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CENTER DISCUSSION PAPER NO. 337

THE INFLUENCE OF THE URBAN INFORMAL SECTOR ON ECONOMIC INEQUALITY

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## THE INFLUENCE OF THE URBAN INFORMAL SECTOR ON ECONOMIC INEQUALITY

Victor E. Tokman

### 1. The Main Hypothesis

The shift of the labour force from agriculture to non-agricultural sectors would affect the secular income structure, widening inequality in the early phases of transition from pre-industrial to industrial economies, becoming stabilized for a while and narrowing in the later phases (Kuznets, 1955). This behaviour is expected as the result of both a greater degree of inequality and higher incomes per capita prevailing in the receiving sector. According to Kuznets' estimates, given the previous facts, inequality should increase until the weight of non-agricultural sectors reaches 60-70 percent of the total labour force.

The previous analysis implicitly assumes that labour movements occur in a two-sector framework, while one of the main characteristics of the process of growth of less developed countries seems to be the existence of a significant and non-disappearing urban informal sector. This would require changes in the analysis to allow for a more complex intersectoral mobility, since most of the agricultural labour force seems to enter into the urban economy through the informal sector (PREALC, 1978). Some of them stay for all their working life, while the rest shift to more modern occupational positions.

The presence of an important urban informal sector affects the present distribution of income and its evolution. On the one hand,

income distribution within the sector is expected to be more egalitarian than that prevailing in urban modern activities. This can be so as a result of higher competition between units within the informal sector, as well as the mechanisms of surplus distribution which prevail inside the productive units. One can, however, expect that these trends would still imply a higher degree of inequality than in the agricultural sector, but the transition from pre-industrial to industrial economies will thus have smaller effects on inequality. On the other hand, the evolution of the employment structure in less developed countries is showing that the share of the informal sector in the urban labour force is not decreasing and, as a consequence of rural-urban migrations, its share in the total labour force is increasing (Tokman, 1979). The employment trends are combined with increasing income differentials between the modern and informal sectors. As a result, although inequality during the first phase can be smaller than that anticipated by Kuznets, it could indeed increase in the process of growth and postpone for a long period the expected improvement in income distribution.

Some of these issues will be tackled in this paper. For such a task we will follow Stewart's (1978) methodology trying to analyze the system of payment prevailing in the urban informal sector. The rules governing income determination within the sector will be discussed in the following three sections. The rules governing access to complementary resources will be examined in the fifth section, while the rules governing capital accumulation and organization of production will be considered in the sixth section. Finally, an attempt will be made to analyze the implications of the system of payment prevailing in the informal sector on the degree of inequality and its evolution.

## II. Market share: Nature and magnitudes

To analyze how incomes are determined in the informal sector<sup>1</sup> one has to understand first, how the share of the sector in total income is determined and second, what are the conditions of entry to the sector. The former aspect is linked to the type of interrelationships which prevail between the informal sector and the rest of the economy, while the latter is related to the degree of heterogeneity which can be found within the sector.

The discussion about the kind of intersectoral links which prevails presents a diversity of approaches in the literature.<sup>2</sup> They vary from assuming dependency and exploitation (Quijano , 1974; Bienefeld, 1975; Gerry, 1974; Bose, 1974) to the assumption of the existence of benign relationships (ILO, 1972; Mazumdar, 1976; Sethuramian, 1975). The former approach sees the informal sector as the result of subordination prevailing both at international and national levels. Under this approach the market for informal sector activities is subordinated, residual and without possibilities of expansion. It is argued that, given the inequalitarian international economic system, the possibilities of accumulation of less developed countries are restricted because increases in productivity tend to be concentrated and retained in developed countries, while the smaller increases registered in developing countries are transferred by different mechanisms from terms of trade to technological transfer and transnational corporations. In turn, international dependence generates an heterogeneous internal productive structure due to the concentration of technological change in modern activities and the limited capacity of diffusion derived from the low income elasticity for wage goods of those who benefit from such process

and the labour saving bias of the new technology. This process gives place to an informal sector which does not create surplus, or if it does, its surplus is extracted by either labour exploitation derived from the existence of a labour surplus or by unfavourable terms of trade. In both cases the market for the informal sector is seen as a subordinated one, since the prices for the goods and services produced as well as the size of the market are determined outside the sector without possibilities of influencing it from the informal productive units. Besides, as surplus is not created, the size of the market for the sector will continuously decrease.

The second approach assumes that informal activities are complementary to those of the modern sectors and that they will benefit from output expansion. Complementarity is derived from the efficient use of resources available, since it uses intensively labour which is abundant and does not require too much capital or foreign exchange presenting comparative advantages in relation to similar activities developed in the modern sectors. On the other hand, the informal activities play an important role in different aspects of the economic process mostly in the distribution of goods and services, in transportation of persons, but mainly of commodities and in the supply of credit. This type of interrelationships will imply that the market for the informal sector will grow pari passu with the economy, while price determination will depend on the organization of production. As surplus can be created, the informal sector under this approach can increase its size either by autonomous growth or by induced expansion of the overall economy.

Subordination at the international and national levels is the

characteristic of underdevelopment and the informal sector analysis is one way to look at a more comprehensive phenomenon. The existence of subordinated relationships would be accepted even by those who support that complementarity relationships predominate. The problem is to determine how strong is the subordination and whether there is room left for evolutionary growth.

Although a subordinated relationship with the rest of the economy will prevail for the informal sector as a whole, some degree of autonomy is expected not only because it internally supplies its own demand for most manufactured goods, but mainly because of the importance of informal commercial activities and second-hand goods. On the other hand, the subordination of the sector as a whole is the result of different processes occurring within it. In this sense, those informal activities which are presently operating in oligopoly markets should be distinguished from those where that is not the case. This division will generally, though not always, coincide with the breakdown of informal activities according to type of product (manufacturing goods, personal services, and services connected with distribution and finance).

Markets and price determination for those informal activities already operating under oligopoly conditions will be subordinated to the decisions of the oligopoly firms. The evolution of this type of market passes through different phases where informal activities will expand or contract depending on the rhythm of demand expansion, minimum scale of operation for different size of establishments, economies of scale, etc. Given their position in the market, they cannot benefit from short-term extraordinary profits and in the longer run they will tend to lose markets. This is the present or future case for most informal

manufacturing activities.<sup>3</sup>

There are other informal activities, mainly personal services, where large concentration seems unlikely in the medium run. Technological change in these activities is more gradual and their subsistence in economies of higher income levels allow to anticipate their expansion. However, income improvements based on productivity changes are not likely to occur.

