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Reed J. Irvine

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Reed J. Irvine

In the minds of many people, economic development has become so closely associated with industrialization that the two terms have almost come to be regarded as synonymous. People speak of the industrial countries as "developed" and are most reluctant to apply this term to a country like New Zealand which is characterized by a high average per capita income and a low level of industrialization. The use of this terminology implies that the goal of economic development is industrialization.

Industrialization has been the result of economic development in many countries and will be the result in many more but it is neither the definition nor necessarily the goal of economic development. Every country is theoretically capable of developing in the sense that it may find ways of making wider and more efficient use of its human and material resources, but not every country has the possibility of becoming as highly industrialized as the U. K. or the U. S.

The mistaken belief that economic development is synonymous with industrialization has led some Asian countries to adopt policies that have hindered increasing production and productivity in fields that appear to have considerable potential for development. At the same time, these countries have encouraged the diversion of labor and capital into industrial ventures that have in many cases been unwise and detrimental to economic progress. This doesn't mean that all industrialization in these countries is hopeless. It merely means that where it appears a high proportion of mistakes are being made, a careful reexamination of the principles being followed is called for.

Production figures can mislead

How does one go about telling whether mistakes have been made? Obviously we need some standards that we can use in judging success and failure. It is common these days to see progress being measured in terms of GNP, industrial production indexes, or the number of plants in operation. We find, for example, that industrial production in the Philippines rose 58 per cent from 1953 to 1957. This is a growth rate of 12 per cent a year, which at first glance appears quite impressive. India's industrial production rose 8 per cent a year in this period, Taiwan's went up by 5.4 per cent per annum. Pakistan and South Korea put all of these countries in the shade, however. Pakistan showed an annual growth rate of 21.4 per cent in this period, and Korea, from 1954 to 1957, had a 23 per cent annual rise in industrial production. None of the other countries in the area, except of course Japan, have industrial production indexes for this period. However, there has no doubt been an expansion of manufacturing activity in most of the other countries. Hong Kong has undergone a tremendous expansion of manufacturing output. Indonesia's expansion of cotton textile production can be seen in the 75 per cent rise in raw cotton imports from

1953 to 1957. Burma, Thailand, Malaya and Ceylon have likewise enjoyed considerable industrial expansion, though from such a low base that industry still accounts for only a seventh or less of their GNP.

Is it enough to look at these figures of expanding production and capacity to see what is happening in the industrialization of Asia? To do so would be highly misleading. The economist, unlike the propagandist, must be concerned not only with how much is being produced, but with the value of the product compared with the cost of the resources that are utilized in its production. If these were not matters of concern, there would be no trick to managing the productive process. No great amount of talent would be required if the entrepreneur did not have to worry about selling the product at a price that would cover costs, or if he were in a position in which he controlled the market and set the price. The great virtue of the free market is that it is a stern taskmaster, insistent that costs be covered by price and that price be determined by the interaction of demand and supply. This is what produces the most efficient allocation of scarce resources and results in the greatest benefits to the consumers. If a system ignores the question of how efficiently resources are allocated in the constant drive to satisfy consumer demands, someone must suffer. Almost invariably, it is the consumer who gets less of what he wants and who gets it at higher cost than would otherwise be necessary.

It is important to ask not merely, "How much is being produced?" but also "How efficiently are resources being allocated? Are they being used in the most efficient manner possible under the prevailing conditions?"

The record of the Philippine cotton spinning industry, which has shown very rapid growth in recent years, illustrates the way in which many Asian countries have tended to ignore this question and have wasted or misused scarce resources as a result. It is the objective of the Philippines to become self-sufficient in the production of cotton textiles. This has been justified on just about every ground one can think of except the most important one, i.e., that the production of cotton textiles in the Philippines represents a more efficient use of labor and capital than do other productive activities that might be undertaken in its stead.

There is no question but that cotton textile manufacturing in the Philippines has been very profitable--up to the middle of 1957, at least. The costs were more than covered by the prices that the mill owners were able to obtain. However, since the domestic price structure was artificially raised by the restrictions imposed on imports, this is not a reliable measure. The output of the Philippine mills must be valued in terms of the cost of similar products purchased from abroad.

