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TECHNOLOGY AND EMPLOYMENT

SOME COMMENTS

LUIS DE SEBASTIAN

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79 / 2

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Technology and Employment Some Comments

by

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1. Employment as a continuum of "business"

It is a well known fact that employment and unemployment in underdeveloped countries are different socio-economic phenomena from those in developed, industrial countries. Here, the largest proportion of the labour force is wage-labour, permanently hired in well defined productive unit according to accepted social legislation, which is usually engaged in producing marketable goods and services, the economic value of which is commensurate with their money price. When members of the labour force cease to work in these conditions, they become unemployed either openly or in disguise.

In underdeveloped countries the picture is quite different. Only a small proportion of the labour force enjoys employment conditions similar to those in industrial countries (usually 10 to 20% of the labour force). The rest can be said to be occupied or busy in some degree, but not necessarily employed, that is to say, working for the same employer on a more or less permanent basis and obtaining a set wage and other benefits which in modern societies usually go with permanent employment. Few people and even fewer families in Third World countries can afford not to work at all. Since they have no savings, they would starve quickly. On the contrary, those who have no permanent employment must work harder, day in and day out in order to find the means of subsistence. In underdeveloped countries, many "unemployed" work for eighteen hours a day to collect the few pesos needed for the maize and beans. They are not employed, but, by God, they are busy! Some others have to walk ten or twelve kilometers before they find a job capable of providing the subsistence for the day. Many do work permanently in all kinds of family productive

units, but without receiving fixed wage and the other benefits which wage-earners obtain in industrial countries (or in the industrial sectors of underdeveloped countries).

All this is well-known. The point I would like to make in this comment is simply that from a fully modern type of employment to the absolute lack of profitable work, there is almost a continuum of "business" (in the original sense of the word), in which the whole working population of the Third World can be found (and that of the developed countries for that matter).

Thus, in order to analyse employment and occupation conditions in Third World countries, we should do away with the conceptual framework of industrial employment and take more into account the socio-economic peculiarities of work and occupation [in Third World countries]. For this purpose, I suggest the construction of a composite index of "business", which in principle will measure on a continuous scale the socio-economic quality of occupations from the most desirable [from every viewpoint] to the most unjust, degrading and poverty-generating.

The highest degree of "business" in the scale will be associated with high intensities of at least the following characteristics:

- a permanent, stable job,
 - remunerated according to expectations,
 - carried out under pleasant working conditions,
 - for a reasonable number of hours per day,
 - which is esteemed and recognized by society,
 - with the fringe benefits which are usual in modern labour legislations,
 - producing economically valuable goods and services
 - or, alternatively, services which, because of their higher nature, are socially valuable
- et etcetera.

The lower the intensity of each one of these dimensions, the lower the value of the index will be; and it will be even lower, if some or all of these characteristics are altogether missing.

If we were to calculate this index for the whole working population of an underdeveloped country, we will probably find that there are no abrupt transitions from the highest to the lowest degrees of "business" and that the majority of people will be in intermediate positions, that is to say, they will not be fully employed but not altogether jobless.

A similar index could be constructed for measuring employment conditions in industrial countries; but there, the intermediate positions are likely to be fewer, so that the simple division of the working population into employed and unemployed still keeps its operational value. The two situations are depicted in the following graph (See Annex I).

The interpretation of the graph is straightforward.

dc'b'a' is the "business" profile of a typical industrial country in normal times

od (1-2%) represents the number of those who do not want to work

oc' is the normal unemployment zone, in which 3 to 5% of the labour force may find itself in normal times

cb is the intermediate occupation zone in which only 20% of the working population will be counted

ba is the normal employment zone in which the largest majority of the working population, 75% in my example, is to be found.

If we compare the "business" pattern of an industrial country with that of an underdeveloped one (dc' 'b' 'a') the differences are really striking.

- Up to 20% of the working population is in the unemployment zone;
- 65%, the vast majority of the population, is in the intermediate zone;
- and only 10% stays in the zone of normal, developed country employment

(The proportions may be exaggerated, as they are arbitrary, but they bring home the difference between the two occupational structures).

I have developed these considerations about the definition of employment and unemployment in Third World countries in order to provide a framework for dealing with the question of technology and employment.

