

Latin America's Employment Problem

To provide jobs and increase levels of living, policies must foster institutional change in agriculture.

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Prebisch has recently pointed out a commonsense but startling fact that bodes more human misery than any economic ill confronting Latin America: its labor force will keep growing rapidly for a generation, no matter what happens to the birth rate (1). Even now unemployment is an increasingly acute problem.

In 1960 the United Nations estimated that about 40 percent of the labor force was without work or underemployed. When underemployment was reduced to its unemployment equivalent, some 27 percent of the active population, or 18 million people, were jobless (2). As the Development Decade (1960 to 1970) closed, the comparable figure was 25 million (3).

But these macro data obscure great differences between countries. In Peru the Ministry of Labor recently estimated that for every ten new jobs available in the next decade, there will be 55 new workers entering the labor force (4). One study projected that, by 1971, 36 percent of Colombia's labor supply would be unemployed (5). The unemployment rate for Argentina will probably be lower than for Peru and Colombia because Argentina has more natural resources to work with, a more dynamic industrial sector, and a bigger market. It also has a higher per capita income, indicating more purchasing power, more impetus to industry, and more jobs. The already high growth rate of manpower in Latin America rose almost 30 percent between 1960 and 1969. This implies an annual rate of 2.8 percent compared to the 2.6 percent recorded in the 1950's. At its meeting in May, the United Nations' Economic Commission for Latin America (ECLA) predicted that the yearly growth rate of the labor

force in the 1970's would be 3 percent (6). In comparison, the working age population of developed countries is expected to increase by only about 1 percent annually in the current decade.

Stated bluntly, even if some miracle were to lower the birth rate tomorrow, joblessness in Latin America will continue to grow unless far-reaching reforms are instituted soon. The only solution is more jobs.

Policy makers and government advisers often ignore the myriad problems that joblessness raises in less developed countries. The Rockefeller report on Latin America relegated the employment problem to footnote importance (7), and the much-touted Peterson Commission (whose findings seem to be forming the bases for President Nixon's foreign aid policy) skimmed over the issue by saying, "... the value of encouraging private initiative has been amply demonstrated. It has made possible more employment opportunities . . ." (8).

Regardless of the failure to design conscious employment policies, there is growing awareness that the issue is serious and that traditional remedies fall short. Speaking as president of the World Bank, McNamara claims (9):

The issue is fully as urgent as the proper exchange rates or optimal mixes of the factors of production . . . Just as the censuses of the 1950's helped to alert us to the scale of the population explosion, the urban and employment crises of the Sixties are alerting us to the scale of social displacement and general uprootedness of populations which are exploding not only in numbers but in movement as well.

A recent Organization of American States analysis warns that unless effective employment programs are enacted, Latin America cannot hope to employ

the steadily increasing proportion of the population in the active age group, to say nothing of lowering present unemployment (10). As it wound up its 1969 annual conference, ECLA revealed that in order to keep up with the need for productive work, the number of available jobs will have to double every 25 years. With academic understatement it reports that employment problems are among "the most salient features of Latin American economies" (11).

Why Has Joblessness Been Neglected?

One reason that policy makers have not done more about unemployment is that the problem is so badly formulated: there are no definitive data on the number or the location of jobless people in the region. As Galbraith once caustically observed (12), societies are loath to do anything about problems that statisticians have not learned to measure. Yet Moynihan, in *Maximum Feasible Misunderstanding* (13), reminds us that the United States guessed its way through the entire legislative program of the Depression without even knowing the unemployment rate: at that time, such information was gathered with the census each 10 years. Now macro-economists would feel lost without the accurate monthly calculations of the Bureau of Labor Statistics. At any rate, Latin American countries cannot afford to stand by much longer waiting for precise definitions. The consequences of delay in enacting policies to cope with joblessness there could be even more tragic than they would have been in the United States had the New Dealers chosen to wait out the Great Depression.

