

Small firms and development in Latin America
The role of the institutional environment,
human resources and industrial relations



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human resources and industrial relations

Edited by Brigitte Späth

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ISBN 92-9014-478-5

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Copies can be ordered from: ILO Publications, International Labour Office, CH-1211 Geneva 22.

Preface

This reader contains selected papers presented at a conference on *Small-scale industry and development in Latin America: The role of the institutional environment, human resources and industrial relations*, together with a synthesizing introductory chapter. This conference was organized jointly by the International Institute for Labour Studies (IILS, Geneva) and the Instituto Latino Americano (ILAM, São Paulo) and was held from 28-30 March 1990 in São Paulo, Brazil. The conference formed part of the activities of a research initiative called the "New Industrial Organization (NIO) Programme" launched at the International Institute for Labour Studies in 1986, which was designed to identify emergent forms of new industrial organization within the on-going process of industrial restructuring.¹ The approach followed was inspired by the concept of flexible specialization formulated by Piore and Sabel [1984], which challenged the mass production paradigm and championed the viability of small-scale industrialization. This work has encouraged a comprehensive review of small firm development and small firm promotion policies in industrialized countries² and studies on inter-firm co-operation and industrial districts³, both of which have been recently undertaken within a concerted research effort co-ordinated by the International Institute for Labour Studies (IILS).

A major focus of this research was to analyse and document the recent trend towards smaller units of production. This transformation is not limited to the developed market economy countries, but is gradually pervading the countries of Central and Eastern Europe and is gaining momentum particularly in developing countries. Encouraged by the findings from industrialized market economies, investigations into the subject of small firm development in developing countries were initiated. A major objective of these activities was to

¹ This research was inspired by a recent reinterpretation of the history of industrial development in the advanced capitalist countries, entitled *The second industrial divide: Possibilities for prosperity*, in which Piore and Sabel [1984] challenged the mass production paradigm and pointed to the strength of an alternative: flexible specialization. The latter implies space for viable small-scale industrialization, but is not identical to it.

² The results of six case studies in industrialized countries were published in Sengenberger et al. 1990. *The re-emergence of small enterprises. Industrial restructuring in industrialized countries*, Geneva, International Institute for Labour Studies.

³ Pyke, F. et al. 1990. *Industrial districts and inter-firm co-operation in Italy*, Geneva, International Institute for Labour Studies; Pyke, F.; Sengenberger, W. 1992. *Industrial districts and local economic regeneration*, Geneva, International Institute for Labour Studies.

review and assess the role and status of small enterprises in social and economic development and to explore whether successful forms of small firm organization based on inter-firm co-operation and collective efficiency, which effectively combine economic viability with social objectives, could serve as a practicable model for small firm development in other regions, for example in Latin America.

The conference took into consideration the overall economic, political and labour context in which small firms operate, and placed particular emphasis on aspects of the institutional and organizational environment, human resource development, and industrial and labour relations in small firms, with a special focus on Brazil. One of the aims of the conference was to assess the various factors influencing the status and performance of small firms; another was to promote research and the exchange of scientific results and practical experience in this field at a regional and international level. Consequently, participants were drawn from Latin American and international research establishments; public authorities and politicians; institutions supporting small firms, such as training, technical support, and financing institutions; small entrepreneur associations; and those connected with various regional and international organizations and agencies.

Brigitte Späth
Geneva, January 1993.

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Acknowledgements

In addition to the authors and the conference participants, the editor would like to thank the following people:

- Dr. André Franco Montoro, Director of the Instituto Latino Americano (ILAM), São Paulo, who has actively helped to bring about successful collaboration between ILAM and the International Institute for Labour Studies (IILS), as well as ILAM collaborators, particularly Silvio Aleixo, Diana Moraes, João Russo, Mario Pernambuco and Raul do Valle, for organizing the conference in São Paulo and whose collective acumen and initiative made it possible for the conference to take place, in spite of difficult circumstances; Ofélia L.S. Torres and Athur Barrionuevo from the Getúlio Vargas Foundation, São Paulo, for providing valuable background information in Brazil;

- Wilson Vieira dos Santos, who gave constructive advice and assistance for the preparation of the conference; Claudio de Moura Castro for rendering valuable support and information, and other staff of the International Labour Office for comments;

- Werner Sengenberger for his serene guidance; Hanne Kattwinkel for smooth administration of the financial part of the conference; Hazel Cecconi for editorial assistance, text design, formatting and proof-reading; the Publications Unit of the IILS; and other colleagues of the IILS for the assistance given in organizing the conference and publishing the book;

- Andrew Wilson, Christopher Woodall and Silvia Campos for their excellent translations;

- Ximena Subercaseaux for the design of the cover.

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Chapter 1

Small firms in Latin America: Prospects for economic and socially viable development?

Brigitte Späth

1. Introduction: A change of paradigm?

During the last few years, there has been a remarkable shift in attitude regarding the status and role of small firms¹ in economic and social development among policymakers and scholars alike. Historically speaking, however, the role of small-scale industry in economic development theory has been an ambiguous one. By the mid-1950s, the strong arguments in favour of small enterprises, such as labour intensiveness, adaptability, advantageous utilization of local production factors, reduced dependence on imports and their role of providing a seed-bed for indigenous entrepreneurship development, had already been confirmed. However, there was a widely-shared understanding among mainstream development economists on how industrial societies evolve, according to which rapid modernization and a "take-off" into self-sustained growth could only be achieved by a strategy of accelerated industrialization based on large-scale production, capital intensity and modern technology. These development strategies tended to ignore the potential of small firms, and large enterprises were promoted as cornerstones for economic progress and growth which would yield the necessary economies of scale, high productivity and efficiency. According to this view, small firms were at best playing a transitory role towards a higher stage of development, and were important only for countries in an early phase of industrialization. It was expected, or hoped, that in the course of economic maturation, small firms would gradually decline.

At the beginning of the 1970s the issue of small firms reappeared on the agenda with the promulgation of the informal sector concept by the World

¹ Throughout this text the term "small" is taken broadly to include productive enterprises with fewer than 100 employees and which are variously termed micro and small. If not explicitly distinguished, the term "small firms" applies to both formal and informal enterprises.

Employment Programme of the International Labour Office (ILO).² There was an increasing awareness that, although some countries had achieved high rates of growth, most developing economies were unable to integrate the growing urban labour force into the labour market. Investigations into the issue of unemployment and underemployment associated with accelerated urbanization highlighted the fact that a considerable part of the urban population made a living out of small-scale economic activities.³ Some of the informal activities turned out to be far from stagnant and only marginally productive: rather they formed their own bustling economy. Therefore, a distinction between two coexisting independent sectors has been introduced: a formal sector, where firms are large, have legal status, benefit from government incentives, employ modern production methods and modern technology, where workers are covered by labour laws and markets are regulated and protected; and an informal sector, where firms are characterized by family ownership, small scale of operations, use of labour-intensive production methods and adapted technology, reliance on indigenous resources, unprotected labour, ease of entry and unregulated and competitive markets [cf. ILO, 1972, p. 6]. The ILO emphasized the increasing importance of the informal sector in providing employment and income for the urban labour force not absorbed by the modern formal sector, and for catering for basic needs in supplying vital goods and services. The informal sector provides these things without the benefit of the government subsidies and support that are received by firms in the formal sector. However, operators of the informal sector are often harassed and hampered by restrictions imposed from the outside [cf. ILO, 1972, pp. 21 ff.; 228 ff.]. According to this perception, it was therefore recommended that governments of Third World countries should adopt a positive attitude towards this sector and generate a policy for active promotion and encouragement [ibid.].

From a different perspective, the existence - or persistence - of petty production in developing countries has been analysed within the context of a dependent type of development, and thus the informal sector concept provoked criticism because it simplified formal/informal sector dualism.⁴ This approach accentuated the inter-relationship between the two sectors: small-scale economic activities are perceived as functional and subordinate to the capitalistic mode of

² The ILO World Employment Programme took over the notion of the informal sector first introduced by Keith Hart [1973] in a meeting in 1971 and it first appeared in an official ILO document in the ILO [1972] employment report on Kenya; cf. also Sethuraman [1977]; Weeks [1975].

³ A number of studies in Third World cities have been conducted, cf. e.g. Lubell [1978]; Demol and Nihan [1982]; Nihan et al. [1979]; Mazumdar [1976]; Sethuraman [1977; 1981]; Souza and Tokman [1976].

⁴ This approach was strongly influenced by the work on marginalization and dependency, particularly in Latin America, cf. Breman [1976]; Portes [1978]; Moser [1977; 1978]; Gerry [1978]; LeBrun and Gerry [1975], Souza and Tokman [1976]. For a critique of the ILO Kenya report, cf. Leys [1973]; Bienefeld [1975].

production, in the sense that they subsidize the costs of capitalist enterprises by producing wage goods for very low returns on labour and hence at low prices, which enables the capitalist enterprises to pay lower wages. Subcontracting is seen as a more direct relationship of dependence and exploitation, in which large formal enterprises buffer costs and risks at the expense of small firms. Thus, through various mechanisms, small firms contribute to an increase of surplus value and the accumulation of capital in large-scale industry. Furthermore, petty production is restricted to activities that are not attractive to the capitalist sector and therefore the scope for informal enterprises depends very much on the niches left by the formal sector. In such a context, any evolutionary growth of the small firm sector is judged to be illusory.

Both positions have been the subject of much controversy. Since it was first devised, the informal sector concept has given rise to a large amount of data gathering and research, and thus has cast light on a neglected segment of developing economies.⁵ It has also stimulated international aid agencies to generate and implement various promotional programmes and projects for assisting small enterprises in both the formal and informal sector.⁶ Thus, the ILO's advocacy of the informal sector concept contributed substantially to drawing the attention of policymakers and scholars to the reality of about 300 million people [ILO, 1991, p. 11] and in 1991 the informal sector figured finally as a major topic at the annual International Labour Conference. Nevertheless, over more than 15 years the concern about small firms and the informal sector has remained one of social policy, that is of alleviating unemployment and poverty. Until recently, it has not induced any major remodelling of industrial policy, either by international aid agencies or by governments.

But the tide has changed: over the last few years, the perception of the role of small firms in economic development has considerably modified and they are increasingly heralded as a panacea for the various economic ills of developing countries. However, this recent surge of interest in small firms reflects more the crisis of development theories and strategies than a change of paradigm based on theoretical reflection and striking empirical evidence; and it is primarily a result of economic constraints, which have gradually undermined the imperative of large-scale industrialization.⁷ The oil shock has left enduring scars on developing economies. In the 1980s, many developing countries faced a crisis, resulting in dramatic declines in economic growth, employment and social conditions and many of them had to adopt austerity measures and structural adjustment policies. Against this background, governments and aid

⁵ Useful reviews about what is known on this subject have been compiled by Anderson [1982]; Schmitz [1982a]; Moser [1984]; Turnham et al. [1990]; Haan [1989].

⁶ Cf. Fuhr and Späth [1989] for the generation and implementation of small firm promotion by international organizations.

⁷ This change in attitude on the part of national governments is investigated in the case of Latin America in Section III.1. of this chapter.

agencies are pursuing new policy approaches towards small firms. Because of success stories praising their capacity to adapt to crises and to create jobs, small firms have suddenly been perceived as efficient, flexible and dynamic. Particularly in the context of adjustment policy, interest in small firm development has become part of a larger concern with deregulation, privatization and related efforts to remove artificial restrictions upon individual enterprises and initiatives, and to enhance the ability of a competitive price system to function as a motivating force and as an effective guide to decision-making. Consequently, expectations have been raised that small firm growth could lead the way in easing the pending need for adjustment, to stimulate economic regeneration, and to resolve pressing employment problems.

However, since the underlying issue of the viability of small firms remains unclear, it is unwise to pin too many hopes upon them as a panacea. Small firms are only worth supporting if they prove to be viable in both economic and social terms. Up until now, empirical research does not permit a generalization of the growth potential of the small firm sector. The co-existence of success and failure of small firms belies the view that it is the dimension of enterprises as such that is crucial to their performance.⁸ For, if efficiency and dynamism were inherent to a small scale of activities, we should expect all small firms to do well. Although the literature concerning small firms has grown in volume and diversity, actual understanding of the differences between small and large enterprises and the independent advantages of one or the other is very incomplete. This may be due to the fact that the informal sector concept has frequently been associated with urban poverty, underemployment and unemployment. Hence, our understanding of the detailed characteristics of small firms and of their role in the process of structural transformation is far from being satisfactory. Some of the issues are quite complex, going beyond the narrow economic aspects and leading to wider questions, such as the political economy and social organization of small firms.

Some of the expectations raised acclaiming the merits of small firms may yet turn out to be as unfounded as the claims made for large industry in earlier years. Therefore, many questions remain: does the actual performance of small firms match expectations? Or is the observed growth of small firms only a temporary recessionary effect, before large firms take the lead again? Can small firms ever hope to compete in the long term, on both the national and international market, with the huge resources of large, integrated firms? What about the the latter's advantages in economies of scale, research and development, financial resources, and advertising and marketing capabilities? If

⁸ Little et al. [1987] in their comparative analyses of *small manufacturing enterprises in India* and other developing countries found that firm size is insignificant as an economic variable, and that small producers are neither more nor less efficient than medium or large enterprises in the same industry [see table 11-7, pp. 195-196]. This is also supported by a comprehensive review of small firm development in industrialized countries, which was undertaken within a concerted research effort co-ordinated by the New Industrial Organization Programme of the IILS [cf. Sengenberger et al., 1990; Laroche, 1989].

small firm development is seen as feasible, then there are other questions of policy and implementation. What is the role of the policy environment; of industrial relations; of human resource development in small firm development? What are the experiences with policies for promoting and assisting small firms? And how should small firm promotion be carried out? Are there options that would permit small firms to gain some autonomous development capacity and some independence from continued public support? These were among the questions examined at the conference on *Small-scale industry and development in Latin America*, organized jointly by the International Institute for Labour Studies (Geneva) and the Instituto Latino Americano (São Paulo) in early 1990.

II. Assessing small firm performance

Has there actually been an increase in volume and share of employment of small firms which would justify a major change in opinion on the merits of these units? It is difficult to get a comprehensive picture of their quantitative development - and even more so of their qualitative development - over the years. "Small firms" or the "informal sector" are rather elusive concepts, which do in fact hide a large heterogeneity in types of firms. A clear and generally accepted definition of the informal sector or small firms is still lacking, as well as agreement on what constitutes an informal or formal production unit. The ILO Director-General's Report [ILO, 1991, p. 3] on the informal sector notes: "... it has so far proved impossible to reach a clear and generally accepted definition of the [informal sector] concept." Another report [ILO, 1986, p. 4] on the promotion of small and medium-sized enterprises states: "Most definitions appear to be governed by the interest of the perceiver, the purpose of the definition and the stage of development of the particular environment in which the definition is employed...". Depending on the institutional or historical context of a country, major criteria vary widely.

In spite of almost 20 years of debate and research on the informal and small firm sector, it is not very well established in statistical terms.⁹ This applies almost by definition to informal units, which tend to escape establishment surveys. Most available data on small firms have been collected for special exploratory purposes, and not in the framework of regular national statistics. Data vary enormously in coverage and frequency because of irregular data collection; time lags between surveys and the publication of the data; aggregation and/or fragmentation of data; limited geographical scope or concentration on certain industries and branches. Reliable data on fixed assets, sales, productivity, and wages to compare the performance of small firms with medium-sized and large enterprises are rarely available. Furthermore, differences in definitions, ambiguities in terminology and arbitrarily drawn borderlines between firms of different size brackets complicates analysis of the small firm sector. It is difficult

⁹ On the problem of statistics, cf. Charmes [1990, pp. 16 ff.] and Haan [1989, pp. 13 ff.].

to establish time series over a long period and almost nothing is known about upward and downward mobility of firms into different size groups, or between the informal and the formal sector. The empirical problem becomes obvious in the following sections, where statistical information on Latin America in general and Brazil in particular is examined.

1. *Distribution of small firms in industry*

In Table 1, data are shown on the share of establishments and employment by firm size in industry for six Latin American countries. Although only relative figures are listed, a comparison between the countries is hardly possible, since most of the size brackets used are not identical: in the case of Brazil and Chile very small enterprises are also included.¹⁰ Other data on labour market structure, established on the basis of household surveys and census data, provided by the ILO's *Programa Regional del Empleo para America Latina y el Caribe* [ILO-PREALC, 1986], indicate that, in 1985, 30.7 per cent of non-agricultural employment in Latin America was in the informal sector.¹¹ Whereas the largest proportion of the informal labour force is usually active in the service and trade sector, a significant proportion is also active in industry. With reference to Table 1, it can be assumed that the share of small firms in terms of units and jobs would increase significantly if the informal sector were to be included.¹² Regardless of various empirical shortcomings, the available data indicate that, in terms of number of units and employment created, small firms constitute an important share of the industrial sector in Latin America.

¹⁰ In the case of Brazil, very small enterprises are in the size bracket 1-19; in Chile, they are classed as 1-9 employees.

¹¹ The share of the informal sector in non-agricultural employment in 1985 is estimated at 28.9 per cent for Argentina; 30.1 per cent for Brazil; 35.4 per cent for Columbia; 28.3 per cent for Costa Rica; 37.2 per cent for Chile; 33.5 per cent for Guatemala; 29 per cent for Mexico; 34.9 per cent for Peru and 26.2 per cent for Venezuela [cf. ILO-PREALC, 1986].

¹² In the case of Peru, if informal, craft and micro enterprises are included, the share of firms by size is 98 per cent for small, 1.5 per cent for medium and 0.1 per cent for large enterprises in 1987; the share of employment is 71 per cent for small, 16 per cent for medium and 13 per cent for large firms (cf. Chapter 10, Table 2).

Table 1: Percentage distribution of industrial enterprises and employment by enterprise size in selected Latin American countries

Country	Year	Firms			Employment		
		Small	Medium	Large	Small	Medium	Large
Bolivia ^(a)	1984	76	12	12	24	15	61
Brazil ^(b)	1985	95	4	0.5	42	37	22
Chile ^(c)	1983	94	4	1.5	45	25	30
Colombia ^(a)	1985	71	14	15	22	14	64
Ecuador ^(a)	1985	90	5	5	35	12	53
Peru ^(d)	1985	82	17	1.5	30	40	30

Notes: ^(a) Small 5-49 employees; medium 50-99 employees; large 100 > employees.

^(b) Small 1-99 employees; medium 100-499 employees; large > 499 employees.

^(c) Small 1-49 employees; medium 50-109 employees; large > 110 employees.

^(d) Small 5-19 employees; medium 20-199 employees ; large > 200 employees.

Sources: For Bolivia, Chile, Colombia and Ecuador calculated according to FOPIAL/INSOTEC [1988]; for Peru, Villarán (in this book), Table 4; for Brazil, see Tables 2 and 3 in this chapter.

2. The example of Brazil

At the conference, data was provided by Villarán for Peru on the size structure of industry, which is included in his case study (Chapter 10), and by Barrionuevo and Torres for Brazil. Selected data on Brazil, which was prepared on the basis of the economic census (1970-1985) of the Brazilian Institute for Geography and Statistics (IGBE), will be presented and discussed below.¹³ For any further appraisal of small-scale industry, it should be remembered that the service and trade sectors usually maintain the largest share of small-scale non-agricultural activities. Brazil is no exception, and small (1-99 persons employed) enterprises prevail in all economic sectors, with a share of 99.1 per cent of all establishments in non-agricultural activities and 61.9 per cent of all non-agricultural employment. In detail: small enterprises in the trade sector account for 53 per cent, in the service sector for another 33 per cent and in the industry sector for 13.5 per cent of all non-agricultural enterprises; which amounts to, respectively, 27.5 per cent, 15.1 per cent and 19.4 per cent of total non-agricultural employment.

More details about the industrial structure are presented in Tables 2-5. They give an overview of the share of establishments, employment, total wages,

¹³ Barrionuevo and Torres have compiled data which, together with some other information on qualitative aspects of small firm development, gave an overview on the status and development of small firms in Brazil. For practical reasons, this paper, "Small firm development within the economic and social structure of Brazil", could not be included in this publication. If not otherwise indicated, all the data refers to Barrionuevo and Torres.

Table 2: Establishments by enterprise size, Brazil, 1970, 1975, 1980 & 1985

Firm size	1970		1975		1980		1985		Average annual growth*	
	No. of firms	%	No. of firms	%	No. of firms	%	No. of firms	%	%	%
1-19	51 360	71	72 682	70	165 591	80	153 570	82		12.3
20-99	15 637	22	24 432	23	31 106	15	24 517	13		3.8
100-499	4 152	6	6 462	6	8 322	4	7 544	4		5.5
>500	648	1	791	1	1 045	0.5	924	0.5		2.8
Total	71 797	100	104 367	100	206 064	99.5	186 555	99.5		10.5

Table 3: Employment share in industry by enterprise size, Brazil, 1970, 1975, 1980 & 1985

Firm size	1970		1975		1980		1985		Average annual growth*	
	Workers in 000s	%	Workers in 000s	%	Workers in 000s	%	Workers in 000s	%	%	%
1-19	396	16	597	16	948	19	987	17		9.9
20-99	649	27	1 025	28	1 298	27	1 324	24		6.9
100-499	796	33	1 301	36	1 678	34	2 068	37		10.6
>500	566	24	708	20	966	20	1 230	22		7.8
Total	2 407	100	3 631	100	4 890	100	5 609	100		8.5

Note: * Growth averaged over the four years of observation.

Source: Prepared from data compiled by Barrionuevo and Torres [1990] according to IGBE census 1970, 1975, 1980, 1985.

and value added by firm size¹⁴ in the period 1970-1985. In 1985, very small and small enterprises accounted for 95 per cent of all industrial establishments, employed 42 per cent of the industrial labour force, paid 30 per cent of salaries and wages, and generated 24 per cent of the manufacturing output and 22 per cent of the value added in industry.

As can be seen from Table 2, the number of very small enterprises tripled within the period surveyed and displayed the highest average annual growth rate at 12.3 per cent. In the period between 1975 and 1980, in which the number of very small firms increased by 128 per cent, growth was particularly striking, compared to small enterprises by 27 per cent, medium-sized enterprises by 29 per cent and large enterprises by 32 per cent. However, in the following period (1980-1985), the whole industrial sector experienced a decline of 12 per cent; very small enterprises decreased by 7 per cent, small enterprises by 21 per cent, medium-sized enterprises by 9 per cent and large enterprises by 12 per cent.

In 1985, the share of small firms (1-99 employees) in the total number of industrial establishments was 95 per cent. In absolute numbers of small firms, the following branches stand out: food production, with about 37,900 small firms out of a total of about 38,900; non-metallic mineral production, with almost 27,200 small units out of a total of 27,500; lumber, with 16,200 small firms out of a total of 17,500; and furniture production, with almost 12,900 small units out of a total of 13,100. Consequently, of all industrial very small and small enterprises, every fifth firm is active in the subsector of food products, every sixth in non-metallic minerals or lumber and furniture manufacturing and every eighth in apparel and shoe production. Such a concentration of small firms in certain industries is not unique to Brazil: similar structures are found in other Latin American countries [cf. FOPIAL/INSOTEC, 1988].

Table 3 shows the distribution of employment by enterprise size. Very small and small enterprises employed 41 per cent of the industrial labour force in 1985, although it cannot be assumed that all the employment in small firms, particularly in the informal sector, is covered by the census. In terms of growth, medium-sized enterprises accounted for the highest average annual growth rate with 10.6 per cent and very small enterprises with 9.9 per cent. The exceptional increase in the number of very small enterprises observed for the period 1975-1980 is not reflected in a similar increase of employment (59 per cent). Actually, the average size of very small firms declined from 7.9 employees per unit in 1975 to 5.7 in 1980. For the following period (1980-1985) regardless of the decline reported for the total number of enterprises, total industrial employment expanded by 14 per cent in this period, resulting in an average increase of workers per unit for all firm size groups.

¹⁴ The various size brackets employed according to the IGBE census are termed as very small: 1-19, small: 20-99, medium: 100-499, and above 500 employees as large enterprises. However, it is doubtful whether the majority of informal productive enterprises is covered by the census.

In accordance with the high share of small firms in some industries, the number of jobs in small firms in these branches is also outstanding: food production, with about 370,100 jobs in small firms out of a total of about 733,200; non-metallic mineral production, with almost 235,300 out of a total of about 365,600; apparel and footwear production, with about 269,200 out of 655,200; metallurgy, with about 206,700 out of about 565,000; lumber, with about 157,500 out of about 218,100 and furniture production with almost 122,100 out of 186,500. As a result, about 59 per cent of the labour force employed by a small firm (1-99 employees) is engaged in one of these industries.

Table 4: Share of total wages paid and average salary by firm size, Brazil 1970, 1975, 1980, 1985

Firm size	1970		1975		1980		1985		Annual average growth
	A	B	A	B	A	B	A	B	
1-19	10	43	11	53	8	29	9	37	5.8
20-99	23	61	27	75	24	63	21	62	5.3
100-499	34	73	37	82	40	81	40	80	9.4
> 499	33	100	25	100	28	100	30	100	5.8
Total	100		100		100		100		6.9

Notes: A: Share of total wages paid by firm size group.
 B: Average wages by enterprise size as a percentage of wages in largest firm size group.
 C: Average annual growth of total wages paid.

Source: Prepared from data compiled by Barrionuevo and Torres [1990] according to IGBE census 1970, 1975, 1980, 1985.

Table 4 shows the distribution of total wages paid (A) and a percentage of average wages in the largest firms (B) by firm size. The latter value should be treated with caution, since it gives only a very rough idea about wages paid in the various firm-size groups, and does not say anything about wages for the various professional groups. Moreover, in very small enterprises, there is also a tendency to understate actual labour remuneration because frequently the owner and his immediate family, while counted as workers, do not actually receive wage payments [cf. Tyler, 1981, p. 81]. The relative importance of small units in terms of numbers of firms and employment is not reflected in the share of total wages paid. Average wages seem to dwindle with enterprise size. Besides the overall economic performance of these firms, there are several reasons for this. Small firms are mainly active in industries and market segments which do not require highly-skilled staff, and which generally generate low revenues.¹⁵

¹⁵ Cf. Leite and Caillods [1987, pp. 128 ff.]; Tyler [1981, pp. 81 ff.]; Schmitz [1982b, pp. 155 ff.].

In addition, small firms show a preference for unskilled labour and a high labour turnover. The exceptional growth of very small firms in the period 1975-1980 is in contrast to a decline of 3 per cent of total wages paid in these units. On the other hand, in spite of the decline of numbers of enterprises in the period 1980-1985, total wages increased by 2.6 per cent. This growth was highest in very small firms (13 per cent) and in large enterprises (10 per cent), while for medium-sized enterprises it was only 4 per cent and the wage sum even declined by 13 per cent for small enterprises.

Table 5 shows the distribution of manufacturing value added and a ratio of average value added in industry per employee according to firm size. Again, the relative importance of very small and small firms is not reflected in their share in value added. Medium-sized firms with more than 20 per cent annual increase and large firms with 16 per cent are more dynamic in relation to value added. This is also reflected by the ratio of average value added per worker. The deviation between average value added in large firms and small and very small firms has increased since 1975. According to Tyler [1981, p. 86] the assumption is normally that the greater the use of capital on a per worker basis, the greater the value added per employee. Small firms are usually considered as being less capital intensive than larger ones and therefore it is not surprising that the ratio VA/L is lower in smaller enterprises [ibid.]. However, capital intensity does not automatically imply a high capital productivity. Since there is no reliable and corresponding information on fixed assets and capital productivity available, nothing definite can be concluded about total factor productivity or technical efficiency.

3. Recent trends in small firm development

In some countries, regions and industries the number and the employment share of small firms seem to have shown a remarkable increase. For Latin America in general, Tokman [1989, p. 1067] reports that, in spite of high economic dynamism in the 1970s, the informal sector's share of the non-agricultural workforce decreased only slightly, whereas the absolute number of people employed in the sector increased by 55 per cent between 1970 and 1980. In the case of Brazil, Tables 2 and 3 demonstrate that in the same period the absolute number of small industrial firms (1-99 employees) has increased by 194 per cent and their share of employment by 115 per cent; that of medium-sized enterprises by 100 per cent and 110 per cent, respectively, and large enterprises by 61 per cent and 71 per cent. ILO-PREALC [1988] estimates for seven Latin American countries that while employment increased only 3.3 per cent between 1980 and 1987 in large private firms, it reached 55.4 per cent in small formal enterprises, and 56.1 per cent in the urban informal sector.¹⁶ This phenomenon was even more striking during the severe recession of 1980-1983, when

¹⁶ The countries are Argentina, Brazil, Colombia, Costa Rica, Chile, Mexico and Venezuela [ILO-PREALC, 1988, Table 1].

Table 5: Distribution of value added and average VA/L by firm size, Brazil, 1970, 1975, 1980, 1985

Firm size	1970		1975		1980		1985		Average annual growth	
	VA	VA/L	VA	VA/L	VA	VA/L	VA	VA/L	%	%
1-19	9	38	10	49	8	28	5	18		5.8
20-99	21	54	25	69	22	59	17	44		10.9
100-499	33	68	40	89	42	85	41	69		20.1
>499	34	100	25	100	28	100	36	100		16.0
Total	100		100		100		100			14.4

Note: VA/L as a percentage of average value added per employee in largest firm size group

Source: Prepared from data compiled by Barionuevo and Torres [1990] according to IGBE census 1970, 1975, 1980, 1985.

employment declined by 6.9 per cent in large firms, while increasing 30 per cent in small firms and 24.1 per cent in the urban informal sector. In many cases, small firms constitute the only source of new employment and serve as a "safety-net", especially for the urban poor. In periods of economic recession, small firms have frequently compensated for the decline in both output and employment of large enterprises and in the public sector. There is evidence that the share of self-employment [ILO, 1990, pp. 15 and 19] and informal activities [ILO, 1991, pp. 8 ff.] is directly linked to the level of unemployment and the economic situation of the country. The shortage of wage employment opportunities and mass unemployment induces, or even forces, workers to seek employment in the small firm sector, or to set up their own businesses.

The experience is mixed and doubtful in qualitative terms. The small firm sector is extremely heterogeneous: the technologically backward sweatshop can be found alongside highly flexible and innovative small firms. This is also reflected in Tables 4 and 5 on Brazil, where the share of small firms in numbers of firms and jobs is not reflected by a similar share of total wages paid and value added. There have also been changes in the size composition of some branches. For example Leite and Caillods [1987, pp. 128 ff.] observed that, up until 1970, the share of small firms had declined in some of the traditional industries, such as clothing and footwear. The advent of fashion goods instilled new life into the sector and the share of small firms increased again. In the metal products and machinery industry, in which large firms have a leading role, the average size is relatively small, which indicates that there is a considerable number of small firms which produce highly specialized and diversified products [Leite and Caillods, 1987, pp. 131 ff.]. Small firms have received a new impetus through diversified demand and rapid change of taste in areas which require specific goods that are usually not produced in large batches. Other examples of the revival of small-scale production and/or its increasing importance in some branches, industries, regions and countries are presented by Schmitz (Chapter 8) and in the case studies by Marcovitch (Chapter 9) and Villarán (Chapter 10) in this book. While in some cases small firms appear to have progressed to remarkable levels of growth and competitiveness, the situation looks bleak for others. In other cases, the small firm sector has been stagnating and lagging far behind large firms, not only in terms of their economic capacity, but also with regard to their social standards.

Therefore, there is a danger in overestimating the capacity and capabilities of individual enterprises: small firms can easily be trapped in low-profit/low-innovative competition situations. According to Leite and Caillods [1987, p. 45] the weakness of small-scale enterprises does not appear to be a matter of technical or productive inefficiency but above all of "incapacity for self-determination" in the face of large-scale enterprises which, owing to their greater financial and organizational capacity, impose the overall pattern of accumulation. Small firms normally have fewer resources to call upon than large enterprises and much less possibility for strategic behaviour, namely the ability to influence and shape their markets. The poor endowment of the individual

small firm with bargaining power and economic resources easily leads it towards building its competitive position on cheap labour, that is, on low wages and poor terms of employment, or by resorting to informal types of business - sometimes with the aim of evading taxation and regulations. Such a business setting in turn creates unfavourable prospects for long-term improvement and competitiveness of small firms because it deprives the small firm of options for building its business strategy on innovation and new markets; it also reduces the willingness of entrepreneurs to invest in human resource development. Hence, it is not size as such which basically determines the economic and social performance of firms, but rather the political, economic and institutional environment in which firms operate.

III. The environment of small firms: the Latin American context

Until recently, the environment in which small firms operate has been neglected in most studies about their development prospects and potentials.¹⁷ The premise of this section is that the main problem of small firms is their isolation and powerlessness, particularly in a socio-political setting which is geared to large enterprises.

1. The policy environment

Most Latin American countries have been pursuing a development strategy which stressed accelerated industrialization, with a focus on import substitution, later complemented by export orientation.¹⁸ Substantial resources have been marshalled in the formation of mostly large-scale, public and private enterprises and sometimes also in the hope of attracting foreign direct investments. Some of the industries developed along import-substitution lines have been those which tended to be universally the most concentrated, such as metallurgy, electrical machinery and communication equipment, transportation equipment, chemicals, rubber, pharmaceuticals, and machinery. Thus, industrial policy has promoted a rapid growth in sectors which appeared to be less suitable

¹⁷ Only recently have these important aspects been increasingly taken into consideration: e.g. (i) De Soto's [1989] study on institutional constraints for small enterprise development has had an important impact on approaching the small firm sector; (ii) a research project at the University of Constance (Germany) has been dealing with the administrative constraints to promoting small enterprises [cf. Assunção et al., forthcoming; Elsenhans and Fuhr 1991]; (iii) a research programme on relations between the informal sector and public authorities, and political power is currently under way at the OECD Development Centre under the programme "*Governance and Entrepreneurship*".

¹⁸ Cf. ECLAC [1990] which appraises the various development strategies pursued in Latin America.

and less conducive to small-scale activities. In only a few cases, such as the automobile industry, has the creation of large establishments explicitly stimulated the development of small or medium-sized enterprises through a horizontal and vertical division of labour with independent small and medium-sized subcontractors. For example, the Brazilian government has encouraged the establishment of such a division of labour in the automobile industry, in which foreign companies procure a large percentage of parts and materials needed from indigenous/national specialized small and medium-sized enterprises.¹⁹

The light consumer goods industries, which generally maintain a higher participation of small firms, have tended to grow more slowly. These industries include food and beverage products, clothing and footwear, furniture and lumber, printing and publishing, and non-metallic mineral manufacturing. However, contrary to mainstream development theories, based on the imperative of an ever-increasing scale of industrial organization, small firms did not decline. For Brazil, Leite and Caillods [1987, pp. 41 ff.] conclude that, although the model of industrial development has been based mainly on large-scale enterprises, the general economic growth, the diversification of production activities and even the geographic concentration of industry have proved beneficial in the multiplication of small productive units. For Colombia, also, Cortes et al. [1987, pp. 212 ff.] state that in the period of sustained high growth in the 1970s small firms appeared to have been the most dynamic source of new jobs within the manufacturing sector (cf. also Chapter 6).

In the 1980s, most Latin American countries have faced crisis conditions, resulting in a dramatic decline in economic growth, employment and living standards. According to the World Development Report [1991, p. 207] for the whole region, the annual growth rate of GDP dropped from 6.1 per cent in the period from 1965-1980 to 1.6 per cent in 1980-1989. Annual growth rates in industry decreased from 6.7 per cent (1965-1980) to 1.6 per cent, and in manufacturing from 7.2 to 1.5 per cent [ibid.]. The Economic Commission for Latin America and the Caribbean [ECLAC, 1990, p. 11] talks about a "lost decade", in which the majority of countries in the region suffered setbacks in the economic and social sphere. Against this background of crisis, many Latin American countries have adopted austerity policies and structural adjustment programmes. With outside resources now largely unavailable²⁰ most countries had to abandon development strategies which are primarily based on capital-

¹⁹ Such a development was explicitly promoted by the Brazilian government. However, the car producers tended to prefer internal production because the technological level of small firms did not satisfy their requirements in terms of standards and quality, and due to an unfavourable taxation policy (cf. Tsukamoto and Koike, 1985, pp. 151 ff.).

²⁰ Resources for official development assistance (ODA) have almost stagnated since the 1980s [World Development Report, 1991, Tables 21 and 22] and it is likely that they will decline in the near future. Presumably, due to the recent changes in Central and Eastern Europe, resources for official development assistance, as well as private foreign direct investment, will be reallocated and probably directed towards these restructuring economies.

intensive investment projects and large enterprises.²¹ It is expected that future economic progress will depend mostly on the expansion and revitalization of the private sector. Accordingly, policymakers increasingly recognize that they must rely on mobilizing local resources, such as internal savings, entrepreneurship development and private sector initiatives.

Expectations have been raised that small firms could become the key to a new dynamism in economic development, easing the stress of adjustment, and providing a breakthrough solution to mass unemployment; "... and media lionized a new folk hero - the microentrepreneur - as a Don Quixote tilting against the windmills of big labor, big business, and the state".²² As part of a larger concern with economic restructuring, small firms are now contrasted with large, bureaucratic, often state-run enterprises and associated with the advantages of a market economy. Although there may be considerable scope for amending, simplifying and streamlining regulations, incentives and administrative practices which currently present obstacles for private sector development, there is no point in merely reprivatizing across the board, improving price structures and liberalizing the whole economy. Mere reliance on market forces and the strengthening of the private sector does not automatically benefit the small firms, as it could rebound and create a situation whereby the redefinition of economic policy targets would mean that the influence of large enterprises will again dominate. Viable policies must be worked out to create a conducive environment for encouraging small firm development and local resource mobilization. Therefore, the question is not whether the State should involve itself in economic regulation but, rather, how it can undertake creative and effective policy formulation to enhance sustainable small firm development, and how these policies can be implemented productively [cf. ECLAC, 1990, p. 94].

For a long time, a major problem of policy formulation and implementation has been that this process was quite often confined to a small group, and lacks transparency and accountability.²³ Small entrepreneurs have as a rule not been integrated by established interest groups, such as employers' organizations, sectoral federations and associations or Chambers of Commerce and Industry, and trade unions have confined themselves to workers in larger enterprises. Thus, small firms were normally excluded from any political bargaining process, and a top-to-bottom approach prevailed in policy formulation. However, any policy needs the support of the potential beneficiary if it is to be effective and

²¹ A critical appraisal of the industrial strategies pursued stems also from an increasing concern about environmental issues.