An intermediate case is that of informal commerce activities. Technological change within this activity is also gradual and concentration trends are slower. In addition the factors which determine the survival of informal units under oligopoly conditions are very much present in this case. Market imperfections, especially demand behaviour at low income levels, introduce a sort of product and geographical differentiation which ensures the permanence of these activities for longer periods than, say, informal manufacturing activities. Location, owner-customer personal relationships, credit, infinite possibilities of product subdivision, permanent presence because of inexistence of "business hours", etc., are factors which allow them to maintain a share in the overall market. Indeed, many of these factors are linked to insufficient purchasing power and, in the long run, the introduction of supermarkets will imply similar conditions as the case of oligopoly markets. They are, however, entangled with cultural patterns which make changes in consumption patterns more difficult, as is well illustrated by the development of these activities in economies with higher levels of income.

To sum up, the different type of interrelationships that a group of activities within the informal sector has with the rest of the economy

will determine its share in total income and its evolution. Given the previous analysis, only normal profits can be expected in most of the informal activities, while a diminishing trend of the share of the informal sector's output in the total can be envisaged in the long run. Such a trend could not be monotonous, and its rhythm is difficult to forecast given the mechanism of resistance which exists.

In order to have an idea of the quantitative characteristics of the informal sector and its interrelationships, it is necessary to estimate the balance of payments position with the rest of the economy. This we have done for Chile and Mexico around 1970 to illustrate the methodology and type of results that can be expected.<sup>4</sup>

The urban informal sector in both countries accounts for around 40 percent of the urban labour force or between 27 and 22 percent of the total labour force.<sup>5</sup> Its share in urban value added varies between 20 and 13 percent and as a consequence, output per person employed in the sector is .57 and .44 of total output per person and .44 and .33 of urban output per person. That is, income differentials are, on the average, around 1:2 in relation to the total economy and 1:3 in comparison to the rest of the urban sector (see Table 1). Manufacturing industries in both cases account for 23 percent of informal sector employment, while personal services and commerce activities generate around 70 percent of total employment and 60 percent of the value added by the sector. It must be noted that the informal sector contributes significantly to employment and output in most of the urban economic activities, being particularly important in commerce where it accounts for 57 percent of employment and 34 percent of value added in Chile and 58 percent of employment and 22 percent of value added in Mexico. In

Table 1. Employment and Value Added by the Informal Sector in Chile and Mexico,  
circa 1970 (Percentages)

	Chile		Mexico	
	Employment <sup>a</sup>	Value Added <sup>b</sup>	Employment <sup>a</sup>	Value Added <sup>b</sup>
Food, beverages and tobacco	21.2	6.2	35.7	6.4
Textiles, shoes, clothing and leather	47.8	20.4	43.4	7.8
Wood, cork and furniture	44.4	19.2	51.5	20.5
Non metallic minerals	15.7	2.0	46.0	9.6
Metallic products, machinery and transport	28.0	14.0	27.7	8.4
Other industries	37.9	20.4	26.3	7.0
Total manufacturing industries	(32.3)	(12.0)	(37.2)	(8.5)
Construction	29.4	17.6	30.9	10.4
Personal services	44.9	24.8	42.5	10.4
Commerce	57.3	34.4	58.5	25.6
Transport	20.0	11.2	28.7	17.3
Total informal sector				
as percentage of urban total	39.9	19.7	39.3	12.8
as percentage of total economy	27.5	15.7	21.8	9.5

Sources: Chile (Tokman, 1978), Mexico, estimates on the basis of national statistics.

<sup>a</sup>On total employment of each sector.

<sup>b</sup>On total value added of each sector.

manufacturing industries its share in employment varies between 32 and 37 percent and it generates between 12 and 9 percent of the output of the sector.

The informal sector should be seen neither as a completely integrated nor as an autonomous sector, but rather as one with significant links with the rest of the economy while simultaneously it also presents a considerable degree of self-containment. Exports of the informal sector as percentage of total goods and services available for the sector amount to 45 and 58 percent, while imports constitute between 36 and 61 percent. Exports from the sector are mostly constituted by personal services, but in addition between 50 and 60 percent of consumer goods produced by the informal sector are sold to the rest of the economy. The main imports are raw foodstuffs from the agricultural sector and processed foods and inputs from the urban formal sector. The degree of dependence of consumption on imports is higher than that registered for inputs.

The balance of payments position in the case of Chile registers a surplus in current account which amounts to 20 percent of the informal sector exports, while the opposite occurs in Mexico where a deficit of 6 percent of exports is estimated. In the former case the informal sector is transferring resources to the rest of the economy, while in the latter it is a net receiver, although in an insignificant quantity. The sectoral disaggregation of the balance of payments shows a similar pattern for both countries, a deficit with the agricultural sector and a surplus with the rest of the urban activities. The informal sector is then playing an intermediary role in the resource transfer from the agricultural to the urban modern sectors (see Table 2).

Table 2. Balance of Payments of the Informal Sector in Chile and Mexico, circa 1970

	Chile		Mexico	
	million of escudos	percent- ages	million of pesos	percent- ages
1. With the formal sector				
<u>Exports</u>	<u>2581</u>	<u>100.0</u>	<u>27.153</u>	<u>100.0</u>
Intermediate goods	615	23.8	7.694	28.3
Consumption goods	1878	72.8	18.630	68.6
Capital goods	88	3.4	829	3.1
<u>Imports</u>	<u>1795</u>	<u>100.0</u>	<u>21.853</u>	<u>100.0</u>
Inputs	344	19.2	8.566	39.2
Consumption goods	1451	80.8	13.287	60.8
<u>Surplus</u>	<u>786</u>	<u>30.5<sup>a</sup></u>	<u>5.300</u>	<u>18.3<sup>a</sup></u>
2. With the agricultural sector				
<u>Exports</u>	<u>457</u>	<u>100.0</u>	<u>1.830</u>	<u>100.0</u>
Intermediate goods	339	74.3	850	46.4
Consumption goods	118	25.7	980	53.6
<u>Imports</u>	<u>642</u>	<u>100.0</u>	<u>8.828</u>	<u>100.0</u>
Raw materials	93	14.5	1.693	19.2
Consumption goods	549	85.5	7.135	80.8
<u>Deficit</u>	<u>-185</u>	<u>-40.6<sup>a</sup></u>	<u>-6.998</u>	<u>-24.2<sup>a</sup></u>
3. Total balance of payments				
<u>Exports</u>	<u>3038</u>	<u>44.7<sup>b</sup></u>	<u>28.983</u>	<u>58.1<sup>b</sup></u>
<u>Imports</u>	<u>-2437</u>	<u>35.9</u>	<u>-30.682</u>	<u>61.5<sup>b</sup></u>
<u>Balance</u>	<u>601</u>	<u>19.8<sup>a</sup></u>	<u>-1.699</u>	<u>-5.9<sup>a</sup></u>

Sources: Chile (Tokman, 1978). Mexico, estimates on the basis of national statistics.

<sup>a</sup>As percentage of exports.

<sup>b</sup>As percentage of available goods and services (production plus imports minus exports).