In Latin America no information (except perhaps personal income statistics) is harder to come by than reliable employment data (14, 15). Unemployment figures that do exist grossly understate the problem. Some unemployed may have been without work for so long that they have ceased to look for regular jobs and are no longer considered part of the economically active population. One frequently finds that this group is taken in by their extended families or *compadres* to do odd jobs. Others may eke out a liv-

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ing in some menial occupation (such as shining shoes). Another possibility is that they may work 1 or 2 days a week and remain unemployed for the remainder. Usually, if they do anything at all they are not listed as unemployed: even though they are "underemployed," they are not technically jobless. A further problem is that some unemployed workers are not counted because they are hard to find (or because the job of locating them may be so obnoxious to middle-class data gatherers that they are never approached in a survey) (3, p. 60; 16).

Another reason that policy makers have not done more about employment policy is that they assume more jobs will come as a by-product of economic growth (17). Rosenstein-Rodan argues that Latin America must "aim at absorbing unemployment at a high level of productivity through large-scale, capital intensive but highly productive industrialization. This implies high savings and investment, and a high rate of economic growth—5.5 to 6.5 percent for the economy as a whole, and around 9 to 10 percent per annum in the industrial sector. It will take at least 5 to 10 years to reach full employment that way—but it is the way of defeating poverty . . ." (18). Along these lines, the Pearson report on international assistance stated, "the failure to create meaningful employment is the most tragic failure of development" (19). However, the report seems to imply that the sole economic goal for less developed countries is to reach an annual growth rate of 6 percent in the gross national product for the 1970's, as contrasted to the 4.8 percent rate actually reached from 1950 to 1967 (19, p. 58). Speaking only of Latin America, Prebisch claims that in order to absorb those now underemployed, as well as new additions to the active labor force, total output would have to grow by not less than 8 percent yearly from 1970 to 1980 (20). It should be noted that increases of 6 percent per annum, which would preserve the 1960 level of unemployment into 1980, are unprecedented (2, p. 5; 20).

Even so, while we know that a slower growth of output will doubtless aggravate the situation, it does not seem to follow that stepping it up will necessarily solve the employment problem. One researcher reports that in Trinidad the growth in per capita income averaged more than 5 percent a year during the whole period 1953–68, while overt unemployment showed a

steady increase to more than 10 percent of the labor force (16, p. 3). Another observes that total employment in Puerto Rico fell between 1950 and 1960, in spite of an average yearly rate of growth in gross domestic product of 5.2 percent (21). Such situations are not uncommon. In Brazil and Venezuela between 1950 and 1960, annual manufacturing output grew very rapidly (9.2 percent and 13.0 percent), but employment expanded only moderately (2.6 percent and 2.1 percent). In Peru, output grew only moderately (6.6 percent), but employment expanded fairly rapidly (4.4 percent) (22). And in Mexico in the 1950's and early 1960's manufacturing employment appears to have expanded at about half the fairly rapid rate of the sectoral output (23).

Why Doesn't Industry Absorb

More Labor?

This suggests that the key to the employment problem may be as much in the nature as in the speed of the economy's development. Much of the economic growth that has occurred in Latin America since World War II can be traced to the policy of manufacturing domestically the simple consumer goods that used to be imported. Given the skewed pattern of income distribution, however, these markets filled up very quickly. For this reason, investment funds began to move from industries that manufactured items such as textiles, processed foods, and furniture to those manufacturing such complex products as refrigerators and automobiles (24, 25).

These consumer durables require many imported parts and materials. To make them easier to import, local currencies become over-valued in relation to the dollar. This makes imported capital (often in the form of labor-saving machines) cheaper than before, relative to labor. At the same time, credit rates are often subsidized to encourage industry. Moreover, aid from developed countries frequently comes with "strings" which make it mandatory for the recipient to buy equipment in the nation that gave the aid. This, in turn, encourages the use of the latest labor-saving machinery, even when less costly or perhaps secondhand equipment might be just as useful and might provide more jobs. Concurrently, urban welfare measures have been enacted, and labor unions

have been pushing the industrial wage upward. In sum, as manufacturing has moved from artisan shops into factories and from less to more complex goods, labor is being replaced by machines, which are relatively cheaper and are more available than ever before.

