POLICY ISSUES IN ADDRESSING THE EMPLOYMENT PROBLEM IN LATIN AMERICA

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I. Introduction

During the past fifteen years, a concern with "the employ-nt problem" has emerged as one of the principal eoccupations of hemispheric governments. An increasing volume research and analyses of employment issues has made an ap-arance, and many prescriptive measures have beeen proposed. wever, I believe it is fair to say that the empirical founda-ons on which many of the prescriptive measures are based are t as firm as we would like, and the empirical testing of the fect of public policy initiatives on employment has not re-ived the attention it deserves. Indeed, I would go a step :ther and hold that the conceptualization of the nature of the ?loyment problem is often faulty and misleading, giving rise to sguided policy responses. In this paper, I propose to explore : state of our current understanding of the employment problem l the impact that government policies and development strate-:s have had on employment conditions in Latin America. I wish :ould promise a survey that is as informative as we would all :e. Unfortunately, this paper is limited in its approach to : existing body of literature on the subject, a literature that ives much to be desired. To be sure, much has been written

about "the employment problem," but much of that is based on casual empiricism or on inadequately tested theoretical constructs about economic relationships and their relevance for employment. Thus, substantial gaps exist in the body of information that we would deem desirable for purposes of intelligent and effective public policy.

We would all agree that, as a first step, the effectiveness of public policy measures to deal with "the employment problem" depends on its precise specification and on the tailoring of appropriate responses. Unfortunately, I do not believe that the conventional specifications are always the most useful ones for purposes of guiding public policy. In my view, there exist shortcomings in the statistical measures that are applied to characterize the extent of the employment problem as well as in the conceptual approach to its analysis. Since this constitutes a strong dissent from current practices, it behooves me to make my reservations explicit.

The conventional characterization of the employment problem and its origins is familiar to all of you. The development process as it has unfolded in Latin America is held to have failed to create enough new employments at high levels of productivity to absorb a rapidly expanding labor force. Thus, labor flows into the informal labor market where productivity and earnings are lower than in the modern industrial sector. The growth of employment in the latter has been limited by the adoption of labor-saving technology imported from the industrialized countries and by the gradual exhaustion of "easy" import substitution opportu-

nities. Limited job opportunities and low incomes in rural areas give rise to movement of populations to the cities in search of improved employment possibilities. These hopes are frustrated as migrants must settle for marginal employments in the informal sector, often of their own making. Job scarcity thus gives rise to high levels of open unemployment and underemployment. The proportion of the labor force subject to underutilization varies from country to country but ranged from one-fourth of the economically active population in Argentina to three-fourths in Bolivia in 1980. (PREALC 1981, p. 16) If the countries of the southern cone are excluded, the open-unemployment equivalents of these proportions range from 10 to 40 percent depending on the criteria employed for defining underemployment.

Not only do current employment conditions pose a critical problem, but some hold that open unemployment and underemployment are increasing. (IDB 1977, pp. 128-33) PREALC notes only a small decline in the incidence of underemployment in most countries over a thirty-year period ending in 1980.(PREALC 1981, p. 17) In short, the employment problem is judged to be serious and showing no significant secular improvement.(1)

Numerous elements of an employment strategy have been advanced to improve conditions, some of which I will review at a later point in this paper. One that is common to most such prescriptions, however, is an acceleration of the rate of growth in order to stimulate a greater rate of labor absorption in the modern, or high productivity sectors of the economy. For example, writing in 1971, David Turnham estimated that a 8.3 percent rate

of growth would be required between 1965 and 1980 in order to achieve in South America a rate of open unemployment no greater than 5 percent in the latter year. (Turnham 1971, p. 116) Since the actual rate of growth for the 1950/52-1964/66 interval is reported to have been only 4.3 percent per year, the requirement of an 8.3 percent rate of growth would seem to pose an insurmountable obstacle for most countries.Indeed, the failure of the hemisphere's developing countries to achieve such a high rate of growth up to 1980 would imply that a serious deterioration in actual employment conditions must have occurred.

What is disturbing about the prevailing pessimistic appraisal of secular trends in employment conditions is that it appears to be at odds with empirical information that suggest that conditions have shown significant improvement over time. I have recorded elsewhere a set of observations that lend support to this conclusion. (Gregory 1980) Up until the early 1970s, at least, virtually all of the Latin American countries appeared to have recorded significant improvements according to the set of criteria adopted in that study. With respect to the rate of open unemployment through 1975, not a single country employing household labor force surveys reported a statistically significant secular increase. In regressions of the unemployment rate on time, the majority of the coefficients of the time term were negative, albeit only one was statistically significant, that for Venezuela. Individual country studies as well have offered grounds for a much more optimistic appraisal of past trends than is generally acknowledged. (Morley 1983; Gregory 1983; Gregory forthcoming; Webb and Pfefferman 1979; Berry 1975)

A variety of explanations can be advanced for the prevailing perceptions of a critical employment problem. A recent discerning article by Berry and Sabot offers a compelling account of probable reasons for the gap between perceptions and the empirical evidence concerning the nature and seriousness of the unemployment or underutilization-of-labor problem. (1984) However, I wish to focus on only one aspect of this phenomenon, the conventional measures of underutilization and their significance for labor market policy-making.

By and large, the concept of open unemployment as applied to labor markets in developing countries is very close to that employed in the industrialized countries of the world. Unemployment tends to be largely an urban phenomenon and is heavily concentrated among the young and new entrants to the labor force and among married women. Frequently, the children of the middle or higher classes form a disproportionate share of the open unemployed. However, it is generally presumed, even by those convinced of the urgency of the problem of underutilization, that open unemployment is not the most important or serious manifestation of underutilization. Open unemployment is held to be nothing more than the tip of an iceberg. It is the underemployed who constitute the bulk of the underutilized labor resources. Some would add to this problematic group those who are presumed to constitute the discouraged unemployed.

In my opinion, the prevailing conceptualizations and measurements of the volume of underemployment and their conversion

to the formulation of public policy. How is the volume of underemployment determined and what is its significance? Unfortunately, there is no single approach to the measurement of underemployment with the result that one may be faced by several competing estimates. PREALC has played a leading role in the development and application of measures of underemployment, and individual countries have adopted similar as well as additional criteria and measures. The approach adopted in one of PREALC's studies differentiates between the rural and urban sectors, applying different approaches to each. In agriculture, underemployment is given by the difference between the quantity of labor demanded by the sector and the quantity presumed to be available for employment. The demand is derived by applying technical coefficients to the level and structure of agricultural production to determine the labor inputs required in terms of mandays. The supply is estimated by including all adult males while "the work of women and children is available according to labor demand." The excess supply of labor thus defined "includes all forms of labor underutilization: open unemployment, underemployment - either through short working hours or through scarce income and/or productivity - seasonal unemployment, and the like." (PREALC 1978, pp. 180-81) Urban underemployment in this study is based on income distribution data. A socially determined subsistence level is identified on the basis of the "average income of the modal interval of the income distribution." One-third of those in the modal interval and all those below it are thus counted among the underemployed. (p. 20)

In another PREALC study an alternative method for measuring the underemployed is advanced. This includes all those employed in traditional agriculture, defined on the basis of the nature of the inputs employed, and those employed in the urban informal sector. The latter are held to be characterized by low levels of productivity and consequently of income. In this case they are identified by their occupational status and are included if they are self-employed, domestic workers, or unpaid family workers.(2) (PREALC 1981, pp. 14 and 30) In other treatments of the issue, all those employed less than full-time during the week or during the year are defined as underemployed or those earning less than the legal minimum wage. (Comision Consultiva del Empleo 1979; Grupo de Estudio del Problema del Empleo 1974) In other treatments of the available agricultural labor force, all persons of labor force age or all those employed at the peak season are assumed to be available for work during a full normal work year. (Barbosa Ramirez 1976 and 1977; Secretaria de Agricultura y Recursos Hidraulicos 1982)

While these measures may be useful for certain purposes, they are not very accurate guides for determining the volume of labor resources that are readily available for employment. For example, the household labor force surveys conducted in largely urban areas of Mexico during the past decade found that between a half and three-fourths of those employed for fewer than forty hours were not interested in additional employment. (Encuesta continua sobre ocupacion) A similar survey of households in Costa Rica found that fewer than 30 percent of those working less than 47 hours a week were involuntarily underemployed.(Encuesta na-

cional de hogares, Empleo y desempleo 1977) Obviously to assume that all those working less than a full work week do so involuntarily is to overestimate the volume of idle labor resources available for employment.

The measurement of the supply of available surplus labor in the countryside clearly poses considerable difficulties. Most countries that conduct household surveys of the labor force limit these to urban areas so that available workers cannot be unambiguously identified. As indicated above, most estimates are, therefore, based on very crude methodologies. The possible divergence of the actual labor surplus from the estimated can be illustrated by reference to a study of six agricultural regions by Rene Ramirez Barbosa and his associates in Mexico. (1976;1977;1979) In the early studies in this series, the available mandays were derived by multiplying the number of persons between the ages of 12 or 15 and 55 by the conventional number of days worked during the year by full-time workers in the region. From this was subtracted the days actually worked during the year with the balance then defined as the amount of underemployment. This method yielded very large measures of underemployment for households cultivating their own plots. For example, considering only the proportion of total available time that was actually expended on the family plot, that proportion ranged from almost 9 to about 37 percent implying a vast reservoir of underutilized labor resources. However, the Barbosa Ramirez study also investigated the number of days occupied in off-plot employment, something that most procedures for estimating rural underemployment neglect to do. If off-plot employment is included, the propor-

tion of total available time that is productively employed rises to between a third and a half. In other words, between a half and two-thirds of estimated available time was unutilized.

Admittedly, precise measures of underutilization of the rural population are likely to be hard to come by. However, the crude methods generally applied are likely to contain very large margins of error and to drastically overstate the volume of available labor resources. The gravest shortcoming lies in the identification of a potential supply of labor with that that is actually available for employment. Is there any reason to assume that all adults are in fact interested in and available for employment? Just because family members were employed during seasons of peak agricultural activity should it be assumed that they are also available for full-time employment throughout the year? To ask these questions is also to answer them. In the case of those estimates that make no allowance for off-plot or extra-sector employment, the extent of underutilization will be grossly overstated. What may appear to be a large surplus to the agricultural sector will prove to be a much smaller surplus to the national labor market.

The extent of the possible overestimation of underemployment can be illustrated by the last of the regional studies cited above. As the study of the various regions progressed, the authors became increasingly skeptical of the crude procedures they had employed. Therefore, a much more careful procedure was followed during the final regional study to determine more precisely the availability of household members for employment as well as

to account more completely for the uses to which available time was being put. The findings provided a startling contrast. Had the crude methodology of the earlier studies been applied, 63.2 percent of the "available" time would have been considered unemployed. However, if a more rigorous test of availability were posed, the volume of unutilized and available resources amounted to less than 12 percent of the total.

I have already indicated above some sources of overestimates of the degree of underutilization of the urban labor force. However, the most important one was not singled out for comment I refer to the use of income distribution data for identifying the underemployed. While those income recipients below some arbitrary point in the income distribution may, but do not necessarily, qualify as relatively poor, this tells us nothing about their availability for employment.(3) Indeed, most of them are likely to be as fully employed in a time dimension as they wish to be. Nor can it be assumed that should new high-productivity, high-wage jobs be created that the current low-wage recipients could qualify for them, either for reasons of age, education, location, or preference. A further difficulty with the use of income distribution data for estimating underemployment is that there is no way of determining when it has finally been eliminated. In the absence of a perfectly equal distribution of income, there will always be some substantial proportion of the labor force at the lower end of the distribution.

The designation of all those employed in the informal sector as underemployed similarly runs the risk of vastly overstating

the volume of labor resources available to new employments in the short run for reasons similar to those advanced in the preceding paragraph. Furthermore, the typical demographic profile of the informal labor force, heavily weighted as it is with women and new entrants to the labor force, suggests that the informal sector may serve a useful function that is not thoroughly appreciated. In the case of women, the less formal conditions of employment allow them to tailor their working hours to conform to those free of household or other responsibilities. The youthfullness of this labor force suggests that informal employments may provide a source of general skills acquisition. The low earnings associated with such employments may simply reflect the incidence of the costs of general training. (Becker 1964) Apparently, employment within the sector is only a temporary phenomenon for most youthful entrants who then go on to more permanent and productive employments elsewhere.

A distressing feature of the conventional measures of underutilization is the discouraging prospects they pose for the elimination of underemployment, particularly if elimination is equated with the placement of the underemployed in "modern," high-productivity, high-wage employments. Consider the following magnitudes for Mexico that has been held to harbor underutilized labor equivalent to an open unemployment rate of 25 percent. Since the Mexican labor force numbered over 20 million in 1980, this reduces to an equivalent of some 5 million unemployed. If the creation of a modern job requires a capital investment of approximately 25 thousand U.S. dollars, the elimination of existing underutilization would require an investment of some 125

trillion dollars, a sum over 650 times Mexico's 1983 GDP or about 190 billion dollars. Additional investment would be required to employ annual additions to the labor force under such conditions. Given such magnitudes, it should not be surprising that the Latin American countries made such modest strides in the reduction of underutilization, as conventionally measured, over the thirty-year interval 1950-80. (PREALC 1981, p. 26) Considering the magnitudes involved, the elimination of underutilization within the foreseeable future by any known combination of employment promotion policies poses a goal that is simply unattainable.

Essentially, those measures of underemployment that depart from earnings or income distribution data are more likely to reflect an approximation of the extent of relative poverty in a society. To rename poverty underemployment serves no useful purpose and may even mislead policy makers in framing policies for reducing poverty. If the reduction of poverty is the principal objective of policy makers they should consider a whole range of measures that would address that problem directly. To rely on the creation of new employments as the sole policy instrument could prove not only to be extremely costly but also ineffective in alleviating the poverty condition of many who are unlikely to be affected significantly and soon by an accelerated rate of modern employment creation.Therefore, preliminary to the formulation of policy measures I would hold that there should be a clear distinction drawn between the employment and poverty "problems" as well as a more precise definition of the employment problem.

I would expect that it would be difficult to gain a consen-

sus on what constitutes "the employment problem" that should or can be addressed. In order to avoid becoming enmeshed in a semantic question, I will simply state that my concern will be with measures that are intended either to promote the creation of new jobs or improving the returns to existing employments. I would expect that we would have less difficulty reaching agreement on the conditions that would be associated with an improvement or a deterioration in employment conditions. An appreciation of the direction and rate of change in employment conditions would at least provide a basis for assessing the urgency of the problem and the magnitude of the effort that would be required to achieve any desired rate of improvement.

Most of the characterizations of the employment problem do not adequately address the dynamic aspects of labor market operation over time. Too frequently, they depart from the observation of the distribution of the labor force by industrial sector, by modern vs. traditional employments, by employment status (that is, wage vs. self-employment), or by earnings levels at a moment in time. The severity of the problem is then judged on the basis of the presumed "goodness" or "badness" of the distributions. Rather than establishing empirically the dynamics of labor market operation they offer presumptions about it. Employment conditions are deteriorating because the pattern of development has failed to create a sufficient numnber of adequate employments. Rural-urban migration is a product of miserable employment conditions in rural areas that "push" workers into equally poor or even worse employment conditions in the cities. Migration proceeds at "too fast" a rate and serves only to transfer severe underemploy-

ment from the rural to the urban sectors. The large size of the informal sector is accepted as prima facie evidence of the failure of the economy to provide adequate employment for its growing labor force. And so on. All these "observations" are interpreted to be indicative of a "deterioration" or at best of little improvement in employment conditions.

I would question whether these are either useful or accurate ways to characterize employment conditions or the employment problem. I have already referred to earlier work of my own that calls these conclusions into question for most Latin American countries. Observations of absolute magnitudes or distributions at a moment of time do not provide an adequate basis of evaluation. While changes in some of these magnitudes may be suggestive of the direction of change over time they would not be a sufficient basis for evaluating change in the case of others. The key to the assesment of the change in the quality of employment, in my opinion, lies in the trends in real wages over time in the various sectors that are presumed to be the problem areas. Should the growth of the informal sector be considered to represent a serious employment problem if its growth has been accompanied by a steady increase in real wages in that sector? How is the appropriateness of the volume of rural-urban migration to be judged? Can the consequences of migration for the private economic welfare of migrants be established without reference to the change in real earnings that accompanies mobility? Can the impact of migration on employment conditions be fully appreciated without also examining any changes that follow in the labor markets of the areas of out-migration? Unfortunately, it is easier to ask

questions like these than to answer them. Answers require time series data on wages and earnings at a greatly disaggregated level, something that is rarely to be found in consistent form in Latin America. Therefore, answers can be gotten only by a tedious process of relating bits of isolated information within a mosaic of the whole labor market in a way that yields internal consistency. This is a job that apparently few have the patience and/or perhaps the skill to perform.

Yet it is important that it be done. After all, the policies that might be appropriate for addressing an employment problem are likely to be quite different in a country in which real wages, albeit "low" for many workers, are rising over time for the great bulk of the labor force than in one in which real wages are stagnant or even falling for workers in the lower reaches of the wage structure. In the former, one may wish to strengthen the conditions that have given rise to gradual improvement and perhaps to accelerate the process of change. For this purpose, marginal changes in existing policy instruments may be sufficient. In the latter, more drastic measures are likely to be called for. However, if a poor diagnosis of conditions is made in a country which fits the former case and drastic measures are applied to improve employment conditions, the actual outcome may prove disappointing if not disastrous as we shall see in the case of Mexico below.

While I consider the correct diagnosis and analysis of an "employment problem" to be of great importance, the elaboration of this issue is not the principal focus of this paper. Rather I

intend to consider the impact of government policy measures on employment. As I indicated above, I will be concerned not only with those actions that influence the number of employments but also those that affect the terms of employment, especially in the form of the returns to labor.Some of the measures to be discussed have been adopted as a direct response to perceptions of an employment problem; in other cases the measures were motivated by other objectives but are considered to have had an effect on employment conditions. Each type of measure and its probable consequences will be considered in the sections that follow.

II, Macroeconomic Measures

In this section I will consider government responses to perception of large volumes of unutilized or underutilized labor resources attributed to a deficiency in aggregate demand. Such a perception argues for an acceleration in the growth of aggregate demand through the use of fiscal policy and other forms of state intervention. In this way, not only can the new additions to the labor force be productively employed but the accumulated backlog of underemployed labor resources can also gradually be diverted to more productive employments. What is not at issue here, of course, is the obvious importance of economic growth for employment We would all agree that unless the rate of growth in GDP exceeds the rate of growth in the labor force plus the average rate of increase in productivity, it would be difficult to achieve widespread and significant improvement in employment conditions.

What is at issue is the definition of the limits within which macroeconomic policy can be employed to pursue this employment objective. One would hypothesize that the success of expansionary policies for employment will depend on the framework within which the growth process unfolds, the structure of prices in factor and goods markets, the ease of factor mobility including that of labor itself, the state of the balance of payments and the import elasticity of domestic output, and so on. The significance of these factors will become apparent in the review of two experiences, those of Chile during the government of Salvador Allende and of Mexico during the recently completed government of Lopez Portillo.

A. The Case of Chile under Allende

In this brief review of the Chilean experience, I cannot hope to do full justice to the record, for that period of Chilean history was charged with powerful political forces and an acute absence of widespread concensus on the proper form and pace of change. Thus, it becomes difficult to disentangle and accurately weigh the factors that contributed to the ultimate demise of the policies adopted during the relatively brief life of Allende's government.

It will be recalled that the Allende government came to power after an extended period of slow growth that was attributed by the Popular Unity coalition to a combination of factors including a dependence on the capitalist industrial economies, monopo-

listic control of local product markets, and the concentration of wealth and income in the hands of a few that left a large segment of the population out of the economic mainstream. These factors also accounted for an inadequate rate of savings and investment and an inefficient use of domestic resources, especially labor resources. (The World Bank 1980; Zammit 1973) The government thus embarked on a program intended to improve the lot of the wage earning class by expanding employment opportunities and shifting the distribution of income in their favor. The latter was viewed as favorable not only for the expansion of effective demand for wage goods that had large labor input coefficients in production but also for producing the savings that would be required to finance an accelerated rate of capital formation and employment generation.

The reactivation of the economy and a reversal of the recent slow unpward trend in the unemployment rate was a primary objective of the new regime. To achieve this end, at the breginning of 1971a general wage increase of 55 percent was declared, one well in excess of the 35 percent rate of inflation of the preceding year. In addition, family allowances were also adjusted upwards; those for blue-collar workers were doubled while those of white-collar workers were increased by 44 percent. In order to assure the preservation of the real increase in wages, the government adopted far-reaching price controls. An expansionary fiscal policy was adopted. In nominal terms, central government expenditures increased by over 66 percent in 1971 over 1970. Since government current revenues increased by only 24 percent a powerful economic stimulus was imparted. A more direct assault on

unemployment was mounted through an expansion of public works programs, the adoption of an ambitious housing construction program, and an expansion of government employment.

The initial results of the measures adopted seemed to conform to expectations. During the first year of the regime, the gross domestic product grew an estimated 7.7 percent in real terms. Industrial output increased by 11 percent on average, with larger-than-average increases occurring in consumer durable and non-durable industries.Construction output rose by 11 percent while the agricultural sector, blessed with favorable growing conditions, saw output increase by 7 percent. Total employment, which had declined slightly during the last quarter of 1970 amid the political uncertainties of the electoral campaign and transition periods, recovered sharply, and was up by about 6 percent, on average, during 1971. The unemployment rate that had peaked at 8.3 percent at the end of 1970 fell to only 3.8 percent a year later. The absolute number of persons reported as unemployed was slashed by more than half. With respect to another important goal of the government, the reduction in the rate of inflation, less success was achieved. To be sure, the price data for the period leave much to be desired, but estimates of the rate of increase range between 27 and 53 percent. However, in view of the massive increase of 114 percent in the money supply, the rate of inflation proved surprisingly small.(4)

By the end of the first year, however, stresses were becoming apparent that were undermining the early successes. The increases in production were made possible by drawing down inven-

tories or raw materials and intermediate inputs and by drawing down the large international reserves inherited from the previous government for an expanding flow of imported inputs. The Chilean economy is characterized by a high import elasticity of imports. Thus, the expansion of industrial output coupled to the increased demand of consumers for consumption goods led to an sharp increase in imports, a phenomenon that was also encouraged by the increasing overvaluation of the escudo. By the end of 1971, the foreign exchange reserves of Chile had been largely exhausted, and suspension of the servicing of foreign debt followed. (5)

1972 saw an accelerating reversal of some of the gains of the preceding year. Industrial output peaked during the fourth quarter of 1971 and then began to decline, affected by shortages of inputs and spare parts and by increasing labor-management strife. Aggregate output stagnated, recording a marginal decline on the year. The social area enterprises were increasingly squeezed by expanding levels of employment at high wages and controlled prices for their output, and their losses mounted and became a burden on an already deficit-ridden fisc. Shortages of final goods at official prices developed as goods were diverted to black markets at rising effective prices. However, employment continued to expand as overmanning was widespread in the public sector and social area. However, sectoral changes were unevenly distributed with sharp declines in employment occurring in construction and public works activities, largely as a reflection of materials shortages. The unemployment rate continued to decline, reaching the 3 percent level in September of 1972, the lowest level ever recorded by the household employment survey. The rate

of increase in prices that had begun to accelerate towards the end of 1971 continued to do so during 1972. As a result, real wages began to decline and by the end of the year had lost most of the increased purchasing power that they enjoyed following the initial wage adjustments of the Allende government. By mid-1973, real wages of workers had fallen to less than two-thirds of their 1968 average. (6) As 1973 proceeded, fiscal and monetary policy escaped control of the government, and the country was plunged into an economic and political crisis. In September, a military coup put an end to this experiment in radical reform.