Given the dependence of the informal sector a declining trend in its terms of trade should be expected. Although it is clear that both prices and markets are determined outside the sector, its balance of payments is diversified and considerably diverge from the situation confronted in the international dependence analysis. An examination of income elasticities of exports and imports show that in Chile and Mexico the elasticity for exports is twice that registered for imports. This is partly the result of registering a structure of trade flows which differs from that of the country as a whole, since low income elasticity items like agricultural products and raw materials are imports for the sector and partly because of the high elasticity which characterize the demand for domestic services.<sup>6</sup> The latter elasticity which suggest a large market for this kind of informal activities will not necessarily imply higher incomes given the existence of surplus labour. On the other hand, basic services (water, electricity, etc.) which also constitute a significant import of the sector are subject to public tariff policies which often involve a subsidy component. Weights, elasticities and prices of these balance of payments components will vary according to countries, but in the case of Chile the terms of trade (ratio of export to import prices) of the informal sector show an improvement of 12 percent during the 1960-70 period, while in the case of Mexico they improved by 4 percent between 1968 and 1977.

### III. Market Structure and Income Determination

From the analysis made above three main subgroups of informal activities can be distinguished. The first operates in the base of a concentrated market where cost differentials due to economies of scale are significant. A second subgroup operates under monopolistic competition where product differentiation and location are important but operative costs are similar. The third subgroup is constituted by those activities which are inserted in a perfect competitive market. Examples of activities belonging to the first subgroup are manufacturing industries which, on the average, concentrate around 19 percent of the informal sector employment in Latin America. Retail commerce, repair shops and semi-skilled services are within the second subgroup amounting to around 30 percent of the informal sector employment, while the rest of the activities, mostly constituted by services, confront competitive markets.<sup>7</sup>

The three market structures share one common feature, that is, the equilibrium in the long run is reached at a point in which no supernormal profits are possible and only those profits which are just sufficient to induce the entrepreneur to stay in the industry can be generated. This is the case when oligopoly firms in concentrated markets fix prices at the minimum cost level of the small firms operating in the base of the market, since at this point it ensures maximum profits. The oligopoly firm has differential advantages over its competitors but it also confronts diseconomies to scale due to product differentiation and imperfection in factor markets which constrains its expansion. Hence, the oligopoly firms are unable to extend its output indefinitely at

minimal costs and encounters progressively rising costs beyond an optimal scale. The adjustment of the market in the long run will be reached at a price level which exceeds the minimal average cost of the oligopoly firm ensuring supernormal profits for it, and in general it will not exceed the minimal average cost of competitive (informal) firms, thus allowing only for normal profits for these firms.

A similar situation is confronted by those informal activities inserted in monopolistic competitive markets. In these cases, products are generally differentiated by the conditions surrounding their sale including the convenience of each seller's location. Buyers are then given a basis for preference and will therefore be paired with seller, not in a random fashion but according to their preferences. Each seller, however, is subject to the competition of other products sold under different circumstances and in different locations. There is not a single large market of many sellers, but a network of related markets, one for each seller (Chamberlain, 1948). Each seller confronts a negatively sloped demand curve for his distinct product, but his output constitutes such a small part of the total market that his decisions will not affect his competitors. However, simultaneous movements on the part of all sellers cause shifts in demand. The short run equilibrium for the individual seller will be reached when costs equate revenue but the competitive pressure given by the large number of firms restricts the possibilities of obtaining supernormal profits and reduce them in the long run to a normal level.<sup>8</sup>

In the case of competition the normal profit equilibrium position

is ensured by the characteristics of the market since each producer confronts an infinite elastic demand and prices are given. Any supernormal profits will induce the expansion of existing firms or the entrance of new units in the long run, reducing profits to their normal level.<sup>9</sup>

Implicitly or explicitly the long-run condition for zero profit equilibrium is linked to easy entry. This condition, as noted by several authors (ILO, 1972; Tokman, 1977) seems to be one of the main characteristics of urban informal activities. That urban informal activities are characterized by easy entry has been questioned by other authors (Brenfeld, 1975; Raczynski, 1977 and 1978; Moller, 1979) arguing that barriers to entry exist for many informal activities.

Easy entry characteristics regarding their effects on profits should be differentiated from the possibilities of entrance of the population into informal activities. For the former effects it will suffice that there are a certain number of persons which fulfill the conditions of entry required to perform an activity, to ensure that competition is produced in such a market, and hence no supernormal profits will be obtained. In the cases where a large number of units are already established, as in the majority of informal activities, the possibility of expansion of the established firms will produce similar effects on profits and ensure the inexistence of barriers to entry. It will be sufficient that a number of persons can meet the requirements to establish auto repair shops, for instance, to eliminate supernormal profits in this activity. The number of new entrants required will be

associated with the size of the market. This, of course, does not imply that all members of the labor force can establish an auto repair shop.

The existence and importance of barriers to entry to the informal sector should be assessed in relation to modern sector activities. There is no doubt that entrance to the informal sector is easier than to the rest of the urban activities since most of the factors which determine restrictions to entry cannot be found in the sector. Such is the case of advantages for the established firms derived from economies of scale or absolute cost advantages due to control over superior production techniques, imperfections in the market of productive factors, control over strategic factor supplies, or preferential access to capital markets (Bain, 1967). If such factors are not present in the informal sector the only cause for barriers to entry will be product differentiation. Such differentiation in the case of modern firms is associated with sales promotion and advertising as well as with the design or physical quality of competing products, while in the case of the informal sector it is limited to the offering of auxiliary services to buyers and to location. This will then be the only factor which could generate advantages for the established firms constituting barriers to entry to the informal sector. Its height, however, does not seem to be high as it is well illustrated by the rapid rate of turnover that is usually found in informal units devoted to retail and repair activities.<sup>10</sup>

Easy entry, from an economic viewpoint, does not mean equal access opportunities for all surplus labour. This will depend on the possibilities of obtaining complementary resources, mostly capital and skill, as well as the capacity to surpass the product differentiation barrier,

generally linked to producer-customer special relationships. Let us examine first the latter.

Product differentiation is an important factor for established informal activities like commerce and repair and for services performed by semi-skilled workers such as seamstresses, plumbers and electricians. The barrier generated by this factor can be in most cases explained by differences in access to complementary resources. This situation varies according to occupations, but generally the preference of consumers to demand from one firm or person/<sup>rather</sup> than another operates as a differentiation factor between sizes of firm rather than among similar units. In those personal services performed by semi-skilled persons the access to a clientele of higher income can indeed raise their income possibilities. Lack of transparence in the market seems to be the main explanation for income differentials which cannot be explained by differences in capital or skill endowments. Given the imperfection in market information, informal networks of insertion tends to operate based on personal contacts and recommendations. However, the possibilities of access to these informal networks are generally wide, although they are not homogeneous for everybody. Relatives, members of the extended family, and friends play an important intermediary role in the insertions to the market (Lomnitz, 1978).

