentialities. With the accelerated growth of information collecting and processing the most advanced economies and corporations are pushing the world into a new "industrial revolution" which contains very promising as well as very threatening elements to the various social groups in each country and the various groups of nations in the world – from high-income leading to newly industrialized and low-income nations.

Since the centres of the "information revolution" are undeniably the United States and Japan, whose new technologies are being absorbed elsewhere in the industrialized world, we start its discussion by considering the industrialized part of the world economy. For the sake of clarity we discuss the central problem which Leontief's quantitative research poses, disregarding the question when this problem will have to be faced. It is the **composition of the demand for labour** according to levels of **schooling** and, hence, of **innate abilities** needed to attain the various schooling levels which constitutes the most serious aspect. Leontief's research makes him conclude that the demand for highly schooled labour will rise and the demand for lower schooling levels labour will fall. This finding implies that a new tendency towards **income inequality** and a rather strong one may be expected. The "social problem" of the past will have to be faced again, and under new circumstances.

Let us first discuss how it may be tackled in the socially more advanced developed countries. After what has been accomplished in the field of social policies in these countries trade unions and progressive political parties **will not accept a new increase in income inequality** and quite rightly so. A system of **taxes** and **subsidies** will be proposed in order to counteract the market incomes inequality. Probably the best system will be similar to the American idea of a "negative income tax", i.e. a subsidy **S** depending on market earnings **E** and aiming at a minimum net income. Indicating the necessary minimum by **M** we may think of a supplement or subsidy (hence negative income tax)

$$S = M - \sigma E \quad (1)$$

where the choice of the coefficient σ constitutes the main problem. The value of σ should be positive, because it is clear that less subsidy is needed by individuals with higher market earnings. In addition an

incentive to look for paid employment should be maintained; this means that $\sigma < 1$. (For $\sigma = 1$ net income would be independent from E). Writing Y for net income we have

$$Y = E + S = M + (1 - \sigma) E \quad (2)$$

For $\sigma = \frac{1}{2}$ this means that

$$Y = M + \frac{1}{2} E \quad (3)$$

and for $\sigma = \frac{1}{4}$ that

$$Y = M + \frac{3}{4} E \quad (4)$$

It will depend on the development of inequality in E and on the influence of progressive thinking what value of σ will be chosen. With increasing inequality in E a lower $1 - \sigma$, hence a higher σ will be needed.

Supplementary income S will vanish for $E_0 = M/\sigma$. Incomes beyond E_0 need not be taxed according to the same scale (tax = $-S = \sigma E - M$), but possibly according to a progressive scale, as we know it.

In addition to this political reaction to E -inequality also **economic** reactions are to be expected. Relative cheapness of less skilled labour may stimulate its demand, and research may be directed at new products and production processes requiring more unskilled labour. But the intensity of this reaction may be weak: this is what we are told by specialists on automatization.

The low demand for less skilled labour to be expected according to Leontief's findings will have a serious impact on **less developed countries**. As has been observed often, their problem constitutes the "social problem" at the **world level**. In principle they may, if they are sufficiently advanced in their social thinking, apply a similar policy of negative income taxes. They will not be able, however, to use the same M as more developed countries. One may think of a value M depending on the country's average income Y , for instance:

$$M = M_0 + \mu \bar{Y} \quad (5)$$

The annual International Labour Conferences may be the place for discussing this set of problems and policies. To be sure I am now thinking of possible long-term trends.

As a final remark on this subject (the consequences of automation) I want to add that there is a clear need to **periodically repeat** Leontief's collection of data and their processing. A major question that will be answered only gradually is whether the **speed of penetration** of the new technologies has been over- or underestimated. Usually an outspoken difference between the most advanced and the least advanced firm in the same branch of manufacturing exists. Productivity ratios between the most and the least advanced decile of a branch's production of 2 to 3 are normal. This reflects the speed of penetration: the older enterprises as a rule are less productive than the newer. The speed of penetration may be large if capital per employee is small, but a high **capital intensity** of the new technologies will put a brake on its speed of penetration. But do we know capital intensities of the automated processes? In addition, the total demand for labour is important too. This will depend not only on the capital intensity just mentioned, but also on the demand elasticity of the new products automation will be able to supply.

As a second highly important set of problems to be faced in future decades I want to mention problems of **international** and **supranational** decision making. Interdependence of the world's national economies is increasing and this must be welcomed; it may contribute to the maintenance of peace – by far the most important issue we face. A recent example of increasing interdependence is the **environmental pollution** due to the rapid development of chemical industries and the use of radioactive materials. The phenomenon of **acid rain** is a concrete challenge to our common well-being. This phenomenon can only be controlled with the aid of supranational decision making. Some will object that international decision making is sufficient; but this is based on the belief that all governments are willing to take into account other nations' well-being. Unfortunately this is too optimistic an assumption. This is why structures of international decision making are needed which are stronger than intergovernmental treaties. Part of national **sovereignty** will have to be **shifted to supranational agencies**. Progress made on these issues remains far behind what is needed in order to avoid a number of catastrophes as depicted by experts in the subjects concerned at the request of the Club of Rome, Aurelio Pec-

cei's (1976) creation. Progress made lags also far behind what has been told us by the Brandt Commission (1980, 1983).

Let me summarize what I had to say on the prospects for the future by stating that humankind **will have the future it deserves**. If political leaders remain as shortsighted as most of them are it will not be a bright future. If these leaders would take seriously what the Club of Rome or the Brandt Commission had to say, there is some hope for a better future.

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