The reduction of unemployment to a frictional level could be viewed as a notable achievement of the Allende government. However, the manner in which it was achieved suggests that it is unlikely to have survived, at least at the higher level of real wages that the government had sought, for the strategy of the government was flawed in several respects. It does not appear to have had an adequate appreciation of the link between the domestic and external economy. Thus, it did not take into account the impact that an inflating economy and a progressively overvalued currency would have on Chile's balance of payments. In the absence of an accelerated growth in the value of exports or of a massive infusion of foreign credits or assistance, the domestic expansion could be expected to be constrained and reversed by the exhaustion of international reserves.

While the early increases in employment were accompanied by increases in output, the expansion of employment during the latter half of 1972 and during 1973 persisted in spite of falling

output and labor productivity, particularly in the manufacturing sector. With costs rising and prices subject to control, the intervened firms and the area of social property incurred large operating deficits that were financed by recourse to the central government. In turn, the government's fiscal deficit mounted until it reached an unprecedented level equal to 22 percent of GNP in 1973.Paralleling the mounting fiscal deficits was a rapid expansion of the money supply; from the end of 1971 through August 1973, the money supply grew by 576 percent for a total increase of 1,345 percent from the beginning of the Allende administration. (World Bank 1980, pp.75-92)

Thus, the economy was subjected to enormous stresses as nominal demand continued to be stimulated in the face of a diminishing supply response capability. Furthermore, a permanent "solution" of the employment problem would appear to have required an increase in investment in production facilities in order to provide employment at acceptably high levels of productivity. Yet, the emphasis on increasing consumption and the mismanagement of the productive sectors left little room for increasing investment. Private investment declined in the face of uncertainty regarding the role the private sector would be permitted to play, while public real investment expenditures also declined in 1972 and 1973 as supply shortages became more acute.

To be sure, the government was subject to considerable political opposition to its program as well as conflicting pressures from within its own political coalition. Furthermore, the reduced availability of credit from traditional sources also

helped to increase the constraining effect of the balance of payments. However, I do not believe that these factors were determing in dooming the government's economic program. Much more important were the simplistic model of the Chilean economy that underlay the government's strategy, the disregard of the interrelationship between the domestic and external sectors, the rejection of economic efficiency criteria for guiding the allocation of resources, and the abandonment of discipline in the management of the government's finances and of the money supply. To these, one might add the disruptive effects of attempting to introduce sweeping structural reforms that did not enjoy a sufficiently broad base of political support. A lesson to be learned from the Chilean experience is that measures intended to promote the fuller use of the labor force cannot be framed in isolation from the rest of the economic policies of a government. Account must be taken of the interrelationships among key economic variables in order to assure the internal consistency of the economic program as a whole.

B. Mexico under Lopez Portillo.

More interesting in many ways than the experience of Chile is that of Mexico since the initiatives designed to address the "employment problem" were not a part of a broader program to reorganize the productive structure in a fundamental way. The problem of employment had been analyzed in great detail during the 1970s. During the Echevarria government, the Grupo de Estudio del Problema del Empleo (GEPE) was appointed to study the problem and offer recommendations for addressing it.(1974) Other analyses

were undertaken by PREALC, the International Labour Office's Programa Regional del Empleo para America Latina y el Caribe and by the Comision Consultiva del Empleo, the latter formed during the government of Lopez Portillo. (PREALC 1978; Comision Consultiva del Empleo 1979) All concurred that Mexico faced a serious employment problem with approximately 44-52 percent of the labor force either openly unemployed or underemployed, equivalent to an open unemployment rate of 25 percent. Not only were employment conditions held to pose a serious current problem, they were also perceived to have deteriorated over time. (Comision Consultiva del Empleo 1979, p. 25)

The Lopez Portillo government assumed office at the end of 1976 resolved to correct the "excesses" of the Echevarria government that had led to unaccustomed inflationary pressures, large fiscal deficits, and increased foreign indebtedness. The austerity measures adopted had the effect of significantly reducing the rate of growth of the economy in 1976 and 1977. In the latter year, the government became increasingly concerned with the employment effects of the reduced rate of growth. It was estimated that a growth rate of at least 7.5 percent was required to absorb increases in the labor force and to reverse the "deterioration in employment conditions" that accompanied the recession of 1976-77.(Solis 1982, p. 348) Therefore, fortified by a rapidly swelling volume of revenues from petroleum exports and by readily available foreign credits, the government embarked on an expansionary course to stimulate growth and accelerate the growth of employment.

Beginning in 1978, the economy responded with annual growth rates of over 8 percent that were to extend over four years. The expansion had a marked visible effect on the rate of open unemployment. From a level of 7-8 percent in 1976 it fell to about 3 percent in 1979 in the three large metropolitan areas of Mexico City, Guadalajara, and Monterrey. In view of the huge surplus supposedly overhanging the labor market, it would have been reasonable to expect that employers would be faced with ample supplies of workers available for employment. Yet this did not prove to be the case. After only two years of accelerated growth only two percentage points above the long-run average rate of about 6 percent, labor shortages of unskilled as well as of skilled labor were reported in several urban centers of the country. (Banco de Mexico 1980, p. 33)

The persistence of the government in pursuing its expansionary policies was to have disastrous consequences for Mexico. The fiscal deficit in 1982 reached the unprecedented level of 17 percent of GDP, and the foreign debt mounted to over 80 billion dollars. In 1979 the pace of inflation began to accelerate; by 1982 the consumers price index was rising at a rate of 59 percent and by over 100 percent in 1983. (Banco de Mexico 1983, p. 207) A crisis was precipitated in 1982 by the exhaustion of foreign exchange reserves and the drying up of foreign sources of credit. With petroleum prices in decline the prospects of external financing deteriorated sharply. The new administration of President de la Madrid took office at the end of 1982 in the midst of a full-blown crisis. The austerity measures that were adopted to confront the situation exacted a heavy cost in terms of rising

unemployment and falling real wages. The latter appear to have fallen back to levels of the late 1960s and urban open employment surpassed eight percent of the labor force. In short, a program that was initiated to improve employment conditions ended up leaving the employed labor force worse off than it had been at its introduction and unemployment rates above those recorded during the 1970s.

One may take issue with the particular policy measures adopted by the Lopez Portillo government in pursuit of its employment objectives and with its underlying assumption that petroleum prices would continue to rise, thus providing the resources necessary to finance its ambitious programs. However, I believe it is more instructive to dwell on the miscalculations the regime made with respect to the nature of the employment problem. The prevailing perception of that problem in Mexico fit closely that described in the first section of this paper. Essentially, it viewed the country as awash in a sea of surplus labor with only a limited capacity to absorb it. Rural-urban migration was viewed as excessive and as contributing to open unemployment and underemployment. The informal sector was viewed as the sector of last resort, a haven for workers awaiting an opportunity to move into a job in the formal sector. As indicated above, it was popularly believed that employment conditions had deteriorated over time.

What is distressing about this perception is that its empirical foundations are extremely weak. To be sure, empirical data were offered in support of the conclusion, but very little in the

way or rigorous labor market analysis, particularly in a secular context, is evidenced. In fact, there was a good deal of empirical evidence available that should have called into question some of the elements that made up this dismal appraisal.At the very least, the findings of various studies of mobility undertaken in Mexico City and Monterrey might have been expected to run up some signals. These revealed an easy integration of the migrants into the urban labor market, more often than not, in the formal sector at wages well above those earned prior to migration. Furthermore, after adjusting for age and education, their economic status proved to be not significantly different from that of urban natives.

The findings of the household employment surveys with respect to workers employed for fewer than 40 hours per week revealed that most such workers voluntarily worked short hours and were not available for more employment, thus casting doubt on the extent of involuntary underemployment of this type. The same source reveals that almost half of the unemployed workers during one survey period in 1977 in Mexico City had left their employments voluntarily, suggesting that workers did not view job opportunities as being scarce. Finally, an analysis of wage trends in the very smallest establishments in the industrial, service, and commercial sectors would have indicated a substantial rate of increase in real wages over time in the informal sector, a development that is not consistent with the existence of a large supply of surplus labor. I will not dwell further on the evidence, for I have done so in considerable detail elsewhere. (Gregory 1984; Gregory forthcoming)

The most misleading element in the measure of underutilized labor resources in Mexico was the use of an earnings criterion for estimation purposes. It was this that gave rise to such a large value to the open unemployment equivalent. What was overlooked was that most of those employed at low levels of remuneration were as fully employed in a temporal sense as they wished or could reasonably expect to be. Alternatively, it may have been assumed that, being underemployed, workers' would respond quickly and smoothly, moving from low-wage "unproductive" jobs into the newly created higher-wage "productive" jobs. In either case, the equating of "underemployment" with "availability" clearly proved to be a costly mistake. Of course, over time, mobility had clearly produced a shift from low- to higher-wage employments, but the shift was a gradual one, never so rapid as to prevent the urban wage level of the unskilled from rising in real terms. In short, Mexico would not qualify as an economy with an excess supply of labor in the Lewis or Fei-Ranis sense, at least not since the 1940s. Thus, the failure to understand adequately the functioning of the labor market and the absence of any perspective on the evolution of conditions in that market over time led to a misspecification of the employment problem and to policy initiatives that proved extremely costly and counterproductive for the country.

II. Employment Considerations in National Economic Plans

With the emergence of a concern with employment conditions of the labor force governments have increasingly included refer-

ences to the "employment problem" in their national economic plans and have claimed that the problem is addressed by the plan. In fact, most plans do not assign to employment a central focus around which the various elements of the plan are structured. in a consistent fashion. Plans tend to represent political documents rather than statements of coherent programs that can and will be fulfilled. As such, they may propose some programs that would be considered efficient responses to the problem while, in the same document, proposing others that would have negative consequences for employment.

It is important to keep in mind that governments have a variety of objectives and respond to a host of different interests, so that it is unlikely that any plan or program will be devoid of conflicting goals. As a result, it is frequently difficult to isolate the net effects of all the government actions on employment. Alternatively, governments may embark on a serious effort to ameliorate employment conditions only to find a gradual diversion of resources from that goal in response to new emerging pressures. Or, if the proposed solutions imply rather fundamental changes in economic, political, or social positions or power within the society, political opposition may emerge that emasculates the execution of the program. Thoroughgoing land reform is an example of such a proposal.Finally, to make a significant impact on employment a long-term commitment of substantial resources is required. Few governments have been able to demonstrate such a commitment or staying power.

Colombia was among the first countries to incorporate expli-

cit employment considerations in the economic planning process. As such, its experience is illustrative of the difficulties of developing and implementing a coherent program over a time horizon long enough to make a significant impact.(7) The first formal attention to employment policy occurred in 1969 when the planning department prepared a document, "El empleo en Colombia: diagnostico y recomendaciones de politica," and forwarded it to the Congress for incorporation in the national development plan for 1969-72. The most important contribution of this document was its emphasis on the idea that development policy had to be developed in an integrated form, relating policies to defined objectives. Unfortunately, the strategy advanced by this initiative was not followed, for the planning document that was finally developed, "Planes y programas de desarrollo," proved to be full of internal inconsistencies.

Nevertheless, the document had more than a passing impact, for it did give rise to a continuing interest in the employment question and led to the formation of the ILO employment mission that rendered a report, Towards Full Employment, that set out wide-ranging proposals for improving conditions of employment. The report was issued close to the end of the term of President Carlos Lleras Restrepo, but an informal understanding had been forged with the leading presidential candidate, Dr. Misael Pastrano, to implement a program of reforms based on the ILO proposals.

Unfortunately, this plan was upset by the surprising strength demonstrated in the national elections by an opposition

party, ANAPO (Alianza Nacional Popular), led by General Gustavo Rojas Pinilla. The showing of this party has been attributed to the fears of various economic groups, among them a landowning class apprehensive of land reform, that saw their particular interests threatened by the reform proposals. The new government of President Pastrana thus saw as its first goal the neutralization of the opposition, an objective that required the diversion of energies and resources away from the implementation of any kind of coherent development effort. During this process the staff of the planning department that had prepared a program for implementing the ILO proposals became demoralized and disintegrated.

The need for some sort of national plan, however, led the government to sek a solution that would provide evidence of its dedication to the goal of full employment but that would not give rise to serious opposition. In 1971, it therefore espoused a program titled the Four Strategies (Las Cuatro Estrategias) that had been advanced by Dr. Lauchlin Currie, a long-time figure in Colombia who advocated a development plan based on accelerated urban construction, Such a strategy was seen as creating an expanded demand for unskilled labor, having a further employment effect in domestic supplying industries, and serving as an effective "engine of growth." In addition to calling for expanded housing and public works programs, the plan for 1971-73 proposed:

1) increases in the productivity of agriculture based on technological improvements and mechanization;

2) increases in exports of agricultural products and the subsidization of other potential export goods under the Vallejo Plan;

3) and an improved distribution of income to be achieved largely by the generation of jobs for the urban unemployed and by the application of progressive taxes.

The implementation of the plan began in late 1972. The volume of construction increased significantly, achieving a level in 1973 more than twice that of 1970. However, the expansion of activity was accompanied by a sharp rise in the cost of construction materials and general inflationary pressures. While nominal wages increased, these were more than offset by inflationary price increases, and real wages generally declined. The construction activity proved to be highly concentrated in four large urban centers of the country, and the amount of direct employment created by the sector fell far short of expectations. Furthermore, rather than promoting a more egalitarian income distribution, the resulting inflation had the opposite effect. In short, this plan, which was short on diagnosis and analysis of the employment problem, must be classed a failure.

The administration of President Lopez Michelsen that followed abandoned the Four Strategies and adopted instead a new development plan, Para Cerrar la Brecha. Beyond the goal of stabilizing the economy, the plan called for the achievement of a sufficiently high rate of growth to require a massive increase in productive employments such that the poorest 50 percent of Colom-

bian society would be benefited. The plan identified the rural sector as the focus of poverty and proposed to pursue measures to raise the productivity of the sector, with a considerable emphasis placed on improving the quality of human resources as well as through expanded credit availability and technical assistance. It also proposed to correct price distortions that impeded an efficient allocation of resources and inhibited the growth of exports. (Urrutia 1976)

No other specific actions were proposed to address the issue of employment other than the maintenance of an economic climate favorable to private initiatives. Employment growth, at 6.2 percent per annum over the 1973-78 period proved to be favorable. (World Bank 1984, p. 25) However, how much credit for this can be claimed by the program rather than external factors is open to question, for the period saw record prices for coffee and a favorable climate for exports generally that produced a large trade surplus. Perhaps the most important reforms that were implemented included a wide-ranging fiscal reform and several social programs aimed at improving health and educational levels.

The government of President Turbay that followed elaborated its own plan, El Plan de Integracion Nacional 1979-82 (PIN), that called for an extension of the approach of the plan of the previous government.it. It, too, emphasized a high rate of growth of domestic demand and exports. In order to remain internationally competitive and permit increases in real wages, it viewed increases in productivity as essential. (Hopkins 1982) The problem of unemployment and underemployment was attributed to market

imperfections and distortions in relative factor prices. Thus, it proposed to reduce monopoly power unjustified by the absence of scale economies, to revise labor legislation to shift the burden of financing social security programs away from payroll taxes, and to improve the flow of labor market information by strengthening the national employment service. It acknowledged the importance for employment of the informal sector and proposed to strengthen it by an increased availability of credit and technical resources. It also proposed to improve the transportation infrastructure as a stimulus to growth, but since the plan did not foresee an increase in the total real resources to be allocated to the public sector, this implied the diversion of funds from agriculture and the industrial sector.

It cannot be said that the government succeeded in meeting its objectives. GDP growth slowed from its peak in 1978, a rapid growth in government current and investment expenditures led to increasing fiscal deficits, the money supply expanded rapidly in spite of various measures to contain its growth, and the rate of employment expansion declined drastically. (World Bank 1984, pp. 46-50). By 1981 the Colombian economy was mirroring the effects of the world-wide economic crisis, though to a lesser extent than most other Latin American economies. With GDP growth slowing to 2.5 percent in 1981 and further to only 1 percent in 1982, no improvement in employment conditions could be expected to occur.(8)

Finally, the government of President Belisario Betancur that was elected in 1982 adopted a plan that had as its immediate goal

the reactivation of the stagnating economy. As a short-term goal to this end, the government proposed a massive program of housing and public works construction. It also evinced a stronger import substitution bias than its more recent predecessors, advocating an increased degree of protection for domestic producers and a shift in procurement policies from foreign to domestic sources of supply. In other respects, it proposed elements of a strategy similar to those contained in earlier plans.

In short, the one common thread that runs through most of the plans is the achievement and maintenance of a high rate of growth. The macroeconomic policies presumed appropriate for its achievement are spelled out, and there is an evinced sensitivity to the general political and economic "climate" that is considered important to sustaining growth. The documents do contain proposals aimed at particular sectors such as the agricultural and urban informal. In addition, proposals of a microeconomic nature dealing with the pricing of productive factors and foreign exchange are frequently present. However, the development strategies that are advanced in the plans are subject to the exigencies of the moment. While important reforms have been proposed, these generally prove difficult to carry out. And while progress may be made toward one stated goal, backsliding may occur in another; progress rarely occurs in a linear fashion. Common to all of the plans is a set of non-controversial measures like expanded and improved education, improved agricultural technology, attention to the informal sector, and public works. While these elements of continuity exist, it is also clear that each administration strives to differentiate its product from that of its predeces-

sors so that changes in emphasis do occur that deflect resources from the completion of programs already in process.

An increased awareness of the existence of an employment problem need not give early rise to the development of a plan that adopts as an explicit goal the amelioration of employment conditions. Rather the first responses may be of an ad hoc nature with a more formal response following at a later date. Such would describe the case of Venezuela in the mid-1970s. While Venezuela has enjoyed steady growth over the past two decades, it has taken a form shaped by the availability of large government revenues and foreign exchange earnings from petroleum exports. High levels of investment expenditures have been made in the extractive and industrial sectors in areas of great capital intensity. Thus, not only has the employment creating potential of investment been held at a reduced level, but the pattern of development adopted has had large skilled labor requirements that could not be met domestically. The lack of symmetry between the skill requirements of the emerging sectors and the skills possessed by the labor force evidenced itself in structural unemployment that affected not only the poorly educated unskilled worker but also young adults with secondary education but few skills applicable to the requirements of the newly created employments. (Pereira and Zink 1977, pp. 23-24)

With open unemployment running at a rate approximating 6 percent, the government in 1974 adopted a series of measures intended to increase the employment of unskilled workers. One decree required the employment of elevator operators in all

buildings serving the public. Another, particularly aimed at increasing the employment of unskilled women required the presence of attendants in all public bathrooms. In 1975 a decree was issued requiring all manufacturing firms with 10 or more employees to increase their employment by 5 percent within a fixed time interval, specifying that the increase be limited largely to unskilled workers. Clearly these can be viewed only as stopgap measures that neither enhance the productivity of the economy nor offer permanent solutions. While the first two undoubtedly absorbed some labor force participants, the impact of the last measure is considered to have been minimal in the absence of any policing mechanism. (Pereira and Zink, pp. 31-33).

Other measures that were adopted were of a more substantive nature. Rural workers were employed in colonization and construction projects in rural villages with a twin motive of expanding employment opportunities and discouraging rural-urban migration. The promotion of small and medium-sized industrial firms was aided by the creation of a government fund that singled out labor-intensive activites as prime candidates for assistance. It was estimated that about 25,000 new jobs were created in the first two years of this initiative. (Pereira and Zink, p. 33) The government also sought to stimulate consumption and employment by decreeing large wage increases of 25 percent for workers earning less than a thousand bolivars per month and lesser increases for workers earning more. While a large increase in demand for goods followed, the employment effects have been held to have been minimal since only a small domestic supply response resulted. (Pereira and Zink, p. 33) Instead, inflationary pressures were

fueled. (9)

The concern with employment received formal attention in the Fifth National Plan covering the 1976-80 period. The explicit objective of the plan was to achieve a condition of full employment by 1980, i.e., a reduction of the unemployment rate to the frictional level of 3 percent, a quantitative and qualitative equilibrium between the supply of and demand for human resources, and levels of remuneration adequate to the satisfaction of the minimum needs of subsistence. Emphasis was also placed on increasing productivity. The policy measures proposed were intended to have an impact on employment through both the side of demand and that of supply. Consumer demand was to be stimulated by minimum and general wage policies, by redistributive measures such as a tax reform that increased the income exempted from income taxes, and by a reduction of interest rates on consumer credit. Investment was to be encouraged through the increased availability of credit from government institutions for industrial and agricultural purposes. Increased funding for small and medium-sized enterprises was also provided.

The development strategy that was adopted was a continuation and intensification of the process of import substitution. As a response to the existence of high unemployment among young adults with secondary education, the plan proposed to train 30,000 preschool and primary school teachers and 7,000 paramedical personnel. Fiscal incentives were extended to firms locating in less urbanized regions and to exporters. The rural economy was provided for by assurances of higher minimum prices for agricultural

products and an expanded investment in infrastructure, irrigation works and roads. Finally, expanded training programs were proposed for labor and an increased emphasis on technical education.