A different situation is confronted by those who perform established informal activities. Product differentiation in this case is linked to conditions surrounding the sale of the product, including location. Such conditions can be met by most of the members of the community provided

that they have access to complementary resources. Retail activity, for instance, gives additional services to the customer such as longer business hours, product divisibility, credit, personal seller-customer relationship, closer location to residence. Most of these factors are only important when the demand comes from low purchasing power consumers, while any new firm with similar characteristics can provide the additional services required to compete for the customer preferences within a neighbourhood. Income differentials can be generated by the monopolistic factors which operate between neighbourhoods of different acquisition power. Such differences will generally be due to rents, interest, and/or costs of products due to quality differentials, and the barriers will be the amount of capital required rather than "product" differentiation.<sup>11</sup>

Skill requirements do not appear as important barriers to the entrance to informal activities. In general, they concentrate those persons with the lower levels of education. In Asuncion (Paraguay) and San Salvador (El Salvador), for instance, three out of four persons with less than three years of education, and two out of three between four and six years, are performing informal activities. (PREALC, 1978). Formal education, as well as skill, seem also to be distributed evenly by type of activities. Only two (laundry and domestic services) of the twelve informal occupations studied in the case of Chile show a concentration of low level of formal education and low skill requirements, while the rest of the activities register requirements mostly concentrated in the intermediate skill levels (around 70 percent) with similar tails at both extremes of the distribution (unskilled and highly skilled jobs). In addition, the time required for on-the-job training is less than two

years in 90 percent of the cases analyzed, and only in laundry activities all the cases considered established a requirement of less than three months of training (PREALC, 1979).<sup>12</sup>

The examination of the differences in the skill required within the four most important informal occupations in the same case (seamstresses, plumbers, retailers and mechanics) clearly show that such differences are not very large and can be made-up with experience on the job. In all of the four activities a person can start at the lower skill level and move with the experience on the job to perform more skillful tasks with the exception of the highly specialized functions in three of the occupations. Formal training and experience are substitutes in skill upgrading.<sup>13</sup> That skills are generally acquired while working is demonstrated in many cases studied<sup>14</sup>, as well as by the small importance of formal training. Of the cases studied in Chile only 17 percent has received some formal training. On-the-job training is accomplished mainly by working as wage worker or apprentice generally in small firms.<sup>15</sup>

Capital availability introduces a differentiation in the returns obtained by those persons working in the informal sector but it does not seem to constitute a significant barrier to entry. On the average, capital requirements per productive units and capital labour ratios are substantially lower than those registered for the same activities in the modern sector. Around 95 percent of the informal activities studied in Chile required less than US\$3000 per unit, while 80 percent requires less than US\$1000 per unit. There also seems to be some capital requirement divisibility since around 60 percent of the units register levels below US\$300 and almost a third operates with insignificant capital (PREALC, 1979).<sup>16</sup> The spread in capital requirements is not a result of the aggregation of different

requirements by occupation but each of them presents such a pattern showing indeed differences in the floor and ceilings. Street sellers and those established in open markets, laundry women and construction workers seem to reach the top level at US\$300; while most of the established commerce, tailors and seamstresses, mechanics and electricians require a minimum capital of US\$30. To be a taxi owner it would require a minimum capital of around US\$2000.

The process of capital accumulation and firm growth cycle can also be observed through the case studies available. They suggest that in most cases the persons start with little capital and then accumulate during the operation of the firm. This is clearly the case of auto repair shops which generally start as backyard garages with only few tools (PREALC, 1978 and 1979a) and for established retail services which also show the same cycle of growth (PREALC, 1978a). Of course, there are cases which start with larger capital endowments but the general trend suggests that capital differentials are the result of the evolution of the firms. Low capital barriers to entry seem then to prevail. Although capital availability explains income differentials, the heterogeneity in the capital structure of the informal sector is generated by factors affecting the possibilities of growth of the firms rather than by different points of departure.<sup>17</sup> The process of growth seems to reach a ceiling, which constitutes a barrier for the informal firm from becoming a modern unit. Minimum capital requirements to become modern firms constitute a jump in capital availability even for the most prosperous informal units. This can be illustrated by the situation confronted by retailers or auto repair shops when they attempt to expand activities beyond a certain level. In both cases changes in the structure of the

business are required since it usually involves a different product mix as well as a different organization of production, the consequence is a significant increase in capital requirements which cannot be financed with own sources as in the case of informal activities.<sup>18</sup>

#### IV. Surplus Labour and the Dynamics of the Adjustment

Given the limited job opportunities generated by the modern sector, the subordinated share of the informal activities in markets and the relative easy entry in the sector, surplus labour will determine an increase in informal employment until the income per person reaches the opportunity cost of labour which will be close to the subsistence level. This is clearly the case for those informal activities performed with little or no capital and generally, by individuals. The situation, however, becomes more complex when, as seen in the previous section, there exists the possibility of increasing capital in most of the activities. This growth process is often accompanied by the creation of a small firm on quasi-capitalistic or family basis. The adjustment process will not be restricted to variations in labour incomes but will also include returns on capital. These returns on capital will be generally lower than its opportunity cost and will be entangled with the returns to labour which correspond to the entrepreneur.

The entrepreneur in small firms usually offer an indivisible package composed of his own labour, that of his family, and some capital. Its objective is the maximization of total income. Capital,

however, is partly non-transferable since it serves dual purposes of being a household and a productive asset as is the case with shops installed in the household premises or transportation means which serve both purposes. In addition, it usually does not involve a cost since it is the result of past savings, sale of other domestic assets or free capital transfers.<sup>19</sup> The alternative return for such capital will not be the amount that can be obtained if invested in the modern sector, since the minimum quantities required are greater and only a fraction of such capital would be transferable. This will reduce the alternative return on capital to the rate of investment paid on savings accounts by the banking system applied to a part of his total capital.

Furthermore, in an economy with limited employment possibilities in the modern sectors such capital ensures his own labour absorption and that supplied by his family in the case of family firms, while it allows the quasi-capitalistic entrepreneur to maximize his total income. In the first case, the alternative would be to close the firm, invest the part of the capital which is transferable and search for jobs for himself and the rest of his family. The rest of his family (mainly the wife and school age children or old people in the family) are not available for full time jobs since they share their work in the shop with occupations outside the labour market (house care, school) or with leisure. This, added to the job scarcity in modern sectors, implies that the alternative return to family labour will be limited to the income that the head of the family can earn by working in that

sector. However, at this point his situation becomes similar to that of the quasi-capitalistic entrepreneur since, given the barriers to entry which prevail in the modern sector, his actual alternative will be to become a dependent in a modern establishment of the same kind of activity but where his entrepreneurial capacity will be mostly unused and not remunerated. This implies that the income he is able to perceive by working in his own informal unit will exceed the alternative capital and labour return and as a consequence, he will be in a stable position (i.e., not searching for jobs).