²² Cf. Introduction, in: *Grassroots Development* [1989, p. 2].

²³ For a general evaluation of the state in Third World countries, see *World Development Report 1991* [pp. 128 ff.]. With the persistence of mercantilist structures in Latin America, large groups have been excluded for a long time from all policy formulation interaction.

produce permanent results.²⁴ In the 1980s, many Latin American countries not only experienced setbacks but also progress towards pluralist, participative and democratic societies in the politico-institutional field [cf. ECLAC, 1990, p. 11]. According to ECLAC, this is reflected in emergent forms of political and social consensus building, and an increasing recognition that economic strategies and policies must be formulated and applied within a democratic, pluralist and participatory context [ibid., p. 15, pp. 149 ff.].

In the course of the democratization process, governments and political parties in Latin America have discovered that small firms constitute a political force which cannot be disregarded.²⁵ Thus, it is important that small firms organize themselves into networks, groups or associations in order to voice their interests and to improve their political standing for participating actively in the shaping of their policy environment.²⁶ In many Latin American countries, the process of economic recovery and democratization seems to be closely linked with the question of political and economic decentralization, as well as participation at a local level.²⁷ Therefore, organization of small entrepreneurs is not only of relevance for taking part in the creation of a conducive macro-policy environment for private sector development, but it is also a question of whether bottom-up development can take place at the regional and local levels. This would be of particular importance for enhancing the promotion of local and regional virtuous circles, as is discussed by Fuhr in Chapter 3 [cf. also Tokman, 1989, p. 1073; ECLAC, 1990, pp. 90 ff.].

2. *The institutional and regulatory environment*

Through monetary and credit policies, investment incentives, trade regulations, licensing, etc., macro-economic policy has favoured the growth and establishment of large firms. In the case of industrial regulations, the World Development Report [1991, p. 78] lists the following: "(a) entry barriers, such as establishment and capacity licensing, exclusivity arrangements, and market reservation policies, often to promote state enterprises and protect powerful interests; (b) exit barriers, such as weak enforcement or lack of appropriate

²⁴ The ILO report on the informal sector [1991, pp. 51 ff.] stresses that there is a necessity for a full commitment of the tripartite groups - governments, employers and workers - to apply a comprehensive strategy for promoting this sector.

²⁵ See Tokman [1989, p. 1068]; Piquet Carneiro (Chapter 2) points to the danger of manipulation in the example of the Brazilian Micro-Enterprises Law.

²⁶ It is up to the entrepreneurs to choose the adequate form of organization, depending on the purpose, the social and cultural background; there is a wide range of possibilities between more formalized and informal institutions.

²⁷ This was discussed in an OECD seminar on "*Local employment initiatives: Comparing the experience of OECD and Latin America*" held in Valencia, on 29-31 January 1990 [see *Iniciativas Locales de Empleo*, 1992]. It was also discussed as part of the joint ILS/ILAM conference.

laws; (c) price controls, ostensibly to protect consumers; (d) canalization or confinement policies, which give only specific firms the right to buy and sell certain goods according to centralized guidelines and priorities; and (e) administratively regulated allocation of key resources, such as credit and even physical inputs." Government programmes were biased towards large firms and have essentially, although to a great degree inadvertently, discriminated against small firms, while at the same time hampering competition and innovation [cf. World Development Report 1987, p. 129 and Box 7.8].

Policies, programmes, regulations and incentives are executed by administrative institutions and authorities. However, there is frequently a substantial gap between the range of objectives of these policies and the institutional capacity for implementation. In many places bureaucracies have imposed a high degree of concentration and centralization of resources and decision-making, and show features of paternalism and clientelism, features which are discussed in detail by Fuhr in Chapter 3 [cf. also World Development Report, 1987, p. 73, Box 4.5]. Particularly in the field of economic promotion, institutional performance is often poor and steering capacity limited. This applies frequently to regional and local administrative units, which are usually not sufficiently equipped with competent staff, resources and decision-making authority. In fact, initiatives by local authorities to promote private sector development are often stifled by a centralized decision-making process and a lack of financial resources.²⁸ As things stand, most regional and local authorities would not themselves profit much from local economic growth, since tax incomes and rents generated in the area are transferred to the central administration. Even where institutional or legal reforms, such as decentralization, have been assumed, the administrative sub-structure is often too weak to implement these reforms efficiently and in some cases the political will to do so is also lacking [cf. ECLAC, 1990, p. 12]. The immediate environment in which small firms operate is shaped by these various authorities, which play a pertinent role because of their regulatory function - such as enforcing regulations, fiscality, labour, health and ecological matters - and their support functions - such as zoning, provision of infrastructure, various services, educational and training facilities. However, what still prevails in most places is an administrative and institutional setting which is hardly supportive and often discriminatory.

As a result, the related prolonged bureaucratic processes to comply with regulations, to meet multiple legal requirements, to import or export, and to benefit from any government incentives, often go beyond the capacity of the individual small firm. The most important institutional and regulatory matters for small firms are in the field of registration and licensing, taxation, and labour regulations. One example of the administrative and regulatory maze encountered

²⁸ Furthermore, there is often a lack of incentives for officials of regional and local institutions to take initiatives or risks, since these administrative levels offer few career prospects in the civil service.

by entrepreneurs concerns the procedures required of firms for establishing a recognized business activity. In most countries enterprises cannot deliberately start to produce in all branches or take up any type of activity, since registration and/or licensing, and sometimes health and security inspections, are usually required. According to Tokman [1991] these procedures are highly variable between countries and even within a country, in terms of time and costs involved. A prominent example of excessive bureaucratic requirements for registering a firm is Peru, where De Soto [1989] found that the time needed to complete all the formalities necessary to start up an enterprise in Lima took 289 days [cf. also World Development Report, 1987, pp. 74 ff., Box 4.6]. Another example was Brazil, where until the late 1970s small firms had to conform to the same requirements as larger ones, with about 500 documents, signatures, and permits required to establish, maintain, and liquidate a firm [cf. Sanders, 1985, p. 3]. In many places, entrepreneurs are confronted with extended and complicated administrative procedures and unwieldy requirements.²⁹ Thus, the process of formalization is not only time-consuming and costly, but constitutes a barrier equivalent to a prohibition to operate legally. As long as the formalization process is so cumbersome and does not create immediate advantages, registration will not be of priority importance to entrepreneurs.

However, it is not only the difficulty of the initial procedures and costs involved in becoming a recognized business activity, but also those involved in complying with legal requirements, such as tax and labour obligations, when functioning as a unit, which complicates matters. For example, Tendler [1983, pp. 137 ff.] mentions that there is a break-even point for small enterprises to legalize a firm, and that some firms are not able to absorb the additional costs for staying legal [Tokman, 1991]. Although the fact that an enterprise is clandestine or informal may yield the advantage of reducing costs by escaping regulations, social restraints and taxation (which is actually a frequent criticism of the informal sector), an informal status also encompasses vulnerability and various drawbacks. Not being officially recognized as a business also implies insecurity, including not being protected by law in such matters as enforcement of contracts and property rights. In addition, informal enterprises are often subject to diverse forms of harassment and may have to pay off government officials in order to stay in business. Furthermore, Tendler [1983, pp. 122 ff.] reports for Brazil that clandestinity may adversely affect marketing possibilities: larger formal enterprises, which would be interested in buying from small manufacturing firms, require an official sales receipt (*nota fiscal*) for tax deduction purposes. This receipt can only be issued by formal enterprises. Moreover, informality also means a lack of opportunity for access to technical

²⁹ Accordingly, in some countries, mediation by specialized middlemen is required for simple bureaucratic procedures. For example, Sanders [1985, p. 3] reports that for this purpose Brazil has a professional class called *despechantes*, who know how to get documents and permits, including payment to public officials to facilitate matters, although for more complicated matters a lawyer is often needed.

assistance, credits and government incentives.³⁰ With a view to gaining access to these benefits, some small firms try to comply with at least some of the regulations. In fact, for Latin America, it was shown that the majority of enterprises are neither completely illegal nor legal, they are in an intermediate situation - a grey zone [cf. Tokman, 1991]. Some enterprises have initiated the procedure for formalization, but have not completed the process. Others have registered only part of their business activities. The same applies to taxation - some firms may declare only part of their activities. As far as labour regulations are concerned, some entrepreneurs may register their permanent labour force and pay their social contributions, while not doing so for casual workers.

3. *Special incentives and support programmes*

In order to overcome the negative effects of broader policies for small producers, many Latin American countries have launched a battery of special incentives and direct assistance programmes. Direct assistance programmes for small enterprises have been in existence since the 1970s, often with the support or expert advice of international aid agencies, such as UNIDO, ILO, the World Bank and the Interamerican Development Bank.³¹ Special institutions have been formed to help small firms directly overcome their perceived weaknesses: (i) institutions have been created to cater for different services and training requirements; (ii) industrial estates with a material infrastructure have been set up; and (iii) development and commercial banks have operated special credit schemes. Examples of these measures are: the Brazilian Centre for the Support of Small and Medium-sized Enterprises (CEBRAE) founded in 1972 at the federal level, which in its turn has instituted regional branches, the CEAGES. National vocational training institutions like SENATI in Peru, SENA in Colombia, SENAI in Brazil have generated special training programmes aimed at the needs of small entrepreneurs.³² Industrial estates (*parques industriales*) have been established in Argentina, Ecuador, Peru and other countries. National financing agencies, usually with credit lines from the World Bank or the Interamerican Development Bank, maintain special credit schemes for small firms in Brazil, Colombia, Ecuador and Peru.

³⁰ Cf. ILO [1991, pp. 35 ff.]; Tokman [1989, pp. 1073 ff.; 1991].

³¹ For an appraisal of the generation and implementation of small enterprise promotion programmes by international organizations, cf. Fuhr and Späth [1989]; for policies and programmes for small enterprises cf. Neck and Nelson [1987]; ILO [1986]; for promoting self-employment see ILO [1990]; and for the informal sector see ILO [1991].

³² For Latin America, see Chapter 4; for Brazil, see Chapter 5 and Leite and Caillods [1987, pp. 89 ff.]; for the informal sector in general, see Fluitman [1989].

However, evaluations of this type of assistance show that most of these measures were isolated interventions with significant limitations.³³ Direct intervention stands a chance of success only if it is grounded in a general economic environment favourable to small firms. Such institutions often have only insufficient operational links with small firms and do not meet their fairly diversified needs. They apply a rigid set of rules and regulations, and suffer from bureaucratic inertia and inability to innovate and take risks. Furthermore, there has been a tendency for these institutions to become politicized, to try to incorporate interest groups, and to oblige individual entrepreneurs or groups through a system of patronage and clientelism. In spite of ever-increasing numbers of special support institutions, not enough information about the assistance offered is disseminated among the small entrepreneurs, particularly outside the big cities. As a result, only a small number of usually better-off and urban-centred enterprises benefit. In addition, there is often not much cooperation between the different support institutions - sometimes not even between the branches or extensions of the same institution - which causes a fragmentation of approaches and efforts, wastes human and financial resources, and obstructs inter-institutional complementarity. However, the creation of such specialized autonomous or semi-public agencies was intended to supply state benefits and at the same time circumvent the prevailing structural weaknesses of public administration in these countries. Admittedly, the advantages associated with this type of institution-building - economic efficiency, problem-oriented organization, as well as openness to public control - are diminished by the fact that these institutions, as a social sub-system, tend to reproduce the same structures as the general administrative system.

Since the 1980s, many Latin American governments have increasingly recognized the importance of small firms and issued laws and special incentives in their favour. In Peru, the new general law on industries (*Nueva Ley General de Industrias*) proposed special treatment for the small industry sector in 1982, but it was only in 1985 that this change came into force [cf. UNDP et al., 1988, p. 149]. Although under the 1985 law the treatment of small-scale industry does not differ considerably from that of larger industry, few, limited fiscal incentives are suggested, the main one being, for all practical purposes, lower application rates of the general sales tax to small firms. However, this law has simplified regulatory procedures for registration. In a new law for a single tax (*imposición única*) an even larger step towards the simplification of existing legislation has been proposed, in order to replace a whole series of taxes and levies, such as income tax, general sales tax and the levies for the various national institutions for housing, industrial training and industrial technology. Likewise, in Colombia, the 1982 Micro-enterprise Law (*Ley de Microempresas*) accelerated procedures for formalization and gives varied assistance to the informal sector. In addition,

³³ Cf. UNDP et al. [1988]; Teszler [1989]; Nanjundan [1989]; Assunção et al. [forthcoming] covers case studies in Ecuador, Peru, Senegal and Zambia; Elsenhans and Fuhr [1991]; for financing institutions, see Levitsky [1989]; Fuhr [1987].

in March 1987, an integrated plan was announced for the promotion of small and medium-sized industry [cf. UNDP et al., 1988, p. 152].

The Brazilian Micro-enterprise Statute (*Estatuto do Microempresa*), proclaimed in 1984, provided a set of measures intended to assure a favourable treatment of micro-enterprises in such matters as registration, labour, social welfare, and taxation.³⁴ In Chapter 2, Piquet Carneiro reviews the political background and evolution of legislation and policies towards small firms in Brazil. The Brazilian Constitution, promulgated in 1988, includes an article on small firms according to which the Federal Government, Federal Districts, States and municipalities shall deal with micro- and small-scale enterprises in a distinct and favoured juridical way, with the purpose of promoting them through the simplification of obligations concerning taxes, social welfare and credits, or through the elimination or reduction of such obligations in compliance with any legal provision.³⁵ These principles and their regulatory procedures have been defined in a complementary law, which has been in force since 1989.³⁶ As a result of this legislation, the procedures to register an industrial enterprise have been reduced to about 44 working days in Brazil [cf. Tokman, 1991]. Nevertheless, representatives of a Brazilian small entrepreneur association affirmed that small enterprises are still confronted with a fiscal maze and have therefore demanded a single tax.³⁷

Despite the fact that in recent years most governments have launched a variety of policies, programmes and projects geared to promoting the small firm sector, in most developing countries small firms continue to have an inferior status. This points to the existence of various inadequacies at different levels of policy formulation and implementation. If the policy environment is distorted, special incentives and direct assistance programmes aimed at compensating for these distortions are unlikely to be effective, and in fact may well make things worse - e.g. by promoting the wrong kinds of activities, creating cumbersome bureaucratic procedures, and encouraging small firms to build their competitive advantage on cheap labour, etc. Whereas incentives may spur the setting up of small enterprises ad hoc, it will also be easier for even inefficient small producers to survive. The World Development Report [1991, p. 79] warns that at the same time it is likely that benefits may accrue to firms from manipulating

³⁴ According to the Brazilian Micro-Enterprise Law No. 7,256, of 28 November 1984, micro-enterprises are defined as any legal entity and sole proprietorship whose annual gross revenue is equal to or less than 10,000 OTN (Government Indexed Bonds) [cf. Sanders, 1985].

³⁵ Title VII, Chapter I, Article 179 of the Constitution of the Federal Republic of Brazil on 5 October 1988 [cf. CNI/DAMPI, 1989, pp. 16 ff.].

³⁶ Law no. 7799 of 10 July 1989 settles (in article 41) that the limit value of the gross income for microenterprise exemption shall be expressed in BTN (Government Indexed Bonds) and shall amount to 70,000 BTNs [cf. CNI/DAMPI, 1989, p. 16].

³⁷ This point was discussed during the conference held in São Paulo in March 1990 (cf. annex on the single tax and municipalization in Chapter 2).

the system itself, rather than from innovation, adoption of new technologies, and efficient production that would be demanded by the rigour of competitive markets.

4. *Industrial relations, working conditions and human resource development*

The interest in small firms in the context of developing countries is inevitably linked with the issue of employment and income generation, since unemployment and poverty are major problems. While there is not much controversy about the importance of creating employment and income, views on the benefits for labour in small firms vary widely. In one perspective, wages and the flexibility of labour in small firms are determined by the labour market and are frequently contrasted with the "over-protected" labour and regulated employment conditions in large enterprises.³⁸ The interest in small business development is part of a larger concern with deregulation of the labour market and related efforts to remove artificial restrictions for re-establishing flexibility in hiring and firing workers. A second group of analysts sees the trend towards small firms resulting from either an effort to escape social restraints upon economic organization, or lower costs through labour exploitation.³⁹ According to this view, the growth of small firms represents mainly a redistribution of income from labour to capital at the expense of unaccounted and unacceptable social costs. However, labour regulations and conditions still tend to be considered only in economic terms, such as costs. There has been little discussion about the extent to which labour conditions in small firms themselves may influence the growth potential of such firms. For example, to what extent do lower wages and fringe benefits, which are interpreted as cost advantages of small firms, lead to shortages of skilled workers and a high labour turnover, which are obstacles to improving productivity of firms?

Existing labour regulations and social security schemes are often considered as being inadequate and too inflexible for small enterprises, since they have been principally designed for the modern large-scale sector.⁴⁰ In fact, small firms often do not comply with existing labour legislation. This non-observance is often linked with the precarious existence of the small (informal) enterprise, and its related inability to absorb the increased costs involved by complying with the full range of labour regulations [cf. ILO, 1991, p. 38]. But

³⁸ Cf. *World Development Report* [1987, pp. 122 ff.; 1991, pp. 79 ff.]; however, the World Bank and other proponents of deregulation also recognize the necessity of having some form of labour market regulations and respect of basic labour standards.

³⁹ See Breman [1976]; Portes [1978]; Moser [1977; 1978]; Gerry [1978]; LeBrun and Gerry [1975]; Leys [1973]; Bienefeld [1975].

⁴⁰ For a discussion of labour standards and regulation within an international context, cf. Sengenberger [1991].

it has also to be taken into consideration that a high proportion of the workers in small firms are self-employed or unpaid family workers, who are not subject to many legal obligations.⁴¹ Some labour laws and regulations are essential to the functioning of society as a whole, particularly in the case of such basic human rights as freedom of association, freedom from forced labour and freedom from discrimination. Others are designed to protect individual welfare, such as restrictions on child labour, working hours, health and safety risks. In recent years, some countries have adapted their labour legislation to take account of small firms, by exempting small industrial units from labour protection, minimum wages and social security contributions and other obligations. Such a differentiated treatment has also been discussed in the case of the Brazilian micro-enterprise law, a fact which is criticized by Piquet Carneiro (cf. Chapter 2). As has already been mentioned, this type of incentive encourages small firms to build their competitive strategy on cheap labour, rather than on new markets and quality of products, and may also result in other distortions.

The Report of the Director-General of the ILO on the informal sector [ILO, 1991, pp. 39 ff.] therefore suggests a progressive application of labour standards and measures to reduce, and eventually eliminate, the most abusive forms of labour exploitation. With reference to this, Barreiros et al. in Chapter 7 report on precarious situations in small firms in Brazil and the numerous difficulties encountered to implement existing laws on the prevention of accidents and health hazards at the workplace. However, representatives of small entrepreneurs stated that there is also a lack of information about legal requirements, as well as on what measures can be taken for improvement. Consequently, Barreiros et al. point to the ILO training programme *Higher productivity and a better place to work* [Kogi et al., 1988], which not only supplies information on how the situation in the workplace can be improved, sometimes with simple measures, but also on how productivity can be increased.

Employment in many small firms is characterized by: (a) the absence of formalized employment contracts, job security, and fringe benefits; (b) low remuneration; (c) long hours of work; and (d) hazards at the workplace, all of which apply to the entrepreneur himself, wage workers, family labourers and apprentices. Legal minimum wages and standards normally represent the upper limit for employment conditions in the small firm sector. Nevertheless, in some cases the income (mainly that of the owner) in small firms may be higher than that of wage employment in large firms and Tokman [1991] has observed that the growth of more successful small firms has also resulted in improved standards for their employees, including paid vacations and the payment of bonuses. Unsatisfactory labour conditions in small firms are also linked to the fact that workers in these units are usually not organized and covered by collective agreements. The low level of organization of workers in small firms and their low degree of coverage by collective agreements is influenced by the following factors:

⁴¹ Cf. ILO [1991, pp. 37 ff.]; Tokman [1989, p. 1074].

- (1) The industrial relations system of a country, e.g. whether plant or company unions or industrial unions predominate, as well as whether collective bargaining takes place at a company- or an industry-wide level (cf. Chapter 6).
- (2) The disinterest of most trade unions in workers in small firms: unions have traditionally concentrated on modern large- and medium-scale enterprises. According to the ILO [1991, p. 47]: "The existence of the informal sector is the very antithesis of everything that the trade union movement stands for... Trade unions in the past, like governments and employers, generally ignored the problem, in the commonly-held belief that, as a vestige of the past and a manifestation of underdevelopment, it would eventually be absorbed by the modern sector, and that those who worked in it could therefore eventually be covered by the trade union movement."
- (3) The way these enterprises operate, since a large share of the workers in small firms are either self-employed or unpaid family workers. Moreover, in the absence of enforceable work contracts and of trade unions in small firms, their labour relations tend to be paternalistic, with the owner of the enterprise working alongside his employees and apprentices [ILO, 1991, p. 38]. Thus, labour relations in these units are conducted on a very different basis from modern sector enterprises and trade unions rarely have access there.

Nevertheless, there is an urgent need to generate pressure for change, for the elimination of the worst forms of exploitation, and for improved working conditions in small firms and in the informal sector. According to the ILO [1991, p. 38], this pressure can only be built up by trade union type organizations. Therefore, the trade union movement is challenged to extend its action and if necessary modify its approach to deal with the problems.

Human resource development and training in small firms constitutes another important issue, which is addressed by Alexim in Chapter 4 for Latin America in general and by Silveira in Chapter 5 for the specific case of SENAI in Brazil. Small firms are expected to serve as a seed-bed for indigenous entrepreneurship development and as a training ground for the labour force. The labour market is often lopsided, with an ample supply of unskilled and semi-skilled labour on the one side and a shortage of qualified and experienced workers on the other. In general, there appears to be a lack of established, generalized and socially acceptable systems of occupational profiles and vocational training. Until recently, courses in national vocational training institutions were geared mainly to the needs of modern industry.⁴² Skilled workers are normally absorbed by large firms, which provide attractive employment and working conditions as compared to small firms, and the latter

⁴² Cf. e.g. Chapters 5 and 6; and Leite and Caillods [1987, p. 83].

have benefited to only a limited extent from traditional training programmes. Many large enterprises train their staff themselves, and numerous small entrepreneurs acquired their skills in this manner. For various reasons, small firms are apt to absorb the unskilled part of the labour force. In particular, clandestine enterprises have a preference for a high turnover of unskilled workers in their labour force in order to avoid legal prosecution for dismissal of workers and to attain flexibility according to the market situation [Tendler, 1983, pp. 139 ff.]. On the other hand, Leite and Caillods [1987, p. 195] found that small enterprises claimed that unskilled workers and labourers were hard to keep mainly due to low wages.

Many national training institutions and non-governmental organizations have recently generated special training programmes to cater for the specific needs of workers and entrepreneurs of small firms.⁴³ In the case of SENAI, particularly in the field of training micro-entrepreneurs, Silveira points to various problems and fears encountered by small entrepreneurs concerning the training of their personnel: one relates to increased costs when workers are absent for a training course; another is that, once skilled, workers may seek a better paid job in a large firm. How training can enhance small firm development is documented in an example presented by Villarán: in a Peruvian prison, vocational training in leather manufacturing could be obtained and this has contributed to the consolidation of a cluster of small footwear manufacturers in the district near Trujillo.

Concerning the overall inter-relationship between human resource development and economic progress, recently a rethinking and even reorientation of policies is taking place within the international development community. This is manifested by issues taken up in the Human Development Reports [UNDP, 1990; 1991; 1992] and also the World Development Report [1991, pp. 52 ff.] which point to the relevance of education and training in increasing productivity, local resource mobilization and private sector development.

IV. Lessons from the European experience

To recapitulate: despite various policies and assistance in favour of small firms, the small enterprise sector has not come up to expectations in most developing countries. Thus, it is doubtful whether small firm development depends primarily on capital infusion, technology transfer and direct assistance to individual enterprises, particularly when the institutional environment is badly distorted. The questions proposed at the beginning of this article are yet to be answered. How can small firms meet the expectation of economic and socially

⁴³ For Brazil, cf. Leite and Caillods [1987, pp. 89 ff.] and Chapter 5; for Latin America, cf. Chapter 4; for general information on such training programmes, cf. e.g. Fluitman [1989]; Neck and Nelson [1987]. However, the general establishment of a parallel vocational training system -one for large and one for small firms - is a doubtful policy, since it would probably only increase the differences between these types of firms.

viable development? In what way, and through what kind of policy, can economic targets such as flexibility, efficiency, and innovation, be reconciled with social objectives, such as employment creation, good pay, job quality, and equity?

A comprehensive review of small firm development and small firm promotion policies in industrialized countries⁴⁴ and studies on inter-firm cooperation and industrial districts,⁴⁵ both of which have recently been undertaken within a concerted research effort⁴⁶ coordinated by the International Institute for Labour Studies (IILS) suggest that there are other options for viable small firm development. Small firms must integrate themselves into a larger context of inter-firm relations, which provides a broader resource base, and helps the small firm to improve its political standing. Such arrangements might consist of:

- (i) *large enterprises that transfer various resources*, such as technical know-how, equipment, capital, managerial skills, qualified workers, access to markets etc. to small firms;
- (ii) the formation of *small firm communities* that engage in some division of labour connected with joint purchases, development and use of resources such as energy, equipment, office space, transport, etc.

The first option is also known as a "foster model", and has to be seen against the development of a new and growing division of labour among firms [Sengenberger, 1988, pp. 254 ff.; Lazerson, 1990a; 1990b]. Large firms are increasingly heralded as being the necessary supporter for small firms by transferring various resources, through franchising, subcontracting or ancillarization arrangements. The latter provides the closest relationship between large firms and small feeder industries. One of the best known and most sophisticated foster systems is represented by Japanese subcontracting which has recently assumed international dimensions.⁴⁷ Such relations may provide mutual benefits: for developing countries the case of India is noteworthy [cf. UNIDO, 1985; Kashyap, 1992]. Since 1978-79, the Indian government has strengthened its policy for ancillarization and subcontracting by issuing comprehensive and detailed guidelines and incentives to encourage collaboration between both types

⁴⁴ The results of six case studies of the major OECD countries were published in Sengenberger et al. [1990]; for Canada, cf. Laroche [1989].

⁴⁵ Although particularly prominent in Italy [cf. Pyke et al., 1990], industrial districts are also found in other countries [cf. Pyke and Sengenberger, 1992].

⁴⁶ This research has been inspired by the concept of flexible specialization, which challenged the mass production paradigm and championed the viability of small-scale industrialization, cf. Piore and Sabel [1984].

⁴⁷ For Japan, cf. Koshiro [1990] and Kuriyama [1990]; and for Brazil, Tsukamoto and Koike [1985].

of firms. Subsequently, the number of industrial units registered as ancillary has increased and they have become particularly important in the automobile, engineering and bicycle industries. However, the affiliation between large and small firms carries the risk of control on one side and dependence on the other. Due to their limited resources and lack of bargaining power, small entrepreneurs may end up in subcontracting relationships, with a degree of economic dependency that resembles that of wage labour (disguised employment).⁴⁸ Furthermore, the last link in a chain of subcontracting is often constituted by the most vulnerable groups: women and children, working under precarious conditions. From European and Japanese experience it appears unlikely that small firms can gain substantial independence from large enterprises in their exchange and trading relations unless they simultaneously organize themselves "horizontally", i.e. among themselves in a sort of business community or network. Clearly, asymmetric exchange relations controlled by the large firm or the use of small firms for buffering costs and risks inhibits viable small firm development.⁴⁹

The second option is termed "community model" [cf. Sengenberger, 1988, p. 256] in which networks of small firms attain "collective efficiency".⁵⁰ Promising clues as to how small firms can get organized, and how such cooperation yields (external) efficiencies and produces competitive and innovative ability are provided by the European example of industrial districts. Although industrial districts have become particularly prominent in the case of Italy [cf. Pyke et al., 1990], similar forms of inter-firm cooperation are also to be found in other European countries, and elsewhere [cf. Pyke and Sengenberger, 1992]. Industrial districts, in which communities of small firms have achieved remarkable resilience and growth, are the small firm variant of flexible specialization, a concept introduced by Piore and Sabel [1984] in their reinterpretation of the industrialization process, which challenged the mass production paradigm and championed the viability of small-scale industrialization.⁵¹

The crucial characteristic of an industrial district is its organization, which may vary superficially, but typically contains a number of key elements [Sengenberger and Pyke, 1991, p. 1]. Perhaps the most outstanding feature is that clusters of (mostly) small firms are linked through strong networks. Both the integration of small firms into a larger context of inter-firm relations and close geographical proximity enhance various kinds of collaboration, the spread of ideas and technical innovation, and a sense of group consciousness. The

⁴⁸ For Brazil, cf. Ozorio de Almeida [1982]; and Tsukamoto and Koike [1985, pp. 141 ff.]; for Colombia see Chapter 6.

⁴⁹ Cf. Cawthorne [1989] for India and Smyth [1991] for Indonesia.

⁵⁰ The notion of collective efficiency was introduced by Schmitz (cf. Chapter 8).

⁵¹ For a critical review of the flexible specialization concept, cf. Schmitz [1990].

communities of small firms specialize in the same industrial sector in the sense that they contain a large set of related backward- and forward-linked activities contributing to the manufacture of a family of products (such as ceramic goods or knitwear). This also includes the existence of the manufacture and maintenance of capital goods, as well as various related technical and commercial services. Through this horizontal and vertical division of labour, small firms achieve the autonomy and economy of scale and scope normally enjoyed by large firms. The backward and forward linkages and the close working relationships are an advantageous basis for continuous innovation and upgrading of machines, tools, production processes and the product itself. At the same time, inter-firm competition stimulates efforts to create better products and processes, new markets, innovation and flexibility. Vertical and horizontal links between clusters of firms facilitate the diffusion of know-how and skills, reduce technological discontinuities and increase the capacity to respond to changes in the market. As a result, there is a collective ability to adapt and innovate even in times of crisis. This also increases the likelihood that entrepreneurs, as well as the labour force, will learn new skills. Furthermore, the existence of an entrepreneurial culture and dynamism facilitates entry (but also exit) from business, inter-firm cooperation and trust among entrepreneurs. The availability of a skilled, often multi-skilled, and flexible labour force is a key component for a competitive strategy which is based on flexibility and innovation. Strong interest groups and self-help organizations have supported the collective and cooperative organization of the district. Furthermore, a relatively sympathetic national legal and regulatory framework, and effective regional and municipal authorities, have created a favourable environment for the development of these small firms. This specific combination of economic, social and institutional arrangements has provided the conditions which enable small firms to compete successfully on both national and international markets. Thus, small firms congregated in industrial districts have even outperformed large firms in many consumer goods industries, such as textiles, clothing, footwear, leather goods, ceramics. They have also excelled in precision engineering and machinery.

This particular form of industrial organization, in which small firms cluster around a set of related activities which facilitates efficiency and flexibility gains rarely attainable by individual small firms, is of interest to both researchers and policymakers. It is important to note that the economic success of industrial districts has not come as a result of the advantageous access to low cost factors of production - cheap labour, land or capital - but rather from a particularly effective social and economic organization based on small firms. Thus, the development of small firms is not just an outcome of pressure and constraints, that is to say of economic slump, but also of opportunities and initiatives. Therefore, this variant of flexible specialization in which small firms attain collective efficiency could be of immediate relevance to developing countries since it is a concept embracing key areas of development policy concern: economic efficiency, technological and organizational innovation, entrepreneurship development, human resource development, employment and income

generation, institutional change, endogenous regional development and social viability.

However, it is not assumed that European-type industrial districts are directly transferable to developing country contexts, thus imposing yet another blue-print model, such as industrial estates, incubators, technology and/or business parks etc., to already existing ones. Instead, it would be useful to explore (a) whether collective efficiency is of equal importance to countries at lower levels of industrialization and for all industrial sub-sectors; (b) whether the organizational principles inherent in industrial districts or similar ones are found elsewhere; and (c) how the concept would need to be adapted to the specific circumstances of developing countries.

Our understanding of collective efficiency of small firms needs to be developed further through both theoretical and empirical work and adapted to the specific circumstances in developing countries. A first step in this direction was made by Schmitz [1990] in his exploratory work on whether the pursuit of flexible specialization is of equal importance at lower levels of industrialization, of which a shortened and revised version is contained in Chapter 8. Schmitz suggests that existing sectoral agglomerations of small producers can serve as a starting point for further investigation, since the existence of such clusters of firms is a necessary, though not sufficient, condition for collective efficiency. Likewise, Villarán (Chapter 10) explores the current status of small firms in Peru and takes a fresh look at an already familiar phenomenon: agglomerations of small firms. In doing so, he locates several efficiency groups of small firms, some in more traditional industries, such as clothing and footwear manufacturing, and others in more advanced branches, such as in the metalworking and engineering industry. The example of the Brazilian techno-poles presented by Marcovitch in Chapter 9 also fits into the category of inter-firm cooperation. Here, cases are presented where a fruitful interaction between technology research and transfer institutes and enterprises has resulted in excellent performances by enterprises of various sizes in the area of advanced and high technology [cf. also Medeiros, 1990; ECLAC, 1990, p. 72]. Besides the exploratory studies contained in this publication, a working group on "Industrialization Strategy" of the European Association of Development Institutes (EDAI) has begun exploring the relevance of the flexible specialization concept for small firm development in less developed countries and the first results are available.⁵² Most of these investigations confirm that sectoral clusters of small firms not only exist in developing countries, but that they contain features of industrial districts and have achieved economies of agglomerations.

⁵² A first workshop on this issue was convened in Copenhagen, Denmark, in June 1991 and some of the contributions to this workshop are published in a special volume of the IDS Bulletin, Vol. 23, No. 3, 1992 on *Flexible specialization: A new view on small industry?* A second workshop of the group took place in June 1992 in Lund, Sweden, and a number of case studies have been presented which explicitly used the flexible specialization concept as a reference point for their analysis [cf. also Pyke, 1991].

Nevertheless, agglomerations of small firms would offer few benefits if they consisted merely of enterprises producing more or less the same commodity. The competitive strength and bargaining power of small firm industrial districts can therefore be grasped not by concentrating on the individual firm and only on the economic aspects. It is rather the *modus operandi* of the community of small firms, particularly the combination of, on the one hand, close cooperation and division of labour to gain collective efficiency and, on the other hand, competition, which act as driving forces for innovation and improvement of the overall performance of the business community. The accent is on collective growth, where each individual unit benefits from the success of the whole community.

V. Conclusion

There has been a substantial change in attitude towards the role of small firms in economic and social development. This is not limited to the academic debate, but there are signs which seem to mark globally a reversal of the previous trends of industrialization geared to the more or less continuous centralization of the industrial structure and the steady enlargement of both enterprises and production units. This transformation is not limited to industrialized countries, but is gradually pervading the countries of Central and Eastern Europe and is gaining momentum particularly in developing countries.

In statistical terms, the quantitative and qualitative dimension of small firms is not very well established, whereas it is evident that small-scale productive activities form a distinct part of the industrial fabric and that these units employ a large group of the non-agricultural labour force in Latin America. From the available data, discussed in Section II, nothing definite can be concluded in terms of productivity and technical efficiency. In some industries and regions, small firms appear to have shown remarkable resilience and growth, while in other cases they have been stagnating. It is therefore argued in Section III that the main problem of small firms is not size but being isolated and powerless. This is particularly so when they operate in an economic, political and institutional environment which has been conditioned by large private or public enterprises, and which is rarely supportive and often discriminatory. Such a business setting and the poor endowment of the individual small firms with bargaining power and resources easily leads it towards building its competitive position on cheap labour or by resorting to informal types of business, instead of concentrating on innovation, new technologies and markets. As a result, the overall performance of small firms does not yet appear to have come up to expectations, and the success of policy initiatives designed to deliberately encourage small enterprise development has been decidedly limited. Thus, small has not become beautiful, wherever it appears, particularly not in terms of labour relations and employment conditions, but it commands more respect and attention than in the past.

This is also reflected by the fact that substantial modifications in macro-economic policy in favour of small firms are taking place in Latin America within the ongoing process of restructuring. At the same time, most countries have progressed towards more pluralist, participative and democratic societies, which opened up new pathways for interaction and consensus building in the political and institutional field. In order to participate actively in the policy formulation process, it is therefore suggested that small firms have to organize themselves to improve their political standing and to voice their interest. Furthermore, a flourishing and organized small firm sector could support political and administrative reforms by strengthening - politically and financially - authorities and institutions, particularly at the regional and local level.

Congregation of small entrepreneurs is even more crucial to overcome the structural weakness of small firms and to gain some autonomous development capacity. The recent academic work on flexible specialization, scrutinized in Section IV has focused attention on the strategy of production and forms of economic organization. With respect to that it is doubtful whether an innate economic superiority can be attributed to either large or small enterprises. Furthermore, it has asked how firms can be effectively structured, how they relate to markets, suppliers and their direct competitors, how innovation takes place, how governments and semi-public institutions can most effectively implement industrial policy. It is not the size dimension of a firm as such that plays a crucial role in determining economic efficiency and vitality; rather, it is how firms are organized and in which institutional environment they operate.

The small firm variant of flexible specialization, the European industrial districts, provides insights into the conditions that can facilitate small firm endogenous development. The economic success of these small firm clusters has come not from advantageous access to low-cost factors of production - cheap labour, land or capital - but rather from a particularly effective social and economic organization based (mainly) on small firms. The peculiar mixture of inter-firm cooperation and competition serves as an advantage for continuous innovation, such as upgrading of machines, tools, production processes and also the product itself, and for meeting the competitive challenges through differentiated quality products, new markets and flexibility. Such a strategy offers prospects for small firms to reduce their dependence on external resources and to control their destiny. Small firms which integrate themselves into larger networks of inter-firm cooperation do better than most individual enterprises.

Some progress has been made in exploring the relevance of the small firm variant of flexible specialization in the context of less developed countries. First results demonstrate that there are already sectoral clusters of small firms which display features of industrial districts: there exist various forms of cooperation, such as savings and credit associations and self-help groups, division of labour, such as subcontracting, and homogeneous value systems, essential for building trust among individual entrepreneurs. The strength of the industrial district concept becomes clearest at the regional and local level, where a bottom-up development can take place. Promotional policies in favour of small firms need

to go beyond treating the small firm as an isolated, or self-contained entity: rather, they ought to be geared to a cluster or network of firms. Once a minimum of industrial organization has taken place, various authorities and institutions can play an important role in fostering collective efficiency. Regional and local authorities could create a conducive environment, and decentralized support institutions could provide the necessary real services to enhance this process.