While progress toward the plan's goal of reducing unemployment was achieved during the interval through 1978, the manner in which economic policy evolved confronted the government with serious problems. While the industrial development program resulted in significant increases in output, the heavy emphasis on capital-intensive industries created only modest numbers of new employments and was heavily dependent on foreign technical assistance and capital goods. A large proportion of the increased revenues from petroleum was transferred to the public through increased government current and investment expenditures. An increase in monetary liquidity gave rise to inflationary pressures. The government responded by instituting strict price controls and substantial subsidies to domestic producers as well as to importers. These policies resulted in serious distortions in public as well as private production and distribution systems. Combined with a decline in revenues from petroleum, these distortions contributed to a sharp decline in the growth rate in 1978 to 3.2 percent from 8.4 in 1976 and 6.8 percent in 1977. Furthermore, the government deficit ballooned to almost 22 percent of total government expenditures. (ECLA 1983, pp. 763-64) An abrupt shift in policy occurred in 1979 designed to restrain inflationary pressures and to reduce the distortions previously introduced. A restrictive monetary policy, the reduction or elimination of subsidies, the reduction of tariffs, and reduction in the level of government expenditures combined to reduce the rate

of growth in 1979 to less than one percent, and a continuation of these policies into 1980 resulted in negative growth in that year. Unemployment returned to its 1976 level of 6 percent.

In 1981, the emphasis shifted once again to a reactivation of the economy. An increase in government expenditures without increasing the government deficit was made possible thanks to the renewed strength of petroleum revenues and their contribution to the public coffers. The Sixth National Five-Year Plan was implemented. In spite of the reservations expressed about the strategy embodied in the previous plan, the new one contained strikingly similar emphases on the development of heavy capital-intensive industries. A renewed commitment to housing, education, rural development, and to health promotion is contained in the plan. Again, external events conspired to frustrate the execution of the plan. Declining petroleum revenues, a deteriorating balance of payments exacerbated by capital flight, and a tightening of international credit availability all contributed to a sharp scaling back of the government investment expenditures contemplated by the plan. (Inter-American Development Bank 1983, pp.328-33) Negligible growth in 1982 gave way to negative growth in 1983 of about -2 percent. The rate of unemployment continued to climb in 1981 and 1982, reaching 7.1 percent in the latter year.(ILO 1983, p. 411)

The experience of these two countries has been offered in some detail in order to illustrate the difficulties that the Latin American countries have had in planning for improvements in employment conditions. The Colombian case illustrated the diffi-

culties faced by governments in adopting measures of reform that clash with established economic interests as well as a discontinuity in approaches to the employment question that reflects an absence of agreement on the essential elements of an employment strategy. The Venezuelan case illustrates in an exaggerated form the fragility of public economy policy that is based on a heavy reliance on revenues deriving from a single export good. During periods of growing revenues, government expenditures could serve as the engine of growth, and lavish investments could be made in very capital-intensive industries in spite of the limited direct impact such investments had on increasing employment in the modern sector. The sharp unfavorable changes that occurred in the petroleum and international financial markets posed a drastic limitation of the freedom of government to implement the plan. Indeed, with the prospects for petroleum prices and exports in the near future appearing decidedly unfavorable for Venezuela, the country's future performance will depend heavily on the success with which a totally new development strategy can be formulated, one that departs from a recognition that the lavish government expenditures of the past that fueled economic growth are likely to be sharply curtailed in the foreseeable future.

The experience of both countries also illustrates the gaps that may develop between the intentions and goals of a plan and their implementation. Particularly in mixed open economies external forces may compel shifts in policy that depart substantially from the course charted in the plan. Or, during the life of a plan, internal political forces may dictate a shift in priorities and of resources to other purposes. As a result it

becomes difficult to evaluate the net contribution of a plan to changes in employment conditions, even when an improvement in those conditions is an explicit objective of the plan. Furthermore, the impact of policies initiated in the period of one plan's duration may not become manifest until much later, as in the case, perhaps, of increased investment in the improvement in the quality of human resources. Thus, rather than attempting to evaluate further the results of plans as a whole at this point, I consider it more useful to examine specific programmatic approaches to the employment problem as well as the possible impact on employment of legislation governing the terms of employment. Then, I will return to consider the broader issue of development strategy and the implications for employment of various aspects of alternative strategies.

IV. Regional and Rural Development Programs and Employment

It has long been recognized that the incidence of poverty varies sharply over sectors and regions of developing countries. By and large, the most severe poverty conditions are to be found in rural areas of particular regions. Contributing causes of poverty include large amounts of involuntary part-time employment, unfavorable land/labor ratios, low productivity of existing resources due either to poor quality of physical and human resources or backward technologies or both, and a highly unequal distribution of land. In the early post-World War II period, the concern with poverty led to the promotion of national or regional community development programs. These had both political and economic objectives. Not only were communities organized for

enhancing their productivity, and consequently their material well-being, but also in the interest of promoting democratic institution building at the local level. By 1960 several Latin American countries had launched such programs. By the middle of the decade, however, widespread disillusionment had set in over the effectiveness of community development for achieving either economic or political objectives. With a growing concern over the adequacy of food supplies, there was a shift in interest to programs specifically aimed at increasing agricultural production utilizing the more traditional approaches emphasizing credit availability, agricultural research and extension services, and input supply systems. (Ruttan 1984, pp. 393-94).

There is no single configuration of measures that defines the character of rural or regional development. In practice, it may involve only a single class of measures or a combination of several. Among the elements that may constitute a rural development initiative are the following:

1. Investment in rural infrastructure

2. Production oriented activities, e.g., agricultural research and extension services, provision of inputs, credit, etc.

3. Extension of social services to rural areas, e.g. education, health, nutrition, etc.

4. "Integrated" rural development that seeks to restructure

the rural sector, increasing and diversifying the sources of employment, as well as providing the services included in the first three elements above. In addition, it may contemplate a land reform. Generally, such development plans are effected within relatively small geographic or political units to provide for participation in decision making by the groups to be affected by the program.

5. Regional development is similar to integrated development and is intended to reduce inter-regional disparities in income by the creation of several dispersed development poles. This approach may include the same elements identified above with the difference that the area within which they are to be applied is much larger.

A further way in which such initiatives can be differentiated is on the basis of their character as pilot or research projects, demonstration projects, or full-blown applications of a series of measures with or without pre-testing.

It should be borne in mind that rural development programming is still a relatively recent development. As a result there is only a rather limited experience on which one can report. Given this lack of experience it should not be surprising to find the results of efforts to date decidedly mixed as well as subject to a considerable amount of controversy. From the experience recorded thus far it is clear that "success" is more difficult and more costly to achieve than was anticipated and that it is also very difficult to measure in a way that lends itself to

comparisons with the costs incurred. A general observation that emerges from the literature on such development programs throughout the developing world is that the greatest successes have been scored with relatively small-scale projects such as the Vicos project in Peru. Especially when outside funding is available to support pilot or experimental projects, it becomes possible to lavish generous inputs of high quality skills and material goods.

A serious problem arises when the pilot projects become a model for extension to a wider area. Then the administrative capacity of the development agency becomes critical. Since the more ambitious approaches require the participation of many specialized agencies, the coordination of the participants frequently poses serious problems. Furthermore, while a pilot project may be able to draw on an adequate pool of human technical resources to ensure the project's success, few countries can boast of a pool adequate to the requirements of an expanded effort. Finally, the resource costs loom large and continuing, and since the time horizon over which visible returns will be forthcoming may be long, the commitment of resources may not be maintained at an adequate level. Changes of government also are frequently associated with shifts in development strategies that abandon projects that had been intitiated by a previous regime.

Perhaps the longest-lived regional development program is to be found in Brazil which, in 1958 established an agency, SUDENE, to oversee a regional development plan for the impoverished rortheast region of the country. The ambitious plans outlined at the onset of the program have continued to be reiterated at least

until recently. The goals included the expansion of employment opportunities by stimulating industrial investment through the extension of generous tax incentives; a change in the agrarian structure of the humid coastal agricultural region to increase the productivity of sugar cultivation and thus to release land for the establishment of family-sized farm units to produce staples for local consumption; reshaping the economy of the interior semi-arid regions into a mold more consistent with ecological conditions; and shifting the agricultural frontier to create opportunities for migration that might relieve the overpopulation of the region.

The achievements of the development program appear to have fallen far short of these goals. Industrial development has been highly concentrated in two coastal cities and, reflecting the highly capital-intensive nature of the investment undertaken, has made only a small direct contribution to employment creation. While the share of industrial employment in total employment within the region increased from 7.3 percent in 1940 to 10.7 percent in 1970, this growth actually lagged that in the rest of the country. Whereas the region's share of national industrial employment amounted to 9.4 percent in 1949, it fell to 5.6 percent in 1970. (Baer 1979, pp. 188-90) The professed preoccupation of the development program with employment has not been reflected in the consideration of specific initiatives or policy instruments and their impact on employment, much as we observed to be the case in the national plans reviewed in the preceding section. Furthermore, plaguing SUDENE from early on has been a general deficiency in the organization's administrative apparatus.

Disappointment with SUDENE's performance led to the creation of three new organizations to pursue more explicit goals including agricultural modernization and land redistribution, a development plan for the San Francisco River valley, and the development of the Amazon region as a way of drawing excess population out of the Northeast region. Writing in 1979, Baer notes that few of the objectives had been attained by the mid-1970s. (p. 205)

The 1975-79 National Development Plan proposed to resolve the employment problem of the region by accelerating federal and private industrial investment through the extension of fiscal incentives to the latter. Again, the focus was on the creation of development poles with an emphasis on heavy capital intensive industries. In general the nature of the incentives offered especially favored capital-intensive investment and contained a latent bias against potential export industries. (Tyler 1981, p,28) Furthermore, within industries, the incentives also favored capital-intensive technologies. As a result, the industrial development that has taken place in the region has been at sharp variance with the local factor endowments. Tyler observes that lacking in the program planning has been "a comprehensive and integrated scheme of incentives for regional development." To this it can be added that there has been insufficient attention paid to the impact on the region of the entire set of national macroeconomic and developmental policies.

While there has been an increase in the direct transfer of federal government resources to the region over the past couple...

of decades, it is not at all clear whether this has resulted in a net transfer of resources to the region. It is quite possible that general economic policy measures have drained resources from the region faster than the federal government has returned them. (Mayer 1984, p. 24) For example, the emphasis on import substitution industrialization has implied a sharp decline in the terms of trade and represents a heavy tax on the northeast region which is a large net importer of manufactured goods from the industrial south. The regime of overvalued exchange rates has also discriminated against the region and resulted in a transfer of resources to the richer south. Again, Brazil's experience argues for a consideration of the consequences of the totality of governments' actions in evaluating the results of its programmatic activites.

Of interest, is Tyler's observation that some learning may have occurred from the experience gained in the Northeast. He cites the development plans for other low-income regions, such as Amazonia and the Center-West. While incentives for industrial as well other forms of investment have been offered, "the greatest impetus has been in large-scale agricultural projects, particularly cattle ranching." (p. 28) If relief of the overcrowded conditions in some of the older poor regions of the country had been a primary objective of developmental policy, one might question if this "learning" has been particularly valuable.

Returning to the Northeast, I cannot find any references to the employment-creating impact of the development effort. For the years of the "economic miracle," 1968-73, Morley reports that the region had the highest rate of increase in employment of any in

the country, a result of a particularly good year in 1973, a banner year for the agricultural as well as the non-agricultural sector. How much of this increase was the result of the regional development effort, however, is not clear. The major contributions to employment appear to have been in the growth of public administration, which more than doubled its share of non-agricultural employment, and in social service employment. The share of manufacturing remained constant while that of construction declined. (Morley 1982, p. 49) However, to the extent that the increase in public employment reflects an increase in services to the region that will enhance the quality of its human resources, the returns may still lie in the future. (10)

Perhaps one of the most ambitious integrated rural development programs in the world is to be found in Mexico. Begun in 1973 as a joint project of the Mexican government and the World Bank, PIDER (Programa de Inversiones para el Desarrollo Rural) has expanded its coverage until it extended by 1979 to 100 micro-regions containing 5 million of the country's poorest rural population. The project's objectives were to increase output, income, and employment within the affected regions. For this purpose, PIDER enlisted and coordinated the efforts of virtually every governmental agriculture-related agency. In addition, the project was adequately funded. Between 1973 and 1978, Mexico invested over a billion dollars, and at the end of the decade annual expenditures were running at an annual level of 350 million dollars.(World Bank 1979, p.1)

PIDER consists of several components. One involves activi-

ties that have a direct impact on production and employment, such as the provision of credit, irrigation works, introduction and improvement of livestock, and rural industries. Another component provides support for productive activities through extension services, feeder road construction, improved marketing organization, etc. Finally, the third component provides social infrastructure in the form of expanded educational facilities, improved nutrtion, potable water supplies, and the organization of community self-help projects.

PIDER has had an impact on employment in several ways. An immediate and obvious short-run source of increased employment has been the construction of feeder roads. The project specified that road construction was to be undertaken employing labor-intensive techniques to the greatest degree possible. Biasing the construction techniques in the direction of labor-using proved to be no more costly than more conventional capital-using techniques, and, if labor and capital were valued in terms of their social opportunity costs, the labor-intensive techniques proved significantly less costly. Assigning a range of shadow prices for labor, equipment, and foreign exchange yielded an estimated cost for the equipment-intensive alternative that was from 40 to 65 percent greater than the labor-intensive.

The employment-creation effects of this choice of construction techniques is startling. The labor-intensive alternative chosen resulted in 54,500 man-years worked over a six-year period. The equipment-intensive approach would have employed only 10,900 man-years, roughly a fifth as many. A study of a sample

of 14 communities found that about half of the road workers came from small farm households, 40 percent from those of landless laborers, while only 9 percent were recruited from among the unemployed. The duration of employment was less than six months for the bulk of the labor force. The income derived from construction work was largely spent on consumption goods with only about 7 percent being devoted to productive investment in land, cattle, or tools. (World Bank 1977, Annex 4-e) With respect to the longer-run impact on income and employment, the reported findings were less encouraging. In the two years following the completion of roads in the sampled areas, some significant changes had occurred in production or marketing techniques, However, these were not reflected in increases in production or yields, perhaps pointing to the need for increases in complementary inputs, such as extension services, in the regions affected by the road-building programs.

As a permanent source of increased employment and ouput, the provision of irrigation clearly stands out as the most important factor. It should be noted that most of the areas included in PIDER are characterized by rain-fed agriculture, and that rainfall ranges from marginally adequate for subsistence agriculture to adequate. However, the variance in rain received is wide from year to year so that cultivation must be viewed as a high-risk activity in most of the regions of Mexio's central plateau. The significance of irrigation can be appreciated if the differences in labor inputs on irrigated and non-irrigated land are considered. A hectare of irrigated land provides about 8 man-months of employment as compared to less than one on a non-irrigated hec-

tare. (World Bank 1977, p.8)

By 1979, the accumulated experience permitted additional empiricial observations of the impact of irrigation on output, incomes, and employment. In general, cropping patterns changed in favor of crops of greater commercial value, productivity of lands already in production increased, and the area under cultivation increased as a result of double-cropping and by opening up new lands to cultivation. In some areas, impressive increases in yields were reported. In Guanajuato, for example, maize production on newly irrigated plots increased by 245 percent, beans by 660 percent and chiles by 1850 percent; the aggregate value of production per hectare quintupled. However, these increases cannot be considered typical, for considerable variance can be observed among micro-regions. In some, the increases in the aggregate value of production per hectare were on the order of only 1.5 times the pre-irrigation level while in one extreme case they reached 22 times. (World Bank 1979, p. 54-55)

Significant permanent increases in employment were also observed throughout the newly irrigated areas. In Eastern Morelos, some 48 man-days per hectare were generated; thus, the 2,000 hectares irrigated gave rise to the equivalent of 350 permanent jobs. In northeast Guanajuato, an average of 72 man-days of labor was added per hectare resulting in an increase of 218 percent over pre-program opportunities for farm labor. The way in which these increased labor requirements were fulfilled varied sharply from one region to another. In several ejidos in Morelos, for example, increases in contract labor exceeded that in peasant

family labor by a substantial margin. In northeastern Guanajuato, on the other hand, the increases took the form of a more intensive application of family labor. (World Bank 1979, pp. 55-58)

However, the report goes on to observe that irrigation by itself was not a sufficient condition for increased output and employment. Unless irrigation works were undertaken within the context of an integrated strategy that included the provision of credit and technical services, water availability by itself produced few significant changes either in cultivation patterns or in output. A final point worth emphasizing is that even if irrigation can be made available, the absolute income gains that are achievable are extremely modest in view of the very small size of the plots held by the overwhelming majority of the beneficiaries.These generally measured between one and two hectares. Thus, while employment and income opportunities can be improved, farm households with small plots must still seek supplementary sources of employment if they are to escape poverty.

While those that are fortunate enough to have access to water can realize a significant relative increase in their incomes, the prospects for those in rain-fed areas without such access have fared less well. For example, soil and water conservation works in dry areas proved not to be income-increasing but only income-maintenance programs. In some of the semi-arid regions, it has been possible to successfully introduce livestock ventures. One of the successful ventures in Yucatan Sur managed to include three-fourths of the poorest households in the targeted ejido. While a substantial number of man-days of employment

was created by the construction and the operations stages, the estimated average cost of creating a permanent job was deemed "exceedingly high." (World Bank 1979, p.. 61) On the other hand, in many other communities great difficulties were encountered in establishing and maintaining livestock programs. Problems included an absence of effective farmer organization for handling livestock and an absence or delay in the availability of credit. More serious were the conflicts of interest between those with and those without livestock. In some ejidos, the prime beneficiaries were the wealthier members, and the requirements of livestock culture required the fencing in of large areas, often resulted in inconvenience and destructive retaliation. By and large, the income and employment effects of livestock activities proved to be much smaller than had been anticipated. (World Bank 1979, p. 60.)

Complementing the activities of PIDER in rain-fed areas are those of PRONDAAT, the National Program for Extension in Rain-Fed Areas. This program introduced innovations in the delivery of extension services. It involved the training of new cadres of extension agents who worked independently of the established extension programs. The program provided continued access to farmers and combined the provision of technical services with a new technical package (seeds, fertilizer, some credit, and improved plant spacing). The early efforts of this program were undertaken in a micro-region in the state of Puebla. Over a three-year period, 28 percent of the region's farmers had been reached, and their yields of corn had increased by about 50 percent with a further 25 percent considered attainable.(World

Bank 1977, Annex 2) However, given the small average size of plots, about 2.5 hectares, even these large proportional increases in output will not suffice in lifting most small farmers out of poverty.

The evaluations of the program's results lay great emphasis on the importance of extension services as agents of change. The traditional extension service in Mexico was poorly trained and paid, suffered shortages of vehicles for purposes of covering rural areas, and lacked the technical information for improving production. Under PIDER, a new parallel corps of extension agents was formed and carefully trained. Each team assigned to a micro-region was thoroughly schooled in the social and economic conditions of the region and in the appropriate technology for the soil and moisture endowments present there. Heavy use was also made of para-professionals who are fully engaged in field work. While the cost of the new approach is about 20 percent greater than the traditional one, it is held to be much more cost-effective. However, the process of preparing an extension service capable of addressing the requirements of each of the micro-regions is both costly and time-consuming. On the other hand, without quality extension services, the possibility of increasing the welfare of the poor farmers is sharply reduced.

A problem that is likely to be encountered in any large-scale program such as PIDER is that of coordinating the contributions of all of the participants. Throughout the internal evaluations of the program one finds references to shortfalls in the performance of particular micro-regions attributed to the failure

of some critical input to materialize. Furthermore, investment programs frequently had less of an impact than expected due to a tendency to scatter them widely as well as to poor choices of projects. Rather than providing "something for everyone" investment planning should have been subject to more rigorous tests of costs and benefits,.(World Bank 1979, pp. 32 and 37) One disturbing finding also found that the directly productive investment, such as irrigation works and livestock, frequently tended to benefit the better-off farmers in villages and ejidos rather than the poorest. This may have been a reflection of the distribution of political influence within the rural communities, a factor that cannot easily be ignored in any community-based development program.

The approach adopted by PRONDAAT was based on the experience gained during the implementation of the Plan Puebla. The latter was launched in 1967 as an experimental-demonstration project to determine the possibilities of increasing maize yields by offering small farmers a technological package made up of new seed varieties, fertilizer, and credit. The region selected for this undertaking covered 32 municipios in the east of the state of Puebla containing 116,800 hectares of cultivable land and over 43,000 agricultural families. An important characteristic of this region which rendered it atypical of most others with rain-fed agriculture is an annual amount of rainfall of between 750 and 900 millimeters, sufficient to classify it as one of only moderate risk. While the plan is credited with yielding increases in maize yields of about 30 percent, this is of less interest for our purposes than some observations concerning the employment

patterns of affected families. A sample survey of 251 farmers found that the net income from crops accounted for only one-third of family gross income. Off-farm sources of income from services as well as wages accounted for another 40 percent with the remainder contributed by animal production. (Redclift 1983, p. 558)

The implications of the plan for labor use proved to be considerable, for the opportunity costs of participation were hardly negligible. While the new technology increased the productivity of land, it did little to increase that of labor. In fact, the greater amount of management time required by the new technology implied less time for engaging in non-farm activities to supplement farm incomes. (Redclift 1983, pp. 558-59) Indeed, one study reported farmer resistance to participation in the program when this implied a considerable increase in the labor requirements of cultivation; this was particularly the case among households with few adult members. (Rendon 1976, p. 353)

In the case of Mexico, one cannot overlook the fact that for a majority of farm households, crop sales account for less than half of gross income. A large sample of small farmers, those with less than 4 hectares devoted to annual and perrenial crops and to pastures, drawn from 25 states revealed that only 33 percent of income derived from crop sales. (Banco Nacional de Credito Rural, S.A. 1983) In several states, the share of income derived from off-farm employment amounted to more than 40 percent. An implication of this finding, which has been confirmed by a series of six regional studies by the Centro de Investigaciones Agrarias, is that even those rural development programs that succeed in

increasing cropping yields are destined to have only a small impact on the total income of farm households with access to only small plots. Thus, an improvement in the employment and income conditions of the rural poor must focus on the maintenance and extension of off-farm sources of employment.

This was recognized in the PIDER project, for one of the components was the promotion of industrial enterprises in the rural areas of the micro-regions. Unfortunately, the results of this aspect of the program proved disappointing, at least through 1979 when an extensive evaluation of experience was undertaken. The objectives of the rural industries component sought 1) to create collectively-owned enterprises, 2) to provide productive employment opportunities at a low cost per job, 3) to impart industrial skills to unemployed agricultural laborers, and 4) to promote the production of goods for local and regional consumption. (11)

At the time of the evaluation, half of the surveyed enterprises were not operating or operated irregularly. While the other half appeared to be operating satisfactorily, it remained an open question whether they would be doing so if they had to recover capital costs. The cost of creating a job proved to be higher than that observed in non-PIDER enterprises. Among industrial enterprises, the cost in the latter was only 55 percent of that in comparable PIDER enterprises. In artisan activities, the cost difference was much narrower, however. An explanation for the large difference is to be found in the much greater reliance of the PIDER enterprises on new equipment. Whereas only 43 per-

cent of the equipment in non-PIDER enterprises was new, 83 percent of that in PIDER enterprises was new. Unfortunately, much of the equipment in the latter was also quite sophisticated and required careful maintenance. Since the local workers were not sufficiently skilled to maintain and repair equipment, and since the nearest source of such skilled services was up to 100 miles away, much of the modern equipment lay in disuse.