Given the imperfections in factor markets and the downward pressure on labour incomes produced by the existence of labour surplus, it should be expected that incomes earned in the informal sector will be lower than those which could be obtained in similar activities of the modern sector if they were available. This, in turn, will imply the existence of incentives to move from informal to formal jobs. The distribution of incomes of the informal and formal sector will, however, present some degree of overlapping which can be partly explained by differences in personal factors (education, age, experience, sex) and partly by differences in capital availability. While capital differences within the informal sector generate income differentials, they are expected to be smaller than in the formal sector since there are no economies of scale, monopolistic profits do not exist, and a more equal access to capital is possible given its greater divisibility and its limited return due to imperfect mobility. These factors will ensure that income distribution within the informal sector is more egalitarian than in modern

sectors, being close to that prevailing for labour earnings in those sectors.

The scarce data available support the previous analysis. On the one hand, although the distribution of income of the informal sectors in the cases of Peru (Webb, 1974), Salvador, Dominican Republic and Paraguay (Souza-Tokman, 1978) overlaps with that of the formal sector, the analysis made in the last three cases clearly show that such overlapping in most cases reflects persons with different characteristics. It also shows that there are cases which earn more than in the formal sector and hence will not be induced to move out of their present job, as is the case with those who operate a successful retail shop.<sup>20</sup> This latter case has also been analyzed at a different level for Santiago (Tokman, 1978a), showing that the small entrepreneur is maximizing his total income in the present occupation since his alternative will imply a reduction in the return on capital, because of a lower rate of interest and partial mobility and he will be forced to search for a well paid job in a tied labour market. In the case of the family firms, part-time jobs for the rest of the family labour force should also be found.<sup>21</sup>

In the cities analyzed (Asuncion, Santo Dimingo and San Salvador) significant income differences were found between the informal and formal sectors, even in very homogeneous categories such as persons with the same level of education, age and sex or persons with similar sex, education and occupational position. For instance, males, in ages of highest activity, with four to six years of education occupied in the non-domestic informal sector perceived around 60 percent of the income

received by persons with identical characteristics employed in the private formal sector. Males, with four to six years of education, employed in manufacturing informal establishments received 70 percent of the income earned by similar persons working in the same type of establishments but within the formal sector. The same results are reached using a two-stage multiple regression model which shows that in Santo Domingo persons with identical personal characteristics received incomes 1.4 times larger if they are employed in the formal rather than in the non-domestic informal sector, either in manufacturing industry or in the other sectors. Similar results are found for San Salvador when all the sectors are considered. The differences in manufacturing industry are larger (1.6 times).<sup>22</sup>

Income distribution for the informal sector as a whole is likely to be more egalitarian than in the modern sector. Although different capital endowments create income differentials they are expected to be smaller than in the rest of the economy. This will give a degree of income concentration in the informal sector which could be slightly greater but not too different than that prevailing for labour incomes in the modern sector. This is shown for Salvador (Dupre, 1979) and Santiago (Uthoff, 1979) where the concentration of income in the sector (defined as the variance of logarithm) is not significantly different from that found in labour incomes. In the case of Colombia the concentration of income in the informal sector is smaller than in the modern sector, whatever the measure of concentration used (Gini, Theil or log-variance, Bourguignon, 1978).<sup>23</sup>

The same type of results can be seen by comparing incomes of self-employed with those of manual and non-manual workers as done for the same case of Santiago (PREALC, 1979; Moller, 1979).<sup>24</sup> The distribution

of income of the self employed in 1968 shows that while 47.3 percent earned less than two minimum wages, only 10.5 received more than six minimum wages. The situation prevailing for workers earnings shows that 40.7 percent were in the first position, while 17.7 percent were in the latter. If a breakdown is made within the dependent workers, it can be seen that the distribution of income is the result of two different patterns prevailing for blue collar and white collar workers (see Table 3).

The average income of male self employed in Santiago in 1977 was 17 percent higher than that received by blue collar workers, while in the case of female self employed, average incomes did not differ significantly. Income differentials by occupation in self employment were 1:3, while that prevailing for blue collar workers in different sectors were 1:27. Income differentials by skill level vary according to occupation from 1.2 to 3 times and the same happens with differentials by capital endowment fluctuating from 1 to 2.5 times. This can be compared with differentials found by Gregory (1967) of blue collar incomes in the fifty largest industrial manufacturing establishments in Santiago which show smaller skill differentiation (1.42 times ratio of skilled to unskilled incomes) but larger wage differentials between industries 4.51 and among unskilled labour in different subsectors, 3.

Table 3. Santiago: Distribution of Income by Occupation, 1968

Incomes in Minimum Wages	Self employed	Blue-Collar Workers	White-Collar Workers	Total Workers
Less than 1	20.6	16.7	2.0	9.0
Between 1-2	27.7	47.8	17.1	31.7
Between 2-5	41.2	33.9	48.6	41.6
Between 6-10	8.0	1.6	23.3	13.0
More than 10	2.5	-	9.0	4.7
Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: National survey of family incomes, March-June 1968, Direccion de Estadisticas y Censos, Chile. As cited by (Moller, 1979).

## V. Public Policies and Access to Complementary Resources

The limited capacity of the informal activities to generate surplus due to the rules affecting income determination in the sector could be expanded by providing easier access to complementary resources through public policies. This, however, is not an easy task since it confronts several constraints which are related not only to the economic and political power of those who make decisions but also to characteristics of the informal units and of the persons working in them. To illustrate the type of problems which are confronted, it is worth looking at credit and training programmes which, if effectively implemented, could alleviate the access to capital and skills.

Informal units usually tend to be excluded from credit, both private and public. As a consequence, their possibilities of financing are restricted to their own savings, informal transfers or parallel capital markets with a cost of capital which greatly exceeds that prevailing in the rest of the economy. Examples of this higher cost are shown for microindustries in Mexico which paid rates eight times those paid by larger industries (PREALC, 1979b) or the rates paid by street sellers in Salvador to those who finance their daily working capital at 10 per cent (PREALC, 1978). The allocation of credit, usually involving a subsidy, is determined by several factors linked to the process of delivery which are biased against small informal units. The main criteria for credit worthiness is the ownership of assets to guarantee debt repayment and hence the unequal starting point tends to be perpetuated. In addition, fixed administrative costs discriminate against

operations for small amounts but in the above mentioned case of Mexico they only explain 30 percent of the rate charged by the formal system, the remainder being attributed to risk premium, and the monopsonistic position of the lender. The low level of education and particularly of commercial training of the informal entrepreneur is also a disadvantage in view of the complex paperwork involved in each credit application.