A major challenge for development policy in the near future will be to generate industrial strategies, which effectively combine economic viability with social objectives. Within the ongoing process of economic adjustment and of political transformation in Latin America, ECLAC [1990] affirms for the 1990s that there is scope for changing production patterns with social equity. The small firm variant of flexible specialization could perform a pertinent role in such a strategy, in which the economic effectiveness and innovative capacity derived from this type of industrial organization could serve as a cornerstone for improving social standards.

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***Part I: The environment
of the small firm***

Chapter 2

Federal and state policies towards small firms in Brazil

João Geraldo Piquet Carneiro

I. Introduction

Broadly speaking, there are no specific public policies aimed at the development of small- and medium-sized firms in Brazil. However, sectoral programmes, lines of credit offered by some governmental agencies and other sporadic attempts exist to ease the access to managerial techniques and product technologies for these firms. The Bank of Brazil, state development banks, the Studies and Project Financing Agency (FINEP) and the Brazilian Centre for the Support of Small and Medium Enterprises (CEBRAE) are some of the agencies that provide support programmes for small- and medium-sized enterprises.

This preliminary statement might seem at first to be somewhat radical and surprising: radical because Brazil was a pioneer, at least in Latin America, in searching for a differentiated legal and institutional approach towards small-scale enterprises. It may also be surprising that this statement is made by the author, who has worked intensively in the formulation and adoption of the Micro-enterprise Law, whilst an Executive Secretary of the National Programme for Debureaucratization.

However, in reality, this undeniable progress in the institutional sphere was not accompanied by similar progress in the formulation and implementation of related policies. Because of the lack of a cultural and structural background, it has not been possible to ensure organic coherence and security to the activities of small-scale enterprises. As a result, the relationship between the public sector and the large spectrum of small- and medium-sized enterprises remains ambiguous, frequently contradictory and subject to cycles of discontinuity. Therefore, we are at present facing a situation of a complete absence of any policy towards small-scale enterprises - a political *anomie*.

This view, which is widely held, leads to the question: Why has it not yet been possible to conceive in Brazil - contrary to evidence from some industrialized economies and some Third World economies - a solid and a

coherent development policy for small firms? After all, Japan, the Asiatic Tigers, the United States and the countries of the European Economic Community adopted support mechanisms for the creation and development of small firms many years ago. More recently, countries in Africa and Asia have been searching for new ways to integrate the informal economy into the formal productive system, by means of differentiated and favourable treatment of small firms.¹

What are the reasons, therefore, that hinder a proliferation of public policies concerned with the economic, social and political interests inherent to small firm development? What are the conditions in Brazil which prevent the growth of the tendency directed towards protecting small firms?

In addition to the anachronism in the present scenario, there are deep-rooted aspects of our administrative culture that answer, at least partly, the questions formulated above. There are also important conjunctural factors, to which I shall refer later, that will throw some light upon the immediate causes of the non-existence or the discontinuity of public policies in the field of small-scale economic activities. Some of these causes are reviewed below.

II. Structural causes hindering small firm development

Two marked characteristics of the organization of the Brazilian State which date back to the beginning of the Portuguese colonial administration are *administrative centralism* and *legal formalism*. Both caused a high degree of bureaucratization of economic activity. Administrative centralization, inherent in the colonial "strategy", has been transferred to Brazil in its purest form. While this may have been valid as a metropolitan strategy, it has revealed itself ineffective for administering a territory of continental dimensions. Since then, the Brazilian public administration has been performing an imperfect pendular movement, where long periods of centralization are interrupted by brief moments of decentralization. Even with the liberal Constitution of 1946, political decentralization has never been incorporated under a truly federal system. It was observed that when the central government reduced its centralized control over the individual States, they in turn started to dictate to the local authorities.

Apart from being centralist, the colonial regime was *mercantilist* and *patrimonialist*. This is the reason why the tutelage of the State was constituted into a rule which simply would not tolerate exceptions. The maximum expression of state tutelage was the "royal charter", which was a precondition for exercising mercantile activities. The liberalizing winds at the end of the nineteenth century and the beginning of this century did not shake the centralized and bureaucratic

¹ Paradoxically, one of the examples which arouses the most interest in the Far East is the Brazilian experience with its Micro-enterprise Law.

culture and structure of the State, which were assimilated by the Republic without any major changes.

Because of this culture of centralization, the State also strongly regulates and standardizes applied norms for economic order. For this type of bureaucratic culture, the idea of part of the economic activity being outside the direct control of the State was repugnant.² This cultural bias manifested itself very clearly, in the period 1979-1985, when legislative measures were proposed in an attempt to simplify the registration of small firms and to exempt them from accessory fiscal obligations which were highly onerous and incompatible with their small scale. This attitude reached its climax in 1984, in the months which preceded the submission of draft legislation to be integrated into the Micro-enterprise Law.³ Indeed, even after its adoption by Congress, it became evident that most of the directives of the Micro-enterprise Law would not be implemented since they were dependent on regulations by the Executive at the various levels of government bureaucracy, particularly those of the individual states and municipalities.⁴

Legal formalism, in turn, worsens the effects of administrative centralization in two ways. On the one hand, it is a never-ending perennial production of control documents and regulations; on the other hand, it gives the false impression that legislation and decrees are capable of changing the real world and peoples' behaviour.

Undeniably, the Micro-enterprise Law and the new provisions in the Constitution in favour of small-scale economic activities are indicative of

² *Editor's note:* However, according to Sanders [1985, p. 3], the attitude of government leaders changed over time and they increasingly recognized that a simplification of the regulations would not be sufficient to "free" small businesses. Because clandestine firms did not pay taxes they would not choose to register publicly without exemption from nearly all taxes. Although financial officials at the federal, state and municipal levels of government were concerned about loss of revenue, observers noted that most micro-enterprises did not pay any taxes at all; or if they did, their share was extremely small and the cost of collecting taxes and fiscalizing them was greater than the revenue collected. Exempting micro-enterprises would benefit the economy more by encouraging their expansion and growth. Thus, the emerging Micro-enterprise Law included tax exemptions as well as bureaucratic simplification.

³ *Editor's note:* After idling in Congress for two years, the Micro-enterprise Law (*Estatuto do Microempresa*), Law No. 7,256 was passed on 28 November 1984 [cf. Sanders, 1985, pp. 3 ff.].

⁴ *Editor's note:* This Law provided, at least in principle, a reversal of government priorities by guaranteeing special treatment to micro-enterprises regarding public administration, taxes, social security, labour laws, credit, and training of personnel. According to the federal norm (Law No. 7,256/84), a micro-enterprise was defined as any legal entity and sole proprietorship whose annual gross revenue was equal to or less than the nominal value of 10,000 OTNs (Government Indexed Bonds) [cf. CNI/DAMPI, 1989a, p. 7]. However, this law had to be made operational. At the state and municipal levels, a set of by-laws and regulatory procedures was required: e.g. for implementation purposes the states and the municipalities had to define micro-enterprises, otherwise a micro-enterprise would automatically be considered one with receipts equal to less than 10,000 OTNs at the state level and 5,000 OTNs at the municipal level.

gigantic institutional and political progress.⁵ Certainly, in the medium term, the new legal institutions will assist in shaping a new reality. But a political will is also required for that to occur: a political will of the government to make the laws already in existence efficient, as well as society's political will - in this specific case the entrepreneurial organizations - to press the government to develop and implement the necessary administrative measures.

It is important to note that, until the end of the 1970s, the development of small firms was not a priority. It was merely a subject of interest to academics and a few government agencies. Although at the individual state level, in particular in those states where the economy is mainly organized around small- and medium-scale activities, the concern to support small firms was slightly more intense. Even in business associations this matter was treated marginally, with the exception of certain commercial associations mainly composed of small and medium entrepreneurs.

At the beginning of the 1980s, in the wake of the old National Debureaucratization Programme,⁶ the first associations of small- and medium-sized firms emerged and later multiplied all over the country. These associations have had a very important political role in overcoming bureaucratic resistance and in creating a favourable climate for the approval of the Micro-enterprise Law.⁷ However, they did not have the capacity to organize themselves to act as a permanent pressure group with the objective of changing the inclination of government bureaucracy towards centralization. This may be because, deep down, they believed in their formalism and that the passing of liberalization laws would itself be sufficient to bring about the desired change.

Actually, the small entrepreneurs should be enlightened about their recently-perceived economic and political role and exactly what they should

⁵ *Editor's note:* In the Constitution of the Federal Republic of Brazil (Title VII, Chapter I, Article 179) of 5 October 1988, an article on small firms has been included according to which the Federal Government, Federal Districts, States and municipalities shall deal with micro and small-scale enterprises in a distinct and favoured juridical way, with the purpose of promoting them through the simplification of obligations concerning taxes, social welfare and credits, or through the elimination or reduction of such obligations in compliance with any legal provision. This principle and its regulatory procedures have been defined in a by-law (Law No. 7799 of 10 July 1989) which sets the upper limit of a micro-enterprise at 70,000 BTN (Government Indexed Bonds) [cf. CNI/DAMPI, 1989b, pp. 16 ff.].

⁶ *Editor's note:* In 1979, a National Debureaucratization Programme was designed to simplify administrative procedures and, more broadly, to reverse what was seen as the relentless trend toward growth in government, excessive centralization and abundant regulations. The problems of small enterprises became a central focus of this programme, since surveys undertaken indicated that small firms had to fulfil the same requirements as larger ones, with about 500 documents, signatures and permits required to establish maintain and liquidate a firm [cf. Sanders, 1985, p. 3; *World Development Report*, 1987, p. 73 and Box 4.5].

⁷ In an obvious and successful lobbying effort, a Congress of Small and Medium Enterprises was held shortly before at the Senate Building itself in Brasilia to encourage a favourable vote for the Micro-enterprise Law in 1984 [cf. Sanders, 1985, pp. 3 ff.].

expect from the State. However, because of its youth, the political movement of small entrepreneurs still suffers from a certain degree of immaturity which involves some dangers. This can be illustrated by the following examples. Firstly, soon after the promulgation of the Micro-enterprise Law, a leader of a micro-entrepreneurs' association proposed that I should support the creation of a Small Enterprises Ministry. I had tremendous difficulty explaining that, in order to act in his interests, it would in fact be better to abolish ministries rather than to create them. Secondly, one should be aware that small firm owners, once recognized as a political force, have been victims of enormous political manipulation during the Constituent Assembly. They were used as an object for manoeuvres - by being promised fiscal amnesty, which luckily was not accomplished - which resulted in the reinstatement of paternalism. Thirdly, the effort to create a national association to represent all small entrepreneurs is over-ambitious since there is not one unique category of small businesses, but thousands of extremely different situations, each with considerable potential, which makes single representation and uniform treatment of the sector impossible.

Furthermore, it should be emphasized that, during this process, two extremely important groups held ambiguous positions: the traditional business associations and the trade unions. The business associations were afraid that the political power of small firms could become a rival to their own, and the trade unions thought they could be negatively affected when a large number of workers organized themselves under micro-level firms.

III. The effect of economic crisis on small firms

Apart from the structural reasons already stated, it is unquestionable that the persisting economic crisis has had a harmful effect on small firms. Increasing inflation, and the frustrated attempts to curb it through consecutive economic stabilization plans, has diverted the attention of governors, political groups and entrepreneurial leaders from a permanent interest in the question of small firms. Since 1985, governments have been mainly concerned with finding solutions for the country's macro-economic problems. Simultaneously, macro-political themes assumed absolute pre-eminence in the constitutional debate and successive elections. Furthermore, the failure of economic plans and, in particular, of the Cruzado Plan,⁸ has had a devastating effect on small firms. The demographic explosion of micro-firms was followed by a total decimation of the emerging firms, strangled by insolvency.

⁸ In 1986, under the administration of President Sarney, the Cruzado Plan, which included various monetary measures and price control mechanisms to fight against accelerating inflation, was launched.

Furthermore, at the beginning of Collor's⁹ new austerity policy, an adverse economic situation, such as the current one, will certainly have a negative effect on small firms. The anticipated "infant mortality rate" of small enterprises, already experienced in previous periods, will again divert the government's concern with micro-economic matters of interest to small firms and increase their interest in macro-economic aspects. In spite of this, small firms have always shown great flexibility in adjusting to the rigours of the crisis. Especially when they are situated in peripheral and semi-rural regions, small firms manage to reduce their costs by diminishing production and, if necessary, by operating informally. In any case, the lamentable sub-product of the crisis is informalization and it worries me that the current stabilization plan does not contemplate induction mechanisms for the formal regulation of firms.

Consequently, the effects have always been not only economic but also political. The small entrepreneurs lost confidence in the political system and in the capacity of the government to realize the conditions stipulated in the law and the Constitution. What was apparent, and still continues, is the mass disbanding of small enterprises and a flight into the informal sector.

In the absence of well-constructed public policies, the necessary conditions to restore the credibility of the small and medium entrepreneurs in the political and economic system will be very hard to achieve. In addition, in the absence of a minimum of economic stability, it is difficult to see how the implementation of these policies is possible.

IV. Differentiated treatment of small firms

Attention will now be drawn to three other central issues: the differentiated treatment of small firms concerning labour regulations; their status within the administrative system (municipalization and their fiscalization); and the single tax. Firstly, the weight that these regulations represent (not only the direct weight but also the indirect weight of the bureaucratic duties that result from it) may be unbearable. The Federal Constitution, literally interpreted, forbids a differentiated treatment of labour. In fact, when the first text was proposed, there were discussions about a differentiated treatment in the administrative, legal and labour area. In the final version, the expression "labour" was abolished, using the argument that it is not possible to have three labour systems: one for large firms, another for small firms and a third for medium firms. Nevertheless, evidence indicates that it was the reduction of the bureaucratic load associated with labour regulations that encouraged the growth of small firms in various countries.

⁹ *Editor's note:* The Conference took place two weeks after the new President (Fernando Collor de Mello) took office and had announced his new austerity and economic stabilization programme, which led to great insecurity among the participants about their economic future.

In view of this constitutional restriction, it is not easy to identify how an effective differentiated treatment for small firms can be provided. Perhaps one should ask the question whether it would even be possible in a country like Brazil, with extremely diverse economic, geographic, social and cultural characteristics, to have a set of national-level norms applicable to all small-scale firms. The author's personal opinion is that the answer is negative.

Secondly, another proposal to be examined with care is the idea of municipalization of the small firm. As small firms do operate on a local basis, one could use this feature as a definitional criterion for them. Actually, to a large extent, the scope of their economic activity, the mesh of their commercial relations, in general, cover only the local region. Nevertheless, the firm has to comply with a series of legal regulations imposed at the federal level. Even in small countries like Portugal, there are firms which are exclusively municipal. However, it is possible that such a suggestion would instil fear into bureaucrats, who are incapable of imagining how a firm could exist without being registered at the national level. Even so, I believe that inexorably we are moving in that direction. Unless small firms are not wanted in Brazil.

Thirdly, a single tax,¹⁰ another issue raised by representatives of small entrepreneur associations during the Conference, would be a natural consequence of the idea of municipalization of micro-enterprises. However, under the actual constitutional structure, that proposal is not feasible. During the Constituent Assembly, there were some isolated attempts for a move in that direction, but they did not materialize. In fact, the idea is very good but its implementation is complex. It is difficult enough to imagine the complications involved in the application of a single tax by all Brazilian town councils which are so radically different from one another. However, the proposal remains valid, especially when its essentially tributary character is removed. That is, what is important is not to guarantee a source of income for the municipalities but to have a set of norms which are exclusively municipal. Of the three administrative levels, the municipal one is that which best captures the economic virtues and the importance of the small firm.

V. Beyond the Micro-enterprise Law

To conclude, in Brazil we usually wait for federal initiative, as if everything is going to depend upon the goodwill and whim of the central government. Because of the historic distortions discussed in Section I, it appears that indifferent federalism leads to a lack of public policies directed towards

¹⁰ *Editor's note:* The 1984 Micro-enterprise Law endeavoured to simplify fiscal procedures (see footnote 2) since small firms were fiscalized and taxed by federal, state and municipal authorities. These various taxes include income tax, taxes on credit operations, on foreign exchange, insurance, real estate titles, transport, communications and mining operations, and the industrial products tax (IPI) at the federal level, the ICM at the state level and ISS at the municipal level [cf. Sanders, 1985, pp. 44 ff.].

small firms. Most of these bureaucratic requirements, which complicate the lives of entrepreneurs, derive from state and municipal laws and regulations. However, a very strong "fiscal" view prevents the state and municipal authorities from reducing the level of requirements. This, I believe, will change in the future and I suggest that leaders of small entrepreneurs should concentrate their efforts in that direction.¹¹

The state governments and some of the municipal authorities would be in a position, for example, to set up vast networks of information on business opportunities. Moreover, specific districts for small firms with temporary exemptions, etc. are only likely to become viable at the local and regional levels.

Finally, there is certainly enough space for technical and managerial assistance by the various support agencies, etc. However, public institutions can and should help small entrepreneurs without imposing preconceived management and organization methods on them. It is therefore necessary to carry out a major re-evaluation of the culture of these organizations. The main cultural challenge will be to break the vicious circle of state paternalism, which imposes on the firms certain theoretical concepts of what they should do, how they should be organized, what is the best accounting system for the stock, and so on. Contrary to some beliefs, small entrepreneurs are often talented and intuitive and thus need not be transformed into administrative "experts" since they would only become perplexed and insecure in front of so much "knowledge".

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¹¹ This issue is treated more extensively in Chapters 1 and 3.

Chapter 3

Mobilizing local resources in Latin America: Decentralization, institutional reforms, and small-scale enterprises

Harald Fuhr

I. Introduction

Scholars and practitioners generally agree on the overall advantages of small-scale and medium-scale enterprises in development. While in developed market economies the importance of small enterprises is usually discussed in terms of economic creativity, adaptability, flexibility, and in the context of industrial reconversion and economic restructuring,¹ in most developing countries, small firms are more likely to be perceived in a socio-economic context, especially as sources of new employment in urban agglomerations.² Success stories of small enterprises are related from countries facing deep economic and social crises, and where sometimes the very crises "helped" small entrepreneurs to come back into business and compensated for the decline in both the output and the employment of larger firms. Together with micro-enterprises, these productive units often constituted the only source of new employment and served as a kind of safety-net, especially for the majority of the poor urban population. Production from small and micro-enterprises repeatedly

¹ Regarding this discussion more generally, see Piore and Sabel [1984], Sengenberger and Loveman [1987], Acs and Audretsch [1987] referring to job creation and firm size in the United States and West Germany, and Acs et al. [1988] on firm size and technology. Schmitz [1990, pp. 4-12] extends the discussion on flexible specialization also to small enterprises in developing countries.

² See Elsenhans et al. [1983, pp. 89-114] for a review of the literature on employment issues and the role of small and micro-enterprises. In its policy paper for the development of small enterprises, the World Bank [1978, ch. I] as well as Ashe et al. [1981, p. IX] (for USAID) reiterate the need for increased employment generation.

satisfied urban demand for consumer goods and services, for all income groups.³

Over the past few decades, small-scale and medium-scale enterprises have faced, on the one hand, various obstacles to effective integration both into an intra-industrial network and into an overall "working" industrial policy. On the other hand, there are clear indications from other parts of the world that too rigid a supportive strategy for small enterprises also leads to significant distortions in the product markets, the structure of industry and the performance of the export sector: for example, in India, with its policy of reserving a great many products for the small enterprise sector.⁴

First of all, we have to clearly distinguish between the specific circumstances in which small firms - as a group - work in various developing countries. Secondly, small enterprises perform differently in different sectors and sub-sectors and, thirdly, they may also be shaped differently once regional disparities within developing countries are taken into account. Finally, there is a need to reflect more deeply on the different roles small enterprises may play in a development strategy of mobilizing resources in developing countries.⁵

The following sections will turn more specifically to the political, administrative and institutional prerequisites for successfully assisting small enterprises in such a strategy of mobilizing local resources in Latin America.⁶ Since all development projects, both national and international, to support these units have to be implemented by "administrations", it is surprising that most studies tend to neglect the administrative and institutional environments, as well as the overall political environment for implementation. This chapter will focus on the following inter-related subjects:

- the negative impact of administrative centralization and "bureaucratic" development for the development of small enterprises;
- the need to gear support policies for small enterprises more effectively into programmes involving rural small enterprises and into strategies of agricultural diversification and improvements in urban services;
- the need to reform and strengthen institutions dealing with support policies for small enterprises.

³ See Schmitz [1990, pp. 20-30], Villarán [1987, pp. 31-33], and Fuhr [1988, pp. 24-30] for Peru and Ecuador.

⁴ Little et al. [1987, pp. 310-315]. Also, support structures become politicized, as Bauer and Elsenhans [1990] indicate.

⁵ Cf., on the first aspect, Schmitz [1982] in his critical review of the growth constraints on small-scale manufacturing; on the second aspect see, extensively, Elsenhans et al. [1983, pp. 100-114] and Elsenhans [1988].

⁶ Experiences stem from field research in Bolivia, Ecuador, Peru, and Venezuela during 1985-1990.

The underlying contention throughout this paper is that small enterprises perform the linchpin function for the different development tasks of the 1990s, especially in the context of current structural and sectoral adjustment programmes which will, finally, have to more decisively integrate reactivation policies for both a quantitative and a qualitative renewal of growth.

II. Centralized administrations and bureaucratic developmentalism as obstacles to the development of small enterprises

Development policies pursued in the past decades in Latin America have favoured rapid industrialization based on large-scale and capital-intensive enterprises. As in Western Europe and the United States, these units were expected first of all to modernize urban centres and, secondly, to push traditional, supposedly "backward" rural areas into modern capitalist development. The logic behind these projects was that both national decision-makers and international assistance agencies supported the idea of a strong state [Stone, 1965] as the main agent of change.

The politics of industrialization via import substitution, however, which were directed by strong interventionist governments in Latin America, failed to achieve the intended goals of balanced economic and social development. The majority of governments displayed a strong preference for administrative controls as against, for example, price policy instruments, both in managing aggregate demand and in allocating resources. But the highly centralized state apparatus which was expected to effectively overcome market deficiencies and entrepreneurial bottlenecks [Broehl, 1972, pp. 85-88] was far from being an effective developmental agent.

Increasing expenses to maintain both public sector administrations and public enterprises at acceptable levels of effectiveness and efficiency, as well as broad state interventionism, caused rising government spending which, in turn, accelerated budget deficits and international indebtedness. Yet, even more accentuated overcentralization of economic policymaking marginalized the steering capacity of regional and local public administrations and almost entirely restricted "bottom-up" initiatives to promote economic and social development in the hinterlands.

A particularly good example is the case of military reformism in Peru throughout the late 1960s and 1970s. As in the previous decades, the new model of industrialization required foreign investments, both in the internal market to compensate for weak national investment, and in the export sector for the hard-currency incomes necessary to import the inputs and capital goods required. Production continued to be large-scale and highly concentrated in the Lima area (also in terms of market control). Little attempt was made to go beyond the narrow circle of consumer goods to the manufacturing of intermediate and capital goods. As in the industrial sector, the government's agricultural policy of

concentrating investment in modern agriculture drained governmental support away from traditional small-scale farming and intensified the existing polarization between the countryside and the modern sector in the urban areas. Half the public investment in agriculture during the period 1968-1975 went into just four large costly irrigation projects with hardly any effect on the development of small and medium-scale peasant agriculture and rural enterprises that would have been more consistent with the regional development needs in the hinterlands.⁷ Vellinga and Kruijt [1983, p. 18] conclude that political and administrative centralism has increased during this period with "negative effects for industrial promotion in the provinces. Local participation in the elaboration of the regional development plans ... has been minimal. These plans were always imposed upon the region".

As in Peru, however, state-led industrialization has also deeply changed the hinterlands in other parts of Latin America. Not only did central ministries integrate regional interest groups, single entrepreneurs and administrative decision-makers along clientelist lines, thus favouring smaller factions of the administration and the private sectors,⁸ they also subsequently thoroughly transformed traditional agriculture. The emergence of a middle class, engaged principally in the service sector, has been the most obvious outcome of this process which has also gradually led to protests from this group when they witnessed the deterioration of the national economy.

Examples like these clearly indicate a strong vertical bureaucratic co-operation between central, regional and local units of government integrating smaller segments via participation in the allocation of public revenues. This vertically controlled allocation thereby tends to favour the higher echelons of ministries. Centralization and concentration on the one hand and the loss of authority and competence on the other were, like the lack of support to small and medium enterprises, direct consequences of the same pattern of development evident in the public sector.

There is a rationale for this type of development with its excessive concentration of decision-making and administrative authority. Venezuela is a particularly good example which indicates that, parallel to the sharp increases in oil incomes during the 1970s, government activities and state interventionism spread broadly and totally all over the country.⁹ Obviously the availability of

⁷ Cf., more extensively, Wilson Salinas and Wise [1986, pp. 99-101] who reiterate that inter-regional disparities increased and the investment patterns resulted in a continuing concentration of resources in Lima.

⁸ Portocarrero [1982, p. 450] spells out that for all these sectors, the attractiveness of a project is a direct function of its size. Therefore, receiving economic or political benefits is more likely in large-scale projects than in small-scale ones.

⁹ See the broader descriptions of expansion, differentiation, and fragmentation of the Venezuelan state in Brewer Carías [1983, pp. 102-112], and Bigler [1981, p. 134, table]. As regards Peru (1968 to 1975) with its seven-fold increase in the volume of public enterprises'

rent incomes, which in the case of Venezuela are derived to a large extent from oil production, but may also exist in hidden forms (e.g. in administered exchange rates and/or trade regimes) has favoured this enormous expansion. Historically, rent has been a prerequisite for an overly bureaucratic allocation of resources instead of an allocation more or less controlled by market forces.¹⁰

Centralization, concentration and bureaucratic decision-making were thus motivated not only in terms of planning development: there were clear-cut political and economic interests of the dominant actors throughout Latin America in centralizing production, appropriation and distribution for motives of self-interest. Consequently, macro-economic distortions and biases against small and medium-scale enterprises in the countryside and the cities are direct results of the decisive economic policies pursued - and not as "casualties" or "accidents" in a (supposedly) efficient economic framework.¹¹ There was simply no interest in broadening the basis of private capitalist production - and thus one that is more competitive - since the policies had definitely diminished both market control and the appropriation of rents by the ruling élite. Bureaucratic developmentalism has imposed great obstacles to small entrepreneurs in Latin America, most obviously in its basically rural hinterlands since the 1950s, as many studies frequently reiterate and even in countries like Brazil with its extraordinary "miracle of growth" throughout the 1960s and 1970s.

In the following sections we will turn to the question of why a broader strategy for integrating small firms in development has, necessarily, to include both a new position in its valorization of the agricultural sector, and a renewed attention to political and administrative decentralization. Both approaches are, in fact, inter-related, as we will discover later.

III. Small enterprises and the need to reappraise the rural sector

Why has the agricultural sector been largely excluded so far from mainstream capitalist development, and why has this sector been penetrated only partially by market forces? We have to refer to the concept of structural heterogeneity to explain why entrepreneurs in Latin America, as in most other developing countries, have limited interest in developing "their" impoverished

activities which, by 1975, had clearly overtaken the central government as the major investor of public funds, but in a manner no less centralized, see Wilson Salinas and Wise [1986, p. 103]. In this year public investment exceeded private sector investment [p. 96].

¹⁰ Cf. Krueger [1974], and Elsenhans [1987], who examine this question more extensively, both referring to rent-seeking societies and bureaucratic development in developing countries.

¹¹ We have already pointed out these contradictory policies in a more comprehensive work [Assunção et al., 1989] with case studies on support projects to small enterprises in Ecuador, Peru, Senegal and Zambia.

hinterlands. A simple estimation of the returns on investment under given economic and political circumstances, i.e. of highly differing levels of factor productivity both inter- and intra-sectoral, as well as inter-regional, together with the overall medium- and long-term political instabilities, lead investors to concentrate on the most efficient and assured sectors which, in turn, are most often the sectors closely associated with exports (and therefore international levels of productivity).

Agriculture under tropical conditions or in the Andes, for example, is a difficult task to say the least. What was the former base of Andean pre-Columbian civilizations is today the most precarious sector in the respective economies. The steep hills and the coastal valleys, with their natural and climatical constraints, have for centuries been cultivated with "traditional" technologies by peasants to assure appropriate levels of subsistence for peasant groupings. Later on "organized" agricultural surplus, as the motor of further development for Andean societies, was produced and appropriated according to a sophisticated system of domination, and by resorting to non-economic factors in the employment of peasant labour.

With the successive introduction of market mechanisms and large private landholdings, this system of reciprocity and slow accumulation broke down. Land tenure and working conditions came largely under (private) hacienda control which brought peasant communities and labourers into contact with the new mode of production. During the 1950s and 1960s, several groups, and especially the rural middle classes, pushed for reforms in land tenure and agricultural labour arrangements, seeking to favourably integrate themselves into newly-emerging markets [Fuhr, 1987a, pp. 55-94].

However, land reforms, if they came into any significant phase of implementation at all, tended to favour large-scale solutions. At the same time, it was hoped that traditional structures in the countryside would be transformed more rapidly and effectively. The outcome was frequently disappointing. Agrarian structures tended to be polarized and characterized by slightly modernized *latifundio-minifundio* relationships, excluding millions of landless labourers and smallholders from adequate employment.¹² Even worse, agricultural price policies and over-valued exchange rates were oriented largely to satisfying urban demand for cheap foodstuffs and to control inflation,¹³ with few incentives for agricultural production and market orientation.¹⁴

¹² Poverty in Latin America is still heavily concentrated in the rural areas, as newer analyses indicate, cf. FAO [1984, p. 10; 1989, pp. 47, 58, 135].

¹³ Regarding Peru, see Billone et al. [1982], Figueroa [1981] and Lajo Lazo [1986].

¹⁴ Projects of national and international donor agencies targeted specifically to benefit the rural poor also showed limited success since widespread practices of agricultural credit and price policies remained as obstacles to market-oriented producers, see World Bank [1988, pp. 37-47] and Pischke et al. [1983, Part VI].

The same process of excessive state interventionism - both externally and internally - has polarized and deteriorated the rural sector. As in small-scale industry, policies of urban-based import substitution largely disadvantaged agricultural production and diversification, and thoroughly marginalized small-scale producers. Besides price policies, public policies to assist rural entrepreneurs, e.g. public investment in agriculture or rural credit, tended to benefit larger enterprises or better-off peasants in privileged areas rather than the rural poor in Latin America.¹⁵

The usually slow pace of modernization in peasant economies [Gonzales de Olarte and Kervyn, 1987] is directly related to these macro-economic insecurities and imbalances.¹⁶ Hence, reform programmes focusing solely on measures of land redistribution without due consideration of these overall agricultural policy issues are likely to fail, causing either a public or a private reconcentration of lands in the post-reform period, or entailing a steady increase in migration which, in turn, directly accelerates the urban crisis in Latin American cities.¹⁷

Besides measures of land redistribution, reform programmes have to include, from the very beginning, policies to steadily "liberalize" agricultural price policies in order to increase rural incomes and to stabilize a framework favourable for the diversification of agricultural production and off-farm employment. Reforming the framework also means new investment in supportive (and labour-intensive) rural infrastructure, and in education, to assist shifts in production and employment.

Agriculture, however, is only one of many economic activities in the countryside. Modernization historically resulted from "additional" non-farm agents of change. A crucial role in the development of European capitalism - and, more generally, for the growth dynamics of capitalist societies - has been played by small- and medium-scale entrepreneurs [Elsenhans and Fuhr, 1990, pp. 10-16] and we assume that these conditions for sustained growth are also of relevance for developing countries. Chuta and Sethuraman¹⁸ have already pointed out that there is a need to include rural industrial promotion in employment strategies, since approximately 30-50 per cent of the rural labour

¹⁵ Wilson Salinas and Wise [1986, p. 108] state that 50 per cent of agricultural investment usually goes into large irrigation projects. For agricultural credit, see the case of Peruvian highland provinces [Gonzales de Olarte and Kervyn, 1987, p. 118] and Alvarado [1987, pp. 215-217].

¹⁶ See Theodore W. Schultz's [1980] Nobel Prize speech on the political economy of being poor.

¹⁷ See the cases of Mexico [Stavenhagen and Paz Sánchez, 1968], or Bolivia and Peru [Fuhr, 1986; 1989]; on Ecuador's urbanization problems, see Nathan Associates' report [1989, pp. 14-29].

¹⁸ Chuta and Sethuraman have edited a book covering various aspects of the subject [1984]; more recently, see Chuta [1985] on rural industry institutions.

force is engaged in rural handicraft activities as a primary or secondary occupation [Chuta, 1985, p. 363].

Assuming that rural incomes will rise as a result of successfully implemented measures of sectoral adjustment (including realistic exchange rates), and complementary technical assistance (we will come back to these arguments), small manufacturing enterprises in the countryside will then become important agents of rural change and diversification and the most appropriate means by which to rapidly adapt to the new environment. Agricultural and livestock products may be further processed in these units. In addition, there will probably be growing demand for their services from peasant farmers,¹⁹ e.g. metal-mechanic industries, construction, services. Moreover, the manufacturing of agricultural and livestock products in rural industries will usually have to be accompanied by investments of enterprises based in nearby intermediate cities, specializing in the manufacturing and packing of these products, with the possibility of also servicing export markets.²⁰

Hence, a network of rural-urban specializations in production and services may evolve and lead to a new division of labour between the countryside and the cities.²¹ Since practical experience and field research demonstrate that small firms are the most likely units for rapid job generation and creative flexibility in manufacture [Schmitz, 1990], they seem to be the ideal partners for alleviating poverty effectively, not so much by means of transferring financial resources but by changing the countryside's productive apparatus and mobilizing local resources in the hinterlands. Thus, the renewed economic attractiveness of the countryside and growth outside the urban agglomerations will then possibly also help to mitigate another problem: urban migration and the rapid, almost unmanageable, growth of the cities in Latin America.

This scenario seems to be overly optimistic. Given the aforementioned difficulties in factor endowment, it is unlikely that structural heterogeneity in Latin America can be overcome by private risk-takers only. Recent sectoral adjustment programmes have been introduced in order to overcome these distortions - and a few have already showed partial success [Nicholas, 1988, pp. 26-35; Heller et al., 1988, pp. 32-24]. But some questions remain. What, for

¹⁹ The breakdown of Chinese large-scale agricultural communes and the shift towards agricultural liberalization with higher incomes for Chinese private farmers, for example, took place with increased participation of rural small manufacturing enterprises and small-scale service enterprises satisfying growing demand in the countryside. See, on these aspects of rural economic reform in China: Griffin [1984, part II]; Solinger [1986, pp. 115-118]; *Wall Street Journal/Europe* [6.2.1989, p. 7].

²⁰ Very interesting examples stem from Ecuador's successful (particularly export-oriented) production of *camarones* (shrimps) in coastal pisciculture with its complementary packing industries. In Chile, agricultural diversification and specialization for export markets on the northern coast (e.g. in grapes and kiwi production) has led to highly specialized service firms.

²¹ Rondinelli [1986a; 1986b, pp. 232-237]; Hardoy and Satterthwaite [1986, pp. 399-401]. See also Caravedo and Bedoya [1988] for Peru.

example, should be done after stabilization and adjustment? Will the private sector evolve automatically in a more liberalized economy? Can small entrepreneurs be agents of rapid change? If not, how should further mobilization take place? Is there not a need to further adjust the public sector in order to support these policies?

These questions lead us to our next argument: sectoral adjustment policies also require a new role of the public sector, new forms of public-private sector relationships, and institutional reforms in order to achieve the final goal of renewed and sustained growth. This is particularly evident in the case of small enterprises at the local level, as will be pointed out in the following section.

IV. Decentralization and institutional reforms for the development of small enterprises

The necessary conditions for small enterprises to engage in the mobilization of both local and regional resources are currently quite unfavourable in most Latin American countries. The entire network of public agencies (officially) entitled to assist these enterprises has been inefficient, particularly outside the urban agglomerations and in the countryside. Local branches of development banks or support institutions, regional development organizations, and municipal agencies lack both authority and resources. Administrators and experts are poorly prepared for their tasks and their competence is even more restricted once financial questions are raised and/or the support of national institutions is required. Communication links between branches as well as between branches and headquarters are weak and usually lead to uncertainties about the long-term availability of funds, and technical experts for training or consultancy [Uphoff, 1986, Chapter 6, pp. 62-164; Fuhr, 1987b; 1990].

Compared to private banks, public development banks in Latin America channelled by far the most important share of credit to these enterprises. However, the resources of those public development banks were seriously affected during the 1980s, since widespread practices of subsidized credit to industry led to a successive under-capitalization. Larger enterprises which had good relations with administrators involved in the allocation of public credit were the main beneficiaries, especially of subsidization. On the other hand, lending to smaller enterprises has been costly, and has been considered risky, especially outside the urban centres, and has thus prevented banks from becoming more actively involved in assistance programmes.²² There is, however, a myth behind financial assistance in many countries to which many governments repeatedly refer: "limited funds for small enterprises". Financial assistance is, however, not basically a problem of limited funds for small enterprises (all funds are

²² World Bank [1985, p. 3]. Though repayment ratios tend to be better for small-scale lenders, large enterprises are perceived as better clients (see the examples in Assunção et al. [1989, pp. 193-225]).

necessarily "limited"). The problem with financial assistance derives from macro-economic and financial policies which, in turn, reflect the political and economic interests of recipient countries in allocating resources. Available funds have been distributed by decision-makers with due consideration of both their economic and political interests, and not with regard to competitive market conditions. Hence, assistance policies to enterprises have always been politically biased - and small enterprises have benefited less.

There is, in practice, a viable short-term solution to the problem: institutional reforms. Bhatt [1988, pp. 80-82] has argued that a better institutional structure is required for small enterprise promotion and a development strategy would have to include a technical assistance agency working in a more autonomous way which, at the same time, should be organically linked with credit institutions. Emphasis should also be given to the financial viability of the agency's operations. But in any case, a decentralized approach is necessary for the sustained support of these enterprises. There are, however, a good many problems to overcome in this respect.