By private calculation this is all perfectly rational, but from the public's perspective it can be a losing proposition because it increases joblessness. A high tariff wall which protects finished products of even the very inefficient producers is the capstone to the process—it makes entrepreneurs unwilling to correct past "sins against society."

Manufacturing in Latin America is likely to become less rather than more labor-intensive. Occasionally it may be possible to foster economically justifiable policies that retard this trend in a few industries, but it is doubtful that enough jobs can be created thereby. A viable common market arrangement could help; indeed, in Central America it has. Income redistribution policies could shift the demand structure for manufactures (in the short run) away from its current emphasis on intermediate and heavy lines to more labor-intensive consumer non-durables, for which markets are presently exhausted in most Latin American countries. This development would also ease balance of payments difficulties. Even so, as one researcher explains, "A new factory in Medellín or São Paulo will generally adopt the labor saving technology of industries in present-day Detroit or Pittsburgh, not that of 19th century Birmingham or Manchester" (26).

It is almost astounding to learn that between 1925 and 1960, manufacturing was able to absorb only a little over 5 million of the 23 million people added to the urban labor force in that period (25, p. 35). Put differently, an estimated 35.4 percent of a relatively small nonagricultural labor force were engaged in manufacturing in 1925, but by 1960, as urbanization advanced, the percentage dropped to 27.1 (25, p. 38). Examining the history of most developed countries, one finds that the ratio of manufacturing jobs to urban employment remained essentially constant over long periods of time—and at much higher levels (27).

The inability to absorb labor is not confined to manufacturing. One recent report claims: "Even construction, while much less capital-intensive than manufacturing, has apparently become



Fig. 1. Owners of large estates in such countries as Chile live well in what may be called manor houses, while the bulk of those who work in farming do well to eke out a subsistence wage.

more capital-intensive, with cranes and bulldozers and other labor-saving machinery being substituted for labor" (28).

The prime locus of the misery brought about by idleness is the city slum or shantytown. Mainly because of rural-to-urban migration, but also because of population growth, city populations are increasing by at least 5 percent a year. Although the population of Latin America is now about equally divided between urban and rural areas, it is rapidly becoming predominately urban. It is estimated that by 1980 metropolitan Buenos Aires, Mexico City, Rio de Janeiro, and São Paulo will each have 10 million inhabitants, while greater Santiago, Lima, Caracas, and Bogotá will each have 4 million (29). In other words, the population of each of these cities will just about double in one decade. About 5 million people already live in shantytowns and slums in these and other Latin American cities—most without even rudimentary public facilities. This "marginal population" is increasing at an incredible 15 percent per year, about 10 percentage points higher than the city as a whole (30). This population concentration exacerbates the employment problem.

Because urban areas are swelling with people and the sectors which do not produce farm goods have not ab-

sorbed a substantially larger percentage of a growing labor force, more workers are drifting to jobs in the tertiary sector (including menial, domestic, and government service work) and to what the United Nations has called "unspecified activities"—mainly disguised unemployment. In absolute numbers, employment in these subsectors in 1965 was nearly double that for 1950. Given the slow growth of the sectors that produce goods, it is unlikely that so many complementary service jobs were really necessary. "Unspecified activities" absorbed labor at an annual rate of 8.2 percent in this period and "employed" far more new entrants to the labor market than did manufacturing (31).

Employment Policy Needs

Latin America needs policies for development which, with a minimum of capital expenditure, would enable more people to be more productively employed, while stimulating industry to catch up with population growth. This is a large order. One can only hope to discover in the economy some unused resources that can cheaply be combined with labor to produce a needed product. Labor-intensive public works projects are one important possibility, but their merits have been propounded fre-

quently, and new alternatives should be considered (32).