Furthermore, costs of production in PIDER enterprises were inflated by locational factors. Presumably to make the employments more accessible to rural residents, most of the enterprises were located in the villages. However, location had unfavorable consequences, for operations were frequently suspended because of delays suffered in the delivery of materials or parts and in the arrival of technicians. High transport costs and difficulties in selling their output due to their distance from sufficiently large markets were cited as factors to be overcome. By contrast, virtually all of the non-PIDER enterprises were located in market towns and enjoyed a clear competitive advantage. Finally, investments were made on the basis of unrealistically rosy appraisals of the market potential of the enterprises.

It would appear from the experience of PIDER with the promotion of rural enterprises that an alternative strategy might be preferable. It would probably be less costly to make additional resources available to existing private enterprises that have a proven ability to survive and that have a market potential that has been unexploited due to shortages of capital resources. Based on the survey information, such small enterprises make much more

efficient use of resources. Furthermore, since they have proven entrepreneurial abilities, their chances of survival ought to be viewed as more favorable than those of new, isolated enterprises.

A final component of rural development programs that might be expected to have significant employment effects is land reform. There is ample evidence that labor intensity is greater in agricultural production on small units than on large. Thus, land reform is often advocated as a means of increasing both the employment and income of the rural population. In practice, the impact that a land reform has will be governed by the character of that reform. Furthermore, while it may improve the conditions of the immediate beneficiaries of the reform, i.e., the recipients of land, it may worsen that of the excluded rural labor force.

For example, a study of the impact of the Chilean land reform over the 1965-71 period found that the total labor inputs on the asentamientos had increased by about 30 percent in terms of man-days worked. (12) However, it appears that that of day laborers had declined by about 10 percent. In short, there appears to have been a substitution of labor by the members of the reformed units and their families for that of non-permanent workers who had been employed as day laborers on the same lands prior to the reform. Since alternative employment opportunities were not available, part of the gains of the included population were achieved at the expense of the excluded, which also tended to be economically the most disadvantaged rural workers.(Foxley et al. 1977) One caveat is in order, however, concerning the

measures of increased labor inputs. The man-days reported as employed on the asentamientos may be exaggerated, since the enterprise income was distributed among the members on the basis of days reported as worked. Therefore, there was an incentive to overstate the days reported as worked, thus introducing an unknown degree of distortion.

The Peruvian land reform of the Velasco era also resulted in a redistribution of employment opportunties among the pre-reform labor force of the large coastal plantations. The reform converted these privately owned units into workers' cooperatives, but bestowed participation only on the permanent work force of the plantations. The members of the cooperatives then sought to maximize the employment of their own households to the exclusion of the day laborers who lived in proximity to the plantations. Whether total employment on the plantations increased following the reform I do not know. However, since the management and direction of cultivation remained in the hands of the pre-reform period, it is unlikely that significant changes in cultivation methods took place. Over the decade of the 1970s, however, increasing conflicts between the technical personnel and the workers apparently led to the departure of many of the former. Output declines were suffered in both cotton and sugar, partly as a result of the deterioration in management performance but also as a result of shifting government policies. A threat to the longer-run employment opportunities was posed by the cooperative members' demonstrated preference for immediate income over investment expenditures. (World Bank 1981, pp. 50-54)

In the sierra, the reform took a mixed form, the conversion of large units into worker cooperatives in some cases, the redistribution of land in small individual plots in others. The employment effects of these changes is not known to me. However, it has been established that the reform did little to improve the income position of the recipients of land. Few measures were adopted to provide the supplementary inputs required for successful cultivation of the land. In many cases the land was of extremely poor quality so that the returns to increased labor inputs could be expected to be meagre. The extension service, which had been built up over the preceding 26 years, was assigned to the implementation of the land redistribution process and was unable to provide any technical assistance to the reformed sector. While agricultural research is conducted by the Instituto Nacional de Investigacion Agraria, most of its research is conducted along crop lines and little is directed towards crops and technologies appropriate at local or micro-regional levels. Since soil and climatic conditions vary widely among localities in Peru, the findings of the Institute are not readily adaptable to localities without modification.

Nor were credit resources available to the rural sector expanded sufficiently, and the available credit tended to flow to the traditional recipients. Finally the pricing policies followed by the regime during the latter half of the 1970s reduced the incentives to produce, for controlled prices declined in real terms in deference to the interest of the urban population in low prices for foodstuffs. The result was a decline in crop production over the decade of .6 percent per year. (World Bank 1981,

pp. 48-54 and 189)

Thus, the promise that land reform had held outfor improving the returns to employment for the poor peasantry wasnot realized. (Thorp and Bertram 1978, pp. 305-07; Figueroa 1977) Clearly, a change in the ownership status of land is insufficient to bring about an improvement in the employment and income position of what generally constitutes the poorest stratum of Latin American societies, Unless very substantial human and material resources are funneled into the agricultural sector, the improvement can be expected to follow a land reform is likely to prove disappointing.

V. Public Works and Construction

Construction activities of many kinds are frequently advocated as effective generators of employment,. especially as emergency measures in times of severe economic recessions. These appar to be particularly attractive because of their relatively high potential labor intensity inproduction in this industry. Depending on the nature of construction activity and its financing, the employment effects may be either only temporary or permanent. The effects will be permanent to the extent that the construction expands the production possibilities of an affected region thus increasing the demand for labor inputs in industries other than construction. Irrigation works and some rural road construction are illustrative of such projects. The promotion of expanded programs of housing construction may have an employment effect that is either temporary or permanent depending on the way

it is financed. In this section, I will consider the impact on the quantity and quality of employment of only two classes of construction, rural roads and urban housing in that order.

It was long accepted as an article of faith that road construction was favorable for development. International aid agencies have proved to be very receptive to requests for loans or grants for road construction, and virtually every regional or rural development project includes an important assignment of resources to that end. What is perhaps surprising is that so little effort has been devoted to determining whether the glowing ex-ante projections of benefits from rural roads are actually realized. Published works on the subject are relatively few in number, and most deal chiefly with Asian and African experience.

Most of the post-project evaluations for Latin America appear to be internal documents of financing agencies, like USAID, and are not readily accessible. A shortcoming of most evaluations, at least for our purposes, is that they rarely focus on the employment effects of road construction in a quantitative dimension. Rather they focus on changes in agricultural output and, more recently, on the socio-cultural effects. It can only be presumed either that output and employment are directly correlated or that the returns to an unchanged level of employment are so correlated. But even this can be assumed only if the structure of production is not seriously altered by the appearance of a road; if it is, the net effects on employment may be difficult to disentangle.

Another shortcoming of most evaluations is that they are rarely based on rigorous "before and after" comparisons, so that they must resort to the reconstruction of data that may be of dubious quality and do not permit the disentangling of short- from long-run effects. In view of the paucity of published materials readily available to me, this section is based on an extensivereview of the literature and internal USAID documents prepared by John Howe for the ILO's World Employment Programme. (1981)

That road construction will have temporary employment effects in the affected regions is quite obvious. Indeed, it is often advocated as a means of absorbing rural workers idled during the non-growing season. (13) However, it is only the permanent potential employment effects that are of interest here. The case for the favorable effects was made in a landmark ex post study of experience in Central and South America by the Brookings Institution in 1965 that is cited by Howe. This study found a net increase in traffic associated with a net increase in physical output as well as a higher value per unit of output as farmers shifted away from low-value cash and subsistence to higher-valued crops and as new lands were brought under cultivation. The stimulus for these changes was attributed to the sharp reduction in freight charges that followed the opening of a road. However, it was also noted that a precondition for tariff reductions was the appearance of entrepreneurial activity in the provision of transport and freedom from restrictions or other barriers to such a response.

More important, the extent of these production responses depended on the availability of easily exploitable natural resources. Also important is a generally dynamic climate which is favorable to the emergence of entrepreneurship and to the exploitation of new opportunities. Depressed regions that have little in the way of unexploited resource potential are unlikely candidates for a successful road-building program.(pp. 10-11) A World Bank 1974 evaluation of some older highway projects which had been expected to have a large regional development impact lay stress on the disappointing response of the productive structure to the opportunities created by the roads and attributed this to the failure of government to undertake the necessary complementary investment as well as other actions not specified in this citation.(p. 17)

The optimistic appraisal of the Brookings study does not necessarily extend to road improvement projects. Howe cites Miller's (1968) studies of highway improvements in Argentina that found that few benefits accrued to farmers because the reduction in transport costs were too small to effect a significant increase in the returns to farmers and thus to create an incentive to expand output. Furthermore, whether any transport cost savings that are realized will actually be felt at the farm gate will depend on the institutional arrangements governing the transport industry. (pp. 11-12)

One can always point to instances of dramatic change following the opening up of a road to a previously isolated region. One such case has been documented over a five-year period in Mexico

by Elmendorf and Merrill (1977). The road to Chan Kom opened two-way communication with the outside world with benefits accruing to all local residents. For the first time, agricultural extension agents and other government services appeared, diversification of the productive base occurred, labor gained access to outside wage employment opportunities, and other public services such as electricity and water followed the opening of the road. However, the extent to which employment actually increased or the terms of employment improved is not spelled out in Howe's review. What is observed is that the benefits, while reaching everyone, did so in an unequal way so that income inequality increased in the road's wake. (pp. 19-21)

The series of evaluation studies by AID that was begun in 1979 yielded mixed assessments. In Central America the indigenous production structure was found to pose a major obstacle to development and roads had little effect in changing this structure or on the introduction of new crops. Roads seem to encourage a shift to some cash crops, but this seemed to be dependent on outside entrepreneurs to effect the shift as well as to the availability of complementary inputs. The building of roads may have an impact on land values in direct proportion to the land's proximity to a road. Such changes in value may be expected to reflect new income-pro originating either in changing cropping patterns or non-agricultural production or services. One less encouraging consequence has been reported in some areas, the "forcing out" of poor farmers who happen to have been occupying the choicer locations. (pp. 32-33)

In Honduras, construction of feeder road and farm access roads was begun in the mid-1960s and 1974 respectively in support of the country's agrarian reform. The project aimed to connect "model cooperatives" to all-weather roads while providing other support services in the form of credit and technical assistance. The project evaluation of 1980 found that the roads helped bring under cultivation additional lands and increased the cultivation of cash crops. Where these production shifts succeeded, farmer incomes doubled or tripled. The USAID report is cited as observing that a coordinated set of public policies and programs was required if small farmers were to participate in the growth process. In the absence of such assistance,, only large farmers benefited. While no mention is made of the employment effects, it may be presumed that the expansion of land under cultivation required increased inputs of labor and that the increase in the value of crops enhanced the returns to the labor of pesant farmers. How the returns to wage labor have fared remains an open question. (p. 39)

In summary, the thrust of the project evaluations suggests that road building by itself is unlikely to be a sufficient condition for increased productive and employment activity except where the rural sector already exhibits some dynamic elements. As in the cae of land reform, small farmers will realize an improvement in their income position only if road construction is followed by an infusion of credit and technical services. An important consequence of new road construction, as opposed to merely road improvements, is the improved possibilities for labor mobility and access to wage employment beyond the immediate confines

of a rural village.

While the long-run employment effects may be considered to be favorable when rural road construction is properly accompanied by other services, it should be recognized that the impact will fall in a differentiated manner on different groups. Some may even suffer a decline in their income position. For example, handicraft producers who supplied the local requirements for simple consumer goods may find themselves displaced by manufactured goods that now can be shipped in at low cost. And to the extent that rising land values lead to the displacement of small, poor farmers, their economic welfare may suffer.

Unfortunately, lacking in this review of road-building experience is any indication of the benefit-cost ratios of the cost of creating new employments. In the absence of measures of this sort, it is impossible to judge the efficacy of improving employment conditions by programs of rural road construction by comparison to other possible approaches. In any case, while rural works programs may have the potential for creating expanded employment opportunities, it is not clear that efforts made by countries have had a significant impact. As Johnston and Kilby have concluded, "considerable planning and technical supervision is required....to insure the usefulness of employment-oriented projects of that nature (i.e. rural works). Because of those organizational problems and the fiscal constraints which limit their magnitude, such programs have not had a very large effect on under- and unemployment in rural areas." (1975, p. 136)

Urban housing programs have been adopted by governments to achieve a dual purpose, one to create employment and two, to reduce the urban housing deficit, particularly for the lower income strata. Housing programs appear to be relatively attractive ways for governments to respond to a perceived need for employment creation, as we observed above in the case of Colombia. The skill requirements are quite low, construction methods can be adopted that are labor intensive, construction has a secondary impact on output and employment in supplier industries, and the foreign exchange requirements are usually minimal. Obviously such programs are not likely to threaten any powerful political groups and thus give rise to serious opposition.

The labor intensity of housing construction is confirmed by the findings of a cross-country study by PREALC. (1984) Indeed, this study concluded that the ratio of labor inputs per unit of investment in housing was more than twice as high as the average for all public investment expenditures. (p. 25) (14) While this is indicative of the short-run employment-generating possiblities of public investment in housing, the actual impact will depend on the class of housing that is promoted by government policies. Based on studies in Colombia, Mexico, and Venezuela, Paul Strassman (1976) estimated the direct and indirect employment effects of different classes of housing, with the indirect effects derived from the share of labor costs in the cost of construction materials used. For Mexico, he reported that labor costs represented 43.3 percent of the total cost of low-cost houses about U.S.$2,800) and 337.9 percent for expensive houses (about U.S.$16,000) in 1970. However, in absolute terms, the man-years

per expensive dwelling were three times as great as those for low-cost housing in Mexico and Colombia, with the latter requiring a little over one man-year per unit.

In Venezuela, the labor input in even the low-cost housing proved to be twice as great as in the other two countries, but the differential between the high- and low-cost units was narrower. (pp. 626-31) In all countries, housing expenditures were more effective in creating employment in the provinces than in the capital cities. While Strassman's data provide a measure of the immediate employment-creating potential of housing expenditures, he does not provide an account of the extent to which housing has been encouraged as a response to a concern with employment. His purpose was to provide a justification for his advocacy of housing subsidies as a means of stimulating employment in construction and related industries.

If housing programs are intended to benefit the urban poor, it appears clear that they will have to be heavily subsidized. However, according to PREALC, this may give rise to a conflict between employment and distributional goals. If housing is not subsidized, the down and periodic payments by the purchasers provides a renewable and permanent source of financing for new housing. On the other hand, if housing is heavily subsidized, maintenance of a high level of employment depends on the constant appropriation of new funds by the government. In this case, the cost of creating a permanent job in housing construction becomes very high, much higher than that that can be achieved from investment in irrigation works or road construction; the ratio of

permanent direct and indirect employment per unit of investment in the latter was held to be 10 and 8 times greater respectively. (p. 25) Furthermore, it was held that, in the studied countries, the distributional goals of subsidized housing were not realized since it was not successfully channelled to the poor.

These general conclusions are fleshed out with references to the experience of particular countries. The Bolivian experience under its five-year plan 1976-80 confirmed the above observations. The cost of a permanent job in housing construction was estimated at US$60-75,000, well above the cost of rural colonization, irrigation works, integrated rural development, or roads.(pp. 34-35) In El Salvador, the annual investment per man-year employed in 1971 was on the order of US$2,406 in housing and US$1,273 in infrastructure.(pp. 36-38) The former would approach the average cost in Bolivia of US$67,500 per permanent employment if a 3.6 percent real rate of interest is applied.

The Chilean experience illustrates the difficulties of sustaining a housing program that is subsidized. Both the Frei and Allende governments made an expansion of housing for the poor a primary objective. In both cases, a very large shortfall developed between planned and executed levels of construction. Payments by beneficiaries fell far behind schedule or ceased altogether, so the recuperation of resources was minimal. Incomplete indexation in the face of inflation also reduced the real value of those repayments received. Finally, while intended for the poor, the housing effectively was captured by the middle income groups. (pp. 40-47)

In Venezuela and Panama, housing and public works construction have been heavily promoted during the current decade. In neither case, however, were employment considerations explicitely addressed during the planning stage by the originating ministries. By the time the plans were reviewed by the planning ministry in Panama it was too late to adjust them to conform to the employment objectives of the government. The result was a very large expenditure for each employment created. (pp. 46-48)

The PREALC report attributes the common tendency to overinvest in capital-intensive projects to institutional factors that are not easily overcome. Among the more important of these are the following: (pp. 51-55)

1) Para-statal enterprises and official institutions that are closely integrated into the modern sector possess superior skills for generating and preparing project proposals. This results in a bias in the selection process in favor of those projects that are well prepared even though they may not be those promising the highest social returns.

2)Smaller firms in the informal sector lack influence that can be brought in the decision-making processes of public agencies.Yet, it is such firms that are more likely toemploy labor-intensive techniques of production.

3) It is easier to plan, execute, and oversee a small number of large projects than a large number of small ones. Firms large enough to undertake large-scale projects are also

likely to employ capital-intensive modes of production.

4) The agency charged with the responsibility of furthering the employment objectives of governments rarely has an opportunity to contribute to the decision-making process at an early stage. By the time it become involved, plans are too advanced to permit reconsideration. The originating agencies, on the other hand, have not received guidelines that would encourage the assignment of the proper weight to employment considerations in the evaluation of projects.

5) Government policy decisions reflect a multiplicity of goals of which the maximization of employment may be only one. Since the realization of some goals need not necessarily be consistent with employment goals, the latter will frequently be subordinated to other considerations.

Thus, while housing construction is potentially a labor-intensive activity, there is no assurance that that potential will be realized in practice. Furthermore, as a source of permanent employment it appears to be considerably less effective than other types of government investment expenditures. Finally, since it is subject to variations in the availability of government financing, it can rarely be sustained at a constant level. Not only can housing construction be activated on short notice, it can also be easily curtailed. The experience of the Latin American countries appears to indicate that public policies directed toward providing expanded housing, especially for the

poor, have not made a significant contribution to employment that is durable. Unfortunately, neither has the goal of providing more and improved housing for the poor been widely met.

VI. Public Policies and Labor Legislation Affecting the Terms of Employment

Latin American governments, especially those of the more developed countries, can safely be characterized as "interventionist" in defining the terms of employment for substantial parts of their labor forces. Not only do labor codes spell out in considerable detail the non-wage terms, but minimum wage legislation and executive decrees may exert a major influence on the money terms of some classes of labor. Finally, the price of labor may include a payroll tax component that in several countries constitutes a very substantial proportion of the total cost of labor. (Gregory 1974)

A general presumption exists that such an elaborate structure of regulation must have an impact , usually considered to be negative, on the volume of employment in the affected sectors. Much of the analysis that is offered in support of this conclusion is cast in a partial equilibrium framework and is often only short-run in its time frame of reference. To what extent the same conclusions would hold in a general equilibrium framework with expanded possibilities of adjustment is not often explored. Unfortunately, empirical studies of the impact of institutional intervention, whether by governments or trade unions in Latin America are small in number and reflect the considerable methodo-

logical obstacles and data deficiencies that face researchers in this area. In this section I will discuss measures affecting the monetary and non-monetary terms of employment in that order.

A. Institutionally Determined Wage Levels.

The conventional neo-classical view of minimum wages or institutionally determined wages in general is that, if these are set at levels above the opportunity cost of labor to the covered sector, they will have the effect of restricting employment there below the level that otherwise would have prevailed. On the other hand, labor excluded from employment in the covered sector will flow into the unregulated, or informal, sector, depressing wages there. The existence of a substantial differential between the legal minimum wage or institutionally determined wage of the covered sector and the wages prevailing in the non-covered may then be viewed as a product of a distortion introduced by that intervention.

It is possible that economists' warnings of the employment consequences of such intervention has had an influence on policy makers, for I sense a significantly less aggressive policy with respect to minimum wages over the past 15 years as compared with the preceding 15. On the other hand, the greater caution in the administration of minimum wages may reflect not so much a concern over the employment consequences of a "distorted" price of labor as a desire to contain the inflationary pressures that had become so generalized throughout the continent during the more recent period. All of which serves to remind us that wage policy is not

pursued solely with the narrow short-run interests of wage earners in mind. It also forms a component of macro-economic policy planning and execution and, thus, is subject to the competing demands of various economic goals.

Let us return to a consideration of the employment effects of wage changes. As I noted above, most of the empirical work in this area is undertaken within the framework of partial equilibrium analysis. Estimates of the elasticity of substitution between labor and capital or the elasticity of demand for labor are derived which can then be applied to estimate changes in employment associated with any change in the wage. Most of the estimates for Latin American economies of which I am aware are limited to the manufacturing sector. An exception is Strassman's estimate for the construction industry in Mexico of 1.4, a value that indicates a high degree of substitutability. (1976, p. 631) Most of studies of the manufacturing sector have yielded elasticity coefficients for the sector as a whole not significantly different from one, implying a substantialinverse proportional change in employment for any change in the real wage or the wage-rental ratio. (17) (Behrman 1982; Corbo and Meller 1982; Fitchett 1976; Macedo 1974; Eriksson 1970; Witte 1971; Reynolds and Gregory 1965) An exception is an estimate of an elasticity of demand for labor in the manufacturing sector of Brazil of .43 attributed to Bacha, da Mata, and Modenesi. (Morley 1982, p.255) However, Morley also refers to Macedo's contention that there is an inherent upward bias in the estimating procedure employed by these scholars.

While Morley concedes that the employment effect of a policy of controlling minimum wages is not known," he goes on to observe the sharp contrast in the rates of employment growth during two periods of rapid growth in recent Brazilian experience. During the 1950s, a decade of rapidly increasing real minimum wages, employment growth was slow and concentrated more heavily in the low-productivity service sector of the economy. The more recent period of rapid growth that began in the 1960s was one during which the real minimum wage declined and then was held constant. The employment experience proved more favorable. Employment increased rapidly in both manufacturing and services, and the rate of increase in productivity in the latter was much higher than it had been in the 1950s, indicating the creation of much higher quality jobs in services during the more recent period. (p. 255) While Morley recognizes that these observations are not an adequate basis for determining cause and effect, he nevertheless cannot reject the possibility that the policy of wage restraint did, in fact, influence the course of employment.