Given the "centralist tradition in Latin America" [Veliz, 1980], the role of technical assistance agencies operating at the regional and local levels have been weak in past decades. Organizational performance - efficiency, economy, and effectiveness²³ - is low, which usually corresponds to a lack of specificity.²⁴ These administrative shortcomings in the hinterlands are directly related to the gradual loss of authority and resources in the national governments' move towards concentration and centralization. For any transfer of new competences and operational tasks, these units must be strengthened either before or during such transfers.

Up to now, the most important public agencies at the regional level, the regional development corporations, have been the bodies through which the State channelled regional investment. Equipped with a high percentage of investment in physical infrastructure, these corporations gained a considerable degree of autonomy once the final control over investment was passed to them. Though, in most cases, they had no significant influence on the activities of other central ministries, as for example the Ministry of Agriculture, once they were able to allocate increasing resources they became powerful agents of regional change.

²³ Efficiency and economy relate to the critical operating tasks while effectiveness relates to the strategic management tasks. Critical operating tasks are associated with short-term goals and results while strategic management tasks are associated with long-term goals and objectives, the achievement of which can take many years [Kiggundu, 1989, pp. 45-47].

²⁴ See Israel [1987, p. 48], who defines "specificity" as "composed of several elements. One is the degree to which it is possible to specify the objectives of a particular activity, the methods for achieving them and the ways of controlling achievement. Another element has to do with how the activity affects the participating actors. These two elements in turn define the degree to which actors can be rewarded for their performance on the basis of results. I postulate that the degree of specificity has precise effects on the actors and, as a result, on the performance of the institutions."

However, with the dominant trend of investment in infrastructure and a basically technical approach to development, their organizational ability to support both rural and urban small enterprises is limited.

Moreover, the links between regional entities and local governments and local institutions are missing, thus hampering an effective decentralized approach to promote development. It has been common in the past, particularly in the countryside, for local authorities to feel marginalized by their own regional and national counterparts. However, the pervasive nature of government and government controls and regulatory agencies, as well as the small ineffective private sector at the local level, caused even more serious institutional weaknesses in local administrations. When government influence is excessive, local decision-makers come to believe that government is the only element in the environment that counts. In addition, they also tend to perceive that government action can protect them from threatening forces in the environment. So they have little incentive to formulate their own strategic management options. They respond to environmental threats or challenges by relying on the government for protection [Kiggundu, 1989, p. 63].

As at the regional level, local decision-makers have more to offer to their community once they are involved in partisan politics and are able to maintain favourable systems of patronage and clientelism with the national government. As long as this kind of corporatism and clientelism was fueled with resources from above, there was simply no need to mobilize local resources and press for major reforms in local administration, such as, for instance, local systems of taxation or effective user charges for municipal services.²⁵ And as long as there were no common clear-cut rules and obligations to effectively tax businesses and property, development promotion was not a local issue, and projects favouring small and micro-enterprises did not receive support.

Thus, the only way to effectively reform regional institutions, instead of once again making them dependent on transfers, is to give them new incentive structures and the corresponding authority to use the benefits autonomously and properly. The responsibility of the national government is to implement these measures with supportive policy reforms, such as reforms in public finance. The gradual shift away from government transfers to increasing self-sustained development at the regional level is thus directly related to the question of how to mobilize regional economies which, as we have already outlined in the previous section, is closely related to the question of fostering agricultural production. Services like road maintenance, irrigation, and transportation are

²⁵ One major attempt to foster local development in the rural areas of Peru has been the experiment with the so-called *micro-regiones*. These areas, which usually comprised several provinces in the marginalized rural areas of the Peruvian highlands, received special attention both from the national planning ministry and the regional development corporations. But again, a verticalization of decision-making with a strong propensity for investment in infrastructure (instead of production) became the dominant feature, with a clear neglect of sustainability and institutional development in the provinces concerned. Development came "from above" with correspondingly low participation of the beneficiaries in most municipalities.

more effectively provided in decentralized arrangements, thus fostering a higher probability of bottom-up learning processes in rural development programmes. Often, smaller enterprises are the targets of such measures.²⁶

There is also, more generally, a growing need for urban services in the intermediate cities of Latin America which may be better addressed locally - and at reasonable cost - through small private enterprises rather than through inadequate and insufficient (public) regional development corporations and/or municipal agencies [Jímenez, 1986, p. 6; Rondinelli, 1986a, p. 5; Sanin Angel, 1990, pp. 11-13]. The problems of the relatively low incomes and the growing fiscal crisis of the municipalities may well be addressed through these measures.

Another problem in promoting small enterprises at the local and regional levels is directly related to the organization's self-interests and attitudes. At present, the kind of relationships most public agencies or officials responsible for development programmes have with local enterprises is more of a deterrent than an encouragement for private initiatives. Most officials tend to maintain vertical patterns of communication in bureaucracies which aspire to command and control rather than to progressively delegate authority to the intended beneficiaries. "Over-protection" and "over-assistance" towards a rather limited segment of clients, together with a propensity to integrate beneficiaries along paternalistic and partisan lines, are common features. Planners responsible for the execution of development projects frequently perceive "development" of rural areas as something which has to be "brought" to the rural population through transferring financial and human resources. However, such a top-down approach is not likely to be successful since a different mechanism is needed to allocate resources to the supposedly "weak" entrepreneurs or peasants. Hence it is necessary for a new range of management techniques for the elaboration of regional and local development projects to be integrated into the agencies benefiting from government decentralization strategies.²⁷

How may this kind of clientelist behaviour of existing institutions be overcome? The only solution seems to be increased participation, first, of the direct beneficiaries and, secondly (and more generally), of the regional and local populations. Only increased transparency of public institutions at government

²⁶ See Korten [1983, pp. 213-217]; Kiggundu [1989, pp. 243-245], and Uphoff [1986, Chapter 5]. The observation that rural development projects work better in a decentralized structure has been frequently discussed in the literature. See Montgomery [1972]; Leonard [1982, pp. 204-222].

²⁷Experiences from field research in regional development co-operation of Piura, Tumbes, Cusco and Puno in Peru, as well as in Potosí and Oruru in Bolivia. Evidence from various case studies on small enterprise assistance agencies and programmes [Assunção et al., 1989; Fuhr, 1990] further suggests that this kind of (low) institutional performance varied more across sectors and activities than among countries and entrepreneurial development cannot be accelerated by providing highly sheltered environments, i.e. too much "assistance" - in contrast to creating, rather, "supportive environments".

levels may prevent these institutions from being overly paternalistic and politically selective in their attitudes towards the private sector.

The second measure to more effectively control development-oriented public bureaucracies is to privatize public enterprises and public services, partially or fully, at the regional and local levels. There are a good many problems in this respect: many urban and rural infrastructure services, for example, are costly to run or are not properly utilized. There is frequently a lack of maintenance or improvement of the existing systems. Often, user charges are well below cost of delivery and production and thus lead to increased subsidization which, in turn, drains fiscal resources. If these measures were to benefit the urban and rural poor, one could state that these are necessary social costs. But frequently it is the majority of better-off clients who are subsidized and not the poor. If it is impossible to maintain large subsidies across a wide range of public services and still provide adequately for the target groups with priority needs due to tightening financial constraints, governments have to selectively look for alternative options through the privatization of their services [Jimenez, 1986, p. 8].

Sometimes intermediate solutions, such as subcontracting, leasing or permitting private competitors to enter the market seem to be more feasible than full and rapid privatization. Since, once again, most of these privatization efforts are likely to benefit smaller enterprises, a successive inclusion of these units would, in the case of economic success, also open up possibilities for further taxation in order to increase municipal incomes, or to contribute to municipal development funds [Davey, 1988]. In this manner, both local development problems and local resource mobilization could be addressed properly by encouraging a broad range of local level small enterprises to substitute for the overburdened municipal agencies.

This last point introduces a new perspective in the process of administrative change and the development of small enterprises in Latin America. Both strategies have to be combined in order to become cross-effective and to lay the basis for renewed action in the hinterlands. Assistance to these small firms will not only need "better" decentralized institutions but will also finally require a "better" environment.

Decentralized agencies are more likely to increase their institutional performance in an efficiently working environment based on a network of small- and medium-scale enterprises, eventually organized into business organizations to press for major policy reforms of financial and other forms of assistance. These entrepreneurial units are often and to a large extent the only elements of direct "competition" which motivate local organizations to improve their performance.²⁸ Moreover, an evolving network of small and medium-sized enterprises, with entrepreneurs actively engaged economically and politically, may not only help to mobilize local resources and thus reinforce competition, but also seems to be an important contribution to more effective democratic policy-

²⁸ Referring to this argument, see Israel [1987, pp. 48-52].

making and participation at the local level. Economic strengthening of disadvantaged producers and the unemployed rural and urban poor is probably the best measure to support democratization at both the micro and meso levels. Small enterprises thus form the very sector in which market-orientation, poverty-orientation, and democratization are inter-related - and mutually supportive.

To sum up, it is evident that small enterprises perform a linchpin function for several developmental goals and issues. Therefore, a strategy to support small urban and rural enterprises in the hinterlands may be effectively used to economically support decentralization policies which, up to now, have been discussed more in the overall context of administrative change and in terms of a new distribution of funds towards other levels of government. On the other hand, small enterprises can expect more effective and supportive policies within a decentralized structure of decision-making, with increased participation and incentives for development. Finally, a working environment of small and medium enterprises seems to be a strong support and, at least in the medium- and long-term, a prerequisite for institutional reforms and on-going policy reforms, especially at the local level. In the past decades, industrial promotion policies formulated by Latin American governments have been politically biased and often ineffective. In order to improve the effectiveness of assistance to small enterprises, future measures will also have to include political and institutional reforms, e.g. as part of sectoral and structural adjustment policies.

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***Part II: Human resource
development
and small firms***

Chapter 4

Training programmes for small firms: An overview

João Carlos Alexim

1. The issue of training and small firms

It is very difficult to operate training programmes for small firms, mainly because of the scattered location of the target groups and their functional heterogeneity. There is a vast range of firms with an enormous quantity of ill-defined occupations and unsatisfactory productivity levels. A second problem is the economic insecurity of the small firm, which is frequently forced to switch branch or to undertake constant operational "cutbacks".

For many years, throughout the Latin American region, the national institutions for vocational training (INFPs) have defined their programmes basically in terms of a general labour market that would supposedly absorb all the trained workers available to it. This open and competitive market strategy worked satisfactorily during periods of high and continued economic growth but in the last few years the INFPs have had to re-examine this perspective and so, curiously, have turned their attention to larger firms where, owing to economies of scale, individual assistance is possible.

At present, however, there is a conviction that small firms are in a position to play an important role in the creation of job opportunities for the least well-trained section of the population. There is also considerable debate about the transitory character of the jobs created by small firms. Are these jobs merely a staging-post on the road to employment for those joining the labour market, or could they provide permanent and stable employment? If they represent merely a staging-post, training programmes are bound to encounter major problems of adjustment to current professional trends.

Some researchers have noted a certain resistance on the part of small firms towards traditional training schemes, because employers fear that a worker acquiring increased skills will demand a rise in salary or may want to change his job. Furthermore, given the limited number of workers in each small firm, training activities can become economically wasteful. Releasing a worker so that

he/she can take part in out-of-work training is costly, both in terms of the direct fees involved and also because of the worker's absence from the production process. Informal in-service training is becoming the preferred method, but there are normally very few opportunities for acquiring skills within the firm.

It is generally recognized that small enterprise training programmes need careful preparation and must relate closely to immediate problems. They must also be easy to use, in terms of location, timetable and organization. Training schemes stand a better chance of achieving results if they form part of broader enterprise development programmes, such as quality improvement, sales promotion, equipment replacement, etc. Accordingly, a strategy is envisaged in which training is combined with services from other support agencies for small firms to form an integrated programme.

Considerable effort is now being channelled into the creation of small firms, deploying vocational training as a vehicle for various kinds of know-how and skills capable of stimulating or developing the entrepreneurial spirit and encouraging initiatives to open a shop or expand a family firm. These programmes include technical, legal, administrative and technological assistance and may even involve financial assistance. The technical-educational approach reproduces the real process entailed in the emergence of an economic activity, and includes the identification and formulation of a business plan, training of entrepreneurs through courses and conferences and monitoring through consultancy and technical assistance until the firm shows signs of on-going health. In the following section, examples of such programmes are provided for selected Latin American countries.

II. Some examples of training for small firms

1. Brazil

In Brazil, small and medium-sized enterprises account for almost 90 per cent of firms, generate approximately 70 per cent of salaries and employ nearly 84 per cent of the labour force. At Federal Government level, the Brazilian Centre for the Support of Small and Medium Enterprises (CEBRAE), with its regional and local Support Centers for Small and Medium Enterprises (CEAG), is the principal institution to implement policies aimed at this sector. Besides giving advice to the government for policy measures, CEBRAE's tasks are to encourage small and medium entrepreneurs to express their points of view, to promote research and human resource development, to provide technical assistance and to disseminate relevant information.

CEBRAE has put a lot of effort into the dissemination and use of information, which is considered a main requirement of small firms. One example is the *Mostrador del empresario*, an advanced centre for information on all relevant topics. CEBRAE also offers assistance to any other body interested in setting up a similar venture, to be incorporated into a nationwide network that currently comprises approximately 200 units.

In 1984, the Micro-enterprise Law was created, guaranteeing carefully tailored treatment for these productive units. Recently, the new Brazilian Constitution has provided a special approach, consolidating the micro-enterprise concept which was previously considered merely as a sub-section of small enterprises.

At chamber and business guild level (Confederations and Federations of Industry and Trade, respectively), there is a range of services devoted to assisting small firms - and, more recently, micro-enterprises. A Department for Support to Small Business (DAP) has been created within the São Paulo Federation of State Industries (FIESP), which also addresses the needs of micro-enterprises. Its main function is to co-ordinate those areas that are of interest to this business segment. In the seven years since it was set up, it has carried out 8,700 consultations. About 45 per cent of these were telephone consultations. Many enquiries were directed to other agencies within the system (technical departments; SENAI - National Service for Industrial Education and Apprenticeship; SESI - Social Service for Industry; DAMPI - Department of Assistance to Small and Medium Industry of the National Confederation of Industry). Thus, DAP acts as a general clearing-house for assistance to micro-enterprises.

In 1975, the government enacted Law 6297, intended to provide firms with an incentive to organize training activities directly. This law enabled firms, within limits, to deduct training costs from taxes due to the government. However, subsequent assessments have shown that the main beneficiaries of this initiative were large companies, which already had established training programmes. Changes were made to the law in an attempt to reverse this effect by transferring the responsibility for supporting small firms to specialized institutions (SENAC - National Service for Commercial Education and Apprenticeship, and SENAI) so that small enterprises could more easily gain access to the benefits provided by the law. However, the results of this effort were unsatisfactory and there was no time to introduce further modifications. Recently, as part of the government's new fiscal policy, the incentive was dropped altogether. Small - and especially micro - enterprises never really managed to get a bite of this cake, even though it was available for almost 15 years.

The National Service for Industrial Education and Apprenticeship (SENAI) runs a programme that is aimed at both micro-enterprises and small firms. The programme is in two parts:

- (1) the development of human resources, entailing operational training and supervision, technical and management seminars, courses on "how to set up a small firm" and other training courses for micro-entrepreneurs;
- (2) technological assistance, including production processes (to reduce costs, increase production and improve quality), product technology (design of new products or changes to existing ones) and quality control (use of equipment, instruments and laboratories).

Between 1980 and 1987, 456 companies were catered for. The programme has had difficulties pinpointing priority sectors, with the cost of external consultants, and with the geographical scattering of the firms themselves. At present, SENAI is studying the implementation of a new programme to "stimulate entrepreneurial values" in people who show potential, interest and the intention to set up their own businesses. The programme has a modular design to encourage participation. There are 11 modules totalling approximately 150 hours' study. By the end of the course, the participants are able to create or improve the performance of a micro firm and to draw up a business plan.

Like SENAI, the Department for Assistance to Medium and Small Industry (DAMPI) is an integral part of the Confederation of Brazilian Industry (CNI) System. This department has been created to provide assistance to small and medium-sized firms and to run a nationwide network linked to the state federations in industry. The main contribution of DAMPI consists of the broad range of specialized documentation it provides, including books and technical reviews, which supply small entrepreneurs with information that can prove decisive for their survival. Such documents are condensed and adapted to the language and preferences of those for whom they are intended. The drafting of studies and diagnoses relating to production and workforce, viability studies, and close attention to the internal problems of individual firms combine to form a broad field of activities within a traditional pattern of technical assistance.

In Brazil, regional development is co-ordinated by "superintendencies", of which the North-Eastern has the greatest influence because it covers the poorest "states" (provinces or regions) in the country. One of the programmes it administers is aimed at the micro-entrepreneurs of the region. With a special credit line available to firms with very low takings, the programme includes both management training and technical assistance, and monitoring of the use made of such resources. The regional nature of this body enables it to work alongside a range of specialist agencies to rationalize the use of resources.

2. Chile

In Chile, as a consequence of the adoption of a neo-liberal economic policy, the Training and Employment Statute was drawn up in 1976, which assigned the responsibility for organizing training schemes for workers either directly or through contracts with specialized institutes to the enterprises themselves. However, small firms, due to their scale, tend to encounter difficulties in performing this task. Each economic unit is able to earmark only a very limited amount of resources for this purpose and there are considerable administrative and operative problems in working with small numbers of trainees. Moreover, the need for co-ordination with other small firms creates insuperable difficulties.

Therefore, in 1977, a complementary law was drawn up, which opened possibilities to create "intermediate technical bodies" (OTIRES). These OTIRES can be organized by the firms themselves, grouped by economic sector or by

region, and on a scale that makes it possible to comply with the relevant legislation and to address the needs of member companies. The functions of OTIRES comprise mainly the promotion of research and forecasting regarding the requirements of firms, the organization and supervision of training programmes, and the negotiation and co-ordination of initiatives. Furthermore, they analyse conditions affecting the provision of services by specialized institutions and contract the programmes with them. The cost of maintaining OTIRES is viewed as a direct training cost and is included in the payment of taxation liable to the government up to an amount of 1 per cent of the taxable income paid to workers, under the law on tax incentives for training currently in force in the country.

3. Colombia

In Colombia, there are many non-governmental organizations (NGOs) providing help to small and micro-enterprises, generally with the support of governmental and international agencies.

The Carbajal Foundation, based in Cali, provides help to those groups of entrepreneurs already in business who are keen to succeed. The Foundation therefore works on a fertile and promising ground, pursuing a strategy of economic equilibrium and micro-enterprise productivity and employment creation. An analysis carried out by the Foundation has demonstrated that, as a result of accumulated debts and liabilities, over 50 per cent of micro-enterprises do not reach the break-even point and end up bankrupt. The objective of the Foundation is to reverse this dangerous trend. Its educational programme has adapted basic principles of business administration to small productive enterprises. It started out with simple courses, within the reach of people with little schooling, more practical than theoretical, and above all involving a lot of participation. The subjects taught include accounting, cost accounting, financial analysis, quality control, personnel management, marketing and sales, investment, principles of administration and motivation to succeed, etc. Each subject takes up roughly 15 class hours, so more or less 90 hours are necessary to train a micro-entrepreneur. It is felt that interaction between entrepreneurs is of high educational value.

At present, the programmes receive substantial subsidies and assistance, particularly from the Interamerican Development Bank (IDB). A fee is levied for training, but consultancy is free, although this latter service is more expensive. The goal is to render the programmes increasingly independent of subsidies.

However, a programme for micro-entrepreneurs cannot rely on training alone; in the view of the Foundation, credit is of fundamental importance and is granted as a complement to training, sometimes provided by separate credit institutions.

The programme has led to a spate of legislation on micro-enterprises, as a result of which they are now abandoning their previous clandestine existence, which was one of the obstacles to progress in the informal sector.

The Foundation has achieved very satisfactory results, such as a drop in the number of bankruptcies, an increase in the size of firms (in some cases up to 20 or more employees) and an increased saving ability. To expand the programme, the Foundation has launched a number of experimental initiatives, among which the following are prominent:

- special credit cards for micro-entrepreneurs who have proven credit-worthiness;
- a mentoring programme in which an experienced business person trains and supports micro-entrepreneurs recommended by the Chamber of Commerce;
- the provision of services to micro-enterprises by university students, as a component of their course work;
- an annual exhibition to display and promote products manufactured by micro companies.

For its part, the National Apprenticeship Service (SENA) has accumulated considerable experience in the field of micro-enterprises. For the modern sector, SENA offers specialized consultancy, vocational training in modern production processes and diffusion of technology. Together with other government agencies, foundations and NGOs, SENA has developed a special approach to the informal sector. In particular, SENA is involved in the promotion and development of sound entrepreneurial attitudes, through training and tutoring.

Through its research work, SENA seeks to pinpoint those "dynamic activities" capable of sustaining and developing small productive units. SENA favours integral consultancy work comprising group and individual work organized according to economic sector because this makes it easier to identify common problems and to increase both participation and the establishment of guild organization. Forty manuals on business management have been designed, using an appropriate technical and educational approach. Furthermore, a programme and methodology has been prepared on "training for the integration and participation of urban communities" (CIPACU) and it is to be implemented in the low-income areas of the cities.

4. *Costa Rica*

In Costa Rica, the National Apprenticeship Institute (INA) has created "public workshops" - vocational training centres open to the community, enabling users to gain practical skills while producing commodities or carrying out repairs and services in response to family needs or in order to increase personal income. By combining job training with paid work, such workshops are able to make the transition to a small firm, thereby promoting an immediate involvement in the formal market.

The programme began in 1982 and now has 13 urban workshops and one rural workshop for the training of peasant farmers (*campesinos*). The workshops have an average of 456 users per year. The skills taught are determined after careful consultation with the local community.

5. Dominican Republic

In the Dominican Republic, the National Institute for Professional Training (INFOTEP) has launched an experimental programme for young people. This programme combines technical and management training with a modest financing by the Dominican Development Foundation and is intended to foster the creation of small firms.

At the end of 1987, an evaluation of this programme was carried out. Some firms had gained a foothold in the market, achieving a degree of stability, but others were encountering considerable market difficulties. In 1988, INFOTEP realized that the project was failing to make an impact. There were few financial resources available either to support new initiatives or to repay the finance capital from the Loan Fund. As a result, the development from the experimental stage to widespread implementation never materialized.

6. Ecuador

The Government of Ecuador decided to concentrate the central tasks of developing the Enterprise Development Programme for the Urban Informal Sector in one new unit. Therefore, it created the Guayaquil Foundation, whose objective was to help improve the performance of already-existing informal micro-enterprises and encourage the creation of new ones. It was intended that this programme should be self-funding and it was estimated that this would be feasible within two years. The specific goals included:

- on-going support to firms, entailing technical assistance, business diagnostics, training and credits;
- encouragement for the regularization of informal units;
- adoption of intermediate-type technologies in local production;
- creation of new micro-enterprises and medium-sized firms (job creation) with a moderate capital investment;
- improved knowledge of the financing system and of the mechanisms of economic informality.

This development strategy entails the selection of informal activities functional to the development of the country and with sufficient dynamic potential. As a first step, the situation of target firms is diagnosed with a view to planning for appropriate training and advice. At a second stage, special attention is paid to capital needs, and a small amount of credit is extended. An effort is made to improve productivity and conditions of employment through the

improved use of existing assets. A third step involves a close look at the need for technological change, for the development of new products and quality control techniques. Furthermore, an effort is made to encourage these informal producers to organize themselves in associations. The main goal is to establish units with between 10 and 25 workers, at a cost of between 1,500 and 2,000 dollars per job created and with wage levels comparable to equivalent jobs in the formal sector. Such units are encouraged to set themselves up as small limited companies. At this stage, the Foundation only gives its backing through a Guarantee Fund for direct loans from regular and credit institutions.

Six months generally elapse between the selection of an activity and the moment when a micro firm starts regular trading. Over a period of roughly two years, the running of the firms is progressively transferred to the workers/members. Gradual progress is made from co-management (Foundation workers) to self-management (workers alone), once they have gained the necessary enterprise management skills.

7. *Guatemala*

In Guatemala, a government resolution of 1987 set up the National Commission for the Promotion of Micro and Small Business. The Technical Training and Productivity Institute (INTECAP) is a member of this commission, with responsibility for the training of "enterprise consultants" and small entrepreneurs in specific aspects, above all through the "Productive Saturdays and Sundays" scheme.

The Commission created a Micro Business Multiplier System (SIMME) that supplies funding and technical assistance to enhance small firm development. The training component, considered decisive, comprises technical, management and organizational aspects, the development of capabilities to understand external economic changes and to adapt to them, the motivation to innovate and the development of appropriate technologies.

Technical consultancy is provided directly to each individual entrepreneur according to a fixed timetable, but small groups with a participatory approach are also organized, using the methodology known as Learning through Action (APA).¹ In response to the requirements identified, technical support that may include specific training programmes for either the micro-entrepreneur or for his/her employees has been outlined. In its turn, SIMME carefully prepares the staff responsible for the enterprise programme in order to ensure good results. The aim is to provide support to 40,800 micro-entrepreneurs over three years, with a budget amounting to approximately 30 million dollars.

¹ APA is a method of group interaction that encourages the pooling of experiences and the search for solutions shared among the micro-entrepreneurs.

8. Mexico

In Mexico, at present, there is an interesting attempt to decentralize and to transfer the responsibility for vocational training to various social agents. In 1980, a chapter was added to the Mexican Constitution obliging all enterprises, regardless of size, to provide their workers with training (Section Six, Chapter XIII). To implement this objective, a new office was set up at the Department of Labour, with the task of drawing up guidelines and supplying the technical means for enterprises to fulfil these responsibilities. In small and medium-sized enterprises, the results were not very encouraging, since these firms lacked the necessary means to implement the relevant activities. For this reason, the present government is now trying a new strategy: the creation of mechanisms for concerted action and decentralization, with the planned participation of both management and labour. One component of the programme is to train 75,000 workers from 5,000 small and medium-sized firms. "Training Promotion Units" (UPC) have been created at branch and regional level in order to encourage co-operation between different economic sectors.

9. Peru

Peru has a particular problem with internal migrants from different rural regions who move into the large towns and cities, thereby suffering a massive cultural upheaval. The programmes designed for the informal sector seek to take account of this.

In Peru, the National Industrial Training Service (SENATI) runs a programme to support micro-entrepreneurs in the informal sector, offering short-term training, easy-to-follow practical courses and technical back-up. This programme began in 1986 and has already reached approximately 340 micro-entrepreneurs. Jointly with the *Banco Industrial del Peru* (BIP), it runs a scheme designed to provide direct assistance at the workplace to borrowers from the BIP or to potential borrowers, making use of an Urban Development Fund. Furthermore, SENATI runs a programme providing technical support to its trainees who, after a 30-month course, have to gain some practical experience by working in an enterprise. The trainee also has to carry out a survey that feeds back into the programme.

10. Venezuela

A survey in Venezuela has shown that the urban informal sector is of great importance. In the 1977-1982 period, this sector generated 225,000 jobs, representing about 45 per cent of the increase in employment. Between 1982 and 1987, another 220,000 were added so that by 1987, the urban informal sector employed roughly 3.7 per cent of all workers in the country. Recognizing the importance of this sector, over the last 20 years the government has ploughed considerable financial resources into employment creation and into raising the productivity of informal micro-enterprises. However, conditions have changed

considerably since the era of oil wealth. In the present economic situation, it has been necessary to modify the availability of credit and technical assistance.

FUNDACOMUN, a private institution in the public domain, created by the government in 1962, has been running the Grass-Roots Economic Organizations programme. Its main task has been to set up and consolidate small firms in poor urban districts. It co-operates with the National Institute for Educational Co-operation (INCE) and CORPOINDUSTRIA, a body involved in marketing. The programme administers credits earmarked for craftwork and small firms. In its work, the programme relies on community-based organizations that take part in the running of the programme. Without any major investments, using appropriate technology and rationalizing resources, these micro-enterprises contribute to the development of their own communities by providing services and products of local interest.

The inter-institutional approach adopted in Venezuela reflects the latest thinking of all the various conferences on this topic. INCE plays a decisive role in the programme. Training is adapted to the target group and concentrates on subjects of immediate relevance to the participants. This also facilitates the establishment of close links to the production activities taking place in the community. The courses have a modular design and last between 120 and 400 hours, thus allowing for a certain flexibility of the range of course according to financial resources and time available. The courses are held on premises provided by the communities themselves and the teachers are also local people who have been given accelerated teacher training. In 1988, there were almost 20,000 course members.

The types of small enterprises that emerge from this scheme cover a wide range: family firms, district workshops, one-person enterprises, co-operatives, etc. Normally, those who have completed the training course draw up and present a business plan, including a feasibility study, to a special state commission. Once such plans have been approved, the members legally register the new firm and then apply for funding. Throughout this period, the new firm receives help from the programme.

The Centre for the Service of Popular Action (CESAP), which has been in existence for 10 years, has developed a programme designed for women living in low-income areas to jointly start productive activities. This programme has close ties with the Popular Women's Groups (CFP) of which there are more than 130 up and down the country. The training plan is jointly drawn up with the target groups and covers those practical subjects that are of interest to them. This programme achieved the establishment of up to 10 workshops a year, and trains approximately 500 women in various productive activities. The training courses cover such subjects as: preparation of projects for small firms, accounting, marketing, quality control, etc. These courses are backed up by simple hand-outs on different aspects of management and technology. The technical courses are organized in co-ordination with INCE. Periodical technical spot-checks follow the progress of the workshops, to ensure good results.

CESAP maintains a small credit fund for setting up small firms. Furthermore, it facilitates access to other credit institutions and provides a marketing network for the artisanal producers in the programme.

III. Conclusion

During the last years, throughout Latin America, training programmes to create micro-enterprises and to improve their performance have been set up. Most of these programmes are designed to integrate various training aspects and to co-operate with different special support agencies. Isolated support measures such as training, credits and technological assistance are no longer regarded as being sufficient to foster small firm development. This means that these programmes can only be successful if they carefully incorporate the various aspects important to small firm development. There is also an increasing consensus on establishing special support institutions to enhance small firm development.

However, these programmes are frequently endangered by lack of continuity due to limited financial resources and credits. Furthermore, there is a problem of scale facing these programmes, particularly in the transition from a pilot project to a normal operational one when they no longer benefit from subsidies. Since most of the programmes mentioned are of recent origin, no solid assessment can yet be made.

Moreover, an information system on implementation experiences and results of these programmes is required. Up to now, only proposals and initial plans are available, and nothing is known about their progress. However, an effective exchange of information is essential to disseminate major innovations in this field and to adopt programmes to allow for collaboration and co-operation at the Latin American regional level.

Chapter 5

Vocational and managerial training for small firms: The case of SENAI in Brazil

Paulo Roberto da Silveira

1. Introduction

A review of the activities of the National Service for Industrial Education and Apprenticeship (SENAI) in Brazil shows that the institution, in fulfilling its principal function of providing vocational training, has tried to maintain a wide range of teaching covering customary occupations in industry, in all branches of industrial activity, and all sizes of establishment. It has also tried to introduce training for new occupations and to diversify assistance based on the quantitative and qualitative transformations of the industrial labour market.

Although oriented towards broad assistance, SENAI has been very concerned to ask the question "in the end, who have we predominantly assisted?" For over a decade, this question has been constantly asked, both in planning even the most routine activities of the institution, and in the studies and research it promotes. However, even if there is no deliberate intention on SENAI's part, traditionally its activities are biased towards the interests of large industrial firms.¹ Although its work is directed to the needs of the industrial sector as a whole, the institution has no control mechanism over the destination of the workforce it trains because this is determined by the labour market.

In industrial structures dominated by large firms, small firms appear as the weak opponent in the dispute for relatively scarce production factors, including skilled labour. It seems clear that, the larger the firm, the higher the level of remuneration of the workforce - leaving aside the additional benefits that only large firms can offer, such as medical care, canteen facilities and other benefits. Thus there is no doubt that, in any sector of the economy, large firms

¹ Strictly speaking, the activities of SENAI included in this category are industrial activities (including civil engineering) as well as transport, communications and fisheries. In principle, the definition of micro-firms is those with up to 4 employees, small firms 5-99 employees and medium-sized firms 100-499 employees.

exercise an irresistible attraction to the most qualified personnel in all levels and categories. In other words, not only does qualified labour trained by SENAI prefer the larger firms to the detriment of the smaller, but larger firms can choose the biggest and best sections of the labour force, probably including graduates from SENAI.

This does not mean that the smallest firms can do without qualified labour or that they do not value it enough. On the contrary, it has been systematically confirmed that in small firms skilled labour, besides being proportionately more represented, often takes on responsibilities which in larger enterprises are given to technical staff.

Despite these structural determinants, which lead to inequalities between small and large firms in the labour market and the evident incompatibilities in the type of training dispensed by SENAI, small firms have been absorbing those qualified by the apprenticeship course designed for the vocational training of young people (14-18 years old), and even profit from labour "residues" of large firms. Thus, small firms profit from the labour turnover in large firms and absorb a large share of the graduates from this particular training course.

In the case of courses for adults, which take place in the evenings in order to be compatible with the exercise of remunerated work during the day, almost no obstacles are imposed on small and medium-sized firms. Furthermore, SENAI has made an effort to cater to the needs of small and medium-sized firms in a cost-effective way, by pooling enterprises with similar requirements.

Admittedly, the assistance given by SENAI to micro, small and medium-sized industry² is deficient: however, this is mainly due to the kind of approach it adopts - vocational training - than to any preference for a specific fragment of the labour market.

The fundamental problem of micro, small and medium-sized enterprises is not uniquely the scarcity of skilled labour. Rather, it is their structural weakness and their inability to shape and influence their environment, particularly the economic and financial policy environment, which is conditioned by large firms and thus influences prospects for growth and capital accumulation of small firms.

We should thus be asking the question: what are the possibilities for SENAI to take action directed towards micro, small and medium-sized enterprises bearing in mind the objectives of the institution and the manifold problems of this sector?

² The term "small firms" is used as a generic term for all enterprises termed micro, small, or medium-sized.

II. Specific action by SENAI-São Paulo

Instead of an exhaustive list of strategies, some of the basic principles of action which were considered important for the development of specific types of assistance to micro, small and medium-sized firms are presented below.

- (a) All the assistance given to small firms must start with those responsible (owners, managers) in order to increase their entrepreneurial capacity.
- (b) SENAI's intervention should respond to actual needs of small firms.
- (c) SENAI should adapt its traditional mode of action to the requirements of small firms, and seek to create new forms of action which would be beneficial to the largest number of firms possible.

Bearing in mind these principles of action, the following measures to assist small firms were implemented.

1. Adaptation of the traditional modes of action

As pointed out in the introduction, small firms benefit to only a limited extent from traditional training programmes, since their problems go beyond the mere need for vocational or advanced training. SENAI is faced with a challenge to propose a new line of activity, since it is evident that human resources are an integral part of the problems of small firms. Their managers are facing specific difficulties such as:

- (a) creating in-house training for their labour force;
- (b) elaborating an effective personnel policy (rather than coping with personnel problems on an ad hoc basis);
- (c) changing the entrepreneur's attitude towards training (the "world of school" as opposed to the "world of work") and overcoming his fear that production will be disorganized when people are absent for training;
- (d) training adults, because trained workers are more prone to social and regional mobility and may leave the firm.

For human resources development of small firms, the following activities are carried out by SENAI:

- (a) assistance in apprenticeship schemes to encourage entrepreneurs to take on apprentices in different occupations;
- (b) preparation of accredited instructors for small firms to develop methodical apprenticeship training schemes on the job;
- (c) inclusion of further training and specialization for adults and specific action for the development of technology adapted to the requirements of small firms;

- (d) intensified development of training programmes for concentrations of small firms;
- (e) provision of consultancy services for training at the workplace adapted to the particular needs and problems of small firms;
- (f) development of mobile training units for the specific branches in which small firms are concentrated.

2. *New forms of activity*

SENAI has made an effort to implement new forms of specific and direct assistance to micro, small and medium-sized enterprises, once their problems concerning training have been identified.

A. *Management training*

Management training aims at assisting decision-makers in the small firms. In the majority of small firms, these are the owners, and the major shareholders. Professional administrators who, although not major shareholders, enjoy a real delegation of authority to resolve fundamental issues are normally only found in medium-sized firms. However, this training can also include the immediate collaborators of decision-makers (minority shareholders or members of the family who work in the firms).

The physical dimension (size and type of firm) indicates the type of managerial programmes needed. However, the so-called "cultural dimension" of the firm is equally important: owners with a different education and background require different types of approach. Below we give three typical situations where different types of approach are needed:

- (a) Small firms whose owners have elementary education. The owners are generally former workers or employees who have a good grasp of the technological aspects involved. However, they do not have the experience, training or, in many cases, the ability, to resolve management and business problems. Their principal difficulties usually include: establishing the percentage distribution of their sales; interpreting a balance-sheet or turnover indices; dealing with banking procedures necessary to finance their projects.
- (b) Small firms whose major shareholders have higher education. In general, these managers have attitudes and behaviour which does not differ from those of directors of large firms. As a rule, they are found in specialized industries with relatively sophisticated technology as, for example, workshops dealing with thermic treatment, manufacture of special rubber articles, electronic instruments, informatics, micro-smelting and optics. Their principal problem is the organization of production itself because generally they lack hands-on experience.

- (c) Medium-sized firms, because of their dimension, need to hire people with specific knowledge, at least in some administrative areas. In these cases, the type and branch of industrial activity dictates the training needed, such as production organization, commercialization, quality control, personnel, etc.

In the area of managerial training, micro, small and medium-sized enterprises are offered programmes of short duration (approximately 40 hours), as well as courses of longer duration (four to nine months) covering administration but without the granting of a formal diploma.

B. Technological and managerial seminars

Technological and managerial seminars are organized by SENAI to provide owners and managers of small firms with basic knowledge related to their activities. These seminars also promote interaction between participants and discussion of common problems. They are generally organized for groups of entrepreneurs in the same area of activity and are in some cases developed in co-operation with other organizations which support small firms.

C. Technological assistance

Technological assistance for small firms includes the provision of services which may go beyond the competence and scope of SENAI. SENAI acts as an intermediary to provide these services through the Centres of Professional Training in technical colleges or by contracting services of specialized agencies.

The services are offered both to existing firms and to those in the process of being established. They comprise services such as:

- rationalization of production;
- manufacturing methods and techniques;
- preparation of work: rational use of machines and tools, work flow, technical calculus;
- industrial design: design and technical plans of products, packing, tools and prototypes;
- industrial work: parts and prototypes manufacture, special machines (electro-erosion, radial drill);
- tests, analyses, verification and research of materials;
- quality control;
- information and publications related to technology.