One place to look is agriculture. In most (but not all) parts of Latin America, land resources are relatively abundant, at least when compared to most parts of Asia, and do not yet constrain agricultural development (33). Yet per capita agricultural production in Latin America has not increased over the decade. If the per capita agricultural production from 1957 to 1959 were represented by 100, the 1967 index number would be 103; that for 1968, 100; and the 1969 average, 98 (34).

In addition to its failure to provide adequate food supplies (thus causing both progressively higher wages in the industrial sector and the use of scarce foreign exchange for food rather than industrial equipment), agriculture does not provide enough jobs for underemployed people. One reason for both problems is rooted in the way farming is organized. Concentrating only on the employment issue (the matter of production is knottier), it should be noted that large estates, usually called haciendas, encompass most of the best land (except in Mexico, Bolivia, and Cuba) and are worked by large numbers of hired laborers who have little or no bargaining power and cannot appropriate implicit rents (Fig. 1).

When farming is structured in this manner, it does not provide either the security of employment or the income necessary to keep workers in farming until industry can employ them. Low incomes in farming cause the industrial sector to be stifled for lack of purchasers. Furthermore, the farming structure inhibits the sort of viable community organization needed to support an educational system that would develop basic literacy, skills, and attitudes needed for urban employment or for upgrading the rural labor force.

When management is separated from labor, and when labor is ample and poorly organized (as it is in much of Latin American agriculture), landowners can offer an extremely low wage. In addition, there is little to stop landowners from firing workers, who have few employment alternatives. On the other hand, while an owner-operator may sell out when the situation becomes acute, he cannot fire himself or his family labor when caught in a cyclical cost-price squeeze. Consequently, in a system dominated by the family farm, a large proportion of surplus labor takes the form of involun-

tary underemployment in the countryside rather than unemployment in town.

Even today, U.S. agriculture harbors a surprisingly large amount of surplus labor. In our country, redundant labor resources have not only funded their own sustenance, they have been called upon to supply a large proportion of the overhead capital necessary for such social benefits as public schools. Owen has called this phenomenon, which is usually unnoticed, "farm-financed social welfare" (35).

Recent congressional hearings and special study commissions have revealed that, by relying too much on farm-financed social welfare, our affluent society has consistently overlooked its rural poor. While we may abhor this neglect, we must also admit that the "agrarian dualism" which has developed throughout this century has

had some important advantages: one subsector of farming has provided immense production, while the other has afforded a stopgap matrix of jobs which slowed premature migration to the cities. Through primarily locally financed schools, agricultural communities have helped prepare farm people to be more productive, both in agriculture (if they remained in the community) and in urban employment (if they migrated).

The agricultural dualism of the United States is not static: land harboring redundant labor constantly "moves" into more active uses in response to changes in the market. Labor-saving capital has now become so cheap, relative to labor, that farms are being rapidly combined into larger units, with a resulting release of workers. Labor has not always benefited

from these land and capital "flows." That some individual farmers, or even entire communities, have been "left behind" (36) is but one indication that farm-financing of welfare has not worked altogether smoothly. This situation implies that supplementary policies to cope with rural poverty in the United States are long overdue.

But in some parts of the United States, including much of the South, farm-financed social welfare never was a part of the institutional framework. To the degree that the Southern sharecropping system separated ownership-management from labor (which had little countervailing power) and discouraged the education of the farm work force, it can, albeit roughly, be compared to the Latin American hacienda. Indeed, the Southern sharecropper may be considered the U.S.



Fig. 2. Chile's Central Valley has excellent soil and a benevolent climate, but much of the land is tied up in *latifundios* that may use resources poorly. On this large estate several aspects of poor management are obvious even to a casual viewer: much acreage is taken up with brambles, which overgrow fence rows, and the irrigation system is so unkempt that flooding is common.