A similar observation about the association of high minimum wages and slow employment growth on the one hand and lower minimum wages and rapid employment growth in Brazil is made by Carvalho and Haddad. (1981, pp. 39-40) From statistics they present, one would conclude that the legal minimum wage must have been above the supply price of many unskilled workers during the 1950s and early 1960s, for as the real minimum wage declined during the latter half of the sixties and then stabilized at a level equal to about 56 percent of its maximum value reached in 1959, the proportion of workers employed at the minimum declined. (p. 58)

Morley offers the same observation and adds that household surveys indicate that the numbers employed at less than the minimum wage also declined. (pp. 257-59) It should be noted, however, that the decline in the real minimum wage did not imply a decline in average earnings in manufacturing as a whole. These increased steadily even as the legal minimum was falling. (Carvalho and Haddad 1981, p. 39; Morley 1982,182-89) On the other hand, unskilled wages, at least in construction did decline until 1969. Thereafter they began to climb again even though the legal minimum wage stabilized. By 1977, average earnings of unskilled construction workers exceeded the legal minimum wage by about 10 percent. (Pfefferman and Webb, Appendix Table II)

The same inverse relationship between the rate of increase in wages and employment observed in Brazil is reported for Chile. Corbo and Mellor report that during the 1960s, employment in manufacturing failed to show any increase in spite of an increase in output of 5 percent per year. They state that there is ample reason to attribute the slow growth of employment to the wage policies pursued during the decade, particularly during the Frei government, which incidently was committed to income redistribution objectives. During the decade average real wages nearly doubled. (1981, pp. 98-99)

Mexico provides yet another illustrative case of an inverse relationship between rates of change in real mininmum wages and in employment in the manufacturing sector. During the decade of the 1940s, the real minimum wage declined from a level well above the market price of unskilled labor to a level, by the end of the

decade, that appeared to be below the market price. Real earnings in the large, modern industrial enterprises also declined during that decade. During much of the 1950s, the minimum wage remained below the market price of unskilled labor though by the end of the decade successive increases in the minimum had carried it to an equality with the market wage or slightly above it. Both of these decades saw a rapid expansion in employment in the manufacturing sector, according to the population censuses; during the 1940s, it increased by 86 percent and by 59 percent in the subsequent decade. In contrast, the 1960s saw an aggressive administration of the legal minima during which it increased by 92 percent in real terms. Associated with that accelerated rate of increase was a decline in the rate of increase in employment in the manufacturing sector. Between 1960 and 1970, it rose by only 40 percent. (Gregory 1975, pp. 65-84) While these various inverse associations between wage and employment changes do not, of course, constitute proof of a causal relationship, they are consistent with the predictions of theory and appear to have occurred sufficiently frequently to deserve careful consideration.

Even if the formal estimation techniques discussed above may provide a measure of the approximate employment respoonse towage changes within the covered sector, this does not constitute a measure of the economy-wide change. As noted above, the labor displaced in the covered sector may shift to the uncovered sector. An estimate of the economy-wide net effect on employment will depend on the assumptions one makes about the demand and supply elasticities that hold for the covered and uncovered

sectors and the nature of their production functions.

It is quite possible to offer a reasonable set of assumed values that would lead to the conclusion that an increase in the real wage in the formal sector will lead to a net increase in employment. (Stewart and Weeks 1975) If modern sector enterprises operate in the elastic portion of the product demand schedules facing them, an increase in wages that is passed forward to consumers will reduce expenditures on their output as well as the quantity produced. If there is a shift in the demand for informal sector goods equal to the reduction in expenditures for formal sector goods, output and employment will expand in the former. If, as is usually supposed, production is more labor intensive in the informal sector, the employment gains there will exceed those lost in the formal. The size of the gain in informal sector employment will also be influenced by the elasticity of the supply of labor.

However, some would hold that, in view of the large quantities of underutilized labor in the sector, the increase in employment might take the form of more hours of work for a little changed employed labor force rather than an increase in the number of workers employed. A shift of labor from the formal to the informal sector would imply the loss of "high-wage" jobs in return for an increase in "lower-wage" jobs, with an indeterminate effect on the total wage bill. However, the secondary effects of incomes generated in the informal sector may also be favorable for employment within that sector. Stewart and Weeks suggest that this will follow to the extent that informal sector

workers are more likely than are formal sector workers to be consumers of goods produced by that sector and informal sector enterprises tend to employ inputs produced within the same sector. The outcome described here, of course, is based on an assumption of a closed economy. The more open the economy and the greater the sensitivity of exports and imports to changes in relative prices, the greater will be the negative internal effects of wage distortions.

Observers of a substantial differential between wages in two sectors, formal and informal, are frequently led to conclude that it is the product of wage distortions in the former and overcrowding in the latter that depresses productivity and earnings to very low levels. In fact, it is not easy to determine when a large differential is the product of institutionally induced distortions and when it is a reflection of the heterogeneity of labor in the two sectors. For example, I am impressed by the disproportionate number of very young and very old workers who make up the informal sector labor force as compared to the labor force as a whole. One possible interpretation of this observation is that it is a reflection of low endowments of human capital of these two components of the informal sector labor force. The human capital endowment of the old may simply be a reflection of low formal educational levels that have not been compensated for by experience. In the case of the young with more formal education, employment at low wages in the informal sector may simply represent the way in which general employment skills are acquired. As will be recalled, human capital theory holds that the cost of acquisition of general skills will be borne by the worker

himself. The fact that the informal sector labor force contains relatively few workers, especially males, in the prime labor age groups suggests that once those skills are acquired, workers move on to the better paying jobs in the formal sector.

Another reason that may underlie the large wage intersectoral wage differential is the high incidence of part-time workers in the informal sector, mostly women, Since wage comparisons are usually earnings comparisons rather than earnings per unit of time worked, the former will appear much lower than earnings in the formal sector where full-time employment has a greater weight. The high incidence of part-time work is often considered to represent a form of involuntary underemployment. In fact, it may simply represent a preference for such part-time employment by women who are not free to seek and accept full-time employment. Thus, if corrections were to be made for differences in the quality of labor and in the hours worked, the intersectoral differential might prove to be much smaller than it appears at first glance, and the degree of probable distortion in the modern sector wage would also be correspondingly reduced.

On the other hand, the introduction of a legal minimum wage set at a level above that at which much unskilled labor is hired may lead to an adjustment in hiring practices that reestablishes may lead to adjustments in the hiring practices of firms that reestablishes an equivalence between the legal minimum and the market price of the workers actually hired. That is, given an obligation to pay a minimum wage higher than the one they otherwise would have opted to pay, employers may respond by hiring

workers of higher quality whose reservation price prior to the introduction or increase in the legal minimum exceeded the then going entry level wage. In the process workers with few skills or with only modest endowments of formal education would no longer be viewed as eligible for these higher-wage jobs. The legal minimum would thus serve as a rationing device in the distribution of preferred employments. Should the employment of higher quality labor not lead to a relative increase in productivity equal to the increase in wages paid, the cost of labor inputs will rise. If this implies an increase relative to the cost of other substitutable inputs, a further consequence may be a reduction of employment of unskilled labor in the affected sector. Substitutable inputs for higher priced unskilled labor may include capital goods, more highly skilled labor, or both.

That the legal minimum wage adopted in most countries is above the market price of much low-skilled labor can be inferred from the widespread evasion that is reported. Substantial numbers of workers in the informal sector earn less than the legal minimum. In the agricultural sector, the legal minima have little or no impact beyond large commercial plantations which may also be faced by an organized labor force. In the interest of maintaining employment, it is probably fortunate that enforcement of the legal minimum is not pursued more aggressively. Indeed, it is the recognition that rigid enforcement would effectively put many small employers out of business that restrains the authorities from such a course. This constitutes a tacit recognition of the existence of an inverse relationship between the wage level and the level of employment.

If such an inverse relationship is held to exist, one may simply question the wisdom of defining a legal minimum if it is to lie beyond the means of many employers to pay and if it disqualifies many workers for preferred jobs. The existence and persistence of legal minimum wages can probably be explained only by resort to political considerations. They serve as a symbol of governments' expressed concern for the economic welfare of workers. To eliminate them would probably lead to the characterization of the offending administration as heartless. Perhaps the best one can hope for is the maintenance of a legal minimum as a sort of safety net to be set at a level as close as possible to the market price of low-skilled labor with regional differentials appropriate to the particular demand and supply conditions of each region.

B. Payroll Taxes

Many of the countries of Latin America have adopted social security systems financed by payroll taxes. While the coverage of the systems usually extends only to employees in the modern sector of the economy, such taxes are often viewed as adding to the distortion of the price of labor in a sector where distortions have already been introduced through the media of legal minimum wages or collective bargaining. However, whether payroll taxes are distortive or not depends on the incidence of the tax. If the incidence falls entirely on wage earners, there is no reason to believe that the tax will alter the behavior of either workers or employers, that is, it will be non-distortive. Thus,

the critical empirical question for us is that of incidence.

It is easier to discuss the theoretical conditions that underlie the distribution of the burden of a tax than it is to establish empirically that distribution. To a large extent, the incidence will be dependent on the valuation workers place on the current and future benefits they expect to receive and the strength of their preference for present over future benefits. If they are indifferent as between no future benefits with a larger current cash wage equal to the payroll taxes paid by workers and employers on the one hand and an assurance of future benefits with a current wage net of payroll taxes on the other, then the imposition of a payroll tax should have no effect. The strength of workers' preferences is, however, difficult to determine. One might hypothesize that where wage levels are low, one might expect to find a stronger preference for present over future income. Particularly in countries with a history of chronically high rates of inflation, workers may have doubts about the real value of future benefits and thus express a preference for current income. To the extent that these preferences hold, the burden of the tax may not be shifted in its entirety back to workers, in which case the price of labor will be distorted and may be expected to have some repercussions on employment in the covered sector.

Empirical studies of incidence are extremely scarce. One systematic study of incidence in industrialized countries undertaken by Brittain (1971, 1972) suggested that virtually the full incidence of payroll taxes fell on workers. He found that, at any

given level of productivity, countries and industries with relatively high payroll taxes paid a basic wage that was relatively lower by the same amount. Rigorous tests of incidence in developing countries are not available in the literature. A study of payroll taxes in the Philippines concluded on the basis of a set of reasonable assumptions that, in the long run, they were effectively shifted back to workers. (Rosenberg 1977) In the case of Brazil, I found that the cost of two legislated fringe benefits, the "thirteenth month pay" in 1962 and family allowances in 1963, appear to have been shifted entirely to the worker beneficiaries by 1967. (Gregory 1968) Facilitating the shift was a high rate of inflation and, after 1964, a wage policy of restraint. However, it should be noted that the benefits of family allowances are not evenly distributed over the work force. They result in a shift of income from workers without dependents to those with. One might expect work forces heavily weighted by single workers to resist a shift of the burden of that payroll tax to them. Furthermore, to the extent that benefit levels are unrelated to differences in wages, one might expect higher-wage workers to resist the shift of the entire burden of a tax that is levied as a constant proportion of wages.

There are two cases in which it may not be possible to shift the incidence back to workers. The first is that of workers employed at the legal minimum wage. Since such workers are already employed at the lowest possible legal wage, their basic wage cannot be reduced as an offset to the tax. An employer might attempt to shift the incidence to the rest of his higher-wage labor force by allowing occupational differentials to

shrink. How feasible that might be or the extent to which such responses have been tried is a question I cannot address though my observation in the preceding paragraph would suggest resistance to such an attempt by employers. Since, in this event unskilled labor will have increased in price relative to skilled labor, one might observe a change in the proportions in which the two classes of labor are employed. Alternatively, production that is largely undertaken with unskilled labor may simply move from the covered to the uncovered sector thus evading both the minimum wage and the payroll tax.

The other case in which it might be difficult to shift the burden back to workers is one in which an employer is faced by a powerful trade union that can enforce rigidity in the real basic wage. But even here, while the incidence may fall on the employer and/or on consumers of his product in the short run, over the long run it is quite possible that the burden will be shifted to workers by the simple expedient of a lower rate of wage increase in the future than would otherwise have been adopted. To the extent that the incidence is not fully shifted back to workers, then one can expect employment adjustments to follow similar to those discussed above.

Much of the literature on the employment issue appears to assume implicitely that payroll taxes do distort the price of labor, that is, that workers do not bear the full incidence of the taxes. As a result, the substitution of a value added tax for a payroll tax is often advocated as a means of financing the existing level of benefits. (PREALC 1980, pp. 28-31) Implicit in

this proposal is that such a tax is neutral in its effects on employment and the allocation of resources. This, in fact may be the case if a value added tax is imposed in an environment in which one departs from no tax levied. In that case, the incidence of a value added tax is likely to fall on both labor and capital in roughly the same proportions in which they are employed, thus introducing little or no distortions in their relative prices.

However, it does not follow from this that the substitution of a value added tax for a payroll tax already in existence will be preferable. Indeed, if the payroll tax has been largely shifted back to workers, it is this tax that will be neutral with respect to employment in the covered sector. Its replacement with a value added tax may be expected to have employment-reducing effects within the covered sector as well as important redistributive effects. It can be demonstrated within a general equilibrium framework, employing some simplifying assumptions, that the imposition of a value added tax would result in a lower volume of employment in the covered sector, lower returns to capital and higher prices to consumers.(16)

Another consequence that can be anticipated is a redistributive effect in favor of the beneficiaries of the social security system at the expense of workers and consumers in the non-covered sectors that generally include the poorest strata of Latin American societies. Over the longer run, the decline in the rate of return to capital could lead to a slower rate of investment and increase in employment in the covered sector. On the other hand, to the extent that capital is mobile, the lower returns in the

covered sector may lead to shifts to the uncovered sector over the long run, thus raising the productivity of labor there and perhaps offsetting some of the real income loss suffered in the immediate aftermath of the introduction of the value added tax.

It should be recognized that the logic that applies to the cases of legal mininmum wages and payroll taxes applies with equal validity to any institutional intervention that raises the price of labor above its opportunity cost. This would include collective bargaining arrangements that result in a distorted price for labor. In the Latin American context, however, it is unlikely that the majority of trade unions are sufficiently powerful to introduce significant distortions unless they receive strong and determined support of government. In those cases in which collective bargaining does lead to serious distortions, these may have far-reaching effects.

For example, it has sometimes been alleged that the establishment of unusually high wages in enclave industries, such as mining, do have the effect of influencing the expectations of workers throughout the economy regarding the the appropriate price of labor and can lead to an inflation of wages generally. This has been suggested in the case of Chile where copper miners traditionally earned wages and fringe benefits far in excess of those earned elsewhere in the industrial sector. In the cases of Jamaica, where bauxite miners enjoy a wage far in excess of their opportunity cost, the reservation prices of other workers are held to have been affected. The result has been high rates of reported unemployment reflecting the unwillingness of the jobless

to consider job offers at wages substantially below those received by miners. (Tidrick 1975)

C. Shift Premiums

Latin American labor codes are commonly alleged to create disincentives for the operation of second and third shifts. These take the form of prohibitions on the employment of certain classes of labor, women and minors for example, or impose a penalty on shift operations in the form of a shift wage premium. The hours to which such restrictions apply vary considerably among countries. Colombia applies them to all hours between 6 P.M. and 6 A.M. while Peru does so only to the hours between 10 P.M. and 5 A.M. The size of the shift premium also varies from zero in Chile to 35 percent in Colombia. The particularly restrictive provisions of the Colombian labor code led the ILO employment mission of 1970 to conclude that "although the experience is somewhat conflicting, our impression is that these provisions are serious obstacles to shift work in industries such as textiles and apparel-making....In the textile and apparel industries, where women constitute a large proportion of the labour force, the prohibition against their working at night seriously reduces the possibilities of shift work and affects export possibilities."(ILO 1970, 207) The report goes on to recommend the liberalization of these rules. A similar recommendation is offered by a PREALC publication that examines the employment effects of various legal dispositions. (PREALC 1980, pp. 16-17)

An insightful essay by Joseph Ramos in this same PREALC

publication, however, suggests that the relative infrequency of multiple shift operations is not likely to be attributable to the size of the wage premium that is legally imposed.(pp. 74-82) His analysis is based on the Colombian case where the shift premium is the largest in Latin America. He shows that for firms employing $10,000 of capital per worker the capital savings of multi-shift operations exceed the increase in the wage bill imposed by the shift premium by a considerable amount. On average, he finds that the manufacturing sector could absorb a shift premium of up to 130 percent before a second shift would cease to be profitable and up to 65 percent before a third shift would so become. The existing 35 percent premium rendered multiple-shift operations unprofitable in only three sub-sectors, clothing, wood products, and non-ferrous metals, all of which were characterized by very low capital-labor ratios. Thus an incentive to adopt additional shifts exists even under the existing regime except where the absolute prohibition against female employment is effective. (17)

Furthermore, the essay points out that in countries where the shift premium is lower than in Colombia or absent in the form of a legal requirement as in Chile, one does not observe a higher incidence of multiple-shift operations. This leads him to conclude that, while the legal restrictions may have a negative effect, other factors must be of greater importance in explaining the infrequency of second and third shifts. Among these are management rigidities in family-owned and managed firms, the difficulties of recruiting capable supervisory personnel for night shifts, and fluctuating demand for output of enterprises. His conclusions are supported by a Colombian study that he cites

that found management limitations to pose the greatest obstacle to multi-shift operations. A study of multiple-shift operations in Chile cited obstacles similar to those reported for Colombia plus the more limited size of the domestic markets in Chile. (PREALC 1978)

Thus, while the relaxation of the limitations and penalties on shift employment may be a necessary condition for encouraging multi-shift operations it does not appear to be sufficient. It would also be necessary to effect organizational changes in management structures and expand the supply of capable middle management personnel in order to staff an increased number of shifts. Limitations in the size of the market could be overcome if more industrial products could become exportable.

D. Overtime Premiums

Most countries if not all in Latin America have followed the example of the advanced industrial countries in imposing a legal requirement of a higher rate of pay for hours worked over and above the legally defined work day and work week. An increase in the size of the overtime premium has often been advocated as a way of discouraging overtime work in the belief that an equivalent number of hours of employment could be created for new employees. However, I know of no case in Latin America in which such a step has actually been taken and which would provide empirical evidence regarding the employment effects of an increased premium.

Some observations can be offered about the use of overtime work by employers and the possible impact of an increase in the premium. If employers currently resort to employment at overtime rates rather than expanding their work force, it is reasonable to assume that they choose this option because it is less costly. It is difficult to imagine that an employer would choose to employ workers at penalty rates as a continuing feature of his operations. The condition that gives rise to overtime work is variations in sales which cannot economically be met out of inventories. Such variations would be expected to be "large" relative to the normal size of inventories. To the extent that the variations in sales are not predictable, inventories cannot be relied upon to respond to such variations. But even if variations are predictable, it may still be less costly to meet an increase in demand by increasing current production using the regular labor force than it would be either by building up inventories in anticipation of the increased demand or by hiring additional workers.

It should be recalled that there are costs involved in employing new workers. One of the important costs is the training of new employees. In addition there are likely to be substantial additional costs in the form of fringe benefits or payroll taxes that must be incurred for new employees but not for an extension of hours of work for regular employees. Finally, to the extent that temporary workers would be eligible for severance allowances when the need for their services passed, an additional cost would have to be assumed. By how much the overtime premium would have to be increased before the cost of overtime work exceeded the cost of hiring additional workers would depend on

the length of time for which the services of additional workers would be needed. The shorter this time interval, the higher the premium would have to be. A consequence of adopting this course of action as an employment-creating move would be to increase the cost of labor to employers and to create an incentive to substitute machinery for labor, thus defeating the original purpose of the change in the legal requirement. (PREALC 1980, pp. 60-74)

E. Measures Affecting the Non-Price Terms of Employment

The only legal measures to be discussed in this section are those governing the job security of employees. There exists a wide range of provisions that limits the freedom of employers to lay off or discharge employees. In part, these have been advanced to protect workers from arbitrary or capricious dismissal. Workers who feel they have been dismissed without just cause may appeal to an agency of the labor ministry which holds a hearing to determine the fairness of the action. If the employer is found to have acted unjustifiably, he is liable to heavy financial penalties plus the possiblity of having to reinstate the employee. A second justification for severance allowances is the absence of unemployment compensation schemes that would provide a flow of income to idled workers until they could find a new employment.

The existing regime has been criticized as introducing an anti-employment bias in enterprise decisions. In the first place, the size of the severance allowances is viewed as being "too large" and imposing a heavy burden on employers. Second, the

appeals procedure makes it very difficult to discharge an employee "for cause" since the test of "just cause" is open to broad and unpredictable interpretation. Finally, even though some of the codes may provide for large lay-offs in times of economic distress, these must first be approved by the authorities. These provisions are held to create an expensive burden for employers and to diminish the incentive among workers to perform well on the job. (18)

The empirical evidence on the effect of severance allowances is very scant and is largely casual in nature. For example, employers whom I interviewed in one country with such restrictions reported that these did not pose an insurmountable obstacle to the discharge of undesirable employees. It was intimated that life could be made sufficiently uncomfortable for them that they could be induced to quit voluntarily. In another country, employers reported that they felt the procedures protected workers unduly, that it was very difficult to get a judgment from a hearing that supported an employer's action even in cases of gross miconduct. But statements of this sort constitute a very thin thread on which to base a conclusion on the effects of such legal provisions.

Perhaps in no country was the reaction of employers to the enactment of such legal provisions more vocal than in Panama. Amendments to the labor code in 1972 imposed a 500 balboa penalty and doubled the size of the indemnity, raising it to 8 percent of all wages earned by an employee unjustly discharged. In addition, all employees with two years of service became eligible for a

separation allowance equal to 6 percent of all earnings received. Employers objected that the provisions would reduce the flexibility needed to respond to changes in demand and production requirements and that it would have a negative impact on labor productivity as workers would respond by reducing their effort on the job. The decline in private investment in the two years that followed the legislative changes was attributed by the private sector to pessimism created by the law.