III. The SENAI Micro-entrepreneur Training Programme

Among the specific assistance to micro, small and medium-sized firms developed by SENAI, the Micro-entrepreneur Training Programme deserves emphasis, as it constitutes an innovative proposal and has gained wide popularity. Initiated in 1989, when it was established in eight vocational training centres as an experiment, the programme in that year showed 1,241 registrations, 1,165 completions and a drop-out rate of 6.1 per cent.

1. Objectives

The main objective of the programme is to arouse and stimulate entrepreneurial attitudes, knowledge, abilities and values in people who have the potential, interest and decisiveness to undertake productive activities. The programme seeks specifically to help the participants to:

- optimize the economic results of the firm and to reach the predicted goals;
- obtain better physical results in the firm;
- as entrepreneurs, to realize their rights and obligations to society.

2. Didactic structure

The design of the programme was based on analysis of the tasks and functions performed by the directors (owners) or managers of micro and small firms.

Its structure consists of 11 modules, 6 basic and 5 specialized, amounting to a duration of 150 hours. The complete sequence of modules gives the participant a comprehensive training to carry out the functions of management. However, each module has its own objectives and can be attended independently.

A. Basic modules

M1 - Micro firm: concept and characteristics

Objective: to enable participants to identify and understand the principal characteristics of micro, small and medium-sized firms, their place in the Brazilian industrial structure and the legislation which regulates their functioning.

M2 - Study of the market

Objective: to enable participants to identify the basic components and foundations of the market, to define sales policies and strategies of product commercialization.

M3 - Administration of production and technology

Objective: to enable participants to identify and apply methods and techniques of production administration in order to eliminate wastage and reduce costs; to apply the necessary technical knowledge to select, utilize and maintain machines, equipment and tools.

M4 - Accountancy and financial administration

Objective: to enable participants to utilize basic knowledge of accountancy and finance in the analysis of the operational results of the firm.

M5 - Human resources administration

Objective: to enable participants to utilize knowledge and techniques to identify the functions to be considered in the administration of human resources.

*B. Modules of specialization**M1 - Human relationships and leadership*

Objective: to enable participants to apply the principles and techniques of human relationships in order to understand both their own behaviour and that of other members of their group, with the aim of preventing and resolving inter-personal and inter-group conflicts.

M2 - Quality control and standardization

Objective: to enable participants to identify the basic concepts of standardization and their application in industrial production.

M3 - Productivity

Objective: to enable participants to apply the concepts of productivity, how it can be measured, and areas of activity which can be improved.

M4 - Micro-computer - use and applications

Objective: to enable participants to recognize and become familiar with the utilization of the micro-computer as a support tool for the administration and operation of the firm.

M5 - Elaboration of the business plan

Objective: to enable participants to utilize the knowledge acquired in the previous modules to elaborate a business plan and to decide if the firm they wish to initiate is economically and financially viable.

M6 - Formalization and registration of the firm

Objective: to enable participants to analyse the advantages of business formalization and the conditions required for their recognition as a micro firm; enabling them to register the firm, making use of the advantages available under the legislation in force.

3. Profile of participants

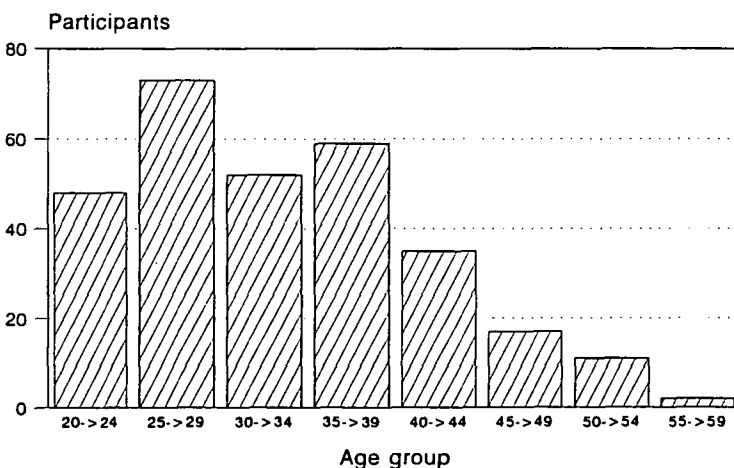
At the time of registration, the profile of participants is obtained from data contained in questionnaires. The basic objective of the profile definition is to obtain data on the group which allows for the assessment of their professional experience, education and socio-professional origins, together with their professional profile and their conception of the firm. This information is used in conducting the programme.

The data obtained from participants in 1989 indicates a profile of the clientele:

4. Age

Age can be an indication of how conventional or innovative a person is and how he reacts to changes of behaviour and new work proposals. The data revealed that the average age of this particular group was 33 years, with 24.4 per cent between the ages of 25-29. It was a young group, in principle open to innovation and change.

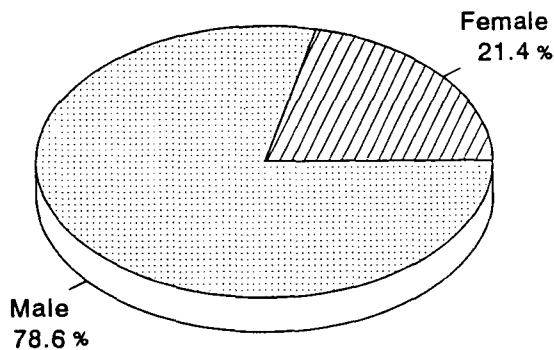
Figure 1
Age of participants



B. Sex

The majority of participants - 78.6 per cent - are male. This confirms the finding that the representation of women participants in entrepreneurial activities is still small.

Figure 2
Sex of participants



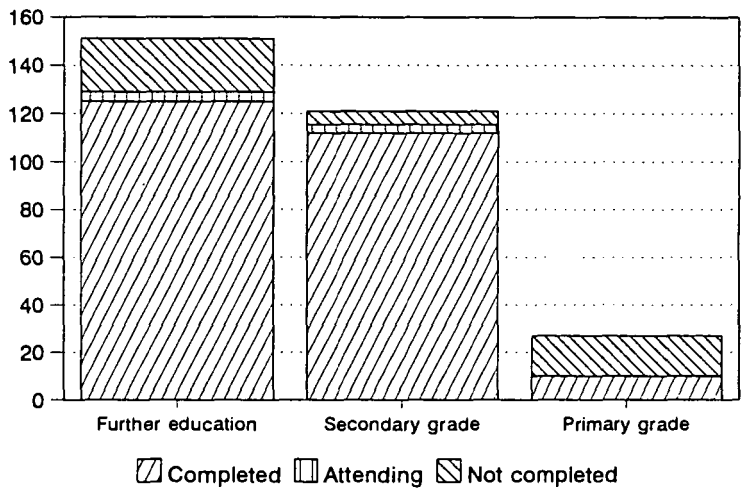
C. Education

Individual educational standards, although determinant in qualifying the participant as an entrepreneur, can constitute an indicator of his ability to learn the more complex technologies or activities.

(a) Level of schooling

There was a significant proportion of people who had completed courses of higher education, representing 41.8 per cent of the group; 37.8 per cent had completed secondary grade and 3.3 per cent primary grade. It is emphasized that 7.4 per cent of the participants did not complete a further education course and 1.3 per cent were still attending a course; 2.0 per cent did not finish the secondary grade and 5.3 per cent did not finish the primary grade.

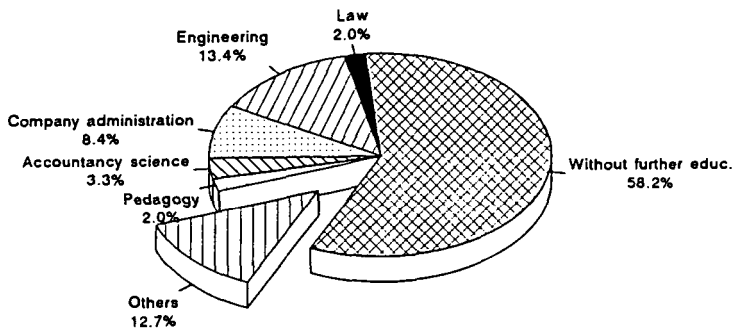
Figure 3
Level of schooling



(b) *Type of higher education*

In this case, the last course completed was considered. The participants with further education came from 23 different areas of study, with engineering (13.4 per cent) being the most prevalent, followed by managerial (8.4 per cent), accountancy science (3.3 per cent), law (2.0 per cent) and pedagogy (2.0 per cent).

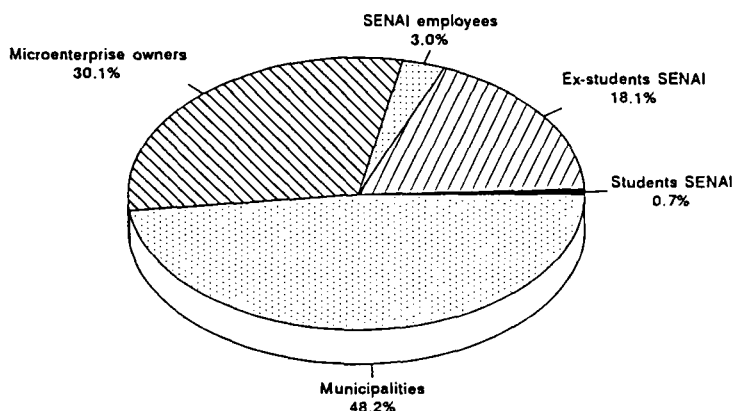
Figure 4
Type of higher education



D. Socio-professional origin

Socio-professional origin is defined by the family environment and by the professional category of the participant. The presence of ex-students of SENAI has been significant, corresponding to 18.1 per cent of the participants. The other participants have been working for the municipalities (48.2 per cent), for firms (30.1 per cent) and for SENAI (3.0 per cent).

Figure 5
Socio-professional origin



IV. Final considerations

The experience of SENAI-São Paulo, although recent, shows that support to the micro, small and medium-sized enterprises must be based on eminently practical and flexible criteria. For the small entrepreneur, time is the scarcest resource, so all training must be well-targeted. The entrepreneur must be guided and qualified to profit from the services available from institutions which promote and assist small firms.

To train the owners of small firms in administrative and managerial techniques is not enough: complementary action, such as technological support, follow-up, evaluation and control of results obtained, must be developed.

For SENAI, assistance to small firms involves a new and more comprehensive approach to vocational training, which is its main function. The vocational training given must transcend the level of exclusively training workers, and must cover other aspects hindering small firm development.

SENAI has been attempting to develop action which is co-ordinated with, and complementary to, that of other organs specifically directed towards assistance to small firms, without duplication of efforts, but attempting to fill the gaps which have been identified from its experience of almost five decades of service to industry.

***Part III: Labour relations
and conditions***

Chapter 6

Small firms and labour relations in manufacturing industry in Colombia

Rainer Dombois

1. Introduction

In the past decade, small and medium-sized firms have not only shown considerable economic dynamism and an ability to adapt to changed market conditions but have even gained in importance relative to large firms as sources of employment [Sengenberger and Loveman, 1987, pp. 9 ff.; Sengenberger, 1989]. Viewed for a long time as a relic of an earlier phase of economic development, they have recently attracted increasing attention from economists, politicians and social scientists. This current interest also reflects the crisis of the conventional model of growth in industrialized countries, which is based on mass production in large firms [Piore and Sabel, 1984].

There are parallels in the debate on development policy in Latin America. Whether their aim is import substitution and the promotion of exports, the building up of primary industries and the processing of domestic raw materials or economies of scale, development strategies have always followed the model of production in large firms [Villarán, 1990]. This has been reflected in dualistic theories, in which small firms, because of their lack of capital resources, technological backwardness and relatively unskilled and poorly paid workforces, appear to represent the "traditional", underdeveloped section of the economy [Muñoz, 1977].

However, since at least the end of the 1970s, there has been a turnaround in Latin America as well. Industrial development has lost its dynamism and the traditional model of development has generally run out of steam. Small firms are attracting the attention of those concerned with social policy, not only as a form of subsistence production but also as a new pole of development [de Soto, 1987].

The debate over the role of small firms in developing countries in recent years is primarily an economic debate and has focused on economic conditions and problems, such as productivity, capital and technological resources, etc. Labour relations and work and employment conditions have, in contrast, played

a relatively small role and have generally been considered only in terms of economic factors, such as cost. However, there has been little discussion of the extent to which work and employment conditions in small firms may themselves influence the potential for development. To what extent, for example, do lower wages and fringe benefits, which are interpreted as cost advantages, lead to shortages of skilled workers and high labour turnover, which are themselves obstacles to improving productivity in small firms? To what extent do the personnel policies of small firms attract certain types of workers and how does this affect production and productivity?

This chapter sets out to analyse small and medium-sized manufacturing firms in Colombia, a semi-industrialized Latin American country, from the point of view of their labour relations and employment conditions.¹

II. What do small firms have in common?

The heterogeneity of small firms as a group has consistently, and quite rightly, been emphasized in the current debate. Repair shops, manufacturing firms, subcontractors and consulting engineers may all be small firms, but very different economic, social and cultural conditions prevail within them.

However, small firms also share some common characteristics that are of importance for the employment relations within them: they are "restricted in [their] economic, technical, personnel and political resources, and [they lack] the ability and the autonomy to influence [their] external business environment ..." [Sengenberger, 1989, p. 199]. This limited scope for strategic manoeuvre is combined, however, with very different economic, technical and organizational conditions: management style, skill levels, types of workforce and work and employment conditions all vary widely and are determined by the technical and organizational characteristics of the production processes and position of the firms in the product, labour and capital markets.

Conditions may be very different depending on whether a small firm exists purely for subsistence purposes, possibly as an alternative to unemployment, or for the utilization and accumulation of capital [cf. Vargas, 1989, p. 126; Escandon, 1981]. And there may be very different consequences depending on whether a small firm is competing with larger firms in the product market or only supplies a local market, or whether it is a supplier or

¹ This article is based on the results of a joint project carried out by the University of Bremen and the Universidad Nacional de Colombia in Bogota on "Work conditions in manufacturing industry in Colombia", directed by Anita Weiss de Belalcázar. First research results are published in Dombois [1990]; Lopez and Romero [1990]; Weiss de Belalcázar and Grisales [1990]; Weiss de Belalcázar and Castañeda [1990].

subcontractor to larger firms or whether its activities are restricted to production or service functions.²

Also of importance, finally, is the extent to which the business and institutional environment, including the education and industrial relations systems, reinforces the differences between firms or tends rather to standardize labour relations and work conditions.

However heterogeneous the small-firm sector may be and however many problems surround attempts at generalized analysis, it is possible to identify a few characteristics of the internal structures of small firms that include particular forms of social relations: small firms usually have a relatively undifferentiated organizational structure, and most owners also manage their firms. Neither the horizontal nor the vertical division of labour is highly developed, and functional specialization is correspondingly limited. In consequence, relations tend to be informal and personal and to reflect the particular characteristics of the owners and their employees; in small firms, particularly family firms, the work is frequently not wage work and employment relationships are not based on contracts but on traditional family industries or neighbourhood structures and the obligations inherent in them.

These particular characteristics have consequences both for work and employment conditions and for the representation and advancement of interests: rights and obligations are less formalized and negotiating procedures are less institutionalized. This informality of relations is the reason why employees in small firms are less inclined to claim general rights (such as legal or collectively agreed minimum standards) or to have their interests represented in collective bargaining procedures. Work and employment conditions are regulated through individual bargaining; in these circumstances, bargaining power depends on an individual's replaceability and/or pre-contractual social obligations upstream of the employment relationship. These characteristics of the social relationships in small firms help to explain why wages and social benefits are on average lower and working hours longer or more irregular than in medium-sized and large firms and why forms of collective bargaining are the exception rather than the rule.³

III. Small firms and the context of development

The structure and dynamics of the small-firm sector are determined to a large extent by the economic and social context in which development takes place. In the European tradition, for example, small firms, dominated economically and socially by a system of industrial production based on large

² Cf. the typological classifications, based on different characteristics, in Sperling [1987]; Sengenberger [1989]; Escandon [1981]; Vargas [1989].

³ Cf. the summary of the country reports in Sengenberger and Loveman [1987].

firms, have specialized in particular market segments, in supply functions or in backward- and forward-linked activities. At the same time, changes in the labour market, the development of labour and social law, fairly generalized collective bargaining systems, and the democratization of the education system have reduced internal disparities and made working and living conditions more equal.⁴

The role of small firms in Latin American countries differs from the one they play in advanced industrialized countries. Firstly, the development model that has prevailed hitherto has allowed more room for the evolution and consolidation of small firms even in the "modern" sectors of the economy. Secondly, the development of the small firm sector is determined not only by the dynamics of the goods-producing sector and the development of the market and of competition, but also by the labour market: self-employment or work in small and very small firms are frequently forms of precarious subsistence with all the features of underemployment, which become increasingly significant in periods of crisis.

Industrialization in Latin American countries has several characteristics that have consequences for the structures of firms [Fajnzylber, 1983]. It started late and was at its most dynamic between the 1950s and 1970s. Moreover, it is not an "endogenous" process; its impetus comes rather from the policy of import substitution, initially in the area of consumer goods. In the first instance at least, product design, technologies and intermediate products come from the industrialized countries, and in many countries and sectors transnational firms have gained key positions in the industrialization process. The new industries have been transplanted into a traditional economy whose infrastructure, level of technological development and skill structure is unprepared for them. Although they show considerable dynamism, the immature industries are in no position to absorb the potential urban workforce that is rapidly expanding as a result of population growth, migration and rapid urbanization, and they lag far behind the service sector in terms of numbers employed.

After an initial phase at the beginning of the century, the industrialization process in Colombia was at its most dynamic between 1950 and 1975. Government policies during this period, although relatively inconsistent compared with other countries, were aimed at encouraging import substitution and led to the development of numerous "modern" industries, characterized by relatively large firms [Kalmanovitz, 1985; Ocampo, 1981]. This period of growth came to an end in the mid-1970s, and since then employment in manufacturing industry has increased neither in relative nor in absolute terms.

Industrial census figures show that in 1945 manufacturing industry employed only 135,000 people, three-quarters of whom worked in traditional consumer goods industries; only one in five was employed in a "large" firm

⁴ On the break-up of the "traditional" subsistence sector and the absorption of the labour force in the modern sector, as well as the political regulatory processes that reduced traditional disparities in post-war Europe, see Lutz [1984].

(with more than 100 employees); artisanal production predominated overall. Forty years later about 1.2 million people were working in manufacturing industry [Ministerio de Trabajo y Seguridad, 1989]. The industrial structure has undergone a process of expansion and differentiation; the production of consumer durables and semi-finished goods has increased greatly.

At the same time, there has been a change in the business structure: while the number of firms in all size categories has grown, the main increase has been in the number of medium-sized and large firms, which are absorbing a growing proportion of employment in manufacturing industry.⁵ However, more than half the people employed in manufacturing industry still work in very small firms (up to 10 employees).⁶

The industrialization process has the following characteristics. The policy of import substitution has encouraged the development of new industries that are being established for the first time in Colombia (e.g. metal processing), some are an investment by foreign capital, and are often "large firms" with imported technologies, organizational models and product designs. With the new product markets and production processes, however, a growing number of small and medium-sized firms are being established by first-generation entrepreneurs.

The industrial structure remains unbalanced, however. Now, as before, there is virtually no capital goods sector, and technologies, designs and most tools and materials are still imported. This creates "gaps" in the industrial structure: sectors requiring high skill levels and with considerable significance for other sectors, such as industrial research and development and machine tool production, are seriously underdeveloped.

The new import substituting industries are protected from foreign competition and basically sell their products only in the small domestic market. As a result, production volumes are low and there is little pressure to rationalize and mechanize. The machines used are often secondhand and production is labour-intensive in comparison with the corresponding sectors in industrialized countries.

Under these circumstance, large firms tend to concentrate on diversification rather than on specialized mass production or on exports.

⁵ A comparison of the 1945 and 1987 industrial censuses shows the following changes in firms with more than 10 employees:

	1945	1987
Firms	2 203	6 972
Employees (in 1,000):	103	470
- those working in firms with 10-15 employees	n.a.	22 %
- those working in firms with more than 100 employees	45 %	63 %
<i>Source:</i> Ospina Vásquez, 1955; Censo Industrial, 1945; Encuesta Industria Manufacturera nacional, 1987.		

⁶ Data from Ministerio de Trabajo y Seguridad, 1989; the industrial censuses, on the other hand, only include data on firms with at least 10 employees.

This is not the only reason why the threshold for access to the market remains low for small and medium-sized firms in many sectors. In addition, a large market for cheap machinery, now obsolete in industrialized countries, has grown up since the 1970s, and many people have acquired new skills and experience as industrial workers, which they are able to use to set up their own small firms. Finally, the payments that employers are legally required to make to employees for the purposes of asset formation (known as the *cesentías*) are often used by would-be entrepreneurs as start-up capital [cf. Escandon, 1981].

In Colombia, therefore, the small firm sector is not being pushed back by the industrialization process, but is actually developing for the first time in many areas. Since the 1950s, the small firm sector has undergone a process of expansion and differentiation: in addition to producers for the local market, many small and medium-sized firms have been set up to produce consumer goods, simple tools or spare parts for the national market; they are protected from foreign competition, but often compete with large firms. Moreover, around the "large firms", a "ring" of small and medium-sized firms has emerged, producing component parts or providing services for the larger firms.

In the final analysis, however, the expansion of the small firm sector cannot be attributed wholly to the dynamics of the markets for goods. Manufacturing industry, and the formal sector of the economy as a whole, have for a long time not been keeping pace with the expansion of the urban labour supply. The urban labour supply, which expanded particularly rapidly in the 1950s and 1960s as a result of population growth and urbanization, has found employment principally in very small firms in the service sector and, to a lesser extent, in manufacturing industry. Fifty-five per cent of the working population is employed in very small firms or is self-employed. Because of the lack of alternatives, self-employment or work in "informal" employment relationships, where standards do not come up to the legal minima, are also significant forms of subsistence.

The report of the Misión de Empleo [1986, p. 62], conducted by Chenery, notes that the establishment of small firms as a "precarious survival option" is no longer restricted to certain sections of the population, but appears increasingly to be an alternative for all groups. The informal sector acts both as an entry into and an exit from the employment system: young people begin their working lives as assistants in family firms or in the private service sector, while older people who have worked for long periods in formal employment relationships set up on their own account. In certain areas, the low access thresholds, both in financial and skill terms, make self-employment or informal work a form of precarious, subsistence-level work; on the other hand, for skilled people with the necessary resources it can be an attractive alternative to wage work [cf. Misión de Empleo, 1986, p. 58; Dombois, 1990].

All this leads to an enormous heterogeneity of situations within firms, with consequences for work conditions and labour relations. The small firm sector alone includes:

1. *Small firms set up by skilled workers with the aim of improving their incomes.* In doing so, they make use of skills and customer contacts acquired in their previous employment. *Example:* A worker who has acquired experience as a turner in various firms buys a secondhand lathe and carries out work in his own workshop; in addition to an assistant, he employs, when necessary, itinerant "subcontractors" who hire out their services for individual orders.
2. *Self-employment or businesses set up as a makeshift solution or as a way out of unemployment.* *Example:* After long experience of irregular and poorly paid work, two brothers rent a small, traditional brickworks, where they produce simple bricks by hand.
3. *Firms set up as capital investments or as an extension to or change of activity.* *Example:* A businessman with capital sees a gap in the market for simple metal tools. He rents factory space and poaches staff with relevant knowledge from other firms.
4. *Subcontracting is a type of self-employment that is particularly widespread in the artisanal sector, but is also found in small-scale manufacturing.* Skilled workers are often employed as sub-entrepreneurs: they negotiate a price for each order and then carry out the work, either alone or with assistance, or even farm it out to other subcontractors. *Example:* In a small coachbuilding firm, the entire production is carried out on the basis of contracts for services by self-employed coachbuilders, painters, upholsterers and electricians.

Thus, the particular characteristics of the industrialization process in Colombia have created and maintained a range of firms that are, in economic and social terms, extremely heterogeneous. This broad range of firms is matched by an equally heterogeneous spectrum of owner profiles and labour relations. In addition to those who choose self-employment out of necessity, there is also the skilled craftsman or technician with a great deal of experience of the work process, often socially close to his employees, and the commercially-oriented capitalist who has no experience in the sector and has a predominantly economic relationship with his employees. The one similarity between them is that they are all first-generation entrepreneurs.

IV. Training system and employment relations

The industries that emerged in the 1950s and 1960s found specific conditions in the labour market. There was an abundant supply of labour, but it was mostly rural in origin, with low educational levels, no experience in industry

and absolutely no training in modern industrial or artisanal occupations:⁷ first-generation entrepreneurs hired first-generation industrial workers.

Moreover, vocational training was not institutionalized to any great extent. With the exception of a few technical schools, there were virtually no institutionalized forms of training until well into the 1950s. Instead, specialist skills were imparted through firm-based training processes, often directed by foreign technicians [Castañeda, 1988; Weiss de Belacázar and Grisales, 1990].

Since that time, the supply of skilled labour has been increased and differentiated.

- The late 1950s saw the establishment of SENA, a state-run initial and further training institution financed by vocational training levies on firms.
- Another important source of training is the private service sector in the cities, where there is a multiplicity of small, artisanal repair firms which shot up with urbanization and the growing availability of modern industrial consumer goods (such as cars, electrical goods, etc.), often before the advent of industries producing the goods in Colombia itself.

Various forms of training and routes of access to occupations in manufacturing industry now co-exist:

- (a) Training on the job based on the specific conditions obtaining in the manufacturing firm. Thus there are maintenance personnel (such as mechanics and electricians) who, with no specific qualifications, acquire their specialist knowledge on the job, dealing with the technology in use in the firm.
- (b) Training in an artisanal (repair) firm, during which the trainee works with an experienced worker, who is often himself employed as a "sub-entrepreneur". This form is similar to an apprenticeship, although there are no institutionalized minimum criteria.
- (c) Institutionalized apprenticeship and further training forming part of the SENA programmes.

Firm-based and artisanal training are "empirical" forms of training: the "assistant" acquires his knowledge while working, usually in collaboration with an older colleague. In contrast, the vocational training provided by SENA, which includes both firm and classroom-based phases, offers theoretical and practical qualifications and concludes with an examination of both.

Until now, the scope of the apprenticeship training for industrial occupations offered by SENA has remained relatively modest: in 21 years a total of 42,000 apprentices has been trained [SENA, 1987], and in only a few areas, mainly theoretically more demanding occupations (e.g. a turner), has SENA been

⁷ According to the 1945 industrial census, 18.5 per cent of workers in manufacturing industry, for example, were traditional artisans and only 3.6 per cent were in modern industrial occupations (such as mechanic or turner) [Ministerio de Trabajo y Seguridad, 1989].

able to control access to particular trades. Even in a few modern occupations, institutionalized vocational training co-exists with on-the-job training.

Firms' involvement in the practical parts of the SENA training programmes varies widely, and it is almost exclusively large and medium-sized firms that take on apprentices. At the same time, the areas in which such qualification can be applied also varies: in manufacturing, traditional on-the-job training predominates, along with the absorption of workers who have acquired their skills in artisanal workshops. Most of those who successfully complete SENA training courses find employment in toolmaking and in the repair departments of medium-sized and large firms. Small firms - whether workshops or factories - take no part in the SENA programmes, make less use of the skill potential of those who complete the programmes and also direct less effort towards in-firm training.

The lack of an extensive institutionalized vocational training system has the following consequences:

1. There are no clear occupational profiles and thus no unambiguous minimum requirements. "Having a trade" can encompass a wide range of knowledge and skills. Training depends not only on the specificity and complexity of the work process but also on the willingness and ability of older workers to pass their knowledge on to apprentices. Consequently, firms tend to rely on practical tests when recruiting rather than on formal qualifications or personal records.
2. As a result of these specific and implicit forms of training, there are few occupational labour markets with clear entrance requirements and transparent price structures; consequently, career paths are less structured and continuous, and only in a few areas do they determine behaviour and prospects.
3. Small firms play a contradictory role in the training system. The small artisanal repair firms train workers who then go off to work in other areas, either as employees or on their own account, albeit with very different skill levels. On the other hand, those small firms whose production processes are not artisanal in nature generally restrict themselves to giving their employees brief on-the-job training.

V. Industrial relations

The industrial relations system increases the heterogeneity of work and employment conditions. The state lays down a few minimum standards for individual employment relationships; these include a minimum wage, maximum working hours, fringe benefits and redundancy pay (e.g. in the case of unjustified dismissal).

The institutionalization of trade unions and collective bargaining in Colombia has been continuing since the 1930s, with the main focus of activity,

now as then, in the public service sector. Even though freedom of association and the right to strike are guaranteed in theory, the Ministry of Labour intervenes forcefully in the recognition process and in wage disputes [Misión de Empleo, 1986, pp. 98 ff.].

Plant or company unions predominate; they negotiate wage agreements at establishment level. In small and medium-sized firms, there are also so-called "industrial unions", whose membership is drawn from different enterprises. The main issues dealt with in the collective bargaining process are wages and benefits; work organization and personnel policy remain management prerogatives.

In the late 1980s, covering only about 10 per cent of the working population, the level of unionization was very low and falling (the corresponding figure for 1965 was 15.7 per cent). There are unions in about 70 per cent of medium-sized and large firms [Londoño et al., 1987], while there is virtually no union representation for workers in small and very small firms. In these firms, the very small number of employees often means there is no legal right to form a trade union, and those who try to set one up are usually subject to severe harassment. Finally, Colombian labour law permits firms to announce one-sided "pacts" which replace collective agreements and allow trade unions to be supplanted even in large firms.

This all serves to intensify the heterogeneity of work conditions. Collective bargaining at firm level, restricted to economic issues, heightens the disparities that exist even within the "formal sector". The low level of unionization and the limited number of workers covered by collective agreements has led to a great diversity of work and employment conditions, with large differences in wages, benefits and forms of employment contract between sectors and firms. In many firms, but particularly in small and very small ones, even the legal minimum standards, such as the enrolment of employees in the social security system, are ignored.⁸ In small firms, legal minimum standards represent the upper limit for employment conditions.⁹ In large firms, on the other hand, the wages and benefits offered for comparable jobs may be several times the legal minimum rates, and employment conditions such as fixed-term contracts

⁸ [Vargas, 1989]. The 1987 factory inspections showed, for example, that in only a third of the firms inspected were legal standards observed; wages in 40 per cent of the firms were below the legal minimum wage and in 25 per cent national insurance contributions were not being paid properly [Londoño, 1989]. In all, 26 per cent of the working population pays social security contributions - a very low proportion even by Latin American standards [cf. Misión de Empleo, 1986, p. 90].

⁹ The majority of the *microempresas* (very small firms with up to nine employees) does not observe legal standards; there are variations in the extent to which individual standards and benefits are generalized.

are also more likely to be regulated or restricted by collective agreements.¹⁰ There is also a wide range of different forms of contracts, with widely differing guarantees and risks: the legal minimum obligations associated with permanent contracts can be circumvented by means of verbal or fixed-term contracts, contracting-out or subcontracts.

In very small firms and in many small firms job security is low, whether because of the form of contracts used or because of the ease with which workers can be dismissed. Large firms generally offer better job security, even if new procedures for the dismissal of older workers and restricting entry have gained ground in recent years.

VI. Workers in small firms

Taken in its entirety, our investigation of the career patterns of 513 workers from 17 large and small firms in the metal, food and building materials industries in Bogotá, the country's largest industrial centre, reveals *a profile of workers in industry rather than one of industrial workers*. Most of them were born in rural areas and have drifted in and out of a very wide range of different sectors and jobs; only a minority have followed consistent paths in specified occupations and in the manufacturing sector. Two-thirds of the workers are migrants and over a third began their working lives in agriculture, most of them when they were still children. Average educational attainment is low, with only 5 to 6 years' schooling, although the younger workers have somewhat higher levels. Very few of the workers have any formal vocational training.

By the time they joined their present firms, the workers had already had at least four other jobs, usually outside manufacturing industry, in agriculture, the service sector or commerce, mainly in small or very small firms; only a small proportion of these jobs were permanent ones. For most of them, their last job was in a small firm and only one in two was in manufacturing industry.

The differences between workers in small, medium-sized and large firms are striking. Workers in small firms are younger, even though they already have long careers behind them; they have less experience in manufacturing industry and in a trade, and two-thirds of their previous jobs were in small firms (or in self-employment); formal permanent contracts were very much the exception.

Work conditions in the small firms we investigated have the following characteristics: most of the workers have only limited training and perform less

¹⁰ In 1987, large firms with more than 500 employees - 2 per cent of the firms included in the industrial census - employed 26 per cent of the industrial workers included in the census, but accounted for 35 per cent of the total wage bill and 48 per cent of the fringe benefits paid. On the other hand, small firms with between 10 and 50 employees accounted for 8 per cent of the total benefits paid in manufacturing industry and 14 per cent of the total wage bill, but employed 22 per cent of the industrial workers included in the census [*Encuesta industria manufacturera nacional*, 1987]. On the differences in skill structure, wages and work conditions in small and large firms in various sectors, see Urrea and Varela Castillo [no date].

skilled tasks than their counterparts in large firms. Wages are significantly lower than in other firms, with fewer than half the workers earning more than the legal minimum wage (compared with 100 per cent in large firms), and the wage differentials with comparable jobs in large firms reach 300 per cent in some cases. Even the length of employment in small firms is considerably shorter: three-quarters of the workers have been working in their present firms for five years or less, whereas in medium-sized and large firms, only 39 per cent of the workforce comes into this category.

These characteristics correspond to a typical profile of workers in small firms: they have little training, are employed in unskilled and poorly paid jobs and have little prospect for training, promotion and permanent employment in their firms or in manufacturing industry. They form a segment of the working population accustomed to "informal" employment relationships that do not even offer them the (inadequate) guarantees provided by the legal minimum standards. They change jobs frequently and do not follow consistent career paths.

Under these circumstances, work in small manufacturing firms is a temporary affair: just as the firms treat their employees as exchangeable labour, so the employees do not consider themselves committed to a long-term future with their employers. For many of them, work in small firms is a temporary solution forced upon them because they have not yet settled down in the city and have not built up a network of contacts or, as is so often the case with women, because there are virtually no alternatives for them in the formal labour market. Many younger workers see their current job as a temporary halt on the way to a more highly-paid job with better benefits in a larger firm, or even as a staging post on the way to self-employment, which for most industrial workers is still the ideal alternative to wage work.

Finally, such firms also attract workers who have resigned themselves to a lifetime of this type of work: compliant, undemanding workers, accustomed to repetitive work and without any expectations of training and promotion.

In addition to this type of unskilled worker, there is also a minority of skilled workers who embark on careers as artisanal "sub-entrepreneurs" in small firms and achieve high earnings doing so.

The differences with large firms are striking: large firms recruit skilled workers or themselves train carefully selected workers. They pay higher wages and offer fringe benefits that exceed the legal minimum standards; their internal labour markets create opportunities for in-firm training and promotion, thus ensuring longer-term employment prospects for their workforces. As a result, large manufacturing firms often absorb workers who obtained their initial industrial experience, or even certain knowledge and skills, in small firms.

VII. Conclusions

On the whole, work conditions and employment relations in manufacturing industry are characterized by their great heterogeneity. There are enormous differences, not only between sectors but also between firms in the

same sector, in wage levels and benefits, in management style and treatment of employees and in the type of worker. The range of employment relationships might be even greater in the small firm sector than in the large firm sector. In large firms, the professionalism of management and the corrective mechanism of collective bargaining mean that the regulation and standardization of employment relations and work conditions are to a certain extent institutionalized. In small firms, on the other hand, employment relations and work conditions are considerably more dependent on other factors: the social relationships upstream of the employment relationship (e.g. in family firms), or the attitudes and traditions of the owners, who usually have no previous experience as employers and often no experience in the particular sector and are often more interested in quick profits than in the development of products and production processes. Thus, the treatment of workers as residual is matched by a type of worker whose commitment to the firm is, for lack of alternatives, only temporary.

The great heterogeneity of employment relations can be attributed, in short, to the following conditions:

1. The wide differences in economic situations between firms: firms with extremely diverse resources, productivity rates and opportunities for distribution coexist or compete with each other.
2. The lack of an established, generalized and socially acceptable system of occupational profiles and vocational training. The minimum requirements for each occupation and occupational qualification are not clearly defined, nor are there any clearly defined training and access routes into occupations. The subjective orientation function of the occupational classification system is also weak: in only a few areas are criteria for appropriate work and employment conditions available and occupational requirements and career patterns remain largely unstructured.
3. The limited number of workers covered by collective agreements and the fragmentation of the collective bargaining system contribute to the heterogeneity of employment relations: collective agreements, with their very diverse levels of material rewards, both reflect that heterogeneity and help to intensify it.
4. Labour and social legislation, as it applies to individuals, is highly selective in its coverage and range of application and is restricted essentially to formal employment relationships. However, a large proportion of gainful employment is not regulated at all, or at best only partially, by legal standards. The poorer conditions in this area have repercussions on the "formal" sector, not least on the demands and attitudes of those employed there, who have previous experience in "precarious employment", in unstable, irregular and poorly paid jobs.
5. In view of the excess supply of labour and the multiplicity of training and access routes, the labour market is hardly an appropriate institution for

the control and levelling out of these heterogeneous work and employment conditions.

All this often gives employment relations and work conditions in small manufacturing firms a precarious status: the employees work in comparatively unfavourable conditions and aspire to other jobs, in large firms, in the public service sector or in self-employment. At the same time, the workers' low skill levels and the brevity of their periods of employment restrict firms' opportunities for further development and have a negative effect on product quality and the flexibility of the production process.

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Chapter 7

Safety and health in small firms: Brief comments on the situation in Brazil

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1. Small firms: Economic importance and vulnerability

It is estimated that small firms in Latin America account for over 90 per cent of the total number of work establishments, employing around 70 per cent of the workers engaged in the urban "formal" labour market [Mendes, 1990, p. 4]. The above figures alone are a clear expression of the social and economic importance of small enterprises in Latin America, but no less expressive are the data concerning the contribution of small units in the generation of work posts during the so-called "lost decade" of the 1980s. According to estimates made by the Regional Employment Programme for Latin America and the Caribbean (PREALC), in seven large Latin American countries, employment in large enterprises increased by only 3.3 per cent between 1980 and 1987, whilst in small firms that increase reached 55.4 per cent, almost as much as job generation in the urban informal market [cited in ILO, 1989, p. 31]. The contrast between both types of enterprise was even greater during the severe recession of 1980-1983, when employment generation increased around 30 per cent in small firms, against a decrease of about 7 per cent in large enterprises [ibid.]. This clearly indicates a strong dynamism of the small firm sector which exists in all branches of the economy, irrespective of levels of technological development.