Fig. 3. Agrarian reform came to Bolivia in 1953. While farmers live better now as owners of their own plots than under the hacienda system, the *altiplano* is poor in agricultural resources. There is a desperate need for such inputs as fertilizer, locally adapted high-yield seeds, and technical assistance. To date these have not been provided to any appreciable degree.

analog of the Latin American hacienda worker.

These farming systems seem to have serious urban repercussions. In the United States, the unemployment problem of blacks in today's ghettos are not due to racial prejudice alone: they are at least partly due to the presence of an unskilled labor force which could not be fully hired by industry at the stage of development it was passing through.

Thus, judging from our own experience, we may pose several plausible hypotheses which also pertain to contemporary Latin America: had a land tenure system that was labor-absorptive in the long run been established in the rural South after the Civil War, recent out-migration would not have been as rapid. When it did occur, it would have represented a more genuine response to viable economic opportunities. And if that landownership system had fostered farm-financed social welfare, laborers would have reached the urban labor market more adequately prepared for urban life (37).

Like the remnant Southern plantation, the Latin American estate is not known for its ability to absorb labor. One study by the Inter-American Committee on Agricultural Development shows that production per acre is inversely related to farm size, and while

large and extensively farmed estates (*latifundios*) averaged 400 times larger than tiny farms (*minifundios*) (Fig. 2), they employ only 15 times more workers (38). The reason for this phenomenon is not hard to find. Pressures for the adoption of laborsaving farm technology in Latin America are similar to, if not yet as pervasive as, those in industry. Thus the trend on large farms in Latin America is toward the use of less and less labor per unit of output.

In some countries, those who mechanize can often obtain machinery at relatively low cost, with cheap credit and long-term repayment arrangements. In addition, minimum agricultural wage laws are increasing labor cost in relation to capital. It must also be noted that money spent on mechanization, which displaces labor, usually does not elevate production as much as equivalent expenditures on yield-increasing inputs such as fertilizers, hybrid seeds, and insecticides (39).

Some people have suggested that a stiff land tax would result in more intensive agriculture. Laying aside the difficulties of passing such a bill in a Latin American parliament and effectively administering it if it did become law, one might find that large landowners would profit more, at least as long as inflation continued, by dislodging workers and substituting capital for

labor in order to meet this fixed cost than they would by selling out.

Even the educational problem in rural Latin America is similar to that of the Old South. Landlords who dominate Latin American economies and politics usually send their children to urban schools. Accordingly, those who have investable funds have little interest in improving rural education.

Possibilities for Policy

A concerted effort should be made to slow the rate of farm-to-city migration in Latin America until industry is able to absorb labor at a faster pace. A land reform program which keeps employment needs uppermost would undoubtedly effect a slower rate. One plan for Latin American countries with a traditional land tenure structure (a plan with historic parallels in our North and West and in postrevolutionary Mexico) might be "contrived dualism" (37). This plan involves two subsectors.

1) The first subsector would emphasize growth in marketable surplus. Since large, progressive farms (there are some) do provide food for city dwellers and supply export earnings, they should be stimulated to produce more by the application of additional yield-increasing inputs. At the same time, as much employment and income security as possible should be encouraged in this subsector, without creating disincentives for management.

2) The second subsector would emphasize growth in employment (40). (i) The existing subsector of very small farms can probably continue to absorb some population increase until employment created by industrial development begins to catch up with population growth. If technology can be adapted to their needs (as it has in Japan and Taiwan) and if markets and credit can be made available to them, some of these small farms may employ more people and make a greater contribution to marketable surplus than they do now.

(ii) Programs to provide secure and legal titles for present occupants are usually relatively inexpensive and are very important in some areas. Most Latin American countries have farmers who are "squatters" on public lands and several thousand other farmers who do not have title to the land they farm. Neither status is conducive to employment stability, nor does

either offer the security required for long-term investments in agriculture.