2. The Employment Function

Employment, or to stick to the previously defined concepts, the degree of "business", is function of many variables and not just of a unique technological relationship, as could be the total of money invested in capital goods to the number of people employed according to developed countries standards, or whatever variable or vector of variables is chosen to measure the labour intensities of productive techniques.

The degree of a working force's business" is a function also of, at least, the following variables:

1. The total amount of investment, which is related to the level of domestic and external saving.
2. The distribution of total investment between regions, between the rural and the urban sector, between agriculture, industry and commerce between different branches of industry and so on. Clearly, the decision which leads to this distribution are prior to the choice of techniques and normally determine the latter.
3. The redistribution policies explicitly and implicitly followed through public expenditures. Thus public consumption is also considered.
4. Those variables of different nature which affect the distribution of the population within the country; for instance, those which induce internal migrations.
5. Institutional arrangements concerning the ownership of the means of production, which have a decisive role in determining who are the employers and; therefore which goals are sought by the supply of jobs.

Technological decisions [the choice of techniques] come relatively late in the process whereby the main decisions about society, the economy, the rural-urban equilibrium or the lack of it, the agriculture-industry trade-offs, etcetera, are taken.

They are rather a consequence of a whole set of decisions in which technology is perhaps not even mentioned.

The wrong choice of techniques may make more difficult the achievement of dependently set goals (given that these goals are somewhat sensitive to technological aspects), as much as a correct choice could facilitate it; but the choice of techniques as such can not have but a subsidiary role.

We can not make the employment question dependent upon the choice of techniques question. Technology policy cannot be the main component of any sensible employment policy, nor can employment policy rely heavily on the choice of techniques. Attention should be given to the choice of techniques, but a real employment policy must consider as priorities other arguments of the employment function.

3. A Political Argument for Industrialization

Capitalistic underdeveloped countries will never get out of the state of backwardness, poverty and social injustice in which they are, if the present distribution of power is not changed either by shifting the share of power of existing power centers or by creating new ones.

The structure of power can be changed rapidly by popular revolution; in the very long run by peaceful evolution; neither case can be put forward as an ideal solution in meetings like this. Firstly, because revolutions are not planned at world conferences, and secondly, because an appeal to very long processes sounds like an excuse to leave things as they are. We have to find processes which, while being swift enough, do not offend the feelings, and what is more important, do not bring forth opposition of conservative forces.

I am inclined to think that industrialization is that kind of process which, while being stable to capitalist world opinion and immediately mistrusted by dominate national elites, is quite apt to shift social power from power centers founded on rural land ownership and on primary production for export toward industrial power centers. These coeteris paribus, will devote more attention to enlarging the home market and, therefore, will be more open to measures designed to create democratic conditions and to bring about

a more just distribution of income.

In more simple words, what I have in mind is really the transition from néo-feudal, pseudo-capitalist agrarian economies to modern capitalist societies, as an intermediary step to forms of social organizations which are truly compatible with the dignity of every person and the right of self-determination of all countries.

It is by no means certain that an industrialized Third World country will necessarily be a democratic country; it will be enough to remember South Korea, Franco's Spain and the Greece of the colonels. But precisely in the last two cases, we can see that industrialization afforded the economic substratum for the process toward democracy. The point I am making is that in little industrialized countries, where power is exceedingly concentrated in few hands (families), like in say, Zaire, Philippines, Guatemala or Paraguay, economic and social development is impossible; it will never go beyond that point which is most convenient to the concrete interests of national elites and their international associates. These interests are linked up with international markets rather than with the domestic one, in which, therefore, the purchasing power of the population is not important (for exporters of primary products), but it is essential that wages are as low as possible to maximize profits under the given restrictions of the world markets.

Industrialization appears thus as the only alternative, with a reasonable degree of (theoretical) viability, to the agrarian (or mining) interests which make up the national conglomerate of underdeveloped economies. This is an old argument which has not ceased to be valid, but which seems to have been forgotten in the presence of newly discovered

panaceas in the field of development economies; appropriate technology is, for some people, one of these.

Industrialization is a way of breaking the power ring of agrarian and mining interests which thrive on low wages and the repression of the working population. We need industrial revolutions when the others are not possible. Indeed, living standards of the population can not increase steadily, if its productivity does not increase faster than the wage rate. We need, therefore, that kind of industrialization which would make possible for the largest number of people the biggest increases in work productivity, in agrarian economics and in bucolic and restricted industrialization, the limits of productivity growth are soon reached.