However, there are also other factors which characterize small firms in Latin America:

- (1) management skills are often only obtained by on-the-job practice;
- (2) decision-making is often centralized;
- (3) new organizational models are seldom put into practice;

- (4) the workforce has a low level of skill and receives poor on-the-job training;
- (5) safety and health hazards are often ignored and workers have a fatalistic attitude towards occupational accidents;
- (6) information concerning legislation on accident prevention and related epidemiological studies is not widely diffused;
- (7) plant size and layout are usually inadequate.

Small entrepreneurs themselves attribute the persistence of such inadequate conditions and the vulnerability of their enterprises to the absence of effective policy measures. In Brazil, small entrepreneurs frequently complain that although official banks may have the necessary financial resources, the enterprises do not have access to credit because they cannot provide the guarantees or collateral required. Small firms are then caught in the vicious circle of economic vulnerability: difficult access to credit, improvisation, precarious working conditions, low salaries, low productivity, short average life (two years is estimated as being the average life span of a small enterprise in Brazil).

From the point of view of safety and health at the workplace, small firms are a particularly challenging and difficult target group despite the fact that recent attempts have been made to design adequate methods to deal with such problems (see Appendix).

II. Safety and health in small firms: legal aspects

In Brazil, occupational safety and health services are mandatory in enterprises employing more than 50 workers, and according to the degree of hazards. The staff for such services includes medical doctors, safety engineers, nurses, nursing aides and safety supervisors, as shown in Table 1.

Establishments employing more than 20 workers, and with a particular degree of hazards, are required by law to have safety committees, called "CIPAs" (Internal Committees for Accident Prevention), the composition of which varies as indicated in Table 2.

As can be observed in Table 2, occupational hazards are classified into four degrees, from 4 to 1, corresponding, inter alia, to the following activities:

- 4 - extractive industry, iron and steel industry plants;
- 3 - mechanical, electrical, transportation equipment, wood and furniture, rubber, chemicals, plastics, food, printing and construction industries;
- 2 - clothing, shoe manufacturing, tobacco, communications, retail trade;
- 1 - offices, banking.

Table 1: Occupational safety and health services' dimension according to number of employees and degree of hazards

Hazard degree no.	OS&H personnel	Number of employees in the workplace							
		50-100	101-250	251-500	501-1000	1001-2000	2001-3500	3501-5000	Over 5000 for each group of 4000 or fraction over 2000*
1	Occup. Safety Technician				1	1	1	2	1
	Safety Engineer						1**	1	1**
	Occup. Health Nurse Aide						1	1	1
	Occup. Health Nurse							1**	
2	Medical Doctor					1**	1**	1	1**
	Occup. Safety Technician				1	1	2	6	1
	Safety Engineer					1**	1	1	1**
	Occup. Health Nurse Aide					1	1	1	1
3	Occup. Health Nurse							1	
	Medical Doctor					1**	1	1	1
	Occup. Safety Technician		1	2	3	4	6	8	3
	Safety Engineer				1**	1	1	2	1
4	Occup. Health Nurse Aide					1	2	1	1
	Occup. Health Nurse							1	
	Medical Doctor				1**	1	1	2	1
	Occup. Safety Technician	1	2	3	4	5	8	10	3
	Safety Engineer		1**	1**	1	1	2	3	1
	Occup. Health Nurse Aide				1	1	2	1	1
	Occup. Health Nurse							1	
	Medical Doctor		1**	1**	1	1	2	3	1

Notes: * = Occupational safety and health services' dimension should be based on the 3,501 to 5,000 bracket plus the dimension of the group(s) of 4,000 or fraction over 2,000; ** Part-time (3 hours as a minimum). Hospitals, out-patient clinics, maternities and other similar establishments employing more than 500 workers should hire a full-time Occupational Health Nurse.

Table 2: CIPAs' dimension according to number of employees and degree of hazards

Hazard degree no.		Number of employees in the workplace							
		20-50	51-100	101-500	501-1000	1001-2500	2501-5000	5001-10000	Over 10000 add to each group of 2500
1	1. Employers' representatives 2. Workers' representatives				2 2	3 3	4 4	5 5	1 1
2	1. Employers' representatives 2. Workers' representatives		1 1	2 2	3 3	4 4	5 5	6 6	1 1
3	1. Employers' representatives 2. Workers' representatives	1 1	2 2	4 4	6 6	8 8	10 10	12 12	2 2
4	1. Employers' representatives 2. Workers' representatives	1 1	3 3	4 4	6 6	9 9	12 12	15 15	2 2

Source: Portaria Nr. 3214 of the Ministry of Labour and Social Security, dated June 1978, Regulation Nr. 5.

Since "small enterprises" in Brazil are defined as those employing fewer than 100 workers, it is apparent that occupational safety and health services are required only for level 4 and safety committees are mandatory for hazard degrees 3 or 4, for units employing more than 20 and fewer than 50 workers.

According to a survey conducted by Mendes [1975], covering 6,310 severe accidents in greater São Paulo between 1969 and 1974, the frequency of severe accidents is higher in small-scale than in medium-scale (100 to 499) or large-scale (500 and more) establishments. The frequency of severe accidents in small enterprises, according to this survey, is 3.77 times higher than in larger enterprises. The incidence of accidents was higher in the following branches: electronic/electric, food, plastics, rubber, furniture, paper and printing industries. However, in these sectors, the law does not require the organization of occupational safety and health services nor of safety committees.

It is well accepted, however, that the responsibility of small firm employers goes far beyond the mere payment of salaries. In this respect, it should be emphasized that the New Federal Constitution of Brazil, promulgated in 1988, ensures social protection and insurance against occupational accidents for urban and rural workers. However, much has to be done to bring this principle into force through revision of the existing legislation.

III. Inspection of safety and health regulations in small firms

Basic safety and health regulations have been issued as part of *Portaria* No. 3214 (administrative act) dated June 1978, of the Ministry of Labour and Social Security. This *Portaria* has subsequently been revised to incorporate some amendments.

One of the difficulties currently encountered by safety and health inspectors is the absence of adequate programmes to enforce this regulation and which take into consideration the particularities of small firms. Another is the lack of a data base with updated and reliable information on occupational accidents and diseases in these enterprises.

Therefore, there is only limited evidence of progress in this respect: very often involving parallel action among different types of inspection agents or among professionals belonging to regional bodies.

1. Current situation

Labour inspections aimed at an assessment of incipient safety and health programmes applied to small firms have shown that:

- (a) Occupational safety and health services as prescribed by law are often incomplete, partly because of lack of specialized personnel. Very often there is no-one in charge of these matters, where such services are not mandatory.

- (b) CIPAs are often non-existent or inoperative.
- (c) Health care services emphasize curative aspects, disregarding prevention and work-related hazards.
- (d) Initial and periodical medical examinations are often carried out as a legal formality, with no effective attention being paid to early diagnosis or disease prevention.
- (e) Periodic evaluation of environmental hazards (physical, chemical or biological agents) is not carried out on a regular basis or methodologies are applied which simply classify hazards as costs.
- (f) Workers lack adequate knowledge on occupational hazards because of the absence of information.
- (g) The difficult access of small firms to effective technological alternatives for the improvement of working conditions.

2. *Priorities established by the Ministry of Labour and Social Security concerning safety and health inspection*

The five-year Action Plan established by the Ministry of Labour's Department of Workers' Safety and Health includes technical criteria and priorities concerning labour inspection, revision of existing legislation and an improvement in flexibility through the development of computerized information systems.

The stated priorities concerning labour inspection for the next five-year period are:

- enterprises classified as having hazard degrees 3 or 4;
- severe or fatal accidents;
- occupational diseases detected by health care services;
- workers' and unions' claims.

According to the Action Plan, inspection programmes should pursue the improvement of environmental conditions at the workplace, based on scientifically defined principles and methodologies, emphasizing collective protective measures. Workers' effective participation in labour inspection is also recommended by the Action Plan, in accordance with the ILO Working Environment (Air Pollution, Noise and Vibration) Convention, No. 148.

The current position of labour inspectors in the State of São Paulo is to continue to handle small firms with the necessary flexibility, providing them with technical advice, evaluating their concrete difficulties and efforts towards the improvement of working conditions, before any sanction is applied.

IV. Recommendations

Based upon the discussions on the papers at the Conference, the authors wish to put forward the following recommendations:

1. Government policies should include the setting up of mechanisms to provide small firms with information and guidance concerning workers' safety and health.
2. Private institutions should create co-operatives or similar services to assist small enterprises.
3. Co-operation between employers and workers should be encouraged, as a means to control/eliminate occupational hazards.
4. Government programmes for small firm development should encompass requirements for the improvement of working conditions.
5. Safety and health issues should be included in public contract proposals.
6. Social security services/agencies should disseminate information on occupational accidents related to size and branch of industry.
7. Occupational safety and health matters should be included as one of the fields to be explored within the network of information and research on small-scale enterprises to be created in Latin America.

Appendix

Safety and health in small-scale enterprises: An alternative approach for developing countries

Taking into account that small-scale enterprises play an important role in social and economic development and constitute a high priority sector in regard to the improvement of working conditions, the International Labour Office has developed a special training methodology designed for managers/owners of such industrial units.

This methodology is conceived as an alternative to traditional means for workers' protection, based on labour inspection, which is usually ineffective in small firms due to the large number of enterprises to be assisted, their wide geographical dispersion and their particularities.

The training method is based on six main principles:

- improvements designed on the basis of the concrete local situations;
- emphasis on positive examples detected at work establishments;
- working conditions included with other managerial objectives;
- practical experience as the basis of the learning process;
- encouragement of the exchange of experience;
- promotion of workers' participation.

Detection of concrete problems related to working conditions and productivity are constantly emphasized in group discussions, as well as participants' own experiences. A broad range of aspects is covered, such as: productivity; work post design; effective use of machinery; control of dangerous substances; alternatives to implement corrective measures, etc.

In the past years, several courses based on this new methodology have been carried out, with excellent results in developing countries in Asia and Latin America, within the scope of the International Programme for the Improvement of Working Conditions and Environments (PIACT) of the International Labour Organization.

The multiplication of such initiatives has been facilitated by the recent publication by the International Labour Office of the manual *Higher productivity and a better place to work*, by W. Kogi, J.E. Thurman and A.C. Louzine [1988] which includes a trainer's manual and is also available in a Spanish version.

Additional information on the above-mentioned methodology may be requested from the Conditions of Work and Welfare Facilities Branch, CONDI/T, International Labour Organization, CH-1211 Geneva 22, Switzerland.

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***Part IV: Collective
efficiency of
small firms***

Chapter 8

Small firms and flexible specialization in developing countries¹

Hubert Schmitz

I. Introduction

During the 1980s, industrial growth and employment declined in many developing countries. Their governments have been and still are seeking new policy approaches. They look, in particular, to the small-scale industry sector because it promises to adapt flexibly to unprecedented foreign exchange constraints and thus to contribute to industrial reconstruction. The response from the research community has been poor: there is little it has been able to provide in terms of new analyses and strategies for this sector. This is why recent innovative work on flexible specialization in advanced countries is of particular interest. One of its main conclusions is that some industrial sectors and regions with large populations of small and medium-scale enterprises have demonstrated dynamic growth during the crisis years of the late 1970s and early 1980s. This chapter examines what can be learned from this experience, and how it can advance our understanding of small-scale industrialization in developing countries.

The chapter proceeds as follows: Section II provides a summary and a critique of the flexible specialization model. The relevance of flexible specialization for developing countries is examined in Section III, which constitutes the core of the chapter. Section IV draws together the main conclusions and maps out the challenges for the future.

Throughout, the reader should keep in mind that this is an exploratory paper. Although small-scale industry has received a great deal of attention in recent years, analytically it remains one of the most under-developed fields in

¹ This chapter is based on Part I of "Flexible specialization in Third World Industry: Prospects and research requirements", Geneva, International Institute for Labour Studies, DP/18/90. Except for minor editorial changes, this chapter is a reprint of a journal article with the same title published in *Labour and Society*, Vol. 15, No. 3, 1990.

development studies. FitzGerald [1989], for example, has pointed out that this area lags well behind the study of small-scale agriculture: "in its lack of specificity on enterprise forms, analytical writing on small scale industry still contrasts markedly with agrarian economics, where different types of economic organization with distinct objective functions, forms of market power, resource constraints and relationships to the state are always explicitly considered" [pp. 2-3].

Indeed, in trying to find a way forward, it would not be promising to take on small-scale industry as a whole. The world of small-scale producers encompasses too many different situations.² This chapter focuses on a particular form of industrial organization: one in which small firms cluster around a set of related activities. As will be seen in the course of the chapter, such clustering facilitates efficiency and flexibility gains rarely attainable by individual small firms. I introduce the concept of collective efficiency to capture these gains.

The idea behind collective efficiency is not new in industrial economics. It can be traced back to Alfred Marshall's [1890; 1927] analysis of industrial districts in Britain. However, the inspiration for this chapter came from the recent success of sectoral agglomerations of small firms in Italy and Germany. This success has been one of the cornerstones of a new paradigm of industrial development: flexible specialization. Even though it refers to advanced countries, even though it suffers from theoretical and empirical flaws and even though flexible specialization is not confined to small firms, there is a case for introducing it into the growing, but analytically stagnant, debate on small-scale industry. In so doing, the chapter does not offer ready solutions, it merely suggests a fresh way of approaching a particular type of small-scale industrialization in developing countries.

II. Flexible specialization in advanced countries

This section presents a summary of the literature which suggests that Fordist mass production is in decline and that flexible specialization is the answer to industrial restructuring. This is followed by a critique which brings out both conceptual and empirical weaknesses.

1. The new paradigm

One of the main themes in the current analysis of advanced capitalist countries is that a major change in industrial organization is under way: a relative decline of Fordist mass production and an expansion of activities based on less rigid and more adaptable structures [cf. Piore and Sabel, 1984; Scott, 1988; Storper, 1989; R. Murray, 1988; Hirst and Zeitlin, 1989]. This work was

² In the literature this is often exacerbated when small-scale manufacturing is lumped together with small-scale trade and services (as in the informal sector concept, for example).

inspired by a number of observations, in particular the growth of small enterprises in industrial districts in Italy, studied by Bagnasco [1977], Becattini [1978; 1987], Brusco [1982; 1986] and other Italian social scientists. Internationally, the most influential work has been Piore and Sabel's *The second industrial divide* [1984] which is summarized below.

The starting point for Piore and Sabel is the economic crisis which beset the industrialized West for most of the 1970s and the early 1980s. Their main thesis is that: "The present deterioration in economic performance results from the limits of the model of industrial development that is founded on mass production" [Piore and Sabel, 1984, p. 4]. The clue to prosperity is thought to lie in flexible specialization. This would mean moving away from rigid mass production lines and armies of disinterested semi-skilled workers used to produce standardized goods towards a more innovative and flexible system of multi-purpose machines and skilled workers better able to respond to continuous change.

The argument is developed in the course of a very ambitious project. This summary privileges those parts which are conducive to our concern with small-scale industry. It should, however, be stated from the outset that small-scale industry is not identical with flexible specialization. Where they coincide and where they differ should become clear in the course of this chapter.

There are two empirical observations coming out of Piore and Sabel's work which are central to our concern:

- (i) the mass production economy is in trouble, as is evidenced, in particular, by experiences in the United States;
- (ii) economies which favour flexible specialization are flourishing, as is evidenced by experiences in Italy, Germany and Japan.

The question which the authors ask themselves is why does mass production continue to be equated with industrial progress? Their answer is that mass production was very successful and became dominant, but there was no technological necessity for this to happen; it was the result of a political process. Moreover, economic and social science has exaggerated the superiority of mass production and hidden both the actual and potential relevance of alternative forms of industrial production.

In order to elaborate, one has to explain what "mass production" stands for. It is not just about making things, but is seen as a system of technologies, markets and institutions. Mass production requires large investments in highly specialized equipment and narrowly trained workers; it is profitable only with markets large enough to absorb an enormous output of standardized commodities, and stable enough to keep the resources involved in their production continuously employed. Markets of this kind, like markets in general, do not occur naturally: they have to be created. The large corporation was organized for this purpose. It also required the creation of a Keynesian system for matching production and consumption in the economy as a whole. The

United States became the most fully-fledged version of this model, which the other major industrial powers tried to follow in the course of this century.

Throughout the last century, mass production was in collision with craft production. The latter was based on the idea that flexible tools and machines augment the craftsman's skills and ability to produce ever more varied products. The authors refer extensively to the economic organization of industrial districts in the nineteenth century. There, small firms often developed or exploited new technologies without becoming larger, and large firms using sophisticated technology did not always concentrate on the production of standardized goods. "The technological dynamism of both flies in the face of the notion that craft production must be either a traditional or a subordinate form of economic activity. It suggests, instead, that there is a craft alternative to mass production as a model of technological advance" [Piore and Sabel, 1984, p. 28; see also Sabel and Zeitlin, 1985].

Such industrial districts had three mutually dependent characteristics: first, they produced a wide range of products to suit the needs of highly differentiated and constantly changing markets; secondly, this relation to the market led to the flexible use of increasingly productive and widely applicable technology; thirdly, this could only develop in an institutional environment which balanced competition and co-operation amongst firms so as to encourage innovation.

These historical experiences lead the authors to suggest a picture of technological development as a "branching tree" which is set against the "narrow track" view of technology development which equates mass production with industrial progress. This view is traced back to classical political economy (in particular Smith and Marx). In this century it has completely permeated theoretical and empirical work on industrialization in advanced countries.

Thus the time has come for two developments to be recognized: first, the narrow track model has completely dwarfed and belittled accounts which show that, in the *past*, viable alternatives to mass production existed; secondly, and this is the authors' trump card, *present* industries based on a modern version of the craft principle are strikingly successful. The success stories come from Italy, Germany and Japan and they are the empirical base for their paradigm of flexible specialization.

The Italian case is particularly impressive because it shows the emergence of a thriving small-firm sector. Italian employers responded to the strike waves of the 1960s with decentralization. Initially this developed into a typical sweat-shop sector in which firms with rudimentary technology competed by lowering labour costs. Surprisingly, however, this sector became innovative and developed into a growing network of small firms, adapting both traditional and computer-based technologies to move into rapidly shifting markets. In some sectors dependent subcontractors began to federate. They used their collective capacities to devise innovative products and processes that gave them increasingly independent access to markets.

The centre of the new wave of Italian growth is a vast network of very small enterprises spread through the villages and small cities of Central and North-east Italy, in and around Bologna, Florence, Ancona and Venice. The Italians themselves have begun to call this area the "Third Italy", to distinguish it from the older industrial triangle (defined by Milan, Turin and Genoa) and the less developed South. These little shops range across the entire spectrum of the modern industrial structure, from shoes, ceramics, textiles and garments on one side to motor cycles, agricultural equipment, automotive parts and machine tools on the other. The firms perform an enormous variety of the operations associated with mass production, excluding only the kind of final assembly involved in the automobile production line. The average size of the unit varies from industry to industry, but it is generally extremely small: shops of ten workers or less are not unusual [Piore and Sabel, 1983, pp. 392-3].

This regional growth based on small-scale industrialization finds its expression in rapidly rising per capita income and falling unemployment, while wage levels are now amongst the highest in the country.

The authors suggest that local government played an important double role. Municipal and regional authorities improved the infrastructure (roads, vocational schools, research centres, industrial zones). They also helped to establish community-wide standards for health and safety regulations and for wages. Interestingly, local government support was forthcoming in the areas controlled by the Communists as well as those controlled by the Christian Democrats.

Japan also has a thriving small-scale industry, but its recent experience is different. It is characterized not so much by the emergence of new producers as by rationalization of existing enterprises, especially suppliers to large firms. Subcontracting continues to be widespread and multi-layered.

A major spur for technological and organizational modernization of small suppliers comes from the parent firms. They are concerned with creating and maintaining an efficient network of suppliers. They do this by providing extensive technical assistance and by employing them on a relatively stable basis.³ This has helped small enterprises to come forward with their own innovations. Flexible specialization extends to the medium and large-sized firms through the subcontracting system. There is generally little vertical integration amongst mass producers. In the car industry the subcontracting system has attained its own most advanced form through two interlinked innovations. The first is technological: parent firm and supplier communicate through the use of computers. The second is organizational and called just-in-time production; it means that suppliers deliver their products only minutes before they are needed, enabling parent firms to cut down on inventory costs. Computer integrated manufacturing and just-in-time flows of components also characterize their internal organization of production. Other industries are emulating this strategy. Does this high tech and just-in-time production not seem a far cry from the craft principles of flexible specialization? Not entirely. It would appear that even large

³ This is confirmed by Watanabe [1983]. For a detailed study on the role of flexible small-scale manufacturing in Japanese industrial growth, see Friedman [1988].

firms pursue a policy of broad training for their employees so that they are able to shift quickly from one product to another.

"Compared with Italy and Japan, the reorientation of West Germany toward craft production is proceeding so quietly as to be almost unnoticed" [Piore and Sabel, 1984, p. 229]. The country has a strong craft tradition which has always been maintained in its producer goods industry. During the late 1950s, the 1960s and the early 1970s, however, this was increasingly overshadowed by the rise of mass production of standard goods made by semi-skilled assembly-line workers. By the late 1970s, it became clear that such industries were succumbing to foreign competition, whereas in areas of traditional strength (such as machine tools), industries continued to flourish; their main strategy was the production of customized goods using micro-electronic technology. It was increasingly recognized that mass markets were breaking up and that the supply of high quality goods to splintering markets held most promise. This was put into practice by large firms which decentralized internally and by networks of specialized small firms. The latter can be found particularly in Baden-Württemberg. This state (in Southern Germany) experienced rapid industrial growth in the 1970s and 1980s which contrasts with the flagging mass production in some other German states.

The general argument put forward by the authors is that Italy, Japan and Germany have significant recent experiences with flexible specialization, and that those sectors/areas which adopted its principles were able to ride out the world economic recession and continued to grow. This is contrasted with the case of the United States and France (one should add the United Kingdom) where mass production continued to be the dominant philosophy and practice. The rigidity of the mass production model stands in the way of their industrial revival.

What can one make of this in terms of industrial strategy? "There was never a deliberate application of craft principles as part of any national conversion to more flexible methods of production; rather, the craft residues influenced industrial development towards customization" [Piore and Sabel, 1984, p. 222]. However, now that the viability of an alternative to mass production has become clear, a conscious choice can be made. The authors see two potentially contradictory strategies for re-launching growth in the advanced countries. The first strategy builds on the dominant principles of mass-production technology and requires a dramatic extension of existing regulatory institutions, i.e. international Keynesianism. The second is flexible specialization, and is thought to offer more hope. The authors do not predict which strategy will prevail, but insist that at present the path of technological development itself is at issue, hence the title of the work, *The second industrial divide*. The first industrial divide came in the nineteenth century when craft production lost out to mass production.

As can be seen from this summary, flexible specialization is not just about small-scale industry. It is a paradigm that emerges from a comprehensive

re-examination of industrialization in advanced capitalist countries.⁴ This re-examination has a liberating effect in that it overcomes the view that industrial progress means mass production. Thus, small-scale industry is dragged out of its socially and theoretically inferior status and placed at the centre of the industrial strategy debate.

Recent research on industrial structure underlines the need to do so. In most advanced countries there has been a shift towards employment in smaller enterprises [Sengenberger and Loveman, 1987; Sengenberger, 1988]. The shift is largely due to a net growth of employment in small firms and a considerable reduction of employment in large firms. This seems to mark a reversal in the historical tendency towards centralization in the productive structure, indicated by an increase in the average size of enterprises and establishments.

This reversal does not necessarily support the flexible specialization paradigm. In the latter it is not the size dimension as such that counts, but relations between firms. This issue is taken up in the following section which explicitly queries the definition of flexible specialization in the context of a critique of the new paradigm.

2. *The critique*

The new paradigm has attracted a great deal of attention on the left, but comparatively little on the right. The latter is surprising since flexible specialization blends well into the current trend of more market and less state. "A shift away from mass production would restore the neo-classical equilibrating mechanisms" and reduce the need for Keynesian macroeconomic regulation [Piore and Sabel, 1984, p. 276]. Thus, the new paradigm seems to play into the hands of neo-liberals. Yet it has not been seized upon by marketeers but by the left, for example, in recent British experiments with "municipal socialism" [GLC, 1985; Zeitlin, 1985; Best, 1986; Gough, 1986; Cochrane, 1986].

The academic critique has also come mainly from the left [for example, Williams et al., 1987; F. Murray, 1987; Pollert, 1988; Amin, 1989; Sayer, 1989]. Some have even rushed to call it a new orthodoxy [Amin and Robins, 1989]. What follows is a summary of the critique, restricted to those points which have a bearing on our concern with small-scale industrialization.⁵

⁴ It should be added that parallel to their work and in response to it a number of other studies have emerged on "the crisis in global Fordism", the "new techno-economic paradigm", "systemo-facture", "the end of organized capitalism", "post-Fordism" and even "post-modernism". These are discussed in Chapter 1 of Lyberaki [1988]. In different ways they all help to understand the current changes in industrialization in advanced countries. However, it is in Piore and Sabel [1984] that the role of small firms is most explicitly addressed. This is why I focus on their contribution.

⁵ For example, the question of whether Piore and Sabel [1984] succeed in providing a new theory of industrial capitalism is not discussed here. In my view the main vulnerability of *The second industrial divide* results from the ambition of the project which seeks to re-write history, explain the crisis of the 1970s and 1980s, and map out strategies for the future, all in one stroke. For details see the previous extended version of this paper, Schmitz [1989, Section 3.1].

A. *The problem of definition*

Much of the debate on flexible specialization suffers from confusion over what it means. This is hardly surprising, since *The second industrial divide* does not provide a clear-cut definition.⁶

One can, however, filter out a narrow and a wide definition. The former would centre on technology, skills and output. While mass production means standard products made by narrowly skilled workers and single purpose machines, *flexible specialization is the manufacture of varied products with multi-purpose equipment and multi-skilled workers*. The problem is that this narrow definition is also applicable to many sweatshops in the grey or black economy. A notorious example is the manufacture of clothes produced by skilled, but often casualized and poorly paid female labour. Another example which fits this definition is artisan production which merely reproduces itself. Such cases are hardly a threat to Fordist mass production.

So as to avoid the above difficulties one could adopt a wider definition which includes fast product and process innovation. From a methodological point of view, however, this is problematic, because it amounts to defining success into the concept of flexible specialization.

In my view, this problem cannot be solved by searching for a better definition. For purposes of empirical research (documenting reality), disaggregation is necessary, because flexible specialization covers different forms of industrial organization which defy a common definition. A useful first step is to distinguish (in line with Sabel [1986a]) between the small firm variant and the large firm variant. The latter exists where large firms decentralize internally into semi-autonomous specialized units. *This chapter focuses on the small firm variant, where flexible specialization results from the clustering of small firms and a strong inter-firm division of labour*. Thus small-scale industry does not always mean flexible specialization. For example, small firms which are geographically and/or sectorally dispersed do not constitute such a form of industrial organization. Close relationships between firms are essential to flexible specialization.

Having emphasized that flexible specialization is not so much about size of firms as about relationships between firms, we must draw attention to the case where the large and small firm variant merge: this occurs where small subcontractors work for large firms. I refer here to the case where large firms use small firms because of their specialized expertise and output. (This is different from "capacity subcontracting" where small firms are merely buffers to help large firms cope with the ups and downs in the market.)

Having distinguished between these different forms of flexible specialization one needs to ask what lies behind the success of the small firm variant. Here I would suggest that the notion of *collective efficiency* may take us

⁶ One must wonder whether this contributed to its success, since it left room for different interpretations by different readers.

a little step forward. The reasoning is that when economic performance is determined by the capacity to adapt to change, this capacity can neither be enhanced nor understood by focusing on the individual firm.

For example, the strength of small-scale industry in the Third Italy or Southern Germany cannot be grasped by analyzing individual firms. Their strength lies in their clustering⁷ and cooperative competition. Firms compete with each other but also complement each other through vertical links and horizontal collaboration (see for example, Brusco [1986]). As a result there is a collective ability to deal with changes in the market and to innovate. At the same time, it must be pointed out that a dense network of firms does not necessarily mean success. Indeed, further conceptual and empirical work is necessary in order to explain where and why the collective capacity to adapt and innovate develops.

The significance of putting the concept of collective efficiency at the centre of further research can best be appreciated against the existing work on small enterprise development. Most studies focus (explicitly or implicitly) on the individual firm or entrepreneur and thereby often fail to recognize the reasons for success or failure of small-scale industry. In this section, however, the main concern is not the critique of the small firm literature but of the flexible specialization model. Its proponents have helped to bring to the fore the significance of small firm clusters and interfirm relationships, but clearer concepts and definitions are needed to take this a step further.

Most other criticisms of flexible specialization which are relevant to this paper are primarily of an empirical nature (even though they sometimes have conceptual implications). In what follows these empirical questions are raised and commented upon, but the presentation of evidence and counter-evidence is not included.

B. New flexibility in mass production

In the past, mass production with its special purpose machines and narrowly trained workers could not easily adapt to changes in product markets. However, the equation of mass production with rigidity is gradually turning into a cliché. New *programmable* automation technology (which eliminates typically the semi-skilled jobs) enables mass producers to revise more quickly what they produce [Kaplinsky, 1984; Sayer, 1989]. Thus, with flexible automation, the previous distinction between mass production and flexible specialization gets blurred and becomes less and less applicable.

C. What has happened to markets?

One of the building blocks in the paradigm of flexible specialization is that mass markets are saturated and breaking up because consumers are

⁷ The emphasis on clusters of firms and the associated economies of agglomeration can be traced back to Alfred Marshall's industrial districts and external economies.

demanding more differentiated products. The empirical validity of this thesis has been questioned. For example, Williams et al. [1987], argue that while markets for some old consumer durables are saturated, new mass markets emerge; moreover, mass producers can offer differentiated output by producing families of inter-related products. These objections are certainly valid. Nevertheless, I would suggest that research would probably show that (i) there has been an increasing volatility in the level and composition of demand; (ii) markets for highly differentiated and customized products are growing faster than those for standardized goods.

D. Flexible casualties

The strength of flexible specialization lies in its capacity to adapt to changing product markets. This capacity is seen to rest above all on multi-skilled labour. In their emphasis on "functional flexibility", the proponents of the new paradigm tend to neglect the issue of "numerical flexibility" [Pollert, 1988]: workers may be insecurely or irregularly employed or not have a formal relationship with the firm at all, as in the case of clandestine homeworkers. F. Murray [1987, p. 91], for example, suggests that even in the Third Italy the artisan sector contains a wide variety of working conditions. Differentials exist in skill levels, stability and wages with a pronounced division along gender lines. Casual, low paid, often female labour seems to remain important to achieve numerical flexibility.

E. Can micro beat macro?

This and the next point are concerned with the role of government. Macroeconomic regulation is seen to be dispensable by the proponents of flexible specialization and only regarded as necessary for mass production. In my view this is a flaw. It would only be correct as long as flexible specialization accounts for a small part of industrial activity. The more generalized flexible specialization becomes, the more the level of aggregate demand matters for its sustainability. Hence, institutional mechanisms to maintain or raise this demand are far from superfluous. The argument is not that such macropolicy is the key to flexible specialization, but that the question of demand management arises irrespective of whether goods are mass produced or made in small batches. Ignoring macroeconomic regulation implies that flexible specialization is an exception, that it can only fill the cracks, that it remains limited to exploiting tiny niches in the market.

F. A new role for local government?

Local political forces, especially local and regional government, are an essential part of the flexible specialization model in that they steer competition towards innovation. They are thought to play a double role: (i) ensuring that standards in labour use are obeyed and (ii) providing assistance in vocational training and technological development. Both the regulatory and the develop-

mental function of local government can be questioned on empirical grounds. F. Murray [1987] has done so for the case of Emilia-Romagna (Third Italy). The other arch case of flexible specialization, Baden-Württemberg (Southern Germany), has a government pursuing a high profile modernization strategy, but the industrial success of the region can hardly be attributed to these new initiatives. A thriving network of small and medium-scale industry was in place before the new strategy took effect. It could, however, be crucial in further consolidating and strengthening industrial development in the region.

G. A replicable recipe for success?

The emphasis on local government in the flexible specialization model suggests that there is a strategy which can be implemented by the local state. As pointed out above, neither the Third Italy nor Southern Germany provide clarity in this respect. In both cases, industrial success can also be interpreted as a result of a long process of learning. Indeed, the emergence of a professional culture and of networks of small firms cannot be explained without reference to the region's economic history; but it remains unclear how much weight should be given to the historical factors. While studying history may seem an academic matter, the conclusions are of particular interest to the industrial policy debate. If historical particularities matter more than recent government or enterprise policy, then emulating the model is more problematic. This is not a point of criticism but of caution, since a great deal of the interest in flexible specialization is driven by attempts to learn from success and replicate it elsewhere (see, for example, R. Murray et al. [1987]).

To conclude, the purpose of this section was to present a critical summary of the flexible specialization paradigm. The conceptual and empirical weaknesses are such that some are inclined to dismiss it. My own view is that it creates space for new thinking and stimulates the debate on what forms of industrial organization are best equipped to cope with the challenges of the 1980s and 1990s. Small firms have advanced to the centre stage of that debate. The next section seeks to examine the relevance of the small firm variant of flexible specialization for developing countries. This constitutes the core of the chapter.

III. Conditions for flexible specialization in developing countries

There is an immediate reason which makes the new paradigm appealing in a Third World context. There has long been a mismatch between the small (internal) market of many developing countries and the philosophy and/or practice of mass production.⁸ Of course, the disenchantment with one paradigm

⁸ It should be added that small internal markets are not necessarily inconsistent with mass production if firms are internationally competitive and can export.

is not a sufficient reason for embracing another one. Indeed, the objective is not only to explore whether there are positive footholds for flexible specialization in such countries, but also to see whether there are factors which could hold it back.

The main thesis in this second section is that flexible specialization is a paradigm of great relevance for industrialization in less developed countries, but that it needs to be developed further through both theoretical and empirical work. To develop the argument, I begin with a brief statement of what is known about small-scale industry in developing countries.

In developing countries it is hard to assess the quantitative significance of small-scale manufacturing. Many producers are not officially registered and escape the industrial census or other statistical surveys. While reliable statistics are rarely available, it is safe to say that in most developing countries small-scale industry accounts for a considerable portion of the labour force. The key question for industrial policy and for employment policy is whether these activities are viable.

Views on the viability of small-scale production vary a great deal [for reviews see Schmitz, 1982b; Moser, 1984]. They range from:

- (i) optimistic scenarios in which the growth of small producers is seen as *open-ended*: provided that the small producer has the drive and energy, *evolutionary growth* from small to medium to large is possible; external obstacles can be removed by government; to
- (ii) *pessimistic* scenarios in which small producers are marginalized due to exploitation and blockages which are not removed because their existence is in the interest of those in power; only *involutionary growth* is possible, and arises when increasing numbers of producers squeeze into a restricted economic space.

Reviewing the empirical research suggests that blanket generalizations about the growth prospects of small producers are not tenable. The development of small-scale production is not just an outcome of pressure and constraints but also of opportunities and initiatives. The dangers of marginalization are real, but the conditions which determine their pervasiveness vary and must therefore be studied and specified. The issue is not *whether* small enterprises have growth and employment potential but *under what conditions*.

This is the point at which to bring in the flexible specialization model. Its authors make a clear statement about the potential of small firms. Their thesis is not just that they are viable but that they do better than mass producers in certain sectors and regions. Some of the conditions under which this occurs are mentioned in their work. Others will need to be unravelled. Bringing them out is the objective in this section.

Of course, the first point to remember is that flexible specialization is a paradigm that emerged from research on advanced capitalist countries. Piore and Sabel [1984] refer only briefly to developing countries when they speculate about the future:

... it is conceivable that flexible specialization and mass production could be combined in a unified international economy. In this system, the old mass-production industries might migrate to the underdeveloped world, leaving behind in the industrialized world the high-tech industries and the traditional dispersed conglomerations in machine tools, garments, textiles, and the like - all revitalized through the fusion of traditional skills and high technology [p. 279].

In a later article Sabel [1986a] suggests that the developing countries may themselves adopt the principles of flexible specialization in either the large or small firm variant. With regard to the latter there is a mere hint that "there are many routes to a permanent innovation small firm economy" but that "the range of enabling conditions is hardly unlimited" [p. 49]. As was noted earlier, my intention is to explore what these conditions are and what one can learn from studying developing country industry through the lens of flexible specialization.

1. Crisis and the capacity to adapt

The starting point for *The second industrial divide* is the economic crisis that has beset the advanced capitalist countries since the early 1970s. The origin of flexible specialization pre-dates the crisis but its strength has emerged since then. Crisis is also the inevitable starting point for investigating industrial development in developing countries. In proportionate terms, the crisis which beset many developing countries during the 1970s and 1980s was even worse. Economies which were already struggling to overcome their internal problems were caught between escalating debt payments and decreasing export revenues. The exact account matters little here, and in any case varies from country to country. What varied little was the new challenge faced by industry: flexibility.

The challenge emphasized by Piore and Sabel for advanced countries is how to respond to mass markets that stop growing, become more competitive, and break up. Such problems on the demand side were also faced by developing country industries (even though the concept of mass markets is not applicable in the same way). Problems on the supply side make their difficulties worse, particularly precarious access to raw materials and spare parts due to foreign exchange constraints.

This has implications for the concept of competitiveness. *Even more than in advanced countries, competitiveness requires the capacity to adapt to disruptive circumstances.* In my view this is unlikely to change, because there are no signs that international Keynesianism can put the world economy back onto a path of steady expansion. (In this sense, the 1950s and 1960s, rather than the crisis-ridden 1970s and 1980s are the exception.) Second, in spite of all ambitions of self-reliance, developing countries are integrated into the world economy to an unprecedented degree. Bienefeld [1982; 1985] has long stressed the disruptive effects which the integration into the world economy has on the accumulation of industrial skills and capital.

Of course, crisis is not always a disaster. Often it brings with it new opportunities. Indeed, the argument is not that each disruption is necessarily negative but that the environment in which most developing country industry

operates is one that frequently demands more than marginal change.⁹ The capacity to adapt is - if anything - more critical than in advanced countries.