(iii) Since underutilized and poorly managed land on haciendas contributes little to production or employment, and since the absentee ownership and paternalistic labor traditions of the hacienda do not permit farm-financed social welfare, such land should be transformed into new peasant farms.

Farms created by land reform, as well as existing small farms, should be made to move as rapidly as possible toward a commercial agriculture which involves limited mechanization, greater use of inputs which increase yield without cutting down on labor, and general social services (Fig. 3). Given the exceedingly scarce supply of resources available, however, this must be regarded as a long-term goal. Even if, for the time being, reform does no more than provide sustenance for large numbers of rural people, it will contribute to economic development by retarding migration to the cities. However, giving people land will do more than just feed them. As people discover that they can buy consumer goods by increasing their incomes, they will doubtless try to raise production. As rural people increase their city sales, urban food problems will be ameliorated. When the labor market tightens, land and capital should be freed for the "predominantly marketable surplus" subsector. Of course, since the labor force is now growing rapidly, there should be no scarcity of urban workers for quite a while.

Aside from slowing cityward migration by providing more farm jobs, this strategy should also increase the demand for simple consumer goods, since the economy would rest on a broader base (41). Because income sources will be appropriated from the traditional rural elite, the demand for luxury consumer durables might be somewhat stifled. Manufacture of such products as textiles, furniture, clothing, and processed food is typically more labor-intensive than manufacture of either consumer durables or intermediate products. Therefore, in addition to creating more farm employment, land reform should yield more city jobs too. For instance, industries which require agricultural inputs would probably be stimulated. Balance of payments should be affected favorably since simpler goods require fewer imported inputs than more complex goods. In addition, more revenues from agriculture should

go to the government, which will no longer be dealing with the predominantly large-farm landlords who are so adept at evading taxation. If these public funds are invested wisely, economic development should proceed at a faster rate.

While it is a logical first step to development, land reform is no panacea. It must be followed with proper fiscal and monetary measures. And if the program is not adapted to the country's needs, it may stifle rather than promote development. For example, if executed too slowly, the program may result in investor insecurity; if too expensive, it may fuel inflation; if used to split up productive farms in which there are substantial economies of scale, it may cut exports and exacerbate balance of payments problems. But these are primarily economic problems and confront those countries committed politically to agrarian reforms. With the exception of Cuba, Bolivia, and Mexico, Latin American countries have been barred from thoroughgoing institutional change by political forces. But changes in Chile and, perhaps, Peru indicate that the situation may be altering in a fundamental way—and also that evolutionary reforms may be possible.

Of course, even with the best fortune, the agricultural sector alone cannot fill current employment needs. An enlightened government, always using capital as sparingly as possible, will have to supplement land reform with public works and general policies which increase labor intensity on many fronts.

Since some outside capital will obviously be required, U.S. aid can fill a vital need. Yet the record of the Alliance for Progress on this score has not been bright. As George C. Lodge writes, our assistance to date "... may have caused a marginal improvement in the standard of life for some, [but] it has also, equally importantly, provided a source of patronage and political strength for the status quo" (42). It seems as though our policy makers—and the American public—do not realize that, in the words of Robert Heilbroner, "... development [in Latin America] is much more than a matter of encouraging economic growth within a given social structure. It is rather the *modernization* of that structure, a process ... that requires the remaking of society in its more intimate as well as its most public attributes" (43). Unless it becomes widely recognized that

profound institutional change is necessary to alleviate the suffering of the majority of Latin America's inhabitants, our government would be well advised to remain at a safe distance in order to avoid thwarting the reforms that must come sooner or later.