4. Intermediate Technology as a Modern Instrument of Rural Development

In the context of what has been previously said, it will be clear that I do not consider intermediate technology as the type of technology which a Third World country trying to change radically its power structure and its occupational ("business") profile would adopt; to the exclusion of the advanced technology which is to be found in technology markets.

To begin with, there is no intermediate technology for many branches and many processes of industry which have to be developed, if industrialization is to come to something. The realities of the intermediate technology movement lag behind its ideals. A country embarked upon a change of structures cannot wait for the intermediate technology centers to invent the appropriate technique for producing whatever goods, particularly capital goods, are required in the process toward industrialization.

Furthermore, the "appropriateness" or otherwise of a given technique does not depend so much on labour-and resource intensities (which, no doubt, must also be carefully considered); but on the socio-political context in which the technique is being used. Accordingly, deciding about the appropriateness of a given technique becomes a matter of political judgment. The question of who is entitled to decide when a productive technique is appropriate or not will never be solved to the satisfaction of every interested party. I personally have serious objections to leaving to the Intermediate Technology people (as much as I like some of them) the decision as to what is appropriate technology for, say, Nicaragua today.

As to the effect on employment promotion of intermediate technologies and the matter is not unambiguous. For intermediate technologies seem to have their field of application in what I have called intermediate occupation zone; they are quite apt to enhance the productivity of families cooperatives and other smaller productive units. In this way, some intermediate occupations will increase their economic value and to certain extent change the "business" profile of the country. However, the productive structure of the country as a whole will hardly be altered by the increased efficiency of artisans, cooperatives and small village industries. When the change of socio-economic structures is not the main concern of a person or institution, be it because they cannot bring it about, be it because they are not interested in it, the introduction in restricted areas of intermediate technology constitutes for them a worthy enterprise which can improve the lot of many suffering people; but even in this case, the spread of intermediate technology must not be a substitute for full-scale

industrialization in a country which has chosen this path of development, nor a way of consolidating the power structure of overtly unjust societies. The intermediate technology movement needs its own political economy to be able to answer the question: whom, in the last analysis does a given intermediate technology benefit most?

To those who are concerned with the radical change of the country's whole economic structure, the isolated efforts and achievements of the intermediate technology movement seem to be hardly significant, but not altogether useless. I see the field of application of intermediate technology in rural areas of big underdeveloped countries. The largest villages there are important urban centers, the economic significance of which is enhanced by the long distances which separate their populations from the major productive and trade centers. Increasing the self-sufficiency of these large village is not only convenient from an administrative point of view, but also from the viewpoint of economic efficiency and welfare. Intermediate technology can contribute a great deal to increase self-reliance among the rural population. It is not an accident that the most successful endeavours of intermediate technology have India as their geographical background.

This is why I consider intermediate technology as a worthy and modern instrument for rural development. I cannot accept it as a policy instrument to change the socio-economic structure of any country [and, to tell the whole truth, I rather fear that some promoters of intermediate technology may be in fact trying to avoid such changes].

5. The Need for Controlling the Employment Potential of Industrialization

It does not escape me that uninhibited industrialization will bring forth new power centers which have to be controlled, if we are to avoid that the new demons be worst than the old ones. It is not good enough for a country to escape from reactionary landowners to fall into the hands of international managers who are as ambitious and insatiable as the former.