PREALC undertook a study in 1976 to evaluate some of the charges levied against these legal provisions. (1980, pp. 40-58) One of the issues addressed was whether the legal changes posed an obstacle to lay-offs thus limiting the flexibility of firms in adapting to changes in labor requirements. Resorting first to macroeconomic data, it was observed that during the recession years 1974-76, gross domestic product increased by less than one percent; yet employment fell by 3 percent. In the industrial sector where one would expect the codes to have the greatest impact, output fell by 2.5 percent while employment declined by 8 percent. While the legal restrictions on separations did not eliminate the flexibility of employers to adjust the size of their labor forces, they may have affected the distribution of lay-offs within the work force. It is reasonable to expect that the burden would have fallen more heavily on those workers with less than two years of seniority. On the other hand, enterprises with the bulk of their employees with long seniority could face considerable difficulties if faced with a sharp decline in demand for their products.(pp. 48-49)

Of course, the law did provide for the possibility of mass lay-offs in the face of serious economic distress. However, permission had to be obtained from the Ministry of Labor, During 1974-75, 70 firms sought such permission. Fifty requests were approved, four were denied, while the remainder were "in process." The latter were held to be reflective of the bureaucratic tendency to procrastinate in the face of difficult choices. For the affected firms the increase in uncertainty and the delays could prove very costly if not fatal. One probable response of firms may be to discharge workers before they accumulate two years of seniority, thus maintaining greater flexibility within at least some part of the work force. However, where training costs are significant, this course may prove costly. (pp. 48-49)

The study also sought to determine how effective the strictures against unjustified discharges had proved to be. On average, about 500 cases were heard by the conciliation board each year. In 20 percent of the cases heard, conciliation was successful, in 35 percent a judgment favorable to the employer was rendered, and in the remaining 45 percent the finding favored the worker. Of this last group, however, only one in 8 was reinstated, either because reinstatement was not sought by the worker or because the board did not grant it. Thus, while employers were not successful in proving just cause in almost half of the cases brought before the board, they were nevertheless successful in effecting the separation of 80 percent of the unwanted employees, though at a cost that may not have been negligible. That the costs of the board proceedings are not negligible for employers can be inferred from their willingness to pay workers an indemni-

ty or up to 20 percent greater than the legal requirement in order to induce unwanted employees to resign voluntarily. (pp. 51-52)

One of the objections of employers to the revisions in the law mentioned earlier was that the impediments to discharge would have the effect of reducing incentives to perform efficiently. In interviews with employers, the PREALC study found that a majority believed that the productivity of workers fell once they acquired two years of seniority. However, no empirical evidence of a general decline in productivity after enactment of the amended law could be found. An econometric study of the determinants of output changes and of productivity, i.e., output per worker, over a period preceding and following the change could not attribute any significant explanatory power to the legal changes. (pp. 52-55)

The study notes that it was conducted within only two years of the enactment of the amended law and that the adjustment process was still likely to be incomplete. It suggested that enterprises were likely to have to institute more sophisticated personnel practices to replace the fear of discharge as the principal inducement for good performance with more positive incentives. However, it was acknowledged that only the large firms were likely to command the resources for adapting their personnel policies to the new conditions, while medium-sized firms could find it more difficult.

An estimate was offered of the cost to employers of the

provisions against unjustifiable discharge. This amounted to 2 percent of payrolls of the affected sectors though this included only the indemnity payments and not the transactions costs of the appeals process. While this cost seems to be rather modest it does not address the question of the employment effects of this legal provision. Again, the answer to this question hinges on the incidence of the burden of the cost. If workers generally valued the indemnity to a degree equal to its cost, then one would expect the incidence to be shifted back to workers. However, it does not seem reasonable to expect this protection to be equally valued by all. Workers with long tenure who also consider themselves to be "good" workers may have little fear of being unjustifiably discharged, particularly in the paternalistic environment of many enterprises. They could, therefore, be expected to resist the shifting of the burden to them.

If the burden falls primarily on profits, then one might expect future rates of investment to decline in response to lower profit rates and thus have an impact on employment over the longer run. If the incidence is shifted to consumers, changes in relative prices between the covered and uncovered sectors could lead to changes in the distribution of output and employment between them with the net effect on the latter, indeterminate a priori. To the extent that the legal changes increase the degree of uncertainty among employers with respect to their labor costs, particularly in the face of fluctuating output, a strong incentive could exist to reduce their work forces to a minimum by adopting more capital-intensive techniques of production.

Thus far in this paper, I have considered the possible impact that specific government policies might have on employment. In the cases of those measures designed to promote employment, the conclusion to be drawn from the literature is that, in general, these have had only transitory or inconsequential impacts on the volume of employment. On the other hand, I have discussed measures that are frequently advocated as a means to promote the welfare of the working class that may, in fact, prove to limit the level of employment in those sectors that are effectively covered by such legal provisions. What remains to be discussed is the impact that different development strategies may have on employment.

In this section, I will consider only two broadly defined strategies, import substitution and export promotion. It should be understood, of course, that these two paths to development are not mutually exlusive. Ideally, a country would be expected to pursue both so that, at the margin, resources allocated to production would yield the same volume of foreign exchange earned or saved. The characterization of a strategy thus becomes one of noting the relative emphasis placed on one or the other course. Associated with this emphasis is the degree of bias built into economic policies that favor one approach over the other.

The course chosen by most larger Latin American countries in the post-World War II period is well known to all those familiar with the region's economies. While import substitution industri-

ance of payments problems, it soon came to be viewed as a means to accelerate the growth of a modern industrial sector. Krueger has observed that once import substitution is adopted as a development strategy it tends to become self-reinforcing. Because of built-in tendencies that discourage the growth of exports, balance of payments crises tend to recur, leading to a further encouragement of import substitution. Since a high degree of protection is provided as an incentive to import substitution industries, the returns to investment surpass those in export production and encourage the reallocation of new investment away from the latter and towards the former.

In addition, a host of incentives that are adopted to spur the process of substitution tend to discriminate against the export sector, further discouraging production and investment in the latter. Among these are preferential access to credit, frequently at negative real interest rates, overvalued exchange rates, duty-free access to imported inputs, as well as other tax concessions and subsidies. Frequently, the internal terms of trade between the exporting agricultural sector and the domestic industrial sector are distorted in favor of the latter in order to provide for a cheap supply of foodstuffs to the urban population, reducing the incentives to produce and thus, the exportable surplus. As exports are discouraged while the demand for imported industrial inputs continues to expand, balance of payments considerations force an intensification of the process of import substitution. (Krueger 1981, pp. 6-7)

be self-reinforcing. A rapid growth of exports reduces the balance of payments constraint on imports, thus obviating the need for barriers to imports. Export promotion also requires the maintenance of a realistic exchange rate which in itself encourages exports, at the same time limiting the demand for imports.

While import substitution industrialization did produce a rapid increase in output of manufactured goods, particularly in its early stages, its impact on the growth of employment in the protected sector proved disappointing. An early period of growth in employment soon gave way to a stable level, even as output continued to increase. Critics of the process have cited a number of reasons for the limited employment response. Some argue that the choice of technology, particularly by multinational firms, has been inappropriate for developing countries, reflecting the factor endowments and relative factor prices of developed industrial countries rather than those of the host countries.

Others point to the distortions introduced by policy makers that have favored the adoption of the latest and the most capital-intensive technologies; overvalued exchange rates and subsidized credit have served to reduce the price of imported capital goods relative to that of labor, thus favoring the adoption of labor saving technologies. At the same time, the favoring of industrial labor with high legal minimum wages and elaborate social security benefits financed by payroll taxes has accentuated the distortion introduced by the subsidies to capital. Finally, once the new industries reach maturity, the further

domestic real incomes. Since productivity may be expected to increase over time, the increased output may be achieved with little or no increases in employment. In view of the rapid growth of the labor force, the question of how it could be accomodated in productive employment emerged as an urgent issue.

An alternative model of development emphasizing export promotion has, of course, been demonstrated particularly in some of the countries of East Asia, especially Taiwan, Korea, early post-war Japan, and the smaller states of Hong Kong and Singapore. Their experience suggests that export promotion is a feasible strategy that is capable of producing rapid growth in output, foreign exchange receipts, employment, and, once relatively full employment is achieved, a rapid rise in real wages. No claim is made that distortions in relative prices were not introduced in these countries, only that they were less severe than those observed in Latin America. Perhaps most important has been the necessity of maintaining a realistic exchange rate in order to ensure the continued viability of the export promotion strategy. In addition, those countries avoided important intervention in labor markets that might distort the price of labor from the market determined level.

In Latin America, the potential promise of a shift in emphasis towards export promotion has been demonstrated by the experience of Brazil and, to a lesser extent, Colombia, both of which were among the first countries in the region to modify their commitment to import substitution. In Brazil, the shift in empha-

sis that was adopted in 1967 led to a rapid increase of exports, industrial output and employment. Whereas the annual rate of growth in manufacturing employment was only 1.6 percent between 1955 and 1967, in spite of rapid increases in output over most of the period, it grew at a 9 percent rate between 1967 and 1974. (Carvalho and Haddad 1981, pp. 38-39). Colombia's experience points in the same direction though the size of the employment response was more modest than that in Brazil. Whereas employment growth in manufacturing was negligible during the last ten years of the implementation of import substitution, the shift in emphasis that occurred in 1967 carried with it an increased rate of employment creation of 3 to 4 percent per annum into the middle of the decade of the 1970s. (Thoumi 1981, p. 136)

What are the factors associated with export promotion that seem to have favorable repercussions on employment, and what are the prospects that such policies could be successful in accelerating the growth of productive employment in other countries as well. An obvious consideration is the enormous expansion in the size of the potential market that removes the limitations of only the domestic market on the growth of output. Beyond that, are the characteristics of most successful export industries that clearly distinguish them from many of those that produce almost exclusively for the domestic market. These characteristics have been explored for several developing countries, including five Latin American countries, by the most ambitious study of its kind, one sponsored by the National Bureau of Economic Research and directed by Anne O. Krueger. (1981) The purpose of the study was to examine the possibilities of accelerating the growth of employ-

ment in developing countries by adopting development strategies favoring the growth of export industries. Various biases against exports are identified, and estimates are made of the employment consequences that might be expected from the attentuation or elimination of those biases or distortions.

The individual country studies, each undertaken by a different team of researchers, produced findings that are striking in their similarities. Industries that produce for export are significantly more labor intensive than are those that were classified as import-competing. (19) For example, in Brazil, exports had labor input coefficients 23 percent higher than did import-competing goods. (20) (Carvalho and Haddad 1981, p. 51) If one compared the labor requirements of industries that produced goods that would be exportable under a more efficient resource allocation within a "reasonable" variation of price, they were found to use more than twice as much direct labor per unit than did import-competing goods.(p. 54) In Colombia, manufactured exports had a much greater direct employment generating effect than did import-substituting goods, 34 percent more per unit of domestic value added than in non-competing goods and 88 percent more than in import-competing goods. (Thoumi, 1981, pp. 154-55)

The findings for Chile are consistent with those for Brazil and Colombia. A more detailed breakdown of the Chilean data indicate further that labor requirements in more protected industries are always below those in less protected within each broad category of goods, exportables and import-competing. The authors conclude that the country's trade regime encouraged industries

with low labor requirements in both trading categories.(Corbo and Meller 1981, p. 111)

A further conclusion to be drawn from the country experiences is that export industries are less skill-intensive than are import-competing. In other words, they are more absorptive of unskilled labor than of skilled.

Within the category of exportables, there is a significant difference in the labor requirements of those exports destined for markets in developed countries and those for less developed countries. The former appear to more accurately mirror the source of comparative advantage of developing countries, for they are more labor-intensive and less skill-intensive. For example, in the case of Colombia, exports to the U.S. were 47 percent more labor-intensive than those to less developed countries while those to other developed countries were 80 percent more labor intensive. (pp. 162-63) Uruguayan exports to developed countries were almost twice as labor intensive as those to developing countries or as import-competing goods. (Bension and Caumont 1981, p. 521) Brazilian exports to developed countries were from 36 to 44 percent more labor-intensive than those to the LAFTA trading partners; exports to other developing countries were even less labor-intensive than those to LAFTA. (pp.50-51)

The contrary character of exports to developing countries is likely to be explained by the preferential treatment accorded many goods under the regional trading arrangements of LAFTA during the period of the 1970s that encompassed this study. From

the Chilean data, it can be seen that the imports from other developing countries had significantly lower labor requirements and were much more capital-intensive in nature than those Chilean export goods that enjoyed a level of protection below the median. (p. 111).

The Colombian findings also demonstrate the relevance of the level of protection for the possibilities of a change in the status of an industry towards an increased export orientation. Thoumi examined industries that, over the 1970-73 period, changed from import-competing to exporting. He found that they had enjoyed significantly less protection than those classified as import-competing in 1973. Those that shifted from the export to the import-competing category, on the other hand, had enjoyed higher degrees of effective protection than did the 1973 export industries. The results strongly suggest that lower rates of protection are more likely to facilitate the passage of industries to an exporting status while generous protection encourages movement in the opposite direction. (pp. 159-160)

A study by PREALC of the employment creation of exports to the developed countries confirms the findings of the NBER project that found these exports to be labor intensive. (1981) The PREALC study examined the product categories of manufactured goods that represented a significant volume of exports or that had experienced rapid growth between 1970 and 1978 for three countries, Brazil, Colombia, and Mexico. Estimates were then derived of the direct and indirect labor requirements for the various categories of goods, the latter reflecting employment created by backward

linkages. The industries were then ranked according to their labor requirements per monetary unit of value of exports. The food products industry ranked first and sugar refining second, probably reflecting the large labor input requirements of the agricultural phase of production. These were followed by processed wood products, basic chemicals (in the case of Brazil only), leather and leather goods, textiles, furniture, clothing, shoes, and miscellaneous industrial products. Besides food products, textiles and clothing gave rise to the largest indirect employment creation. All of the categories of goods listed here, with the possible exception of basic chemicals, comform to our expectations that the comparative advantage of Latin American countries trading with the developed world lie in goods that tend to be labor-intensive.

A. The Importance of Distortions for Employment

The NBER study devotes considerable efforts to identify those factor price distortions that frequently seem to be associated with import-substitution regimes and that may be expected to create a bias against employment. Once identified, the authors attempt to estimate the quantitative impact on employment that the removal of the distortions would have. Among the possible sources of distortion that were considered were those that inflated the price of labor, e.g., legal minimum wages and payroll taxes, and those that distorted the priceof capital, e.g., subsidized rates of interest and overvalued exchange rates, Apparently, data availability dictated which of the possible sources of distortion could be considered for each country.

For Brazil, the authors estimated the increase in employment that might be expected to follow the elimination of measures distorting the price of labor and capital under different assumptions regarding the elasticities of supply of these two input factors. For the early years of the 1970s, the authors considered the level of legal minimum wages to be non-distortionary. However, the payroll tax, which averaged 27 percent over the various manufacturing industries was viewed as distorting the price of labor. With respect to capital, the existence of low rates of interest offered by the Banco Nacional de Desenvolvimento Economico (BNDE) represented a subsidy of about 3.4 percent on capital goods. However, the BNDE represented a source of industrial financing for only about 17 percent of the total at the end of the decade of the 1960s.

Under an assumption of perfectly elastic supply schedules for labor and capital, the authors estimated that the effect of social security taxes was to lower the labor-output ratio by 18 percent, if no subsidy was given to capital. On the other hand, the effect of the subsidy to capital, with wages unchanged, was a reduction in 2 percent in this ratio. If higher values are assumed for the supply elasticities, the impact on employment is reduced. With unitary elasticity of supply, labor requirements are reduced by 5.35 percent per million 1970 cruzeiros of value of production. The elimination of the social security tax is held to hold the greatest promise for expanding employment. Under the assumption of perfectly elastic supply schedules, an undistorted price of labor would increase labor requirements by 13.3 percent

in the importable industries and by 13.6 percent in the exportable. Elimination of the subsidy on capital would raise these percentages by one or two percentage points. For the case of unitary elasticities, labor coefficients would increase by 8.4 and 8.1 percent respectively for the two categories of industries. Given the size of the labor force in manufacturing, an 8 percent increase in employment would amount to 240,000 additional jobs. (pp. 58-67)

However, I would caution the reader that these estimates probably represent an upper limit to the probable increases in employment that might follow the elimination of payroll taxes. The authors have implicitely assumed that none of the incidence of the payroll tax falls on workers. This seems to me to be a heroic assumption. If a substantial proportion of the burden of the tax does fall on workers, the employment effects of its elimination would be greatly reduced. However, these estimates of the employment effects of distortions in the price of labor are illustrative of the importance of distortions, no matter their source. A legal minimum wage that distorts the price of labor by a proportion equal to that attributed to the payroll tax would have an equally severe impact on the level of employment.

The findings of the study of Argentina by Julio Nogues (1980) are summarized by Krueger.(1983, pp. 130-31; 169-70) Factors distorting the price of capital in both directions were found to abound in Argentina. In view of the overvalued exchange rate, successful importers of capital goods received an implicit subsidy of 40 percent.However, due to the growth of a domestic

capital goods-producing industry in response to the import substitution regime, about 68 percent of investment in tradable capital goods was supplied from domestic sources. Domestic production was protected by nominal rates of 97 percent for machinery and 109 percent for transportation equipment. Taking both factors into account, the author of the study estimated that the trade regime increased the price of capital goods about 8 percent above what it would be under free trade. On the other hand, a variety of financial subsidies, like tax advantages and subsidized interests rates, afforded large potential gains for eligible producers, on the order of 40 percent of their capital costs. However, since eligibility was not evenly distributed among all producers, the average subsidy to the manufacturing sector as a whole of the financial subsidies was estimated to be on the order of 9 percent. (p. 130)

Government intervention in labor markets was held to represent an additional source of distortion in factor prices. The price of labor was viewed as having been disorted by the introduction of a minimum wage for unskilled labor, binding for much of the manufacturing sector, and payroll taxes of about 15 percent. The author observed that the differential in labor costs between firms observing all the government regulations and those observing none, could have been as much as 40 percent. (p. 131) Presumably, this would respresent an estimate of the degree of distortion in the price of labor. However, it should be kept in mind that such an estimate is subject to the various reservations mentioned above regarding the incidence of payroll taxes and the heterogeneity of labor within the manufacturing sector.

Nogues estimated the employment effects of removing the labor and financial distortions while leaving unchanged the trade regime's protection policies. For tradable manufactured goods, he concluded that their elimination would increase the labor input per unit of value added by 19 percent. When he assumed that the price of capital goods would be determined under free trade, however, the increase in labor intensity declined to 12.6 percent. (p. 170) This is due to the high proportion of capital goods produced domestically behind high tariff walls. Thus the effect of a move to free trade in the pricing of such goods would result in a decline in their average price and would tend to encourage the adoption of more capital-intensive means of production.

In the Chilean study, only the effects of the trade regime on employment of the trade regime were considered. As a result of the preferential effective exchange rate for capital goods imports, employment of labor is reduced and that of capital is increased. Elimination of the subsidy to capital would reduce capital requirements for both exportables and import-competing products by 19-23 percent and increase labor and skill requirements by 6-8 percent. The authors concluded that the elimination of only this single distortion could create a significant amount of employment through export expansion. For each increase in exports of $100 millions of value added about 40,000 jobs would be created. Such an annual rate of increase was considered feasible for Chile. The employment so created would represent an annual increase in the manufacturing sector labor force of 11

percent, or 1 percent of the total labor force. (pp. 122-23)

An interesting sidelight of the Chilean study was the sensitivity that the composition of exports revealed to changes in the relative price of labor and capital, the wage-rental ratio. During the decade of the 1960s, this ratio fell between 1960 and 1964, began to rise in 1965 at the beginning of the Frei government's tenure, declined slightly in 1967, then increased substantially in 1968 as the government's stabilization program collapsed. Thereafter, the ratio fell. One would expect that during periods of a declining ratio, exports of labor-intensive goods would be favored, while an increasing ratio would favor more capital-intensive goods. The evidence provided by Corbo and Meller proves consistent with this expectation.

In the case of the other countries included in the NBER study no estimates of the employment consequences of the elimination of distortions are offered, though some sources of distortion are identified and the degree of distortion estimated. Nevertheless, the three country studies reviewed here are illustrative of the probable impact of factor price distortions on employment. And it should be recalled that none of these studies was exhaustive, in the sense that they considered all of the sources of distortion that may have been present. In the Brazilian lian case, for example, the effects of an overvalued exchange rate on the capital-labor ratio were not estimated. In the Chilean case, the effect of subsidized credit for financing capital purchases or of possible distortions in the price of labor originating in the minimum wage or in payroll taxes were

not considered. Thus, if all sources of possible distortion had been considered, the employment effects of their elimination could have been quite striking not only in those sectors producing for export but also in those producing for the domestic market.

I wish to take note of another distortion that is introduced by government actions that may have significant consequence for employment. I refer to distortions in the internal terms of trade between the agricultural and industrial sectors that so frequently are observed in countries following an import-substitution strategy of development. The favoring of the industrial sector with high levels of protection raises the prices of manufactured inputs to agriculture, while price controls on foodstuffs or export taxes on commodity exports reduce the prices received by farmers. These distortions are the equivalent of a tax on the agricultural sector and a subsidy to the industrial. Various countries in Latin America can be identified in which such distortions have been introduced at various times during the post-war period. Among those that readily come to mind are Argentina, Chile, Mexico, Peru, and Uruguay.

The effect of such distortions is to discourage agricultural production. Yet agricultural production generally requires more labor per unit of output than does industrial production. Furthermore, to the extent that price controls and export taxes create a disincentive to production for export, foreign exchange earnings are lower than they otherwise would be, creating pressures for further advances in the import-substitution process and

intensifying the existing distortions. While the existence of this type of distortion is widely cited in the literature, I have not found any studies purporting to estimate the employment effects associated with them.

Intra-sectoral price distortions may also serve to operate against the maximization of employment. A case in point is Mexico and the pricing policies pursued for agricultural products.The government announces guaranteed prices for a wide range of products for each crop year. While the government proclaims a commitment to maximizing employment creation, its professed desire to become self-sufficient in grains and the price incentives it has adopted to achieve this goal does imply the sacrificing of the goal of maximizing employment. Grain production is not as labor-intensive as is the production of the principal export crops. For example, among the grains, only rice with labor requirements of 73 man-days per hectare is more labor intensive in production than the 1973 average of 40.3 man-days for all crops. The labor requirements of some of the more important export crops provide a sharp contrast: cotton at 79.6, strawberries at 70.4. tomatoes at 141, melons at 123.5, cucumbers at 94.4, and tobacco at 108.9. (Rendón 1976, p. 372) Since producers have been shown to be responsive to changes in relative prices of agricultural products, it may be expected that the policy objectives of self-sufficiency in grains and the maximization of employment will work at cross purposes. And since Mexico is a high-cost producer of the major grain product, corn, the policy also implies a loss of real income.