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7. For example, no policy suggestions followed up on the statement: "The fact that over 60 per cent of the population is now under 24 years of age has greatly increased the demands on government for more schools, more health services, more housing and roads—services beyond their resources to provide. It produces an increasing labor supply which cannot find enough work, and thus adds to the frustrations and tensions." Rockefeller Report on Latin America, hearing before the Subcommittee on Western Hemisphere Affairs of the Committee on Foreign Relations, United States Senate, 91st Congress, first session, 20 November 1969, (Government Printing Office, Washington, D.C., 1970), p. 81.
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11. See (3, pp. 50-74); "The rising spiral of unemployment," *The UNESCO Cour.* 23, 28 (1970); B. Ward, *War on Hunger* 4, 12 (April 1970).
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13. D. P. Moynihan, *ibid.*, pp. 30-31.
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15. Colombian and Venezuelan data are presented in J. C. Beyer, *Econ. Develop. Cult. Change* 18, 267 (1970).
16. Even so, D. Seers claims, "The conceptual problems of measuring unemployment do not seem to be more formidable than those of the national income. We have just grown accustomed to ignoring it." *Int. Develop. Rev.* 11, 2 (1969).
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 23. J. Isbister, *Econ. Develop. Cult. Change*, in press.
 24. One excellent analysis of the process of import substitution in Latin America is A. O. Hirschman [*Quart. J. Econ.* 82 (1968)]. See also H. B. Chenery, *Amer. Econ. Rev.* 50, 624 (1960); ——— and L. Taylor, *Rev. Econ. Statist.* 50, 391 (1968).
 25. United Nations Economic Commission for Latin America, *The Process of Industrial Development in Latin America* (E/CN.12/716/Rev. 1) (United Nations, New York, 1966).
 26. S. Barraclough, "Rural Development and Employment Prospects in Latin America," report prepared for the Second Conference in Urbanization and work in Modernizing Areas, St. Thomas, Virgin Islands, November 1967, mimeographed, p. 19.
 27. Experience in industrialized nations points to two basic features: (i) a relatively high percentage of urban employment is engaged in manufacturing; and (ii) this percentage persists over long periods. "Thus, for example, it has been shown that the percentage in the United Kingdom in 1951 (51.9 percent) was practically the same as in 1901 (51.1 percent); in Italy, after a slight decline during the twenties, the percentage remained little below that for the beginning of the century (59.5 percent in 1901; 56.6 percent in 1939; and 53.5 percent in 1954). . . . In the United States the percentage has been lower, but has also shown very little tendency to decline over the long term (47 percent in 1870; 44 percent in 1900; 45.4 percent in 1920; and 42.3 percent in 1950)" (25, p. 36).
 28. F. Dziadek, *Unemployment in the Less Developed Countries, Discussion Paper No. 16* (Agency for International Development, Washington, D.C., 1967), p. 6. In the transitional phase of development (with per capita incomes between \$400 and \$1000 annually) it has frequently been noted that employment in construction will hold up well. P. Strassman [*Oxford Econ. Pap.* 22 No. 2, 243 (1970)] finds that laborsaving technological advances are occurring so rapidly in Peru (and presumably other Latin American countries) that this assumption cannot be made for the future.
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 31. United Nations Economic Commission for Latin America, *Economic Survey of Latin America, 1965* (E/CN.12/752/Rev. 1) (U.N. International Publications Service, New York, 1967), p. 62 and table 1-13, p. 63.
 32. See M. F. Millikan and D. Hapgood, *No Easy Harvest* (Little, Brown, Boston, 1967). The original arguments on labor-intensive public works are found in R. Nurkse [*Problems of Capital Formation in Underdeveloped Countries* (Basil Blackwell & Mott, Oxford, England, 1953)].
 33. "The poor economic prospects for agriculture [in Latin America] are not a consequence of a lack in natural endowment. In the Argentine, much of the Pampas is excellent farm land . . . The natural endowment of Chile is first-rate . . . Nor do I exclude Brazil, Colombia, Peru, and other Latin American countries in this rating of their respective natural endowments for increasing the productive capacity of agriculture." T. W. Schultz, *Economic Growth and Agriculture* (McGraw-Hill, New York, 1968), p. 176. In analyzing the U.N. Food and Agriculture Organization data S. Kuznets ("Economic Capacity and Population Growth," unpublished paper presented at the Conference on World Population Problems, Graduate School of Business, Indiana University, May 1967) reports, "resources are unquestionably ample, without approaching their full utilization to meet the estimated [food] increase required [by population growth in the near future]."
 34. U.S. Department of Agriculture, Economic Research Service, *The Agricultural Situation in the Western Hemisphere, Review of 1969 and Outlook for 1970* (Government Printing Office, Washington, D.C., 1970), table 2, p. 16.
 35. W. F. Owen, *Amer. Econ. Rev.* 56, 43 (1966).
 36. *The People Left Behind*, report by the President's Advisory Commission on Rural Poverty (Government Printing Office, Washington, D.C., 1967).
 37. This was suggested in W. C. Thiesenhusen, *Amer. J. Agr. Econ.* 51, 735 (1969).
 38. For a summary of this report, which covers seven countries in Latin America with a traditional land tenure structure, see S. L. Barraclough and A. L. Domike [*Land Econ.* 42, 391 (1966)].
 39. Of course, exceptions may be noted. Land grading equipment might make it possible for extensively farmed land to be operated in a much more labor-intensive manner. In some areas double cropping, which requires speed in harvesting one crop and planting the next, may be possible.
 40. For an elaboration see W. C. Thiesenhusen and M. R. Brown, in *Survey of the Alliance for Progress: Problems of Agriculture*, a study prepared at the request of the Subcommittee on American Republics Affairs of the Committee on Foreign Relations, United States Senate, 22 Dec. 1967 (Government Printing Office, Washington, D.C., 1967).
 41. This has been argued in greater detail in W. C. Thiesenhusen, *A Suggested Policy for Industrial Reinvigoration in Latin America*, Land Tenure Center Paper No. 72 (Univ. of Wisconsin, Madison, 1970).
 42. G. C. Lodge, *Foreign Aff.* 47, No. 4, 738 (1969).
 43. R. L. Heilbroner, *Commentary* 43, No. 4, 32 (1967).