Training programs for skill upgrading can also contribute to the raising of productivity of the informal sector. These programs, however, tend also to exclude persons working in the sector, being biased in favour of the children of blue collar workers of large establishments as it has been shown for Colombia and Chile (Puryear, 1977; PREALC, 1978). This bias is the result of the programs' definition and the characteristics of informal units and of the persons involved in such activities. The programs are usually conceived to provide skills for an industrial labour force which would be employed in the modern sectors and as such, the main task to be filled is the knowledge of new and increasingly capital-intensive technology. This type of curricula becomes irrelevant for those who are working with traditional technology and who do not envisage the possibility of moving towards higher productivity occupations. The main obstacle is, however, what kind of content is relevant for units, characterized by atomization , rudimentary division of labour which implies few possibilities for occupational mobility within the unit, and job instability. Personal characteristics add more difficulties to this task, since the level of education of these people is low and their capacity to pay for training is practically non-existent. In the

case of Chile (PREALC, 1978), for example, it was estimated that direct costs of training would absorb between 10 and 20 percent of the average income of the informal sector. If transport costs were included, the proportion increased to half the average income.

Indeed, the factors mentioned above can be solved by introducing special measures in the policy packages. The added complexity, however, seems to favour inertia and public policy generally perpetuates the outcome determined by the primary characteristics of insertion of units and persons to the economic structure.

#### VI. Intersectoral shiftings and Urban Income Inequality

The differences in income distribution within each segment of the urban economy will affect the degree of inequality generated as the result of the rural-urban shift in the labor force. The migrants insertion in the lower income but more egalitarian distributed informal sector, will diminish the increase in inequality. If employment in the informal sector is only a temporary phenomenon linked to the short-run constraint faced by the modern sectors to create employment at the required rate, once the urban labour market is adjusted, income distribution will follow the U-shaped path. The available empirical evidence suggests, however, that the presence of the informal sector constitutes one of the structural characteristics of less developed countries.

The theory explaining why the informal sector persists in spite of the high rate of economic growth registered by most of the Latin American countries has been largely debated in the literature and falls beyond

the scope of this paper.<sup>25</sup> It will suffice, however, to remark that such behaviour is associated with the type of growth followed by these countries which among other characteristics reflects a restricted internal technological diffusion. This process of restricted technological diffusion caused by the concentration in the distribution of incomes prevailing in most of the countries and by factors associated with imported technology, generates a concentration of modern, highly capital intensive technology in subsectors and even in establishments within sectors (mostly large), while the rest of the economy continues operating with traditional technologies. This process is also associated with higher returns to factors of production in the modern sector, in part, derived from productivity differentials but also as a result of imperfections in factor markets. The outcome is that the initial concentration of income tends to perpetuate.

The process occurs in a context where modern establishments do not face strong competition, neither from the outside, because of high tariff protection, or from the rest of the firms, because of great market concentration. They then do not pass the gains in productivity through price reductions but rather factor incomes are higher. In addition, and not totally independent from the increase in factor incomes, capital intensity tends to increase and employment creation in the modern sector becomes insufficient to absorb the rapidly growing labour supply.<sup>26</sup>

The payment of higher wages in the modern sector in economies with relative labour surplus has been explained by several theories ranging from the human capital differences to imperfections in labour

markets due to trade union or government interferences. The main reason, however, seems to be in the partial monopoly conditions under which modern firms operate which allows them to pay due to the existence of monopolistic profits while price instability in such markets would generate heavy losses. This is combined with other factors, such as the need to stabilize the labour force, the political need of controlling the labour force and the international mobility of hierarchical personnel (Tokman, 1978).

The fragmentary data available for several Latin American countries support the previous analysis suggesting that the size of the informal sector has not decreased in the process of growth. This trend has been accompanied by a non-diminishing, and even in several cases, increasing income and productivity differentials between the informal and the modern sectors and by an increase in the wage dispersion in the latter.

The share of self employed and unpaid family workers in the total labour force of Latin America has increased from 9.6 percent in 1950 to 11.7 percent in 1970. The share of urban self employed and unpaid family workers in the urban labour force remained constant around 20 percent between the same years (Tokman, 1979). As these are the main components of informal sector employment, it suggests that the latter has not been decreasing. The census data on employment is confirmed by the few case studies which estimate the evolution of employment and output of the informal sector. Webb (1974) reports that in Peru the traditional sector share on the labour force increases from 24.1 to

33.1 percent between 1950 and 1970, while its share on value added decreases from 35.1 to 34.6 during the same period. Differentials in productivity per person between sectors increased from 3.6 to 4.4 times. Nelson et al. (1971) also show a similar trend for Colombia. The share of the traditional sector on the labour force increases from 54 to 58 percent, while the income share diminishes from 45 to 34 percent between 1951 and 1964. Productivity differentials almost double during the same period. Moller (1979) finds that self-employment in Santiago grew by 21 percent between 1967 and 1977, while their income was reduced by 5 percent; in comparison wage earners increased their employment by 9 percent and their income grew by 2 percent.

The data available on wage evolution seems also to support the previous findings of increased intersectoral differentials, but they also suggest that average dispersion within the modern sectors has also increased. In nine of the twelve Latin American countries which have information, the ratio of minimum urban wages to average manufacturing wages decreased between 1966 and 1977. In some of them, like Chile, Costa Rica and Brazil, the reduction in the coefficient is around 40 percent. Only in one of the remaining countries (El Salvador), there is an increase in the ratio (Tokman, 1979). Several case studies show the same results at a more disaggregate level. The Webb study of Peru recorded during the 1950-66 period an increase of income in the modern sector at an annual rate of almost twice that found for the urban traditional sector (4.1 and 2.1 percent). The rates of growth by occupations suggest a greater dispersion since self employed, non-manual employees in the traditional sector and domestic servants increased by

1.6-1.9 percent while government employees, white collar and wage earners in the modern sector increased by 3.3-4.9 percent per year. Nelson also reported for Colombia an increased wage dispersion during the 1951-64 period since the lowest 50 percent of urban wage earners raised their annual real wage by 0-0.5 percent, the following 15 percent by 2-3 percent and the top 35 percent, mostly workers in modern firms by 5 percent per annum.

The evidence available for Brazil also confirms these trends. Income differentials by occupations and by skills increased. The ratio between incomes of administrative and technical employees to other non-agricultural workers rose from 2.49 in 1960 to 2.86 in 1976. Incomes of unskilled workers decreased by 42 percent between 1961 and 1976, while those of skilled workers increased by 8 percent and managers remuneration rose by 22 percent. Langoni (1973) shows that the average income of those with no school remains stagnant; the incomes of those with college level increased by 52 percent between 1960 and 1970. A revision made by Pfefferman and Webb still shows a rate of income growth for the former group of one-fourth that of the latter. Wells (1974) calculates Gini coefficients on earnings reported by establishments showing an increase of 25 percent in the coefficient between 1959 and 1971. This is the result of losses in the bottom deciles, together with significant gains in the top two deciles.