In summary, the literature reviewed in this section provides ample grounds for concluding that the distortions introduced during the implementation of a development strategy based on import substitution have had negative consequences for employment. The reduction in the rent-wage ratio by interventions in capital and labor markets has encouraged a greater capital and skill intensity in production than would otherwise have prevailed. Goods produced for export to developed countries have been shown to be significantly more labor-intensive than import-competing goods. A shift in emphasis from import substitution towards export promotion has been accompanied by a faster rate of growth of employment in the manufacturing sector than that realized under the earlier strategy. An implication of these findings is that Latin American countries could accelerate the process of labor absorption in the industrial sector by adopting a more outward-looking growth strategy. Such a policy reorientation would restrain governments from market interventions that are distortive of factor prices and would encourage a more efficient allocation of resources. As a result, not only would the realization of employment objectives be enhanced but the real income of society would also be increased.

B. The Technology Issue and Employment.

A common feature of discussions of the labor absorption problem in developing countries is the observation that the technologies adopted by firms in the modern sectors of the economy employ labor-saving technologies that have been developed to reflect the factor endowments of the developed economies rather

those of the labor-rich, capital-scarce developing economies. Much of the criticism is directed towards multinational firms that are seen adopting home-country technologies rather than developing new "appropriate" technologies or adapting the imported technologies to increase the labor absorptive capacity of productive processes in developing countries.

A great deal of research has been devoted to examining the choices and adaptations of technology made by foreign and domestic firms in developing countries. Unfortunately, the various studies do not point to a set of consistent conclusion. One survey of the literature concludes that "the mass of conflicting evidence, the occasional use of imprecise methodology, the inherent problems of definition and measurement, all do not support any strong statement about the relative performance of TNCs and local firms as far as adaptation is concerned." (Lall 1980, p. 51) On the other hand, the findings of cross-country econometric studies of elasticities of substitution of capital for labor strongly imply that production techniques are responsive to differences in factor prices. (Behrman 1982)

There are a number of reasons that can be advanced for the failure of producers to adopt technologies that are more closely suited to their country's factor endowments. From the point of view of a particular firm, cost considerations must loom very large. The development costs of new technology are hardly trivial. Indeed, they are likely to exceed the potential savings, discounted to their present value, of an alternative to the readily available technology, particularly if the number of pro-

ducing units for which it is intended is very small. And, in most countries, since imported capital goods that embody a technology are heavily subsidized, the scales are heavily tilted in favor of the purchase of ready-made and tested technology.

Greater opportunities for adapting tasks to labor-intensive methods exist in areas that are ancillary to the central production process, such as materials handling and packaging, and many producers apparently do make adjustments in these areas. However, unless factor input prices reflect their true social opportunity costs, there is no reason to expect producers to choose that technology that minimizes the social cost of production, even if that technology can be readily identified and adopted. Given the high protective barriers behind which so many producers function and the factor price distortions that they face, the incentives to do so must be deemed very weak.

Information costs are also likely to pose an obstacle to the adoption of more appropriate technologies even though these may be in existence somewhere in the world. No individual producer is likely to invest in the costs of searching out the full range of alternatives that might be available to him. This search process has been undertaken in a reduced number of product areas by research institutes and given rise to the development of "synthetic technologies," that is, production techniques that are composed of a large number of separate elements or steps, each of which comes closest to conforming to the resource endowment of a developing country. While I am aware of the development of such technologies, I do not know how extensively they have been adop-

ted. Nor do I know whether they have been sufficiently tested to determine whether unusual managerial skills are required to integrate elements of different technological approaches into a smoothly integrated and efficient process. (20)

But even if technological choices within industries are limited, a closer adaptation to a country's factor can be achieved through the choice of industries to be encouraged. Since the factor proportions of different industries vary widely, a country that truly wishes to maximize the employment-creation potential of investment can take steps to ensure that the signals provided investors are consistent with that objective.

Some authors have also pointed to a state of mind that serves to impede the development of indigenous technologies. (Stewart 1974) Since technological innovations have "always" originated abroad, producers come to expect innovations to continue to originate there. An innovating tradition, therefore, does not exist, and consequently, the human skills required for innovative purposes are underdeveloped.

While governments have expressed an interest in the issue of appropriate technology, little has been done to implement it. Some Latin American governments have established review boards to pass on the technogical characteristics of investment proposals by transnational firms, and their terms of reference may include a review of the appropriateness for employment considerations. In fact, however, it seems that most of the efforts of such review boards are devoted to assessing the reasonableness of

the charges that are to be levied for the local use of a technology. To pass on the employment implications of a particular technology would require information about the range of alternatives readily available for each product that is proposed for domestic manufacture. It is unlikely that such review boards have either the resources or the time required for such a determination.

While the idea of appropriate technology is a popular issue for discussion, I do not believe that there is much individual governments can do to promote it efficiently beyond the creation of an environment in which firms are forced to pursue vigorously the minimzation of production costs. This requires that factors of production be priced at their opportunity cost and that the degree of effective protection be modest and declining over time. Such an environment will tend to encourage a more efficient use of resources within industries as well as favor the more rapid growth of those industries in which countries are likely to enjoy a comparative advantage, that is, labor-intensive industries.

There may be some scope for joint efforts of countries to try to identify or develop more appropriate technologies. In this way, the costs of such an effort would be more widely distributed and the benefits attendant on adoption by several countries would also prove larger. However, I am not prepared to offer a judgment regarding the feasibility and cost-effectiveness of such an effort.

VII. Elements of an Employment-Oriented Public Policy

What are the conclusions that can be drawn from the experiences of the Latin American countries in dealing with the employment issue? Perhaps the most generalized conclusion would be that the professions of concern by governments over the employment issue have not been matched by effective actions to address it. National plans have often adopted a stated objective of improving the employment opportunities of the labor force, but the plans themselves do not reflect a coherent strategy for achieving the objective. While some elements of a plan may appear to be employment promoting, others appear to be restrictive. Moreover, the national plans appear to be statements of intent rather than a blueprint for a program that will in fact be carried out. We noted that as current conditions change during the life of the government that formulated the plan, policy decisions responded to the exigencies of the moment rather than to the dictates of the plan. While a government might begin to implement some features of the plan at an early stage of its administration, it frequently abandoned or scaled back sharply some of those early initiatives. An example of this pattern was the Colombian experience of a commitment to an expanded housing program as an employment-promotion measure only to curtail it sharply in the face of the inflationary consequences of the program and a shortfall in funds available for its continuation.

In other approaches to the employment problem we considered rural development programs and infrastructure extensions that are part of a more integrated approach to rural development or that

are designed to stand alone. Irrigation projects and feeder road construction offer a promise of increasing employment and incomes of the rural population. However, the full realization of that promise frequently was seen to depend on the provision of additional services in the form of technical assistance and credit. Furthermore, even if these rural projects succeed in increasing the productivity of agricultural units, the small size of the plots of the poorest farm households limit the possibilities of realizing absolute increases in employment and incomes sufficient to fully employ the household labor supply on their own land and to raise them out of poverty. Indeed, we noted that farm households may resist the adoption of proferred assistance because the perceived returns to increments in family labor inputs were deemed to be smaller than those obtainable from off-farm employment. Finally, we noted that a consistent policy aimed at improving the economic status of the rural population also requires that government not intervene to distort the internal terms of trade against agriculture. In the absence of economic incentives to maximize production, investment programs that seek to increase the productivity of the rural sector can hardly be expected to yield significant improvements in the employment conditions of the poorest segment of the rural population.

What does seem to be clear from our review of the Latin American experience is that policy decisions have frequently resulted in the sacrifice of employment in favor of other objectives. I do not wish to imply that policy makers were consciously aware that they were making a trade-off; indeed, they may have assumed that their decisions were not at all inconsistent with

the goal of improved employment conditions for the labor force as a whole. The desire to protect the interests of workers employed in the modern sector and to spur the growth of a modern industrial sector has resulted in numerous distortions that have served to limit the employment-creation possibilities in the modern sector. The emphasis on an import- substitution strategy to the exclusion of export promotion over most of the post-war period not only failed to exploit the employment-creating potential of exports, but also failed to resolve the chronic balance of payments problems that provided one of the justifications for pursuing that strategy.

The more recent experience of some of the countries with export promotion has provided support for the proposition that a more rapid rate of modern sector employment creation can be attained by a shift in emphasis towards such a strategy than by a single-minded adherence tc import substitution. This recent experience also suggests that the twin goals of maximizing output and employment are not in conflict as they are sometimes thought to be in "labor surplus" economies. This ought to be reassuring to those charged with the task of developing and implementing development strategies.

There are at least two other lessons that can be drawn from the experiences of the Latin American economies over the past four decades. One is that no country is likely to be able to sustain indefinitely large public expenditures directed toward the creation or maintenance of employment, particularly when the effect of such expenditures is largely transitory or does not

significantly enhance production possibilities. Another lesson that seems to be supported by past experience is that a more rapid and permanent improvement in employment conditions is likely to be achievable only within the context of a development strategy that is internally consistent and that anticipates and addresses the potential sources of bottlenecks. At the present time, a major constraint on development that must be addressed is the balance of payments. The heavy external debt that most countries have incurred will require a substantial increase in foreign exchange inflows just to service the debt and finance normal import requirements. Since the foreseeable volume of capital inflows is not likely to be great enough to satisfy most countries' foreign exchange requirements, a greater effort will have to be devoted to earning foreign exchange. Finally, a greater scarcity of capital resources for investment relative to the past decade will place a great premium on achieving more efficient growth.

The experience of the rapidly growing countries of East Asia and the more limited experience of some of the Latin American countries since the late 1960s suggest that a strategy redirected towards the development and promotion of exports is likely to produce more favorable consequences for employment than adherence to the traditional pattern of import substitution. (Donges 1976; Hsieh 1973; Tyler 1976; Sabolo 1980) Such a strategy also appears to be associated with higher rates of overall growth according to several cross-country studies. (Ram 1985; Balassa 1978; Corden 1971; Krueger 1978; Michaely 1977; Michalopoulos and Jay 1975) Of course, there are various ways in which an export-promotion

strategy can be implemented, and some are likely to be more efficient than others. For example, exports can be encouraged by a variety of direct and indirect subsidies. Frequently these are justified on the grounds that they are needed to offset the impact of overvalued exchange rates or of distorted domestic input prices on production costs of exportable goods. Unfortunately, this course can prove to be very costly. In the first place, the administration of subsidies cannot easily discriminate between those products that are and are not exportable without subsidies. By subsidizing both, the costs to governments are greater than necessary. Second, subsidies can have the effect of reducing or remove the incentive to increase the efficiency of production. As long as government can be persuaded to continue to subsidize exports, an exporter may feel little compunction to reduce his costs of production.

Furthermore, the more complex the subsidization regime, the more likely will it be that the effective exchange rate will vary widely over exporters. As a result, the marginal resource cost of earning a unit of foreign exchange will vary substantially among producers. In addition, the provision of subsidies to exporters increases the obstacles in gaining access to foreign markets since it provides a justification for imposing compensating import levies. Finally, the fact that export subsidies are likely to be more visible than are those extended under an import-substitution regime may make them more vulnerable to attack and more difficult to sustain.

An alternative way of implementing a shift in policy orien-

tation towards export promotion would seek to reduce the bias in favor of import substitution as against production for export. For as long as the existing biases ensure a high rate of profitability of investment in import-subtituting production, no matter how inefficient, it will be difficult to induce a reallocation of resources towards export production that may be viewed as having less certain prospects of profitability. A first step would be a reduction in the degree of protection afforded by most import-substitution regimes. A liberalization of trade would have the effect of increasing the competitiveness of domestic markets and reducing the profitability of protected industries. Simultaneously, it would create an incentive for increased efficiency that may allow import competitive industries to pass to an exporting status. One of the significant findings of the NBER study was that lower rates of protection had been accorded those industries that successfully made the shift in comparison with those that did not.

Exchange rate determination is one of the critical elements of an export promotion policy. Under an import-substitution regime an overvalued exchange rate provides a substantial subsidy to producers with large imported input requirements and discriminates against producers of exportables. exports. A reorientation of development strategy towards exports, therefore, would counsel the elimination of this source of bias favoring the non-exporting sector. A reduction in overvaluation would have the effect of expanding the number of products that are exportable and would increase the incentive to attain competitiveness in export markets. Furthermore, the increase in the price of foreign exchange

will change the relative prices of foreign and domestic goods in favor of the latter with favorable consequences for employment.

However, while the establishment of an exchange rate that more nearly reflects its equilibrium value is important, it is probably even more important that the authorities be committed to the containment of the real exchange rate within a very narrow range. In high-inflation countries this would imply the need for frequent mini-devaluations. In the absence of relative constancy in the real rate of exchange, one would expect it to be difficult to gain a commitment of potential exporters to the development of overseas markets, particularly for marginal exporters. If devaluation and trade liberalization are undertaken simultaneously, the gross devaluation should be large enough to yield a net devaluation after the reduction in tariff levels and subsidies. However, if such adjustments are made in a once-and-for-all fashion, this course is likely to require the possession of substantial foreign exchange reserves or the availability of foreign credits to finance any increase in imports that might follow until an increased flow of export earnings materializes. More likely, governments would choose to implement these adjustments on a gradual basis in order to avoid sudden and severe dislocations.

In short, the objective of these policy initiatives is not the abandonment of import substitution as part of a development strategy but rather the elimination of those biases which favor it over production for export. The equalization of the treatment accorded to the two sectors would have the result of narrowing

the difference between the resource cost of earning and of saving a unit of foreign exchange, thus increasing the efficiency with which resources are allocated with favorable consequences for income. Since exports have been shown to have lower capital-labor ratios than import-competing industries, an increase in the allocation of investment to export activities will result in the creation of a larger number of employments than an equal increase in investment in other manufacturing activities.

Complementing these measures to encourage exports would be the removal of distortions that raise the price of labor above its opportunity cost. We noted the finding of the NBER studies that the demonstrated comparative advantage of Latin exporters has been in goods that employ relatively low levels of skills. Since legal minimum wages have their greatest impact on the price of unskilled labor, a distortion in its price could have negative consequences for the competitiveness of labor-intensive exports and for the employment of a class of labor that is the most disadvantaged in the labor market. Restraint in fixing legal minimum wages should rebound favorably for unskilled labor in non-exporting industries as well. Minimum wages that raise the price of unskilled labor relative to skilled labor will tend to encourage the substitution of the latter for the former, again to the detriment of the most abundant class of labor. Of course, if a general wage policy encourages a more rapid increase in all wages than would be produced by the market, then an elasticity of substitution between capital and labor equal to one implies that the increases in earnings of those that remain employed will just be offset by the loss in earnings of those that are displaced by

capital.

The advocacy above of a shift in development strategy towards export promotion is likely to be viewed by many as a high-risk strategy since its success depends critically on maintenance of free access to markets in the more developed nations of the world. One can point to the resurgence of protectionist sentiment in the United States and Europe as boding ill for the export prospects of Latin America. Furthermore, it is often argued that if all developing countries were to adopt export-led development strategies simultaneously, this would result in an untenable penetration of markets in developed countries that would lead to effective barriers to trade.

While such apprehensions are not without some foundation, one should not conclude that the prospects for exports are entirely glum. After all, one can point to a remarkable increase in the exports of manufactured goods from developing to developed countries over the past decade and a half, and while some obstacles to trade have been increased, these have not sufficed to reverse the trend. Even the past two years have seen significant increases in merchandise exports of the non-petroleum exporting countries of the hemisphere. The quantum index of exports was up by almost 9.5 percent in both 1963 and 1964 (preliminary) while in value terms they were up 4 and 14 percent respectively. (CEPAL January 1985, p. 14) In any event, the developing countries must continue to exert pressure on the more developed countries to refrain from erecting further barriers to their exports. The need of the former for increased foreign exchange to

service and amortize their huge foreign debt ought to provide them with a powerful bargaining chip in negotiations with the latter.

The possibility that all developing countries will simultaneously disgorge an identical basket of goods in the markets of developed countries appears to me to be an unlikely event. The pace at which various countries can reform their strategies and effectively begin to export more will vary considerably. Furthermore, trading opportunities ought to give rise to greater specialization in production and considerable differentiation in the particular characteristics of each country's exports.

Finally, we should not overlook the fact that export baskets do not remain constant. The current basket of exports of such earlier pioneers in export promotion such as Japan, Korea, and Taiwan bear little resemblence to those of two decades ago. As a country gains experience in exporting and its industrial skills are developed, the variety of goods that are exportable increases. If more rapid economic growth is accompanied by increases in real wages, many of the goods that were competitive at an earlier stage will no longer be exportable by the more mature exporters, opening up export opportunities for those at an earlier stage in their industrial development.

While most of the discussions of export promotion emphasize the opportunities for exports of manufactured goods, those of primary commodities should not be neglected. Latin America retains a strong comparative advantage in the production of many

commodities. That exports of these have not grown as rapidly as world trade in these commodities is likely to be a result of the various distortions that have been introduced in the pursuit of industrialization. Since agricultural commodities are more labor-intensive in production than are most manufactured goods, the employment creation potential of the sector should be fully exploited. The same measures advocated above for the encouragement of labor-intensive industrial exports should serve to encourage agricultural production for export as well.

I referred earlier to the importance for employment of maintaining a growth rate in excess of increases in the labor force and in productivity. It is time to emphasize this point since the improvement in employment conditions that has accompanied past growth is not fully appreciated. I have made the case elsewhere that the growth rates of the 1960s were associated with improvements in employment conditions throughout Latin America. (Gregory 1980) Since growth rates remained high throughout most of the 1970s, except for a year or two following the petroleum price increases of 1973, it can be presumed that the improvement continued into that decade. This can also be inferred from the decline in urban unemployment rates during the 1970s as reported by CEPAL. (United Nations, ECLA 1983, p. 16)

Individual country experiences can also be cited to illustrate the employment effects of continuing high rates of growth. Mexico, for example achieved an annual rate of growth averaging about six percent from 1940 to 1980. During this period, Mexico

was able to accomodate in productive urban employments a steady stream of rural migrants and to do so at steadily increasing real wages for those at the bottom of the urban wage structure, at least since 1960 when more reliable data become available. (Gregory 1984) However, it should also be noted that during this interval, Mexico's development was probably not as severely distorted by public policy measures as that of most other major Latin American nations. Throughout the 1950s and 1960s Mexico achieved a rate of export growth that exceeded that of most of the other large countries of the region and thus avoided the recurring balance of payments crises that plagued other countries and interrupted growth. Free convertibility of the peso attested to an exchange rate that was close to an equilibrium rate. By and large, successive governments lent a large degree of continuity in the exercise of economic policy, at least until the 1970s, thus allowing for greater predictability in the planning process of the private sector. Finally, the proximity to the United States probably also limited the degree of distortion that could be tolerated. I have no way of disentangling that part of the improvement in employment conditions that is attributable to the relative absence of severe distortions and that attributable to the achievement of steady growth.

Brazil's rapid and steady growth between 1967 and 1973 can also be cited as illustrative of the improvement in employment conditions that accompany such growth. Manifestations of an improving labor market can be found in the decline in the amount of involuntary part-time work, the relatively greater expansion in "high-quality" employments, and, by the end of this interval, a

marked increase in wages in the rural areas of the rural northeast that perhaps signalled the end of a "labor-surplus" period in Brazilian development. (Morley 1982; Pfefferman and Webb 1979) This is the sequence of events that is likely to characterize all processes of improvement in market economies, though at a more leisurely pace. In the Brazilian case, it is interesting to note that the process of improvement continued after the end of the miracle in spite of the fact that the rate of increase in output fell. The continued improvement must have reflected a shift to a more labor-intensive growth strategy than that followed during the miracle years. (Morley 1982, p. 277) It also coincided with an intensification of efforts to promote exports.

In short, economic growth at a rate greater than that of population and productivity growth will yield steady improvement in employment conditions even though these may not be evident to the naked eye. Such growth almost always carries with it a reduction of involuntary underemployment and a shift within the labor force from low- to higher-productivity employments. Even if the materials returns to each class of worker remains constant, the increasing weight of the higher-productivity sectors implies an improvement in the average quality of employment.

Furthermore, the improvement has another dynamic aspect that cannot be appreciated from aggregated data, that that results from upward mobility over a worker's work life. Even if the bottom of the pyramid retains a constant size, it cannot be concluded that it represents a constant cohort of inhabitants; in fact, there is constant movement into and out of the bottom,

movement that represents improved conditions for those that exit. The surest indication of improving conditions is rising wages and earnings of workers in the informal labor market that are market-determined. This signals the end of the process of absorption of surplus labor and marks the onset of a wage structure that is shifting upwards, perhaps even with declining wage and income differentials. This is the process that has been clearly recorded in the experience of the rapid-growth economies of East Asia.

A case can be made for an employment strategy that concentrates on two main elements. The first is the maintenance of a steady rate of growth in excess of the rate of growth of the labor force and in productivity. The second is the attenuation of the distortions that accompanied the pursuit of import-substitution industrialization and the establishment of conditions favorable to the encouragement of exports. This second element is tantamount to emphasizing an increase in the efficiency with which resources are allocated and carries with it not only prospects of improved employment performance but also more rapid increases in real income.

There are several important advantages that are realizable from the pursuit of such a strategy as the central element of an employment creation policy. The first is that it minimizes the organizational and administrative requirements of most alternative approaches. Once exchange rates and interest rates are allowed to reflect their true opportunity costs, the number of administrative decisions that must be made is minimized, particularly in comparison with a typical import-substitution regime

with all of the direct controls that are necessary to contain market responses to distortions in the prices of credit and foreign exchange.

I believe that the strategy advocated here has advantages over most special "employment program" approaches. For one, it does not impose an additional permanent financial burden on the fisc. Furthermore, it may avoid some of the disadvantages of direct programmatic approaches to employment creation that suffer, among other things, from shortcomings of administration, uncertain financing, disappointing and often only temporary increases in employment, and uncertain economic returns.(22) A final advantage is the self-reinforcing character of the broad strategic approach to development and employment promotion. Once the shift in strategy has been made and the process of resource allocation has been redirected, its effects become cumulative as new backward and forward linkages are forged and producers respond to the new set of incentives facing them in the market.

Compared to the potential of this broad strategic approach for promoting employment, that of liberalizing various provisions of the labor codes that are considered restrictive is likely to be quite small and of a once-and-for-all nature. We have seen that such provisions do not stand in the way of very substantial increases in employment in countries that shift their policy emphasis away from import-substitution towards export promotion. Furthermore, it is not at all certain where the incidence of these provisions rests, for that depends on the value they are perceived to have to workers that are the presumed beneficia-

ries. If a large part of the cost is successfully shifted back to workers, little would be gained by amending the codes.