In October 1958, 20s cotton yarn on the Hong Kong market ranged in price from 38.5 to 43 cents (U. S.) per pound. The cost of the raw material needed to produce a pound of 20s yarn in Philippine mills came to about 37.6 cents. This left a margin for processing costs, including labor and capital costs, of only 5.4 cents for each pound of yarn produced at the

very most. This assumes production of only the best quality yarn, but most Philippine yarn is not of high quality. The margin on lower grades came to less than one cent per pound. Computations, based on figures supplied by the U. S. cotton textile adviser to the Philippine Industrial Development Commission, indicate that a reasonable estimate of the labor cost of processing a pound of 20s cotton yarn in the Philippine mills in 1958 would have been 55 centavos, which comes to 27.5 cents at the official rate of exchange and 16.5 cents using a more realistic conversion rate.^{1/} This latter figure is more than triple the margin between the raw material cost and the cost at which the best quality yarn could be imported into the Philippines. The Philippine labor cost, at the more depreciated exchange rate, is also triple the total cost of processing a pound of cotton yarn in the smaller Japanese mills and double the cost in the large Japanese mills in 1957. Japanese costs were probably reduced in 1958 as a result of economies effected during the recession.

These figures indicate that Philippine labor in the cotton spinning industry is being paid 3 to 5 times as much as the value that it is adding to the final product. If paid according to the value of their product, the Philippine spinning mill workers should probably receive somewhere between one and two pesos a day rather than the ₱5.60 they are reported to earn. On a realistic basis, their annual earnings ought to be in the vicinity of ₱400 a year.

A comparison of advantages

Is there really no alternative use for labor in the Philippines that would enable it to produce and earn more than this pittance? A good rice crop from a single hectare of land is worth ₱400 or more. If the farmer cares to extend himself and double crop the income can be nearly doubled, and if he used fertilizer and double cropped he could probably raise his gross income to as high as ₱2000 per year. The fixed investment required for one hectare of rice land would be equivalent to about \$1500, compared to a required fixed investment in the spinning industry of about \$2000 per worker. In the spinning industry working capital requirements are equal to about one-third of the fixed capital. Far less working capital is required in rice cultivation. Moreover, it should be remembered that textile equipment is a wasting asset, whereas rice land, properly cared for, is not.

From the point of view of both capital and labor, rice cultivation would appear to offer better possibilities of raising standards of living in the Philippines than does cotton spinning. Labor might be more

^{1/} Most of the figures relating to the Philippine cotton spinning industry used in this paper have been derived from the quarterly reports of the cotton textile adviser of the Industrial Development Commission.

intensively employed in producing cotton yarn than in producing rice, but the net increase in the goods available for consumption as a result of one man working 44 hours a week for a full year in the cotton mills would not exceed the results of the much more moderate amount of labor required to farm one hectare of land.

This does not mean that all the mill workers should be sent back to the rice paddies. It suggests that these workers could probably be more efficiently employed somewhere else in the economy, whether in agriculture, in providing services or in manufacturing.

It is very doubtful that the cotton mills would attract the needed supplies of labor if they could pay no more than the labor was really worth. The Filipino peasant or worker could hardly be blamed if he found mill work unattractive at a wage of only one or two pesos a day. However, it is not good economics to enable the mills to offer a premium to workers to get their services when productivity in this industry compares unfavorably with alternative uses of labor. The premium paid represents a deduction from the incomes of all who are not engaged in the favored industry. Obviously the best interests of the community as a whole will be served if efforts are concentrated on promoting increased investment and employment in activities that do not require subsidization and protection.

Some will say that this is too shortsighted, that protection and subsidies for industries that might not otherwise survive in their early years will often pay off handsomely in the end when these industries "mature." This is the traditional argument for protection of infant industries, and it has long had a strong appeal. It is certainly true that an industry such as cotton spinning in the Philippines has lots of room for improvement, since the productivity of Philippine labor in this industry is apparently only a third or a fourth as high as in Japan.

Do infant industries need incubation?

There are three questions that must be raised in considering the suggestion that such possibilities of improved productivity justify subsidization of industry in the early stages.