Bacha and Taylor (1978) also report increased wage differentials within manufacturing industry in Brazil. Technicians and hierarchical personnel increased their incomes between 1966 and 1972 by 7.2 percent per annum, while unskilled industrial workers reduced their income by

1.3 percent per annum and skilled and semi-skilled increased by 2.9 percent per year. Other studies for the manufacturing sector in Chile (Gregory, 1967) and Mexico (PREALC, 1976) show similar trends.

## VII. Conclusions

The main conclusion of this paper seems to confirm Stewart's (1978) hypothesis that the payment system given by the institutional framework under which the informal sector operates determines the distribution of primary claims over resources. Such a payment system results in greater equity and lower income levels than could be achieved in a capitalistic framework. It is also clear that technology and population growth play an important role in generating and perpetuating inequality.

That the payment system prevailing in the informal sector produces such outcomes can be seen by exploring the rules which determine income and its distribution within the sector. Informal sector activities are restricted in most cases to residual markets in which possibilities of expansion are limited. This, however, is not a homogeneous feature for all kinds of informal activities, but rather the result of different trends which generate such results. The balance of payments analysis for Chile and Mexico ruled out the treatment of the sector as an isolated parallel economy while also confirming that predictions about the future share of the sector are difficult to make given the many factors involved in its determination.

The type of insertion of informal activities in the market structure excludes the possibility of obtaining supernormal profits. Relative ease

of entry is also a common feature of most of the informal activities. Given the size of the markets in which they operate, such easy entry is at least sufficient to ensure competition among activities and to rule out monopolistic profits. It goes beyond the economic condition, to ensure that most of the members of the labour force will find it easier to comply with the requirements presented by the informal activities than to surpass the barriers to entry which characterize modern operations. Absence of scale economies, low capital requirements and divisibility contribute to widen the possibilities of entrance to the sector.

The above ensures competition in the determination of factor returns, the differences mostly explained by different access to complementary factors, mostly capital. Imperfections in factor markets together with the organization of production, mainly on family basis, will, on the one hand, lower the alternative return to capital and on the other ensure a distribution of total income according to needs rather than to the marginal productivity of the family members. This organization of production characterized by atomization, little division of labour and instability constitutes an important constraint in the implementation of public policies addressed to facilitate access to complementary resources.

The set of rules which govern the functioning of the informal sector will result in a more equitable distribution of income within the sector than that prevailing in the rest of urban activities. The technological process characterized by restricted diffusion in a context of rapidly growing urban labour supply interacts with the prevailing payments system to determine a worsening in income distribution. The main characteristics

of this process are a non-decreasing share of the informal sector in total employment and non-narrowing productivity differentials both between the informal and formal sectors and within the latter.

The trends remarked in this paper seem also to suggest that changes in income distribution in the Latin American countries would follow a different pattern than that anticipated by the U-shaped curve. Rural to urban migration will generate less inequality than anticipated because of the entrance of the newcomers to the city through the informal sector. The permanence of the sector as well as the maintenance and even widening of productivity differentials, as suggested by the data, will continue to worsen distribution of income for a longer period than expected. This in a way is confirmed by Bacha (1977) who analyzed changes in income distribution for thirty countries during the sixties. He reaches the conclusion that the data suggest an outward movement of the Kuznets curve, while the turning point for the poorer 40 percent is recorded at \$900 instead of the \$468 found by Ahluwalia (1976).<sup>27</sup>

The analysis also suggests that increased concentration in the distribution of income will be the result of larger shares of managers, technicians, white collar and skilled blue collar workers, while those at the bottom will not be able to expand their share of total incomes. Indeed, within the lower income population, those who are able to migrate from rural to urban areas will also benefit. This kind of picture seems to emerge from the data on distribution of income for Latin America (ECLA, 1977). The lower 50 percent of the population maintain their share at around 13.5 percent between 1960 and 1970, while those in the

• Eighth and ninth deciles increased their share from 24.6 to 28.0 during the period. This twenty percent of the population was able to capture 40 percent of the total income increase and the top decile, although losing share, retained 30 percent of such increment. The remainder was distributed between the lower 70 percent of the population resulting in an absolute average income increase of the poorer 50 percent of \$30 (dollars of 1960) while the top 5 percent increased their income by \$300. There was, however, a redistribution within the poor. Those who were in the lowest two deciles decreased their share and only gained \$2 during the period, while those in the third, fourth and fifth deciles, mostly migrants, were able to increase their share from 10.3 to 11.4 percent and their average income was in 1970 \$50 higher than in 1960.

To conclude, one is tempted to recall the three questions posed by Kuznets (1955). The first question was: Is the pattern of the older developed countries likely to be repeated in the sense that in early phases of industrialization in the underdeveloped countries income will tend to widen before the leveling forces become strong enough first to stabilize and then reduce income inequalities? The second follows from an affirmative answer to the first: Can the political framework of the underdeveloped societies withstand the strain which further widening of income inequality is likely to generate? Finally, he raised the next question: How can either the institutional and political framework of the underdeveloped societies or the process of economic growth and industrialization be modified to favor a sustained rise to higher levels of economic performance and yet avoid the fatally simple remedy of an

authoritarian regime that would use the population as cannon-fodder in the fight for economic achievement?

This paper is addressed to the first question. Not only did inequality tend to widen but the improvement is taking longer to arrive. Unfortunately, the armed forces in most Latin American countries, especially those of the Southern Cone, have answered the second question, The many existing proposals developed by academics and international organizations sleep in an abandoned drawer, while the search for economic growth is being experimented at the high cost of sacrificing large masses of the population.

## Footnotes

<sup>1</sup>We will not discuss here the different definitions of the informal sector. For a detailed discussion of this subject see Tokman (1977).

<sup>2</sup>We have discussed this issue in detail elsewhere (Tokman, 1978).

<sup>3</sup>This argument does not necessarily imply that informal activities operating under this condition will disappear, nor that they will do it in a fixed period of time. On the contrary, there are several factors which could produce a less pronounced trend or even a reverse one. These factors are mainly related to the constraints of expansion of the oligopolistic firms and to the existence of imperfect competition in product and, mainly, in factor markets (see Tokman, 1978).

<sup>4</sup>For the purpose of this paper only the main results will be discussed. A more detailed discussion for the case of Chile can be found in Tokman, 1978. Indeed, the source of data as well as the assumptions that had to be included makes this exercise more a methodological rather than an empirical one.

<sup>5</sup>For the sake of simplicity when two figures are given and no mention of countries is made; the first refers to Chile and the second to Mexico.

<sup>6</sup>If domestic services are excluded the elasticity of exports of the informal sector in Chile is 36 percent higher than the elasticity of imports, while in the case of Mexico it is 60 percent.

<sup>7</sup>One could argue following Chamberlain (1948) that all activities are inserted in markets under monopolistic competition, where factors influencing perfect competition are variable. This breakdown tends, however, to remark those characteristics which are closely associated to each market organization.