In the latter, flexible specialization seems to have responded to the crisis more successfully than mass production. Are there signs of similar experiences outside the advanced capitalist countries? Antigone Lyberaki [1988] addressed this question for a country on the European periphery. Greece has been, and is, in economic crisis due to both the recession and its accession into the EEC. A large share of its industry consists of small and medium-sized enterprises whose performance over the crisis was investigated by Lyberaki and compared with that of large-scale industry. On the basis of both statistical work and qualitative information, she concludes that small and medium-sized firms fared better than large ones.

Similarly, a study on the policy environment for small-scale firms in Peru suggests that such enterprises did well during the crisis. According to census data, the number of enterprises, employment and value added grew significantly in small-scale industry over the crisis period 1980-84. In contrast, medium- and large-scale industry stagnated or declined.¹⁰

In a study on furniture makers in Ecuador, McKean [1988] comes to similar findings. She suggests that the economic crisis of the early 1980s had a particularly negative effect on large firms whereas many small firms fared relatively well. Particularly the extensive use of subcontracted artisans enabled them to cope with volatile demand. A different story seems to emerge from Escobar's [1988] study on the fate of small workshops in Guadalajara, Mexico, during the crisis years of the 1980s. He suggests that small enterprises fared particularly badly: the crisis led to many closures; amongst those that survived it led to "clandestinization" (escaping taxation and labour legislation) and to "peripheralization" (setting up shop in smaller towns where wages were lower and taxes could be avoided more easily). The merely defensive strategy of trying to escape the costs associated with labour legislation was also pursued by small furniture firms in Ecuador [McKean, 1988], but - far from being marginalized - many seemed to have found ways of enhancing their position in the market.

Tracing the connection between crisis and small enterprise development is particularly interesting in the case of Ghana [Riedel and Schmitz, 1989]. The Ghanaian economy is currently in the limelight of development economists. It has become the prime test case for IMF/IBRD policies of structural adjustment

⁹ In this connection it is worth mentioning that *unpredictability* is the main theme in Toye's [1987] review of the recent experience of Third World development and in his discussion of future challenges for development theory and policy.

¹⁰ Based on discussions with Harald Fuhr, University of Constance, and Fuhr [1988]. In a study on Colombia, Berry et al. [1989] showed that small- and medium-scale industry grew faster than large-scale industry in the 1970s. Those were, however, years of rapid GNP growth in which general demand supply conditions were relatively favourable. Unfortunately, the Colombia data for the 1980s is less complete and the authors therefore could not make a comparison with the crisis years.

and economic recovery. Recovery implies previous decline, and in Ghana that decline has been particularly steep. At independence in 1957 it was a middle income economy with the highest GDP per capita in West Africa. Today it ranks amongst the poorest countries in the world. The reasons for this relative and absolute deterioration lie in internal mismanagement and external shocks.

The structural adjustment programme has begun to put the economy back on the road to recovery. The growth of GDP, which was negative between 1980 and 1983, reached over five per cent per year during 1984-87. However, the characterization of recent Ghanaian development in terms of decline and recovery is not applicable to small-scale industry. There are no hard data to sustain this statement, but the example of Kumasi may help to explain it. Over the last decade there has been an explosion of small-scale industrial activity in that town. It is estimated that the number of people working in this sector has grown eightfold since the early 1970s. Today it is reckoned to include over 40,000 craftsmen. Growth there, however, has not just been quantitative in nature: there has also been an upgrading of the technology used and of the range and quality of products made. In some fields, small-scale industry is moving into markets once dominated by medium- and large-scale industry [Dawson, 1988].

The small firm economy of Kumasi is fascinating first because it reveals an ability to adapt to extreme crisis and to turn disaster into new opportunity. Worse than turmoil in markets was the unavailability of previously imported materials and spare parts, yet the latter triggered an inventiveness which can only be appreciated against the technological stagnation one observes in other parts of Ghana or Africa. Second, because the small firms are part of a larger industrial district, many individual enterprises there can only be efficient because for certain inputs and specialized operations they can rely on other enterprises. While there are many enterprises which contribute little or nothing to this collective strength, increasing specialization is clearly visible.

This example from Ghana will need to be taken up again later. Here, the general question of industry's capacity to deal with crisis needs to be pursued further. A literature search on developing countries would indicate the lack of studies which investigate the question of what kind of industrial organization is best equipped to survive and grow out of disruptive circumstances. In the informal sector literature one finds numerous passing references to the ability of small firms to survive crisis, but many of these would add little to the study of flexible specialization.

In order to explain, one has to distinguish between mere survival and growth. The most important reason for small producers' ability to survive lean times is that they rely on family labour which - depending on the circumstances - can be asked to put in extra hours at little or no remuneration or can be hired out to supplement the family/business income [Lipton, 1984]. "Petty enterprises ... survive beyond the point where capitalist ones would have disappeared" [MacEwan Scott, 1979, p. 122]. What one is dealing with here is, however, merely the defensive response of the individual business/family. This is different

from adjustment aimed at growth, which will be explored further in the next section.

2. *In search of collective efficiency*

The previous section focused on the capacity to adapt to a rapidly changing world as a prerequisite for competitiveness. This section is organized around the argument that such capacity cannot be achieved by small firms individually. Piore and Sabel present material from advanced countries in their discussion of industrial districts. Our objective here is to explore the issue of collective efficiency in less developed countries.

The issue is little researched, even though there are remarkable examples of industrial districts in developing countries. To mention just two: shoe production in Novo Hamburgo, Southern Brazil, and the cotton knitting industry of Tirippur, Southern India [Cawthorne, 1989]; both are major exporters. The producers of Kumasi to which I referred earlier are far from achieving such international competitiveness. But this example from Ghana will help to underline the *relevance of collective efficiency* even at a relatively backward stage of economic development.¹¹ In fact I would argue that it is of even greater significance *for incipient industrialization*.

The agglomeration of small producers in Kumasi has locally become known as the "magazine". Its growth is associated with the decline in output of large-scale industry and the decline in imports of industrial products. This resulted in an increasing necessity to repair and recycle, the most visible case being that of vehicles. Small auto repair shops found ever new ways of prolonging the life of vehicles (and saved the Ghanaian economy in the early 1980s from complete collapse of the transport system). The unavailability of spare parts for vehicles or other machines spurred on attempts to copy and reproduce these parts. Indeed, specialized workshops emerged equipped with various types of metal-cutting machinery which can produce a missing part or recondition it.

Most workshops, however, still rely on manual equipment, and only some have lathes and other types of machinery. And this is what matters. It matters not only for the enterprise which has acquired the new machine but for the whole "magazine". Workshops there accept orders from customers even if they know in advance that they cannot carry out the entire job. Those operations which they cannot undertake themselves are farmed out to specialized enterprises which have the required machinery and expertise. In this way the Kumasi "magazine" attracts orders and customers from all over Ghana and from neighbouring countries. Even small workshops with simple technology benefit from this collective efficiency.

¹¹ The following is based on research carried out in Ghana in 1987 [see Riedel and Schmitz, 1989]. A more thorough study of Kumasi industry has since been undertaken by Jonathan Dawson [1988].

Thus, the foundations are laid for an indigenous metalworking and mechanical engineering industry. A sure sign of this is that the industry is beginning to build its own equipment, for example, carbide and electrical welding machines are made from recycled materials. These machines must seem extremely rudimentary to a European engineer; indeed, the whole "magazine" may seem like a hopeless scrap-heap in which thousands of people make their living by recycling and repairing. But if our engineer cares to look closer, he or she can see that a process of specialization and technological upgrading is under way. What he or she cannot immediately see is that the resulting efficiency gains accrue not only to the enterprise which acquires the machine but also to other enterprises.

Collective efficiency does not necessarily emerge when small firms cluster. This can be illustrated with another example from Ghana [Riedel and Schmitz, 1989]. Techiman, a little town in the interior, boasts an agglomeration of 100 small firms engaged in metalworking, vehicle repairs and related activities. However, the level of technology in individual firms and the division of labour between firms remained rudimentary. The lack of electricity was a severe retarding factor which was only partially offset by power generation with the use of discarded tractor diesel engines. The gradual technological upgrading and specialization observed in Kumasi required regular access to electricity.

The main purpose of the reference to Kumasi is to give an example of a small firm industrial district from a poor country, to illustrate the emergence of collective efficiency in such a setting, and to bring home that this agglomeration of small firms grew when the rest of the economy was virtually falling apart. In what follows I examine further the advantages of agglomeration by focusing on the issue of technological discontinuities. The latter may be exacerbated in times of crisis, but are a long-term structural problem for developing country industry, particularly for small firms.

Industrial growth requires technological modernization. For small firms in developing countries, access to technology is often difficult, either because it is foreign and/or because the initial investment is very high. Bienefeld [1975, p. 73] suggests that for small enterprises the "adoption of the latest technology means a discontinuous leap from their previous technology". The new technology comes into the developing economy either through foreign firms or a few local firms which receive credit from the government or abroad, while the surplus generated in the small-scale sector and the accumulated know-how and skill cannot come into play, hence stunting its growth or even destroying it [pp. 72-3].

Previous research on small-scale industry in Brazil provides some indications of why producers are confronted with the technological gap in some branches and places more than in others [Schmitz, 1982a]. A comparison of the weaving industry in the North-East and Centre South is illuminating. Both have a long tradition in textiles. While in the North-East, weaving is almost exclusively the business of large-scale firms, the Centre South has a considerable share of small weaving firms and a continuum of enterprises of all sizes. This was clearest in Americana, an industrial district in the state of São Paulo where

everything turns around the weaving of cloth. In our view, the reasons for the continuum are related to the geographical proximity of various kinds of technology suppliers. The Brazilian manufacturers of weaving machinery are all located in the state of São Paulo. The proximity of loom manufacturers gave the users a greater chance of obtaining spare parts quickly, important because secondhand machinery was frequently used. In cases where spare parts were no longer available from the manufacturers, they could fall back on a number of secondhand dealers or on small engineering firms which could repair or copy a part. In other words, the existence of a well developed local structure which supplies new and secondhand technology as well as repair services is an important context for the growth of small enterprises. In the North-East such a local infrastructure does not exist.¹²

The proximity of small producers to technology suppliers was also conspicuous in a case study of the knitting industry. Petrópolis, a town near Rio de Janeiro, has an enormous concentration of small and medium-sized knitting firms. The relative absence of large firms was mainly the result of the unpredictability of the market which in turn was due to the influence of seasons, fashions and a diffuse distribution network. The growth of the industrial district with its small and medium-sized enterprises was helped by the fact that the firm that manufactures the knitting machines is also located in the town. The exact connection is difficult to determine, but it is worth pointing out that its range of machines corresponds well with the technological needs of knitting firms at the different stages in their growth process. Our main point, however, is not that the technology has to be produced locally, even though this helps. What is so essential for small firms is that the equipment, spare parts, and repair services are available locally, be it from the machinery manufacturers, dealers or specialized shops. Such local availability and choice tends to come only with the sectoral agglomeration of firms.

To sum up: agglomerations of industrial producers would offer few benefits if they consisted merely of firms producing more or less the same thing. Economies of agglomeration arise when a network of suppliers develops that provides materials, tools, new machinery, secondhand machinery, spare parts, repair services and so on. Small firms individually cannot attain flexible specialization: it is the sectoral agglomeration which gives them their relative strength. And it is through such agglomerations that discontinuities can be overcome more easily, whether they arise from temporary crisis or the underdeveloped state of the economy.¹³

¹² The government contributed to this because incentives for technological modernization were conditional upon scrapping the old machines.

¹³ Perhaps one should add that the argument is not one of *urban* agglomerations with all industry in one city. Diseconomies of urban agglomeration are well-known from Mexico City, São Paulo, Djakarta, Manila, Lagos and other Third World cities. Sectoral agglomeration does not require a metropolis. In fact, most examples of industrial districts referred to in this paper are from small and medium-sized towns.

It is hard to tell from the small-scale industry literature how common such sectoral agglomerations are. The best that can be done for the purpose of this paper is to give a few more examples, so as to indicate that the cases referred to above are not rare exceptions. A fine example of collective efficiency can be found in Mead's [1982] case study of furniture makers in Egypt:

The idea that small firms have higher costs since they are not big enough to permit specialization within the production process is not supported by this study. On the contrary, even the smallest firms have often been able to attain a high degree of specialization, concentrating on only one or a few steps in the production process. They may buy semi-finished inputs, selling their output after one further stage of processing; they may undertake a certain step in the production process, working for others on a contract basis; or they may send out their goods-in-process to other workshops for such jobs as sawing and carving. With this tightly woven set of market inter-relationships, smallness of size has not proven a barrier to a high degree of specialization [pp. 166-7].¹⁴

Hence the author concludes that in some lines of furniture production the growth prospects of small-scale producers look bright.¹⁵

The dynamic role of small-scale industry is also a central feature of Cadène's [1989] study of the marble industry in Rajasamand, a small town in South Rajasthan, India. His study documents the growth of a cluster of firms engaged in various stages of marble production.

The extraction of marble blocks and the production of marble tiles were traditional industries at the beginning of the seventies. By the middle of the eighties, they had become modern industries ... This sector of activity sells its products on an expanding national market and constitutes an elaborate industrial system. Nearly one hundred quarries extract the marble which is then cut into slabs and into tiles in about seventy factories of differing sizes. A large number of businesses maintain the machines and transport the marble at the different stages of production [p.14].

Local small enterprises have contributed a great deal to the growth of this industrial district by inserting themselves in the deepening inter-firm division of labour. However, Cadène also brings to the fore an aspect which has not been considered so far: the role of outside and/or large-scale enterprises. He emphasizes in particular the role of external industrialists in opening up new marble quarries and setting up new block-cutting factories. In contrast, the expansion of tile cutting and polishing operations, which require less investment, is primarily due to small local industrialists. The same applies to the growth of related maintenance and transport activities.

¹⁴ Mead's [1982] discussion of the role of "small firms in vertically disintegrated production/distribution systems in developing countries" is particularly pertinent for further research on collective efficiency.

¹⁵ Again, however, it needs to be pointed out that such interfirm division of labour does not necessarily develop when small firms cluster in specific sectors. This can be deduced from Looye's [1987] case study of small metalworking firms of a medium size in the North-East of Brazil.

The role of large firms in contributing to the growth of industrial districts is also evident in Smyth's [1989] study of the rattan industry of Tegalwangi and surrounding villages in West Java, Indonesia. The industry produces rattan chairs, stools, tables, racks and basketry, some of it for the internal market but most of it for export. The local network includes enterprises of all sizes, some of which work independently, but most are engaged in a variety of subcontracting relationships. "Collective efficiency may be considered as the possible motor and the context for the growth of the sector" [but] "the growth has been of a particular kind, since one of its features is the emergence of large scale enterprises" [p. 21]. Indeed, only large firms are direct exporters. Smyth [1989] stresses that:

... despite the mutual benefits of sub-contracting arrangements, the relationship between enterprises of different size and character can still be one of control on one side and dependence on the other, and this affects their bargaining power in negotiations ... Some small-scale enterprises entirely depend for their survival on remaining linked to one or more exporters, since from them comes the capacity to obtain raw materials, working capital and access to markets. While large scale exporters rely on a number of trusted sub-contractors, the sheer number of the latter does offer some room for manoeuvre [p. 24].

A particularly intriguing example of how the fortunes of large and small firms are intermeshed is given in Cawthorne's [1989] research on the expansion of the knitwear industry in Tirripur, South India. Inter-firm division of labour is very deep in this industrial district. Its success in exporting to other Indian states and abroad can be seen to reside above all in the collective efficiency and flexibility of its producers. Most firms specialize in different parts of the production process, yet still produce a commodity that they can sell. This is done by contracting out those parts of the production process which cannot be performed in-house. Both large and small firms use this practice. Cawthorne's central thesis is that, as the industry expands, ownership becomes more concentrated, but production is decentralized into separate units. While this "amoebic capitalism" (Cawthorne) is partly due to particularities of Indian industrial policy, this and the case studies referred to earlier underline that the analysis of collective efficiency has to include the connection between small and large firms.¹⁶

3. *The role of surplus labour*

So far, I have emphasized that the growth potential of small firms and their resilience during crises depends critically on the emergence of collective efficiency and flexibility. It was shown that in this respect the flexible specialization model of the advanced countries is of great relevance to less developed countries. This section suggests that there are nevertheless different

¹⁶ This point has been made for research on small-scale industry more generally by Lenin [1898], MacEwan Scott [1979], Schmitz [1982], Moser [1984] and others, but continues to be ignored in many studies.

outcomes due to one factor: the size of the labour surplus. In their formulation of the flexible specialization model, Piore and Sabel stress that the main weapon in competition is permanent innovation. The main argument in this section is that, due to the size of the labour surplus in developing countries, competition emphasizes squeezing labour more than innovation. This makes a substantial difference to both the economics of small firm economies as well as the social implications.

Empirical support can be drawn from research carried out in the late 1970s [Schmitz, 1982a] but the issues it brings up are of undiminished relevance. I start with a case which shows sectoral agglomeration but also technological stagnation and miserable remuneration for labour. It is suggested that a conditioning factor for both is the vast labour surplus in the region. The case referred to is the production of hammocks in the North-East of Brazil.¹⁷

Hammocks are made by medium and small firms, the latter sometimes being subcontracted by the former; both types of firm farm out some operations to home workers. The technology is rudimentary. Watching hammocks being produced is like going back in time, such is the similarity to a pre-Industrial Revolution workshop. The main stages of production are carried out manually. While there are different types of hammocks, the range of product innovations is limited. Competitive efforts focus on minimizing the rewards for labour, which takes several forms, one being the avoidance of national insurance and social security contributions. Only a small part of the workforce is officially registered, namely male workers in medium-sized firms; women are rarely registered. The workforce of small firms goes unregistered because the firms themselves tend to be clandestine, and the same applies to the large number of outworkers, almost always women. Apart from foregoing legal rights to health insurance etc., the take-home pay is low. Wages of internal workers are between one and one-and-a-half times the minimum wage. Women outworkers are on piece rates and earn well below the minimum wage. (The minimum wage is insufficient to cover the cost of living of an individual, let alone that of her family.)

In spite of its backwardness, I judged this industry to be viable. Mass production was not on the cards: first, because mechanization was objectively difficult (though not impossible) and there were few economies of scale; second, because no large firms could have been as efficient in maintaining a non-registered workforce as these medium and small-sized firms with their putting out system. Large firms need a certain hierarchy, organization and planning in order to function; these are difficult to construct within clandestine work relations.

Thus, these sectoral agglomerations of hammock makers were not threatened, but they only reproduced themselves. One could not see significant

¹⁷ The main concentrations of hammock producers can be found in Fortaleza (capital of the state of Ceará), Jaguaruana (small town in the interior of the state of Ceará), and São Bento (small town in the interior of the state of Paraíba).

product or process innovations growing out of this industry. In my assessment the sheer unlimited size of the labour surplus makes a break out of this low technology - low wage syndrome unlikely. Innovation is further hampered by the fact that Brazil's indigenous technological capability is now concentrated in the Centre South, more than 2,000 kilometres away.

In drawing conclusions from this example one has to be careful. Other case studies carried out in Brazil show that it cannot be true that under conditions of high labour surplus innovation plays no role at all. Take the case of the knitting and clothing industry of Petrópolis (which was mentioned earlier) or that of Juiz de Fora (state of Minas Gerais). In both towns one could observe gradual technological upgrading. Competing also required the "creative imitation" of fashion shown in Rio de Janeiro or in TV soap operas. However, this did not mean a let-up in the search for reducing direct and indirect expenses on labour: many workers were not registered because their employer was not; firms which were registered did not always declare their entire workforce; or they purchased the output of non-registered producers in order to complement their own. Labour turnover was high, wages were low and it was labour market conditions that had allowed this to happen. Labour surplus was not as high as in the North-East, but clearly sufficient.

Smyth [1989] emphasizes the need to go beyond investigating the impact of the labour surplus, since labour markets tend to be segmented. Her case study on the Indonesian rattan industry shows that labour use is differentiated by gender, age and skills and that the mobility of labour between occupational categories is limited. However, the empirical material also suggests that within most categories there is a labour surplus which presumably accounts for the low remuneration.

It is important to recognize that in industrial communities of the type discussed above, the effect of the labour surplus on forms of competition is often indirect. Since wage work offers poor perspectives of economic and social betterment, skilled workers often decide to set up their own business. Their limited capital may be sufficient to purchase equipment (often secondhand) but rarely stretches to the acquisition of raw materials. Thus they offer their services to established firms and end up in precarious subcontracting relationships (as disguised wage labour).

Even those who manage to obtain their own raw material and to market their product directly rarely escape the severe competition in which producers try to survive by cutting corners: not registering their firm, paying low wages, using poor materials and so on. In Brazil I found that the *individual strategy* often works in that the small entrepreneur earns more than a wage worker [Schmitz, 1982]. The fact that this is often achieved by working extremely long hours or drawing on unpaid family labour does not seem to matter; the illusion of being one's own master prevails. The *collective outcome* is problematic: the dynamic seems to work towards imitation rather than innovation, low remuneration of labour and poor quality.

This was also the case in Americana in the state of São Paulo. In this textile district it was rare for firms and workers not to be registered. But also here the skilled worker's ambition was to set up his own workshop. Invariably this meant joining the ranks of subcontractors and entering a fiercely competitive market. Since parent firms paid by the metre, the subcontractors' main concern was quantity rather than quality, which suffered further because, paying low wages, the subcontractors could not keep their best workers. A few subcontractors had moved up-market and specialized in high-quality items, but they were the exception.

The problem of too many small producers squeezing into a sector arose also in Kumasi/Ghana. I have already referred to the way in which this industrial district managed to grow even during the economic crisis. But recent research by Dawson [1988] suggests that the gain of new economic space was outpaced by the flood of entrants. They were young people who completed their apprenticeship, could not find suitable wage employment and hence set up their own workshops. This over-supply meant that workshops were often without orders, employed only cheap apprentices and made little profit. While some enterprises have been able to specialize and upgrade their technology, the majority of producers is trapped in a low accumulation - low technology situation.

To recapitulate the general argument: in this section I have discussed the ways in which the size of the labour surplus influences the balance between two forms of competition, one that focuses on innovation and one that seeks to minimize the reward for labour. If in the low labour surplus regions of Southern Germany and the Third Italy the dynamic is more one of high wage/high technology/high quality, in vast labour surplus developing countries the dynamic tends towards low wage/low technology/low quality.

It is, however, important not to present the two as mutually exclusive. In her research on Greek manufacturing, Lyberaki [1988] found that some small-scale industrialists had successfully embarked on the high tech-high quality route. But, the terms on which their workers were employed were as poor as those in enterprises (the majority) who made do with old technology and used cheap inputs. While the role of the labour surplus is not a focus in Lyberaki's work, it becomes clear that the ready availability of workers, especially women, makes it possible to combine innovation with sweated labour.

The general question which arises is: should one not expect this to happen everywhere? After all, with few exceptions, all economies are labour surplus economies. Even in advanced capitalist countries unemployment rates are near the 10 per cent mark. While this is so, there is an important difference: those without jobs receive unemployment benefit, setting a floor below which wages do not fall. In contrast, "in many parts of the Third World unemployment is a luxury which few can afford" [Bienefeld and Godfrey, 1975]. The floor for wages is set by the rural or urban subsistence economy which, in most cases, offers only a precarious alternative. This induces intensity of competition in the labour market to be significantly higher than that in advanced countries.

To sum up: this section was concerned with bringing labour supply conditions explicitly into the debate. The main argument was that such conditions shape both the dynamics of small-firm economies and the distributional implications. The empirical examples indicated direct and indirect ways in which a high labour surplus can work against innovation. However, even if innovation is not hampered, the effect on the remuneration of labour is detrimental.

4. *Institutional conditions*

The guiding question in this part of the paper is: what are the enabling conditions for flexible specialization? In Piore and Sabel's analysis, the labour supply conditions are given little consideration. What makes their model tick are institutional factors. The discussion that follows distinguishes between institutional factors at the local (or micro) level and the macro level.

Local political forces, especially *local government*, are regarded as essential to the flexible specialization model in that they steer competition towards innovation. As mentioned earlier, the empirical evidence is shaky for the Third Italy and Southern Germany. This is not to negate that local institutions can be important but to stress that the arch cases of flexible specialization do not show this.

Kumasi points in the same direction. The growth of its small firm economy owes little to local government. On the contrary, even for innovating firms it is a liability to have a "magazine" address when dealing with government or banks. The messiness of the "magazine" awakens in these institutions associations with shanty towns rather than with industrial progress.

In this respect Kumasi is not unique. The common situation confronted by small producers in developing countries is discrimination from government institutions. There are exceptions to this, particularly in locations which host small enterprise development projects (which are often financed by foreign donor agencies). However, what prevails in most places is a local institutional environment which is not supportive, and is often discriminatory.¹⁸

Does this matter? There is no easy answer. It seems that in the Third Italy or Southern Germany, small firms did not suffer from discrimination. At the same time, the success of flexible specialization in Europe is not simply a story of an industrial strategy pursued by local political institutions. This recognition is important for enthusiasts of flexible specialization before they get carried away by undue optimism of replicating flexible specialization elsewhere. This is not an argument against enthusiasm but for realism. A range of conditions is necessary for flexible specialization to develop and grow.

It would be wrong to conclude from this that elsewhere the local state could not assume a major role. Whether it becomes an active promoter of small-scale industrialization in developing countries depends to a considerable extent on the on the system of public administration and finance. Often local initiatives

¹⁸ Much of the informal sector literature of the 1970s and 1980s points this way.

are stifled by a centralized decision-making process. Decentralizing the administration is unlikely to be sufficient. Financial incentives also matter, in particular the promise of increased revenue (through taxes and other levies) from industrial growth. In many developing countries, local government depends for its expenditure almost entirely on allocations from central government, inhibiting an entrepreneurial approach in local institutions.¹⁹ Where local authorities have little financial room to manoeuvre and cannot increase this room through new initiatives, a supportive institutional environment is unlikely to emerge.

Equally important is that small firms help themselves. The bottlenecks which they run into often require sector-specific action, which local government is ill-equipped to deal with. Even if it has the financial resources, it generally lacks both speed and expertise. This is where *sectoral associations* can be crucial. They seemed to play an important role in Southern Germany and particularly in the Third Italy [R. Murray et al., 1987]. There are also isolated examples from developing countries. For example, a group of small-scale ceramics makers in the Philippines joined forces in the Ceramics Exporters and Manufacturers Association in order to market its products overseas. As an association they were also able to make the most of (government subsidized) assistance from foreign designers and to gain access to better raw materials. Thus, some of the members of the association managed to grow into medium-sized firms which specialize in high quality products.²⁰ Such examples are, however, rare in the Philippines, as well as in other developing countries. In Kumasi, a sectoral association was established only after most of the growth in vehicle repairs/metalworking/mechanical engineering had already taken place. There, as elsewhere, the main stumbling block in building an effective association lies in the competitive individualism of small producers.

It is, however, difficult to see how a substantial improvement can be "engineered" without such associations. They are required for various reasons. First for self help: there are often discontinuities in the growth path of small producers which they cannot overcome individually but which can be eased through collective services. Second, in order to lobby for outside help: small producers typically lack access to the state machinery. Third, in order to provide a conduit through which outside assistance can be channelled. Programmes to support small-scale industry often fail to have a significant impact because the institutions involved are unable to reach a multitude of customers; the transaction costs in dealing with small firms individually are high. The problem is such that even foreign aid agencies are trying to help set up such associations in developing countries. Whether the initiative comes from inside or outside, it is important to bear in mind that "co-operation does not have to take place at the level of the whole sector. It need only involve the firms who feel they can work

¹⁹ Of course, if local government only taxes without promoting, it can have a stifling effect on economic activity.

²⁰ Based on interviews carried out in Manila in October 1986.

together ... The important thing is not that all firms co-operate but that some do" [R. Murray et al., 1987, p. 189].

Local efforts can be wiped out quickly by macroeconomic policy, particularly by policies which influence whether demand is met by imports or by local products. The debt crisis and lack of foreign exchange in many developing countries meant that goods could often no longer be imported. The example of Kumasi, referred to earlier, shows how this helped to induce the growth of small-scale industry. The current structural adjustment programme for Ghana has eased the shortage of foreign exchange, and in this sense is likely to threaten indigenous industrial efforts in some sectors.

This raises the tricky issue of institutional conditions at the macro level. To what extent is import regulation necessary for flexible specialization to emerge in developing countries? The protection of developing country industry from imports has a history full of problems and has often led to inefficient production and little learning. Much of the import reduction in the 1980s has been involuntary, enforced by the lack of foreign exchange. In some African countries it was so severe as to amount to import strangulation. While this has unleashed indigenous industry in some sectors and places, in others industry has been stifled by the inability to import inputs and spare parts. Hence the way forward cannot lie in indiscriminate import restriction.

The ability to regulate imports is, however, an important institutional condition for flexible specialization in developing countries. A consciously applied industrial policy would almost certainly have to distinguish by sectors and sub-sectors. Current policies of structural adjustment tend to push developing countries into import liberalization. Neither in the philosophies which underlie these policies, nor in their execution is there much serious concern for small-scale industry, even though it has demonstrated its capacity to adapt, innovate and sustain itself without drawing massively on scarce foreign exchange.²¹

To sum up, this section examined the institutional conditions for dynamic small firm economies. Apart from the importance of sectoral associations, few positive conclusions emerged from either European or developing countries' experiences. Yet it is precisely on these institutional conditions that greater clarity is needed if the flexible specialization model is to become useful for guiding policymakers.

²¹ This is not to argue that structural adjustment programmes are necessarily negative for small enterprise development. The effects differ according to what is liberalized (and which sub-sector is considered). For example in Senegal, the institutional, legal and fiscal framework has improved. The World Bank has stimulated a reform of the investment incentive law which ends with the discrimination of small enterprises. It has also favoured administrative reforms to decentralize and simplify registration procedures (based on communication from Brigitte Späth of the International Institute for Labour Studies).

IV. Conclusion

For more than a century, small-scale industry has been the weak and ugly duckling in the mainstream of the industrialization debate. This has changed. Small has not become beautiful wherever it appears, but it commands more respect and attention than it has previously had. In the form of flexible specialization, small-scale industry has proved its economic and technological strength, not in peripheral activities but in the "engine room" of capitalism, and thus not in times of easy growth but in times of crisis.

There are problems with the definition of flexible specialization; there are question marks about the enabling conditions; there are holes in the package in which the message is sold. But at the core is a solid finding: *there are some sectors and regions in the advanced countries which have a strong presence of small- and medium-scale industry and which have demonstrated dynamic growth during the crisis years of the 1970s and 1980s.* My main proposal is to *examine whether this has also occurred in developing countries, and what the conditions are which either produce, modify or prevent such growth.* This chapter was merely a first step in that direction which had to be based on empirical work carried out for different purposes.

The main conclusions can be summed up as follows: in developing countries even more than in advanced countries, competitiveness requires the capacity to adapt to disruptive circumstances. Such capacity can best develop in sectoral agglomerations of small- and medium-sized firms due to the potential for collective efficiency and flexibility. However, it was emphasized that where firms cluster around certain processes and products, fast adaptation and innovation do not necessarily follow, especially due to the size of the labour surplus in developing countries. The most exciting - but unresolved - question is to what extent and how flexible specialization can be fostered through public policy.

A look into the future underlines the importance of further exploration of these issues.²² While necessarily speculative, one can map out the challenges which industry is likely to face over the coming years:

- (i) at the level of consumption there is high volatility in the level and composition of demand;
- (ii) at the level of production, new technologies are changing the laws of scale economies at the firm, plant and product level;
- (iii) the instability of the international financial and trading system makes macroeconomic management difficult (both internationally and nationally); in turn, medium- or long-term planning at the firm level has become more difficult.

²² These reflections are based on discussions with my colleagues in the Industry Cluster of the Institute of Development Studies.

In this context of unpredictability, *industrial growth in the 1990s* is almost certain to be *associated with fast and innovative responses*. This applies not only to advanced countries. Given the saturation of the world market with standard industrial products from low wage countries, *export growth* of developing countries will depend increasingly on the ability to supply ever shifting markets. Low labour costs matter less than fast, innovative and reliable responses.

Developing country production for *internal* markets cannot escape this requirement; first, because for many products international standards are paramount; second, because new possibilities for import substitution are opening up. Seizing these opportunities requires greater innovation and flexibility. Most existing large-scale industry is rigid and unable to respond to new markets; even worse, it is rarely able to adapt to the frequent interruptions in the supply of inputs. Existing small-scale industry is more flexible, but tends to be trapped in low-profit/low-innovation competition.

In order to respond to the outlined pressures and opportunities, new forms of industrial organization seem to be required. Neither is likely to emerge if the restructuring is left entirely to market forces. New central and local government initiatives are probably needed to enhance collective efficiency and flexibility.

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Chapter 9

Technological innovation and small firms

Jacques Marcovitch

1. Introduction

During the 1980s, the some academics and business leaders in Brazil stressed the growing role played by technological innovation in the development process. Brazilian society is striving for modernization in order to pass from stagnation to growth. Ideas and attitudes are therefore needed which will encourage the application of innovative technologies suited to social conditions, whereby both natural and human resources are fully utilized.

The process of technological innovation includes five preconditions:

- (a) a productive sector challenged by a competitive market;
- (b) participation in a growing market;
- (c) a science and technology infrastructure that enables universities to enhance research and to motivate the transfer of technological knowledge;
- (d) a sound educational system aiming at the majority of the population;
- (e) a coherent public policy to encourage technological innovation.

In the global context, the issue of technology is growing in importance and is one of the great challenges to management. Technological changes are substantially modifying products, manufacturing processes and the relationship with the market. In Brazil, this challenge has been particularly difficult. Political instability and economic turbulence have inhibited long-term decision-making, which has in turn led to a productive sector which lags far behind that of other comparable countries.

Reduction of investments and a decrease in technological imports over a number of years have handicapped industrial innovation. Despite the generally negative effect this has created for innovation, some universities, research institutes and Brazilian firms have assumed a pro-active position with regard to

technological innovation. The 1970s saw an increase in the number of in-house centres of R&D.

II. Technological development and the growth of small firms

During this period, some public and private companies increased their investment in technological development. Technological poles were consolidated. Agreements were made between firms and university research institutes. New technology-based firms came into being. This fruitful interaction was due to the existence of "islands of modernization" and of individuals with an entrepreneurial profile within the universities, research institutes and firms. Hence, in spite of the adverse macroeconomic climate, a fruitful interaction between universities and the productive sector has taken place [Marcovitch, 1990].

What has been the role of universities and of research institutes in the development of small firms? How has the transfer of technological knowledge been made to the small firms? What are the barriers and the facilitating elements for this desirable interaction? These are questions which must be answered in order to analyse the dynamics of small firms in their relationship with universities and applied research systems.

In considering these questions, it is necessary to distinguish between:

- (a) small firms whose activities are linked with advanced technologies, such as laser, information technology, biotechnology, etc.;
- (b) technology-based small firms producing high technological level components; and
- (c) traditional small firms, such as food processing, building materials, clothing, etc.

In the traditional sectors, co-operation among universities, institutes and small firms depends on the existence of networks and on the presence of middlemen who understand the needs of small firms. The Institute of Food Technology of Campinas, in the State of São Paulo, the Center of Industrial Technology, in the State of Ceará, and other units of food technology offer training for small-scale food producers. These institutes are examples of mechanisms of technology transfer to a wide range of firms.

Over the years, a network of firms which gravitates around these units has been established. These firms send their technicians to attend courses, to visit pilot units and to discuss their production and marketing difficulties with technicians of these institutions. Training has created a favourable atmosphere for innovative interaction which extends far beyond the end of the courses.

Technology-based small firms have been directly stimulated by universities and research institutes. In some cases, universities play an active part in promoting the creation of new firms through their educational and research

activities. Researchers, teachers and even students create new firms. However, within the same university, the behaviour of different departments concerning this matter is not uniform. Some departments recognize the importance of such projects for regional development, whereas others restrict access to laboratories and equipment, making it difficult from the very beginning to initiate such projects. In the technological poles, the remarkable driving force of these new small firms can be observed. From the various experiences with technological poles, three cases in the State of São Paulo deserve closer consideration: São José dos Campos, Campinas and São Carlos.

Three technological poles in the State of São Paulo

Location	São José dos Campos	Campinas	São Carlos
Number of firms	11	33	30
Main sectors	Aerospace/electronics	Electronics/tele-communications	New materials; Optronics/mechanics
Universities and training institutions	CTA/ITA; INPE	UNICAMP; CNPq; Electronics	USP/CAR; UFSCar
Jobs offered	20,000	5,500	600

Source: Santos, Silvio A.: *Estudos dos Parques Tecnológicos do Estado de São Paulo*, São Paulo, 1987.

III. Technological poles

1. São José dos Campos

An impressive techno-industrial development exists at São José dos Campos. Medeiros and Perilo [1989], observe that an appropriate interaction among education, research and industry has taken place there. The creation of this technological pole dates back to 1950, when a programme to develop a Brazilian aircraft industry was launched. The Ministry of Aeronautics first created a Centre for Aeronautical Technology (CTA). Soon, the Institute for Aeronautical Technology (ITA), the first school of CTA, was established, inspired by the model of the Massachusetts Institute of Technology, which was also consulted in the search for direction and know-how. The location of ITA in São José dos Campos was determined by:

- (1) its proximity to the large centres and the port of Santos;
- (2) the presence of a road infrastructure;
- (3) climate and topography;
- (4) the possibility of acquiring land; and
- (5) the availability of energy.

These factors led to a concentration of technological capacity and capability in the region and stimulated the creation and consolidation of a technological pole.

Following the establishment of ITA, various institutes related to the CTA were created. Bearing in mind the original mission of the institution, they sought simultaneously to increase the industrial utilization of the technology developed and to improve the technological level of the industry. In 1961, the Institute for Space Research (INPE) - devoted to space achievements - was created, aiming to study the aerial space and to prepare researchers for exchange with other countries. The INPE was set up in São José dos Campos because the majority of its human resources were linked to CTA.