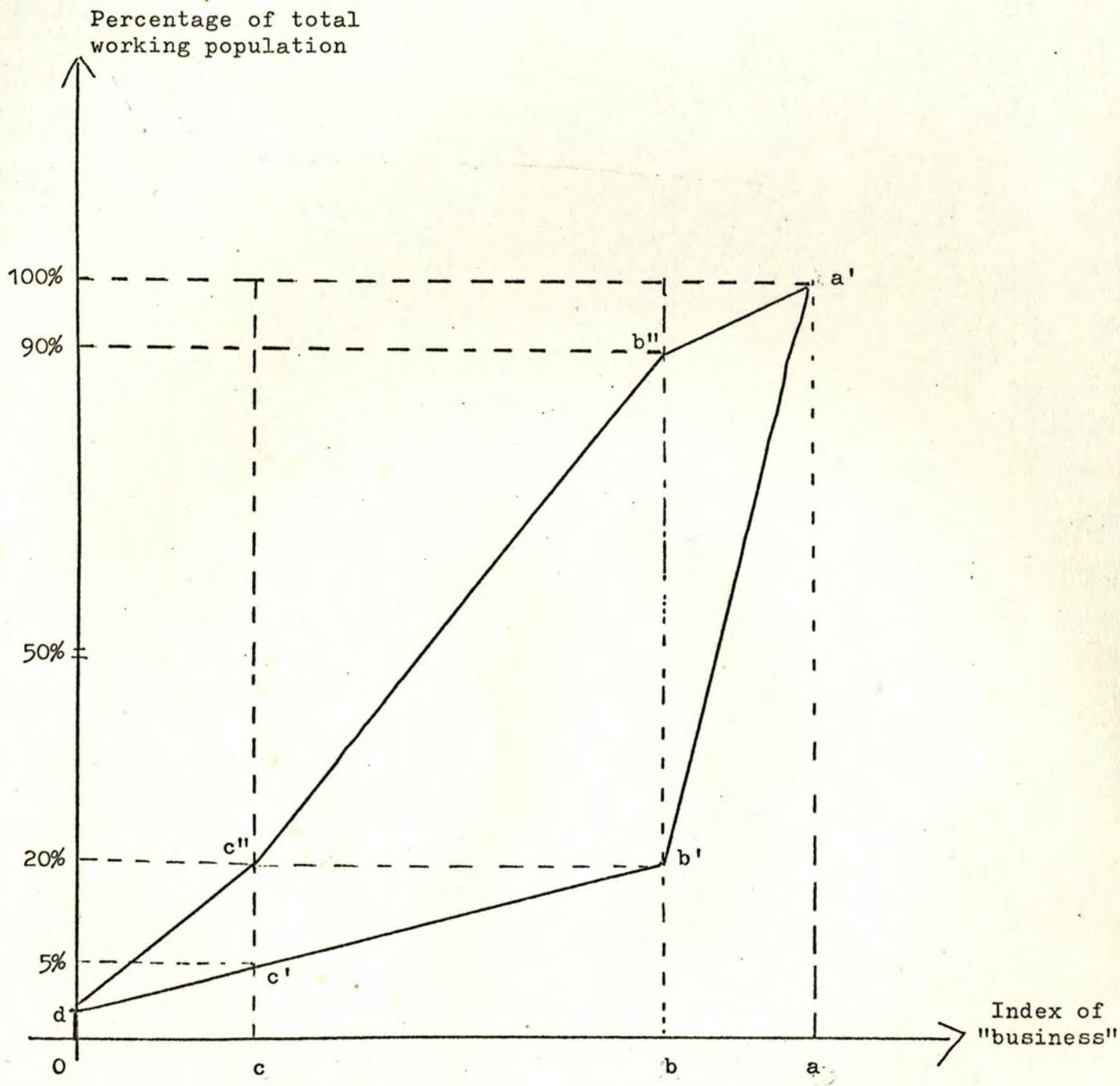
I should be talking about a process of national industrialization, in which transnational enterprises may be present, if they so desire, but under conditions which, while still offering economic incentives to capitalist decision-makers, do not affect substantially the host country's right of self-determination. From the national viewpoint, the ideal partner for transnational enterprises is the government, provided that this is democratic, efficient and thoroughly moral. If, on the contrary, the government is a loyal servant of the country's economic elites, then it is irrelevant who is the partner of transnational enterprise; it is also unlikely that industrialization will be pushed forward so as to alter the country's power structure.

In the ideal conditions of a partnership of transnational enterprises with the government, this should watch, among other things, the employment policy of transnational firms which is not confined to just their technology policy, although both are closely connected. The transfer of technology effected by transnational firms can thus be judged and evaluated in the (wider) context of the firms' employment policy which is related to its investment, marketing, distribution, export policies and not just with reference to the labour- and resource-intensities of imported capital goods. These criteria, while being more technical and equitable to the firm, are also more relevant

to the generation of employment through the firm's employment function

which, as that of the national economy, is also a function of many variables and not just of the technological one.

A N N E X



The occupational ("business") profile of developed (dc'b'a') and underdeveloped (dc''b''a') countries.

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