<sup>8</sup>It is possible, especially in spatial differentiation, that monopoly profits exist. Differentials in the rent of urban land will tend to absorb the whole or a large part of the monopoly profit due to this factor (see Chamberlain, 1948; especially Appendices C and D).

<sup>9</sup>When entrepreneurs are heterogeneous even if all other factors are homogeneous, some firms will be able to earn supernormal profits in the long run. The only way in which these firms will be forced to earn normal profits is by the entrance of entrepreneurs as efficient as those already established with differential advantages.

<sup>10</sup>This is so even in countries with more stable and higher income markets. In the U.S., for instance, 80 percent of all replacement jobs created between 1969 and 1976 were generated by establishments four years old or younger while two-thirds of the net jobs created during that period were generated by firms with 20 or fewer employees and five out of 6.7 million new jobs were in trade or service while manufacturers produced virtually more. (As reported by D. L. Birch, MIT, New York Times, December 3, 1979.) In the case of Santiago, Chile preliminary work for a survey undertaken by Preal in 1976 show that no less than 50 percent of small retail shops were replaced in less than two years.

<sup>11</sup>Prices should not be the same in all neighborhoods unless the distribution of buyers is a random one, neither will be the sales volume. Each firm will tend to maximize returns over costs. These costs include normal profits and the differential remaining, which is due to the superiority of the profit-making opportunities afforded by one site as compared to another, is rent, and is put into the hands of the landlords by the competition of entrepreneurs for the best opportunities (Chamberlain, 1948; Appendix D).

<sup>12</sup>The survey covered self employment in the twelve most important occupations; established commerce, street sellers, laundry women, service workers, taxi drivers, seamstresses and tailors, shoemakers, mechanics, electricians, plumbers, construction workers and others. Two questions made to those interviewed inquire the level of skill required by their job. The first one refers to whether the person interviewed <sup>an</sup> considered himself as/apprentice, unskilled, semi-skilled, skilled or highly skilled. He was then asked how long would it take to convert an unskilled worker in his activity into a skilled one.

<sup>13</sup>In commerce activities little skill differentials were found. In the other three cases analyzed, of the four levels of skill established within each activity, the movement from the third to the second level could be shortened in time if learning by doing is substituted by formal training. The passage from the second to the top category would require in most cases formal training.

<sup>14</sup>This is shown, for instance, for household and small shops working under subcontract in the clothing industry (Schmukler, 1979) and for

mechanics (Nun, 1978) in Argentina; for repair mechanic shops (PREALC, 1979) and for the self-employment activities (PREALC, 1979) analyzed in Chile.

<sup>15</sup>In the self-employment activities in Chile, 80 percent of those who declared        acquired skills while working in establishments did so in small enterprises while the remaining worked in modern sector firms. The pattern seems to be somewhat different in the case of mechanics which became owners of their shops since the skill requirements are higher. They still learn with experience but a significant proportion acquired such experience while working in large firms (PREALC, 1979).

<sup>16</sup>Capital in this study did not include land and buildings.

<sup>17</sup>All the small auto repair shops analyzed in Santiago (PREALC, 1979a) started with little capital in their houses or that of some relatives and with only a few tools. All of them had expanded in comparison to the starting size, some even have to reduce their over-expansion. The capacity to growth seems to be related more to the entrepreneurial capacity, skill and in some cases, consumption propensities than to the initial capital endowment. The same seems to happen in retail service, where different business cycle can be deduced according to whether the entrepreneur is devoted full time and has experience in the trade. Initial capital indeed help to accumulate, but growth is not restricted to those cases only as it is shown by the fact that while 7.5 percent of those shops with larger capital and selling to higher income markets increased the size of the establishment, 35.4 percent of the low capital-low income markets did the same in Santiago (PREALC, 1978).

<sup>18</sup>When mechanics were asked what would be their next step to expand their establishments their answers reflected the introduction of changes in the product mix (i.e., import of spare parts, auto trade, body repair). The same happens when they were asked whether they could become authorized agents for servicing a car brand or by establishing long-term arrangements for servicing large company cars. The main constraint mentioned was the minimum capital required mostly in tools and spare parts. The answers were consistent with differences in initial capital endowment observed in the case studies. The only modern garage analyzed started with an initial capital of US\$60.000 (PREALC, 1979a) with a product mix which included servicing, sales and inputs of spare parts. A similar situation is found for the retailers which to surpass the informal sector boundary have to become self services. That kind of operation requires larger sales volume, bigger buildings and broader product diversification. All these factors imply greater capital requirements (PREALC, 1978a).

<sup>19</sup>Private fixed capital costs will be then negligible. This explains why in many cases small firms operate with zero return to capital which, in turn, is one of the causes of the large turnover of establishments found in these activities.

<sup>20</sup>The exceptions of higher incomes in the informal sector are concentrated in middle aged and higher education groups devoted to established commerce activities. In Asuncion, for instance, the income of the owner of an establishment in the informal sector earned 46 percent more than persons with similar education working in formal commerce activities. If the comparison is made only with white collars in such activities, incomes of the informal sector are 18 percent smaller than those perceived in the formal sector. The same type of results is found in San Salvador and Santo Domingo (Souza-Tokman 1978).

<sup>21</sup>The estimated income of the informal retailer for Santiago was 3.3 times the prevailing minimum wage. If allowances are made for unpaid family labour the net income of the owner would be 2.3 times the minimum wage which unfavorably compares with the wage perceived by white collar workers in supermarkets (3.2 times the minimum) (Tokman, 1978).

<sup>22</sup>Similar results are found for Belo Horizonte, Brasil (Merrich, 1976) and for Colombia by Kugler (1977).

<sup>23</sup>These estimates tend to overestimate the concentration prevailing in the informal sector, since the higher income usually includes the work of unpaid family workers. There are other sources of bias, as shown by Bourguignon, who increased the explanation power of the modern traditional dishotomy on income differential, as measured by Theil's coefficient from 7.7 percent to 12.5 percent if unemployed individuals are included or to 12 percent, if the underestimation of incomes usually found in the top deciles is corrected.

<sup>24</sup>The comparison is a proxy to that of the informal-formal one. It includes, however, workers in all types of establishments while according to the usual definition of the informal sector, workers in establishments with less than five employees should be included in it. As they tend to receive lower wages, their effect will be a downward bias in the average wage and in the distribution of wages.

<sup>25</sup>See, for instance, Pinto (1965), Prebisch (1978) and PREALC (1978b).

<sup>26</sup>Nelson, et. al. (1971) presents a formal model of restricted technological diffusion.

<sup>27</sup>This is the result shown by the regression equation between the ratio of changes in the share of the lower 40 percent to the rate of growth of GNP and the logarithm of GNP per person in the middle of the 60's.

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