NEWS AND COMMENT

Science Policy: An Insider's View of LBJ, DuBridge, and the Budget

Don't blame the government for letting science down. The trouble was, the scientists wanted to be rocked in a cradle and they didn't want to believe that summer had gone and winter was coming.—William D. Carey, former assistant director of the Bureau of the Budget, in a speech to science writers on 23 February 1971.

Washington is looking more kindly upon science today than at any time in the past few years, but serious problems continue to plague the nation's research and development efforts. That, in brief, was the upshot of remarks made last week by a number of the capital's leading statesmen and politicians of science at a 3-day seminar on "science and public policy" sponsored by the Council for the Advancement of Science Writing.

The seminar, which was held at the National Academy of Sciences and was supported by a grant from the Alfred P. Sloan Foundation, was notable, among other things, for some unusually candid observations by William D. Carey, who for many years was considered science's top friend in the Budget Bureau. Carey voiced the belief that the downturn in science funding was caused not by budget specialists but by President Lyndon B. Johnson

himself, who was so stung over attacks by academics on his Vietnam policies that he personally poured over the budget documents and crossed out research items. Carey also suggested that the ineptness and arrogance of scientists made them ineffective allies in the efforts he and others made to gain higher funding for science.

"If I can at last admit it publicly, there is a strong built-in disposition in the old Bureau of the Budget and the new Office of Management and Budget [OMB] for the support of science and technology," Carey said. "If OMB had its way and could do what it wanted to, the hunger pains of the scientific community over the past few years would never have arisen. The Budget Bureau tried, and tried hard, to get approval for science budgets at higher levels than the President would accept. In an accurate sense the OMB, I believe, regards itself as something of a protector of basic science—a friend in the corridors of power. This is not the view of the Bureau of the Budget that one ordinarily reads about. But