Unfortunately, this is an area in which we have very limited information and in which speculation abounds. It is likely that the risk of incurring large costs stemming from the severance provisions of the labor code, for example, will vary substantially from one employer to another depending on the degree of variance in the rate of output over time. However, it may very well be that the true costs imposed by job security provisions are not generally accurately perceived by employers because of the high degree of uncertainty attached to them and that they overreact by carrying the substitution of capital for labor further than is optimal. Therefore, one would counsel that countries considering expansion or revision of their labor codes tread with caution in defining restrictions on employers' discretion to lay off or discharge employees.

Much the same can be said of payroll taxes imposed to finance social security benefits of various kinds. If the benefits are viewed by workers as worth their cost, then the full burden is shiftable back to workers, and the taxes would not be distortive of the price of labor. What this counsels, then, is discretion in imposing payroll taxes to finance programs that have only marginal value to their intended beneficiaries. Such programs are better left to be financed out of general revenues if they are to be financed at all.

If legal minimum wages have been established above the

market price for unskilled labor, so that the incidence of payroll taxes cannot be shifted back to that class of workers, it would seem that the prudent course to follow would be to allow the legal minimum to fall back towards the market wage. This would appear to me to be preferable to the replacement of payroll taxes by a value added tax that may end up having more serious consequences for employment than do payroll levies. The decline in the legal minimum would also have the additional virtue of reducing the price of unskilled labor relative to other labor and capital substitutes and encourage a faster absorption of this plentiful and problematic class of labor.

Few treatises on "the employment problem" in Latin America fail to refer to the urban informal sector. Its capacity to absorb labor is widely recognized at the same time that the conditions of employment are deplored. Too frequently it is viewed as an embarrassment that no modern country should have to suffer. The questions that are often posed to plicy makers is, "how can productivities and earnings in the informal sector be improved? What role should the informal sector play in a development strategy?" It is these questions that I now wish to address. But first I wish to preface my "prescriptions" with a general comment about my perception of this sector.

I view the informal sector as capable of considerable dynamism and as one that serves a very useful economic function and does so very efficiently. After all, it probably comes much closer to producing under conditions that more closely reflect the true opportunity cost of the factors of production it employ

than does the highly protected modern sector. Informal sector producers enjoy little if any tariff protection, already pay high interest rates for the available credit, pay market-determined wages, and enjoy no preferential access to foreign exchange for imports of machinery, parts, or material inputs. Yet they survive by making available goods and services at prices that cannot be effectively matched by larger, often heavily subsidized, firms of the modern sector.

Since entry is easy it provides a low-cost breeding and testing ground for native entrepreneurship; over time, the more capable of these can preside over expanding businesses, financed largely by internally generated savings, and may even make a transition to a more formal status. Similarly, the sector serves as a training ground for new entrants to the labor force who pass through on their way to better jobs or provides employment to those whose limited availability for full-time employment renders them ineligible for formal sector jobs.

Because the informal sector is such an important source of employment, advocates of an active employment policy often focus on this sector as one deserving of special attention. Most proposals center on the expansion of credit availability to the sector and the provision of technical assistance as a means of increasing the productivity and the wage-paying capacity of informal enterprises. Occasionally proposals are advanced to band informal producers into cooperative-type organizations for purposes of marketing or the purchase of material inputs. (PREALC 1978, Chapter 4) Some governments in the region have established orga-

nisms to provide services to the urban informal sector. However, I know of no studies that have evaluated the success of these programs. Given the large number of small enterprises and the diversity of their products and production methods, I would expect the impact that offical agencies could have to be very modest not only because of limitations of financial resources but also of adequate numbers of sufficiently skilled professionals.

Such proposals to increase the volume of resources devoted to the informal sector through government intervention seem to depart from a view of the informal sector as technologically static and stagnant. I am not convinced that this is the case. In at least one country, Mexico, I have found evidence of considerable dynamism in the informal sectors over a 15-year interval, 1960-75, particularly during the last ten years of that interval. In the industrial sector, for example, I compared the rates of increase in capital per worker, value of production and net value added per worker, and of remunerations per worker in establishments in different size strata. I considered stablishments with no paid employees or with one to 5 employees to be representative of the informal sector. All the other strata were considered formal. Only in the first five-year interval, 1960-65, did these various measures show widely disparate rates of change. Thereafter, one notes a convergence of rates of change with and even a slight inverse relationship between these and enterprise size. In the service sector, the rates of increase in sales receipts per employee and in remunerations were also inversely related to enterprise size. (Gregory forthcoming)

It should be recognized that these data probably understate the degre of dynamism of the sector, for the censuses from which the data were extracted do not follow a constant cohort of enterprises over time. Thus, some unknown number of informal enterprises in one census period may have passed over into a larger-enterprise stratum. In any case, what is impressive about these data is that the informal sectors appear to have at least kept pace with the formal in spite of the absence of any outside assistance, suggesting that they are not deprived of talent and resourcefullness. How typical the Mexican experience has been of that in other Latin American countries, I do not know, but I would be surprised if it turned out to be unique.

Obviously, I would have no quarrel with programs that could increase ease of access to resources by a sector that has shown itself to be a very efficient user of those it has. However, just as rural development institutions created to funnel credit and technical assistance to small farmers end up servicing primarily medium-sized or even large farmers, so would I expect analogous institutions in urban areas to have only a limited impact on the small enterprises of the informal sector.

Perhaps the easiest and least costly way to help the informal sector is to stop favoring the formal in a discriminatory fashion. To the extent that the formal sector receives preferential treatment at the hands of the state, resources will be diverted to that sector at the expense of the others and its competitive advantage over the informal sector enhanced. If the former were faced by prices for capital goods and foreign ex-

change that reflected their social opportunity costs, as does the informal sector, that competitive advantage would be diminished. If this results in an increased profitability in the informal relative to the formal, one might expect to see a greater flow of resources to the former. In short, I would suggest that before large programs of direct assistance are mounted, a course be tried that requires no outlays by the central government and does not employ scarce skills that can fruitfully be employed in the private sector.

VIII. The Implementation of Policies More Favorable to Employment and Institutional Obstacles Thereto

We economists are much more adept at dispensing advice on what should be done as opposed to dwelling on whether it can be done or on how it should be done. I can claim no special insights born of experience as a government administrator or legislator. Thus, I can offer only some general observations that strike me as reasonable.

I should, at the outset, however, admit to biases that will have already become obvious from the prescriptions that I have advanced thus far. I prefer solutions that tend to minimize the amount of administrative intervention and ad hoc decision-making that affect the allocation of resources. I prefer solutions that are self-policing and self-reinforcing over those that require administrative controls and surveillance. Simplifying changes are preferred over complicating changes. Conventional neo-classical criteria of efficiency for purposes of guiding resource alloca-

tion are preferred to others. These biases derive, not from a conviction that they will always yield optimal results, but rather that they will come closer to the optimum than have the interventionist alternatives that have been the rule throughout Latin America. The question that remains, then, is, what are the chances that a change in direction and style of economic management can be realized?

It appears to me that the objective circumstances facing most Latin American countries at this moment are such that they are likely to be more receptive to a reorientation of development strategy in the direction that I have advocated than they have been in the past. In part, this stems from a widespread disappointment with the results of past policies in promoting sustained growth and a more equalizing distribution of the benefits of growth. A more immediate explanation of this receptivity is the absolute necessity to address the balance of payments and external debt problems without sacrificing growth and employment objectives unduly.

A successful response requires an increase in foreign exchange earnings over past levels which in turn implies a need to increase the volume of exports. To be sure, export promotion can be undertaken within the past framework of an import-substitution regime by providing subsidies large enough to offset those obstacles to exports that originate in the preservation of various price distortions. However, I have already suggested some reasons that make this course costly and subject to retaliations by trading partners. Furthermore, there have been strong pressures

on countries, originating with external creditors, to liberalize their economies in return for further credit concessions. Finally there is a growing body of experience in the world that suggests that countries following outward-oriented development strategies and that allow considerable scope for market forces have been more successful in achieving growth in output, employment, and wages than have those following a protected, inward-looking strategy. Within Latin America as well, there have been some encouraging results associated with cautious shifts in strategies that have occurred in recent years. It is not unreasonable to expect that the examples of the more successful experiences will become more widely appreciated and will prove indicative for policy makers in Latin America.

While there may be strong pressures on countries to more actively promote exports, there are also likely to be enormous pressures against an approach that advocates the liberalization of the domestic economies. Those sectors that have profited greatly from the preferential treatment of the past will certainly resist any changes that threaten their profitability or even their continued survival. Since their losses are more apparent than the potential gains of liberalization to other parts of the economy, their political opposition is likely to be more effectively organized and brought to bear.

One can also expect resistance to change from a government bureaucracy that has played an active role in the economy, providing administrative decision-making over a wide range of economic

transactions. In an economy in which price distortions are minimized, the decision-making role of the bureaucracy is correspondingly reduced. Few are those who will willingly acknowledge that they are expendable.

But probably more important is the absence of broad and strong intellectual and political support for an approach that minimizes the interventionist role of government in the economy. Even the private sector that so frequently criticizes the government's economic policies is unlikely to espouse reforms that would leave it exposed to the risks of market forces. Rather it prefers intervention that secures its existence and profitability. (One does not have to look to Latin America to find this same tenacious advocacy of self-interest within the private sector. Many of the strongest advocates of private enterprise in Western market economies advocate competition in all but their own markets.)

In Latin American political and intellectual circles one will find few champions of free markets. In part, this may reflect ideological commitments, but it also seems to reflect a conviction that market forces cannot be expected to work and to lead to desirable outcomes in their countries. This conviction has been shaped by observations in the past that associate the reliance on free markets with disastrous results. The collapse of world commodity markets during the 1930s left an indelible print on those who were to become the policy makers of the subsequent three to four decades.

Furthermore, free markets are associated with the orthodox policies that are implemented in times of economic crisis, often at the behest of international lending agencies. The sudden introduction of these liberalization measures do result in large dislocations and may have untenable consequences for income distribution in the short run. Politically, the short-term consequences of orthodox stabilization programs are disastrous, and few governments are likely to opt for political suicide. Finally, the experience of the Chilean experiment in orthodoxy during the last ten years may be viewed by many as a monument to failure, and an extremely costly one at that,

On the other hand, there are some encouraging signs of change. Over the past ten years, there has been an increasing awareness in Latin America of the high cost of the distortions that were built into the economy during the drive to industrialize. More voices are now being heard advocating a reduction in those distortions and the assignment of a greater importance to market signals. However, one must expect a lag between the appearance of a new analysis or diagnosis and prescription and its acceptance and implementation by policy makers. One can observe cautious movements by governments towards a greater reliance on market signals. The problem for governments, however, is how to weather the political storms that can erupt before the desirable anticipated long-run consequences are felt. Freeing agricultural markets to encourage a more productive and efficient agricultural sector may prove salutary in time, but the immediate increase in food prices may bring with it riots in the streets and a severe political challenge to government.

Thus, it is too much to expect that governments can move quickly to implement liberalization policies. The need to limit the disruptive effects of a reorientation of economic policy within politically acceptable limits will require gradualism in its implementation. Continued progress in a liberalizing direction will require the development of a growing constituency that becomes convinced of its viability and beneficial effects.

The developed countries of the world can encourage that process and improve its chances of success in at least two ways. First, they must be prepared to allow a greater flow of imports from Latin America. One can hardly advocate a reallocation of resources toward export industries unless these can be assured of access to markets. Certainly, the voices of protectionism in the highly industrialized countries do little to reassure those doubtful of the efficacy of a more outward-oriented development strategy or of a greater role for markets.

Second, international financial institutions can encourage the process by according a more sympathetic hearing to those countries that are implementing policies consistent with a gradual reduction in those distortions that are viewed as inhibiting growth and an efficient allocation of resources. This may require increased credits to cushion temporary balance of payments problems associated with liberalization. Or it may mean the restructuring of external debt on more favorable terms. Foreign aid programs can also make similar distinctions among countries to be assisted.

This section has dwelled on growth strategy as the centerpiece of an employment strategy because I believe it is the most important and promising way to approach the employment question. The improvement of employment conditions requires the long-run perspective that is inherent in a development strategy. This does not mean that other measures cannot contribute to the alleviation of hardship in the short run. However, from our review of government efforts to adopt and implement employment-enhancing policies and programs, we have seen that these have been of limited effectiveness for reasons already set forth. I have little reason to believe that governments will be able to overcome the organizational, administrative, and financial obstacles to the effective planning and execution of employment-creating programs at a micro level except in limited cases. Since energy and political capital are scarce commodities, I would prefer to see them applied to the development of long-run solutions that have a large and lasting impact.

NOTES

1. While the evaluations of employment conditions cited here are those of international agencies, similar evaluations can be found in national publications, both official and other, of many of the Latin American countries.

2. This method is acknowledged to contain two biases that are partially offsetting. On the one hand, salaried workers employed in small rural or urban enterprises at low levels of productivity are excluded. On the other, among the included self-employed are some who use "modern" production techniques and enjoy incomes that would not qualify them as truly underemployed. (p. 30) Since the latter are not believed to be more numerous than the former, any bias that exists in the measure of underemployment is likely to err in the direction of understatement.

3. Poverty is a function of family income and size and cannot be inferred on the basis of the earnings of any one individual.

4. The government also achieved considerable progress towards other social and economic objectives. School enrollments expanded rapidly as did the number of public housing starts, free milk distribution was extended from those six years and younger to all through age 15, and land reform was greatly accelerated. The area of public ownership and/or operation was also extended.

5. The deterioration of the balance of payments also reflected a drop in the price of copper from unprecedented levels of 1970. Furthermore, supplier credits and private investment declined during 1971.

6. Considerable difficulties are encountered in the determination of real wages because of disparities in the available price indeces. That published by the government was based on offical prices of many goods in the basket. Since these goods were increasingly unavailable at official prices, the offical price index understated the degree of inflation. The University of Chile's Instituto de Economia published an index that tried to capture the actual prices paid for goods. The real wage changes cited in the text are derived by use of the latter index. For a detailed discussion of this problem, see World Bank 1980, pp. 281-84.

7. The discussion of the Colombian experience that follows draws heavily on the work of Oscar Marulanda Gomez (1977).

8. For a critical review of the PIN see Hopkins (1982), pp. 318-27.

9. The commentary by Pereira and Zink does not indicate whether the failure of domestic supply to respond was traceable to capacity or other domestic bottlenecks or to a shift of demand to imported goods, although the resurgence of inflation suggests the former.

10. Mayer offers a particularly harsh evaluation of the effects of the development efforts undertaken in the Northeast. According to him, poverty increased, as did unemployment and underemployment, though no statistical data are offered in support of these assertions. He notes that net job creation over the 1960-74 interval amounted to only 5 percent. (1984, p. 24) Since data cited by Morley reported an increase in employment during the

1968-73 interval alone of over 20 percent, Mayer's conclusion should be viewed with some skepticism.

11. The discussion that follows is based on the report of an evaluation team commissioned by the Rural Development Division of the World Bank. (1979)

12. In the Chilean reform, the expropriated large farm units were to be kept intact as cooperative enterprises, or asentamientos, for a minimum of five years, after which the members could decide whether to continue to cultivate the land in common or to divide it into individual plots.

13. However, it cannot be assumed that employment generated by road construction necessarily provides an accurate measure of net employment generation. Cases have been reported of rural highway construction that is accompanied by a reduction in agricultural production during the construction phase as rural workers abandon their fields for the more remunerative construction activities. (Schultz 1956, p. 375)

14. The countries included in PREALC's survey were Bolivia, El Salvador, Brazil, Ecuador, Panama, and the English-speaking islands of the Caribbean.

15. In the case of the elasticity of substitution, a coefficient of one would imply an inverse change in employment in the same proportion as the change in the wage only if the price elasticity of demand for the final good is unity and the underlying production function is Cobb-Douglas.

16. For a demonstration of the effects of a value added tax, please see the Appendix.

17. The prohibition of night work for women extends only from 10 P.M. to 5 A.M. even though the shift premium is in effect for a full 12-hour period.

18. Illustrative of the severance payment provisions are those of Mexico, Colombia, and Panama. In Mexico, the labor code provides that for workers with one year of service or more, a separated employee will be entitled to an allowance equal to six months pay for the first year of service plus 20 days' pay for each additional year. Lesser penalties are levied for workers with less than one year of employment. (Ley Federal de Trabajo, Articles 48-50) In Colombia, workers are protected after a probationary period of only 60 days. After that, dismissal requires payment of a "high, perhaps very high, indemnity." (ILO 1970, pp. 200-01) In Panama, a worker with two years of tenure becomes eligible for an indemnity equal to 8 percent of all wages earned since his employment commenced in an enterprise. (PREALC 1980, pp. 45-47)

19. Import competing industries were subdivided into three parts for purposes of the study. Non-competing imports are those for which no domestic substitutes exist within the relevant price range. Competitive import-competing imports are those imports for which there is also domestic production. Finally, protected import-competing goods are those that can be produced domestically only under the protection afforded by the trade and payments regimes. (Krueger 1980, pp. 14-15)

20. The estimates of labor inputs included both those directly involved in the production of the final good as well as the indirect labor content of inputs uned in the production of these goods. In the Brazilian case, however, labor inputs in agricultural commodities that served as inputs in the production of final goods were not included, thus imparting a downward bias to the labor coefficients. On the other hand, the authors assumed that all inputs were domestically produced, thus imparting a bias in the opposite direction.

21. Some of the problems that might be expected to arise when the equipment of a plant is drawn from a wide variety of sources rather than originating in a single integrated package are illustrated in an article appearing in the Wall Street Journal about the Lazaro Cardenas steel works in Mexico (January 27, 1981) The plant drew its various components from different countries out of a desire to diversify sources of supply and to select the "best" components available. After four years of operation, however, the plant was still experiencing major production problems many of which stemmed from the difficulties of meshing machinery from different sources into a smoothly integrated process. The scattered character of suppliers also posed problems and delays when machinery broke down and spare parts had to be obtained.

22. This comment is not intended to suggest that public construction programs have no place in the development strategy. Obviously, the provision of expanded infra-structure is a necessary concommitant of the development process. In poor countries with limited resources it would appear that, if the long-run economic welfare of society is to be maximized, the selection of projects should adhere to conventional cost-benefit criteria. And, surely, there is usually no shortage of projects that can qualify according to such criteria. (If economically viable projects cannot be identified within the public sector, the government could do worse than to make these unused resources available for investment within the private sector.) It has been suggested that in evaluating projects, the benefits should be defined to include an explicit recognition of the value of the employment created. Presumably this is advocated in order to justify public expenditures on projects that would not otherwise be considered economically justifiable. Essentially, this represents a way of dishuising a transfer payment to workers at the expense of the rest of society. If society wishes to alleviate the poverty of a particular group, it might be preferable to make a cash payment to its members and not waste additional resources that could make a larger positive and permanent contribution to the productivity of the society. The proposal would seem to have much in common with emergency public works programs that usually end up as largely a transfer payment mechanism rather than a useful investment program.

Finally, if the employment created by an expenditure, public or private, has value in and of itself, it does so no matter where it is created. If to the benefit side of each project in an array of possible alternatives one adds the value of employment per se, the ranking of projects by their benefit-cost ratios may be little changed unless they vary greatly in their labor intensity. I pass over, in this comment, how the value inherent in employment itself is to be determined since this is not a question an economist qua economist can address with any confidence.

APPENDIX

A simple numerical example is offered as illustrative of the effects of payroll tax under the assumption that the full incidence is shifted to worker beneficiaries as opposed to those of a value added tax.

Assume an economy with two sectors, a formal sector producing X and an informal producing Y. Both sectors employ two factors of production, labor (L) and capital (K). A Cobb-Douglas production function characterizes both sectors. A GNP of $1200 is equally divided between the two sectors. Finally, the price elasticity of demand for both X and Y is equal to one. Thus,

$$GNP = P_x X + P_y Y = \$600 + \$600 = \$1,200.$$

The production functions of the two sectors are given,

$$X = L^{.5} \cdot K^{.5} \qquad \text{and} \qquad Y = L^{.75} \cdot K^{.25}$$

Prior to the introduction of a social security system and taxes to finance it, the following will hold:

$$WL_x = \$300 \qquad WL_y = \$450 \qquad WL_x + WL_y = \$750 \qquad \text{Tax} = 0 \quad \text{Benefits} = 0$$

$$P_k K_x = \$300 \qquad P_k K_y = \$150 \qquad P_k K_x + P_k K_y = \$450$$

where W is the wage rate and P_k is the price of capital.

Case 1.

A payroll tax of 40 percent is levied on the wage bill to finance a social security system. The tax is levied only on the formal sector, and the beneficiaries include only those workers employed in that sector. The incidence of the tax is fully shifted to workers in the formal sector. Then, in the formal sector,

$$W = 0.5 \frac{X}{L} (1 - 0.4) P_x \text{ and cash wages of } W \cdot L = 0.5 (1 - 0.4) X P_x .$$

Substituting for XP_x, we have cash wages of $W \cdot L = \$180$ and a tax of $120 for a total wage bill of $300.

Summarizing for sector X and the unchanged sector Y, we have

$$WL_x = \$180 \qquad WL_y = \$450 \qquad WL_x + WL_y = \$630 \qquad \text{Tax} = \$120 \quad \text{Benefits} = \$120$$

$$P_k K_x = \$300 \qquad P_k K_x = \$150 \qquad P_k K_x + P_k K_y = \$450$$

Sector X workers receive $120 less in cash wages but receive an equal amount of benefits in kind, and the wage bill remains unchanged.

Case 2.

The social security benefits are to be financed by a levy against X such that the same total will be received and disbursed by government to the workers in sector X, or a tax of \$120. This will require a 20 percent tax on the output of sector X. The effect of the tax is to reduce the marginal products of both factors of production in X. Since the wage must equal the marginal product of labor and the price of capital its marginal product, we have

$W = 0.5 \frac{X}{L} P_x(1 - 0.2)$ and $P_k = 0.5 \frac{X}{K} P_x(1 - 0.2)$. So,

$WL_x = 0.5(1 - 0.2)XP_x$ and $P_kK_x = 0.5(1 - 0.2)XP_x$

Summarizing for the two sectors

WL_x = \$240 WL_y = \$450 $WL_x + WL_y$ = \$690 Tax = \$120 Benefits = \$120

P_kK_x = \$240 P_kK_y = \$150 $P_kK_x + P_kK_y$ = \$390

The total wage bill is now greater as compared with Case 1 and the returns to capital are smaller. Note that the labor in sector X now receives cash wages of \$240 plus benefits valued at \$120 for a total return of \$360. The gain comes at the expense of capital.

The results presented here are for short run only. Given mobility of factors of production, capital will move from sector X to Y, depressing the returns to capital there. Labor would move toward X depressing the wage there and raising it in Y. In this way the burden of the tax is spread over capital in both sectors and the gain to labor will also be shared in both sectors.

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