One is the question of the possible relative changes in productivity in the alternative uses of capital and labor. If it is difficult to foresee accurately what the immediate prospects for profits are in various enterprises, the effort to foresee the situation in five or ten years is fraught with even greater risks. Not only is it uncertain what the rate of progress will be within the country, but it is perhaps even more difficult to predict the rate of progress in other countries. The Philippines might substantially improve labor efficiency in cotton spinning only to have labor's contribution to final value reduced by even greater strides in cutting costs on the part of Hong Kong or Japan.

The second question is whether protection and subsidies are the best way of encouraging progress in improving labor efficiency. If an industry is completely protected the only pressure for increased efficiency will come from internal competition. If the protection is in the form of import duties the tendency will be for the industry to overexpand in the early stages when profits are high. If there is unlimited entry the competition may eventually become keen, profits will fall, and the less efficient companies will probably fail. If the labor supply is of good quality and has the potentiality of producing as much in the protected industry as in any alternative employment, the industry will probably be driven by internal competition to achieve a level of efficiency comparable to that prevailing in other countries. But, given these conditions, there is considerable doubt that protection would be necessary in the first place. It would appear to be a most costly method of achieving the desired result, involving overbuilding the industry and overpaying both capital and labor during the period of "infancy." If the industry is not one in which labor costs can be lowered sufficiently to make it competitive, either because labor can be used more efficiently in other fields or because workers do not find the type of employment offered attractive, the theoretical gains in efficiency will never be realized as long as protection exists. Countries which rely on the foreign exchange saving argument very commonly control the import of raw materials and equipment needed by the industries they have encouraged. This is true in the Philippines. Under these conditions, it is very likely that internal competition will be limited by the shortage of raw materials and equipment, which will probably be allocated by the government on the basis of plant capacity rather than on any basis relating to efficiency. This is what is happening in the Philippine cotton textile industry. Both new entry and supplies are limited, with the result that the pressure for greater efficiency is substantially reduced.

The third question relates to the equity of requiring the general public to bear not only the risk that the protected industry will not achieve the desired level of efficiency, but also the costs of training the labor force and the management. The costs of training should be considered a part of the investment. The management may in some cases be able to transfer the burden entirely to the labor force, paying such low wages for untrained labor that it is able to earn a profit from the very beginning. If the labor supply is not abundant and workers must be attracted from other occupations, it may be necessary for the investors to forego part or all of the expected return on investment until the labor achieves the degree of efficiency required to make the operation profitable. But, if this risk is too great for the entrepreneurs who will reap the profits, or for the workers who stand to earn higher wages eventually, it is too great for the general public.

The assumption that a country loses in the long run by not subsidizing unprofitable operations for long periods of "infancy" cannot be substantiated. The fact that these operations sometimes become competitive and profitable proves nothing. Changes in relative wage levels,

technology or market conditions may have far more to do with the improved competitive position than any improvement in managerial or labor efficiency traceable only to the experience gained in the operation over a long period of time. The U. S. became a great iron and steel producer not because the inefficient charcoal-based iron production was protected for many years but because improved technology made it possible to use efficiently raw materials that were abundantly available in this country.^{1/} In the cotton textile industry there is little improvement in a mill operative's skill after one year, and in Hong Kong six months is considered to be an adequate period of training. In such an industry it is obvious nonsense to talk of the benefits to be gained by the public through subsidizing 10 or 20 years of training.

This whole argument ignores the losses that are incurred by diverting labor and capital from employment that is not only more immediately productive, but which may offer as great or greater potentialities for improved efficiency in the future. It may be theoretically possible to quadruple productivity in the cotton spinning industry in the Philippines, but this would only mean that the textile workers would achieve a level of efficiency that would enable them to earn their wages without asking the rest of the community for a subsidy. The community would be relieved of a burden. On the other hand, if the rice grower, who gets no subsidy now, were to quadruple his productivity--and this too is theoretically possible--a very substantial positive gain would have been achieved.

An infant industry that does not earn its keep and seeks to be supported by the general public rather than by those who fathered it may, in countries short of savings and capital, do more to stifle than to stimulate economic development.

^{1/} Taussig, F. W., Tariff History of the United States, Putnam & Sons, New York, 1923, pp. 54-59.