Embraer was set up in 1965, after the CTA produced the first prototype of an aeroplane designed and built in Brazil. Embraer is a mixed economy company whose objectives were the industrial and commercial development of the new aeroplane. The State supported the enterprise with finance, risk-sharing, fiscal incentives and market protection laws. The company was based on an ambitious programme of quality. A network of suppliers was established in order to carry out its global strategy of intense technological growth. One of the strong points of Embraer was its ability to adjust to changes, which recently led to a drastic programme of adjustment to the crisis of the 1990s. This adjustment process ensures the emergence of the company from this crisis, strengthened and adapted to the new patterns of the Brazilian economy [Melo, 1989].

Several small, medium and large firms, including traditional firms, technology-based firms and those in the field of high technology, installed themselves in São José dos Campos. These firms formed an important aeronautic park. São José dos Campos, with a population of 450,000 inhabitants, enters the 1990s with seven establishments of higher education, fifteen secondary schools which include technical education centres, and units of SENAI, the national industrial vocational training institution. About 540 small, medium and large firms are established in the area, which is the fourth highest contributor of Turnover Tax over Goods and Services in the State of São Paulo.

According to research by Medeiros and Perilo [1989], the main mechanisms which facilitated the establishment of firms in São José dos Campos are as follows:

- (1) researchers from the local R&D activity created their own firms;
- (2) firms were created on the basis of projects developed in local research institutes;
- (3) firms were attracted by the technological infrastructure in the area;
- (4) firms were created by consortia of existing firms.

The factors responsible for the scientific and technological development of São José dos Campos, are summarized as follows:

- (1) the existence of an advanced school of engineering, connected with a technological institute;

- (2) important and continuous mediation by the state and industrial support;
- (3) higher education linked to research;
- (4) the existence of synergy between the different components of the technological innovation process;
- (5) the presence of risk-takers who led and undertook the projects;
- (6) the local government which provided the necessary infrastructure.

Although the purchasing power of the State was initially an important factor, subsequently exports became the main source of income for these enterprises. The larger firms became assemblers, while the small firms supplied components and equipment which contributed to the establishment of new firms in the town. The objective of transferring technology and willingness to facilitate the participation of small firms was a precondition for the constitution of this technological pole.

2. *Campinas*

In 1967, the State University of Campinas (UNICAMP) was established, in accordance with an institutional concept which focused on linking scientific and technological activities with the productive sector. Strong support by the local population, support by financial institutions and several agreements with private and/or state-owned enterprises contributed to its successful development [Brisola, 1990]. In 1976, the CODETEC (Technological Development Company) was created, to promote suitable conditions for the development of small firms.

From 1983 onwards, the orientation of CODETEC changed from the general development of processes and products in the area of applied physics and chemistry to the specific development of technology for medicinal substances. This change was supported by an agreement with the Central Agency for Drugs of the Ministry of Health, the Agency of Industrial Development of the Ministry of Industry and Commerce, and CNPq, the National Council for Scientific and Technological Development of the Ministry of Science and Technology. The research results were supplied to Brazilian pharmaceutical firms, which had faced difficulties in researching and developing processes and substances. Nevertheless, the spin-offs were limited.

In the late 1970s, CIATEC (Company for the Development of High Technology of Campinas) was established. In order to give support to the new companies that were emerging in the Campinas pole, CODETEC and CIATEC together managed and co-ordinated the pole. Together with UNICAMP, the Pontifical Catholic University of Campinas, the Centre for Research and Development of Telebrás and the Technology Centre for Informatics, they became the basis for the development of the technological pole of Campinas. The determinant factors that constituted this pole were:

- (1) the characteristics of the town, such as good climate, population size, reduced taxes and low pollution levels;

- (2) incentives from the government at federal, state and local levels;
- (3) the attitude of UNICAMP and Telebrás, which pooled their technological capacity to collaborate intensively with firms whose creation was encouraged by the conditions existing at the pole.

As a result, the number of industrial enterprises established or attracted to the region as a whole has increased. By 1990, there were around 1,200 firms, the majority of them small and medium-sized firms. The pole of Campinas, located 90 km from São Paulo, belongs to a region which contributes 8.5 per cent to the Industrial Product of Brazil. It comprises 33 firms working in the area of high technology, manufacturing components, telecommunications, computing, instrumentation and chemistry.

3. São Carlos

The third case refers to the formation of the agglomeration of technology-based small and medium firms of São Carlos. Their start-up was initiated by the University of São Paulo; the Federal University of São Carlos; the High-Technology Park Foundation; and the Centre for the Development of New Industries [Torkoniam and Lima, 1989].

The town of São Carlos, with a population of 150,000 inhabitants and situated 230 km away from São Paulo, has approximately 400 companies employing 20,000 workers. The pole of São Carlos comprises 40 new small and medium-sized firms which work in technology-based sub-sectors such as new materials, industrial equipment, automation, information technology, optics, precision mechanics and chemicals. Surveys made in the region of São Carlos indicate that the technology-based firms absorb the human resources trained in the universities. Therefore, there is a strong interaction between the small firms and the universities, mainly in the field of technology.

According to a study by Santos [1987] the main driving forces for the emergence of technology-based firms in São Carlos are:

- (1) the existence of a high level of research activities concentrated there;
- (2) the presence of entrepreneurs;
- (3) the existence of a traditional industrial park;
- (4) an awareness of the relevance of the university as a source of new technology and for the creation of new firms.

The obstacles faced include the lack of support and governmental policies as well as the lack of venture capital and managerial experience of young entrepreneurs.

IV. Conclusion

In all three cases, São José dos Campos, Campinas and São Carlos, there is evidence that their success is directly linked to technological development components: the enterprise, the university and the research institutes at the micro-regional level. In each micro-region, the existence of a long-term programme has favoured the structuring of centres of excellence. These, in turn, have attracted industrial enterprises with which they have developed symbiotic relations. They also encouraged the creation of a large number of small and medium-sized firms in the technology-based and high technology fields. In conclusion, it can be observed that the process of innovation contributes to the emergence of small firms and the creation of "islands of modernization".

The interaction "university/small firms" depends on the existence of a Schumpeterian entrepreneurial attitude on both sides. The academic entrepreneur accepts risks by combining his university career with the execution of projects of interest to industry. The company manager includes innovative projects in his usual routine. Through a close interaction among suppliers, producers, customers and researchers, innovation takes place.

To favour such an interaction, universities should strive for higher performance in the academic and research fields. A high level of expected achievement contributes to attracting innovative entrepreneurs. Furthermore, networking facilitates the establishment of permanent contacts and creates an atmosphere for innovative results. The examples mentioned above indicate that there is an on-going tradition of interaction among these institutions and both the traditional and technology-based small firms.

However, this is only part of the mission of universities. Latin America, and Brazil in particular, are going through a period which demands a deeper understanding of the economic, political, social and cultural dynamics. Universities have their contribution to make. Three cases were cited to indicate a possible path. A path for the adoption of a strategy of innovation. A strategy which underlines the contributions of small and medium-sized innovative firms to update the industrial sector of a country with positive results on employment and socio-economic development.

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Chapter 10

Small-scale industry efficiency groups in Peru

Fernando Villarán

1. Introduction

Over the last few years Peru, for a number of reasons, has gained increasing international visibility, one of them being the extent of its urban informal sector. The renown of Peru's informal urban sector has brought certain benefits inasmuch as it has prompted broad investigation and examination of the issue both inside and outside Peru. However, the exaggerated importance placed on this particular issue has caused the obscuring of other important elements which make up Peru's productive structure - elements that may play a fundamental role in the future development of the country.

It has been observed that the urban informal sector consists mainly of independent workers and micro-enterprises in trade and service branches with low levels of productivity and returns. That is why it is common to equate informality with poverty. Moreover, sometimes there is a confusion between micro and even small firms and the informal sector, thereby concealing the true identity of the informal sector and underestimating its role in economic development.

The task of generating interest in the informal sector, but also that of exaggerating its value while obscuring other related categories, has been carried out by both the so-called legalist school represented by the *Instituto Libertad y Democracia* (ILD) [De Soto, 1986] and the so-called structuralist school represented by the *Programa Regional de Empleo para America Latina y el Caribe* (PREALC) of the ILO and the *Centro de Estudios para el Desarrollo y*

¹ Part of Section 5 of this paper was presented at the conference on "El nuevo significado de lo popular en America Latina" (The new meaning of the popular in Latin America), organized by DESCO and held in Lima in October 1990. That contribution bore the title "Riqueza Popular" (Popular Wealth).

la Participación (CEDEP), among others, despite differences in the interpretations and proposals advanced by the two schools [cf. Tokman, 1977; Mezzera, 1980; PREALC, 1981; Chavez, 1983; Kritz, 1984; Carbonetto and Carazzo, 1986; Carbonetto et al., 1988].

I do not wish to join the on-going polemic between these two schools of thought regarding particular aspects of the informal sector. For the record, I shall just say that I hold an eclectic position in so far as I agree with the structuralists as regards the origins of the informal sector (structural labour surplus) and I agree with the legalists both as regards the relative autonomy of the informal sector from the formal sector and as regards their recognition of its business potential.

Beyond the immediate issues under discussion, a number of relevant questions remain unanswered: Will the informal sector be part of the solution to the country's economic problems (or is it rather part of the problem)? Is the informal sector a reflection of poverty and under-development or does it offer a new model of development? Has it acted as a brake on society or might it provide a basis for Peru to emerge from the stagnation in which it finds itself? If so, how can this be achieved, and what measures of economic policy might one propose?

I would argue that the very concept of the urban informal sector is of little help in answering such questions. This is because the legal and institutional parameters implicit in the concept make it impossible to pinpoint the internal heterogeneity of a sector that contains not only elements of backwardness and poverty but also elements of dynamism and wealth creation. I would argue that it is much more helpful to use the concept of the micro, small and medium-scale enterprise sector (or, if one prefers, the small firm sector) in order to differentiate between the limits and potentials that exist.

While it is, of course, of interest whether or not particular enterprises are registered or pay taxes, it is of greater interest to see what economic activities they are engaged in, what kind of technology they use, how they relate to one another and to large-scale firms and the formal sector. Parameters of size (measured in different ways), branch, technology and industrial organization are better suited to identify potential and to elaborate policy proposals.

As well as opting for the concept of small firms, this chapter will focus on one particular type of economic activity: industry. Without underestimating the part that other forms of economic activity have to play, this decision places an emphasis on industry's role in generating technological dynamism, a source of long-term growth.

The chapter begins with a rapid overview of Peruvian economy and industry and then takes a closer look at the technological heterogeneity apparent in this economy and industry. An attempt is made to shed light on the relations between the informal sector and the micro and small enterprise sector. Attention is then focused on the economic performance of small, medium and large-scale industry since the 1970s.

This may be considered as providing the framework for my principal aim: to show the potentials of the sector by presenting findings from some of the micro and small industry groupings in Peru, known as "efficiency groups".² The chapter ends with a preliminary investigation into possible ways of relating these groups to new types of industrial organization known as "flexible specialization".

II. *The economy and Peru's industrial sector*

Before examining the structural features of the industrial sector, its technological heterogeneity and the performance of small and medium-sized industry, it is worth taking a quick look at Peru's principal economic indicators (see Table 1).

Table 1: Economic indicators in Peru
(units and dollars at constant 1979 prices)

Year	GDP ^a (\$) (millions)	Population (thousands)	Per capita GDP	Industry share (%)	Annual growth		
					Period	GDP	Industry
1950	3 851	7 632	504.7	19.0			
1955	5 201	8 671	599.8	21.7	50-55	6.2	9.0
1960	6 696	9 931	674.3	23.6	56-60	5.2	7.0
1965	9 037	11 467	788.1	24.6	61-65	6.2	7.0
1970	11 207	13 192	849.5	24.9	66-70	4.4	4.6
1975	14 297	15 161	943.1	25.1	71-75	5.0	5.1
1980	16 227	17 295	938.3	23.8	76-80	2.6	1.5
1985	15 903	19 697	807.4	21.8	81-85	-0.4	-2.1
1989	15 408	21 791	707.1	21.6	86-89	-0.1	-0.1

Note: ^a Gross Domestic Product.

Source: National Institute of Statistics (INE).

Peru's economy showed sustained growth from the beginning of the 1950s, when the first measures were taken to stimulate industrialization as a substitute for imports, until 1975. In other words, for a period that lasted for 25 years, Peru experienced an average growth rate of 5.4 per cent per annum. Even though the population was also expanding rapidly (2.6 per cent annually), this economic performance made possible a steady increase of per capita income from 504.7 dollars in 1950 to 943.1 in 1975 (calculated in 1979 dollars).

Throughout this period, the industrial sector also underwent significant expansion at an average rate of 6.5 per cent yearly, i.e. 1.1 per cent faster than that achieved by the economy as a whole. This meant that the industrial sector's contribution to Peru's GDP rose from 19 per cent to 25.1 per cent by 1975.

² Bearing in mind the gravity of Peru's present economic crisis, the failure of the conventional strategies that have been tried, and the economic dynamism of small business, it is the conviction of the author that this sector may come to form the basis of a new development strategy.

After 1976, the Peruvian economy succumbed to a process of stagnation for five years which then turned into a full-blown recession during the ten years that followed (1980-89). During the 1975-80 period, Peru's GDP rose at the same rate as the population, with the result that per capita income decreased slightly. During the 1980-89 period, the GDP fell slightly in absolute terms, with the result that per capita product dropped from 939.3 dollars at the beginning of the period to 707.1 dollars in 1989, thus returning the country to the level attained in 1962.

Industry contracted more sharply than the economy as a whole and its contribution to GDP slipped to 21.6 per cent, the same share as in 1955. The reasons for this economic downturn, especially as it affected industry, were widely aired in Peru [cf. Beaulne, 1975; Fitzgerald, 1981; Thorp and Bertram, 1985; Villarán, 1987b].

The current structural problems facing Peruvian industry, such as its dependence on external imports [Iguñiz, 1984], its lack of external competitiveness [Schydrowsky and Wicht, 1979], the shortcomings and failures of the nationalizations carried through under the military government [Portocarrero and Nunura, 1985], the concentration of ownership [Alcorta, 1987], the lack of endogenous technological dynamism [Villarán, 1989b], and the centralization of industry in Peru's capital city, strangled any chances of growth for the sector or for its share of GDP.

These structural problems created a profoundly heterogeneous industry. The bipolar vision of a formal sector and an informal sector - a modern version of the dualist theory - obscures this heterogeneity and helps neither to solve the problems nor to work out appropriate policy measures.

III. Technological heterogeneity in industry

The distortions and failures that have beset industrialization and development policies in Peru and other Latin American countries have generated a heterogeneous structure that is not well understood and that has made it difficult to implement any standardized or homogeneous measures in the economy as a whole. The existence of strata having differing technological bases, economic rationalities and social groupings and with different degrees of articulation between one another can be observed. This heterogeneity has become apparent in almost all the sectors of the economy, agriculture being one of the most fully studied. But industry, too, possesses this heterogeneous character.

Unlike the developed countries, or indeed some of the developing countries that do not have any cultural background comparable in importance to that represented by the Incas, the industrial structure in Peru comprises five clearly differentiated business strata: craft work (artisanship); micro-industry; small-scale industry; medium-scale industry; and large-scale industry. In fact, only three different strata (small-, medium- and large-scale) are usually acknowledged, so in the following, as well as drawing up our definitions, we shall seek to justify the inclusion of two extra strata (craft work and micro-industry).

An adequate characterization of the five strata can only be achieved in a static form, i.e. by selecting a base year from which to carry out comparisons between them. The year chosen is 1987, since it is the most recent one for which relatively complete figures are available. We shall now present the main specifications of each stratum (see Table 2).

1. *Craft work*

This sector is defined principally in terms of the traditional technology used, with the predominance of manual work, which gives it a high cultural and, in some cases, artistic value. Hence this stratum, in terms of the numbers of people it employs, is not very large. It is estimated that craft enterprises (usually family firms) fluctuate in size between one and eight people employed. They have an average capital density of 300 dollars of investment in fixed assets per job.

For 1987, it is calculated that 165,000 people were employed in this stratum³ in Peru, all of whom are assumed to have been employed exclusively in this kind of work (not including peasants who may work as craft workers in their spare time). This represents 22.9 per cent of the economically active population in the sector. It is worth pointing out that this number of persons has remained stagnant for the last 20 years, which means that it has fallen substantially as a relative share of sector employment. The people in question are grouped in roughly 55,000 firms which produce 5 per cent of the GNP of industry as a whole. The use of traditional technology justifies the separation at this layer of the micro-enterprise from the craft firm since even if they may be similar in size, they have different technological bases.

2. *Micro-industry*

This has been the main focus of recent studies of the informal sector. This stratum is characterized by the limited size of the firms, i.e. employing between one and four people⁴ and the low density of capital (C/L), equivalent to 600 dollars per job.⁵ It is calculated that 210,000 people are employed in this stratum, representing 29.3 per cent of the economically active population of the sector. There are roughly 84,300 firms within micro industry, with an average of 2.5 workers per firm. This stratum generates 8 per cent of the GNP of the industrial sector.

³ This figure has been taken from the Population Censuses of the National Statistics Institute (INE) and from the published work of E. and F. Albareda [1988].

⁴ These parameters were derived from the investigations in the informal sector [Chavez, 1983; Carbonetto et al., 1988]. ECLAC (Economic Commission for Latin America and the Caribbean) defines industrial micro-companies as those employing fewer than 10 people.

⁵ This figure was obtained from Eliana Chavez [1983].

Table 2: Technological heterogeneity in Peruvian industry - 1987

Type of firm	Total EAP*		Informal EAP*		Formal EAP*		No. of firms
	No.	%	No.	%	No.	%	
Craft	165 000 (a)	22.9	115 500	37.4	49 500	12.1	55 000
Micro	210 670 (b)	29.3	152 670	49.4	58 000 (d)	14.1	84 268
Small	137 000 (c)	19.0	41 000	13.3	96 000 (d)	23.4	17 125
Medium	115 230 (d)	16.0	0	0.0	115 230 (d)	28.1	2 311 (d)
Large	92 000 (d)	12.8	0	0.0	92 000 (d)	22.4	206 (d)
Total	719 900 (e)	100.0	309 170	100.0	410 730	100.0	158 910

Note: EAP* = Economically Active Population

Type of firm	No. of jobs (average)	Size (No. of staff)	Technology Traditional/modern	Capital density (K/L (\$))	AMV* (in millions of 1979 US\$)	% (n)
Craft	3.0 (k)	1-8	T	300 (g)	226.1	5.0
Micro	2.5	1-4 (b)	M/T	600 (b)	361.8	8.0
Small	8.0 (l)	5-19 (f)	M	3 000 (h)	587.9	13.0
Medium	49.9	200-199 (f)	M	12 000 (i)	1 266.3	28.0
Large	446.6	+ 200 (f)	M	40 000 (j)	2 080.4	46.0
Total	4.5				4 522.6 (m)	100.0

Note: AMV* = Aggregate manufacturing value.

Sources and references:

(a) National Institute of Statistics (INE) - Population census, and Albareda E., F. 1988; (b) Chavez, E. 1983; Carbonetto and Carazzo, 1986; (c) Estimated on the basis of MICTI figures, assuming 30 per cent of this stratum to be informal; (d) Ministry for Industry, Trade, Tourism and Integration (MICTI); (e) INE; (f) Fitzgerald, E., 1981; Velez, J. 1986; (g) MICTI - General Management of Craft Industry (DGA), 1976; (h) Villarán, F. 1987; (i) Institute of Industrial Technology and Technical Standards (ITINTEC), 1983; Carbonetto and Carazzo, 1986; (j) Estimated on the basis of a survey of firms that are customers of Banco Industrial de Peru (BIP); (k) MICTI - DGA, 1986; (l) Villarán, 1987; (m) NE; (n) Percentages estimated by the author.

Micro-industry makes use of little capital equipment. The level of training of the workforce and business personnel is also rather limited and their productivity is low, which keeps income at subsistence levels. Such firms are labour-intensive but, unlike craft work, the technology used in micro-industry may be considered "modern", i.e. there is not the cultural and artistic legacy referred to earlier. This permits such firms greater creativity and technological dynamism. At the same time, micro-industry may be distinguished from small-scale industry because of its economic instability, low productivity and almost total inability to generate surplus.

3. *Small-scale industry*

These firms range in size from 5 to 19 employees⁶ and have an average capital density (C/L) of approximately 3,000 dollars per job.⁷ It is estimated that 137,000 people are employed in this stratum, representing 19.0 per cent of the economically active population of the industrial sector. There are roughly 17,100 firms, with an average of 8 workers per firm [cf. Lanz, 1984; Villarán, 1987b]. They account for 13 per cent of industrial GNP. The technological basis of this stratum is genuinely modern and is reliant on equipment and machinery that enables it to achieve higher productivity than micro-industry, to generate a surplus, and to accumulate and expand. In other words, small-scale industrial firms provide for greater economic stability than micro-industrial (mostly informal) firms.

4. *Medium-scale industry*

These firms employ between 20 and 199 workers and have an average capital density of roughly 12,000 dollars per job.⁸ It is estimated that 115,000 people are employed in this stratum, i.e. 16 per cent of the entire economically active population in industry. There are roughly 2,300 firms in this category, with an average of 50 employees per firm. This stratum generates 28 per cent of industrial production, and makes use of modern technology and a larger capital stock. Owing to their scale of production, these firms are generally located on competitive markets, which distinguishes them from the large-scale business stratum.

⁶ Initially, this definition of size was accepted by E.V.K. Fitzgerald [1981]; thereafter by Jorge Velez [1986] who undertook an exhaustive statistical analysis to determine the most representative sizes. Subsequently, MICTI and other public agencies also adopted this definition of small industry. CEPAL deems the term "small industry" to be applicable to firms employing up to 50 people.

⁷ This figure was obtained from Villarán [1987].

⁸ Data obtained from ITINTEC [1983] and Carbonetto and Carazzo [1986].

5. *Large-scale industry*

This sector employs over 200 workers and has an average capital density of 40,000 dollars per job.⁹ Altogether, 92,000 workers are employed in this stratum, representing 12.8 per cent of the economically active population in industry. In 1987, there were 206 companies in this size category, with an average of 446 workers per firm. Given the use of capital-intensive technology and the high productivity levels that this yields, this stratum generates 46 per cent of industrial GNP.

The fundamental feature of this business stratum is its assumption of monopoly and oligopoly positions (in both private and state-owned firms). This may be explained, on the one hand, by the limited size of markets in our country and, on the other, by the capital-intensive imported technologies entailing production scales that correspond to markets in developed countries.

As regards the degree of informality in the industrial sector, it is fair to say that 43 per cent of the entire workforce employed in industry work under informal conditions. (In this instance, we have defined as informal those firms not appearing in the registers of the Ministry of Industry, Trade, Tourism and Integration - MICTI.) The majority of firms and people in the informal sector are located in micro and craft industry. However, it is calculated that only 30 per cent of small firms (from 5 to 19 employees) are located in the informal sector.

The structural heterogeneity of technology in Peruvian industry obliges us to produce differentiated and tailor-made policies for the various business strata. The relative failure of industrialization policies may be due in part to the implicit assumption that industrial technology is homogeneous. The variety of policies needed obviously represents a tricky task, given that it is not just a matter of responding to the concrete needs of each stratum but also of striving for consistency and compatibility between them.

IV. *Small-scale industry*

It is very difficult to record the development of the five industrial business strata, given that the first two mentioned are characterized by considerable informality, i.e. are very hard to measure. As a result, we shall present the development of the three strata on which we have information: small-scale industry (5 to 19 employees); medium-scale (20 to 199); and large-scale (over 200). We have already mentioned that 30 per cent of the firms in the small industry stratum fall into the informal category, which means that the figures presented below understate the stratum's true extent and behaviour.

⁹ This figure is an estimate by the author on the basis of a sample of large company clients of the Industrial Bank of Peru (BIP).

The source for this information is the Ministry of Industry, Trade, Tourism and Integration (MICTI) which every year conducts a survey of the firms within the sector, on the basis of which it assesses the performance of each stratum (see Tables 3 and 4).

1. Growth

First, we shall measure the rate of growth by the three most important variables: the number of firms; employment levels; and added value (GVP - Input) in the three business strata over the 1971-1987 period.

During this 16-year period, the number of small industrial plants increased at an annual rate of 6.5 per cent, that of medium-scale plants at an annual rate of 0.8 per cent, and that of large-scale industry at an annual rate of 2.0 per cent.

Small-scale industry created jobs at an annual rate of 5.7 per cent, medium-scale industry at 0.5 per cent annually, and large-scale industry at 2.5 per cent annually.

As for the growth in Aggregate Value, small-scale industry has seen an annual growth of 5.3 per cent; medium-scale an annual decline of 0.5 per cent; and large-scale industry a growth rate of 1.9 per cent annually. (These estimates, however, only go up to 1986.)

As regards the 1971-1987 period as a whole, we can see that small-scale industry underwent significant growth in terms of our three chosen variables. This is all the more striking if we remember that the Peruvian economy's growth rate began to fall back in 1976 and stagnated from 1980 onwards (see Table 1). The annual growth rates of 6.5 per cent in the number of plants, 5.7 per cent in employment and 5.3 per cent in production are much higher than both the rate of demographic expansion and that of the economy's performance as a whole.

Over the same period, large-scale industry, on the other hand, saw annual growth rates of 2 per cent in the number of plants, 2.5 per cent in jobs and 1.9 per cent in production, figures lower than the rate for demographic growth. Medium-scale industry saw stagnation in employment and plant numbers and a slight decline in production.

Table 3: Business strata in Peruvian industry (1971-1987) (units and millions of Intis (Peruvian currency))

Size	No. of firms	No. of jobs	Gross value of production (GVP) (value + inputs)	Peruvian inputs	Imported inputs	Fixed assets	Jobs per firm	GVP per worker	Fixed assets per worker	% of Peruvian industry	Value added/capital	Value added/imported inputs
1971												
Small	4 485	39 965	13.33	6.11	1.32		8.91	0.00033		82.23		4.47
Medium	2 029	106 930	58.46	20.34	10.56		52.70	0.00055		65.83		2.61
Large	150	61 836	54.93	17.01	9.96		412.24	0.00089		63.07		2.81
Total	6 664	208 731	126.72	43.47	21.85		31.32	0.00061		66.55		2.81
1972												
Small	4 420	39 524	13.73	6.45	1.33		8.94	0.00035		82.90		4.47
Medium	2 066	109 330	64.11	22.84	10.72		53.18	0.00059		68.06		2.85
Large	177	72 167	67.48	21.32	12.06		407.72	0.00094		63.87		2.83
Total	6 663	221 021	145.3	50.61	24.1		33.22	0.00066		67.74		2.93
1973												
Small	4 729	42 863	16.85	7.53	1.6		9.06	0.00039		82.48		4.83
Medium	2 010	110 087	71.49	28.48	12.37		54.77	0.00055		69.72		2.48
Large	190	78 810	78.52	27.65	14.44		414.79	0.00100		65.69		2.52
Total	6 929	231 760	166.86	63.66	28.41		33.45	0.00072		69.14		2.63
1974												
Small	5 334	47 117	23.16	11.17	2.52		8.83	0.00049		81.59		3.76
Medium	2 102	115 128	93.37	35.85	19.01		54.77	0.00081		65.35		2.03
Large	211	91 470	112.10	38.47	20.61		433.51	0.00123		65.12		2.67
Total	7 647	253 715	228.63	85.49	42.14		33.18	0.00090		66.98		2.40
1976												
Small	5 584	49 151	40.72	19.46	3.46		8.80	0.00083		84.90		5.14
Medium	2 111	116 446	148.06	58.24	26.99		65.16	0.00127		68.33		2.33
Large	228	104 838	208.34	75.52	41.91		459.82	0.00199		64.31		2.17
Total	7 923	270 435	397.12	153.22	72.36		34.13	0.00147		67.92		2.37

Table 3: Business strata in Peruvian industry (1971-1987) (units and millions of Intis (Peruvian currency)) (contd.)

Size	No. of firms	No. of jobs	Gross value of production (GVP) (value + inputs)	Peruvian inputs	Imported inputs	Fixed assets	Jobs per firm	GVP per worker	Fixed assets per worker	% of Peruvian industry	Value added/capital	Value added/imported inputs
1977												
Small	5 772	51 228	53.22	26.23	4.92	3.13	8.88	0.00104	0.00006	84.21	7.05	4.49
Medium	2 090	112 192	188.96	79.12	32.41	16.76	53.68	0.00168	0.00014	70.94	4.92	2.39
Large	215	95 869	280.86	112.88	54.53	31.16	445.90	0.00293	0.00033	67.43	3.64	2.08
Total	8 077	259 289	523.03	218.23	91.86	50.04	32.10	0.00202	0.00019	70.38	4.26	2.32
1979												
Small	6 612	58 130	188.01	105.79	18.18	11.81	8.79	0.00323	0.00020	85.34	5.42	3.52
Medium	2 047	111 523	626.16	285.16	93.76	34.21	54.48	0.00561	0.00031	76.26	7.20	2.63
Large	220	97 143	956.39	530.49	111.35	51.71	441.56	0.00985	0.00053	82.65	6.08	2.82
Total	8 879	266 796	1 769.56	921.44	223.29	97.73	30.06	0.00663	0.00037	80.49	6.39	2.80
1980												
Small	7 098	62 653	321.74	169.91	36.63	20.76	8.83	0.00514	0.00033	82.26	5.55	3.14
Medium	2 167	115 425	1 058.79	477.7	178.45	52.08	53.26	0.00917	0.00045	72.80	7.73	2.26
Large	230	97 955	1 526.56	701.45	216.03	64.19	426.89	0.01558	0.00066	76.45	9.49	2.82
Total	9 495	276 033	2 907.09	1 349.06	431.11	137.03	29.07	0.01053	0.00050	76.78	8.22	2.61
1982												
Small	8 774	70 813	1 298.2	678.7	116.7	574.17	8.07	0.01833	0.00811	86.44	0.88	4.35
Medium	2 244	118 283	2 609.5	1 242.7	353.5	1 185.73	52.71	0.02206	0.01002	77.85	0.85	2.87
Large	237	102 995	4 441.8	2 113.1	479.1	1 795.96	434.58	0.04313	0.01744	81.52	1.03	3.86
Total	11 255	292 091	8 349.5	4 034.5	948.3	3 555.86	25.95	0.02859	0.01217	80.97	0.95	3.55
1984												
Small	9 711	76 091	4 969.2	2 941.4	383.9	2 877.9	7.84	0.06531	0.03782	88.46	0.57	4.28
Medium	2 080	105 055	12 130.6	6 117.5	1 680.8	6 003.4	50.51	0.11547	0.05716	78.45	0.72	2.58
Large	186	79 247	17 888.4	9 240.8	1 567.1	6 771.9	426.06	0.22573	0.08545	85.50	1.05	4.52
Total	11 977	260 393	34 988.2	18 299.7	3 631.8	15 653.2	21.74	0.13437	0.06011	83.44	0.83	3.60

Table 3: Business strata in Peruvian Industry (1971-1987) (units and millions of Intis (Peruvian currency)) (contd.)

Size	No. of firms	No. of jobs	Gross value of production (GVP) (value + inputs)	Peruvian inputs	Imported inputs	Fixed assets	Jobs per firm	GVP per worker	Fixed assets per worker	% of Peruvian industry	Value added/capital	Value added/imported inputs
1985												
Small	10 355	78 320	16 209.5	9 404.8	1 689.8	6 247.4	7.56	0.20697	0.07977	84.77	0.82	3.03
Medium	2 097	105 488	34 169.8	17 339.1	4 488.1	14 857.8	50.29	0.32404	0.14090	79.44	0.83	2.76
Large	184	79 580	54 679.9	24 537.7	4 602.7	18 277.1	432.50	0.68711	0.22967	84.21	1.40	5.55
Total	12 636	263 348	105 059.2	51 281.6	10 780.6	39 382.3	20.84	0.39894	0.14954	82.63	1.09	3.99
1986												
Small	10 632	80 210	30 291.9	17 721.2	3 378.3	7 230.1	7.62	0.37766	0.09014	83.99	1.27	2.72
Medium	2 104	105 361	62 152.5	32 667.3	9 094.3	16 770.3	50.08	0.58990	0.15917	78.22	1.22	2.24
Large	189	85 937	79 485.2	37 587.3	8 707.2	22 272.1	454.69	0.92492	0.25917	81.19	1.49	3.81
Total	12 825	271 508	171 929.6	87 975.8	21 179.8	46 272.5	21.17	0.63324	0.17043	80.60	1.36	2.96
1987												
Small	12 252	96 340	38 510	26 890	3 810	8 060	7.86	0.39973	0.08366	87.59	0.97	2.06
Medium	2 311	115 230	61 760	36 840	8 130	15 670	49.86	0.53597	0.13599	81.92	1.07	2.07
Large	206	91 995	69 860	34 220	9 130	22 480	446.58	0.75939	0.24436	78.94	1.18	2.90
Total	14 769	303 565	170 130	97 950	21 070	46 210	20.55	0.56044	0.15222	82.30	1.11	2.43

Notes: Small industry = 5 to 19 people employed; Medium-scale industry = from 20 to 199 people employed; Large-scale industry = over 200 people employed.

Source: MICTI annual print-outs; processing: on-site.

Table 4: Business strata in Peruvian industry
(percentage structure, 1971-1987)

Year	Size	Firms	Employment	GVP*	Peruvian inputs	Imported inputs	Fixed assets
1971	Small	67.3	19.1	10.5	14.1	6.0	
	Medium	30.4	51.2	46.1	46.8	48.3	
	Large	2.3	29.6	43.3	39.1	45.6	
	Total	100.0	100.0	100.0	100.0	100.0	
1972	Small	66.4	17.9	9.4	12.7	5.5	
	Medium	30.9	49.5	44.1	45.1	44.5	
	Large	2.7	32.7	46.4	42.1	50.0	
	Total	100.0	100.0	100.0	100.0	100.0	
1973	Small	68.2	18.5	10.1	11.8	5.6	
	Medium	29.0	47.5	42.8	44.7	43.5	
	Large	2.7	34.0	47.1	43.4	50.8	
	Total	100.0	100.0	100.0	100.0	100.0	
1974	Small	69.8	18.6	10.1	13.1	6.0	
	Medium	27.5	45.4	40.8	41.9	45.1	
	Large	2.8	36.1	49.0	45.0	48.9	
	Total	100.0	100.0	100.0	100.0	100.0	
1976	Small	70.5	18.2	10.3	12.7	4.8	
	Medium	26.6	43.1	37.3	38.0	37.3	
	Large	2.9	38.8	52.5	49.3	57.9	
	Total	100.0	100.0	100.0	100.0	100.0	
1977	Small	71.5	19.8	10.2	12.0	5.4	6.3
	Medium	25.9	43.3	36.1	36.3	35.3	31.5
	Large	2.7	37.0	53.7	51.7	59.4	62.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0
1979	Small	74.5	21.8	10.6	11.5	8.1	12.1
	Medium	23.1	41.8	35.3	30.9	42.0	35.0
	Large	2.5	36.4	54.0	57.6	49.9	52.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0
1980	Small	74.8	22.7	11.1	12.6	8.5	15.1
	Medium	22.8	41.8	36.4	35.4	41.4	38.0
	Large	2.4	35.5	52.5	52.0	50.1	46.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0
1982	Small	78.0	24.2	15.5	16.8	12.2	16.12
	Medium	19.9	40.5	31.3	30.8	37.3	33.3
	Large	2.1	35.3	53.2	52.4	50.5	50.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0
1984	Small	81.1	29.2	14.2	16.1	10.6	18.4
	Medium	17.4	40.3	34.7	33.4	46.3	38.4
	Large	1.6	30.4	51.1	50.5	43.2	43.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 4: Business strata in Peruvian industry (contd.)
(percentage structure, 1971-1987)

Year	Size	Firms	Employment	GVP*	Peruvian inputs	Imported inputs	Fixed assets
1985	Small	81.9	29.7	15.4	18.3	15.7	15.9
	Medium	16.6	40.0	32.5	33.8	41.6	37.7
	Large	1.5	30.2	52.0	47.8	42.7	46.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0
1986	Small	82.12	29.54	17.62	20.14	15.95	15.63
	Medium	16.41	38.81	36.15	37.13	42.94	36.24
	Large	1.47	31.65	46.23	42.72	41.11	48.13
	Total	100.00	100.00	100.00	100.00	100.00	100.00
1987	Small	82.96	31.74	22.64	27.45	18.08	17.44
	Medium	15.65	37.96	36.30	37.61	38.59	33.91
	Large	1.39	30.30	41.06	34.94	43.33	48.65
	Total	100.00	100.00	100.00	100.00	100.00	100.00

Note: *GVP = Gross value of production.

Source: MICTI annual print-outs; processing: on-site.

If we examine each stratum separately, we can see other important differences:

Table 5: Development of small-scale industry
(number of units and percentage of industry as a whole)

Year	Firms		Jobs		Production
	No.	%	No.	%	%
1971	4 485	67.3	39 965	19.1	10.5
1976	5 584	70.5	49 151	18.2	10.3
1980	7 098	74.8	62 653	22.7	11.1
1985	10 355	81.8	78 320	29.7	15.4
1987	12 252	82.9	96 340	31.7	22.6

Source: MICTI.

The sustained growth of small-scale industry in terms of the three variables under consideration throughout the 1971-1987 period enabled this stratum to increase its relative share of plants from 67.3 per cent to 82.9 per cent, its relative share of jobs from 19.1 per cent to 31.7 per cent and of production from 10.5 per cent to 22.6 per cent. Its share fell back slightly in 1976 only, which may be explained by the fact that during the 1970-1976 period, many major state investments were made in large-scale industry, with the effect of boosting production and creating jobs in that stratum.

Table 6: Development of medium-scale industry
(number of units and percentage of industry as a whole)

Year	Firms		Jobs		Production
	No.	%	No.	%	%
1971	2 029	30.4	106 930	51.2	46.1
1976	2 111	26.6	116 446	43.1	37.3
1980	2 167	22.8	115 425	41.8	36.4
1985	2 097	16.6	105 448	40.0	32.5
1987	2 311	15.6	115 230	37.9	36.3

Source: MICTI.

Medium-scale industry achieved a rather unsatisfactory performance in so far as it failed to grow in any of the three variables and fell back significantly in terms of its relative share. This situation has been described as a "polarization of the industrial sector" [Villarán, 1987a], since small-scale and large-scale industry both improved their position at the expense of medium-scale industry. This situation would conflict with a more integrated industrial structure and with the relative proportion between strata that this would entail.

Table 7: Development of large-scale industry
(number of units and percentage of industry as a whole)

Year	Firms		Jobs		Production
	No.	%	No.	%	%
1971	150	2.3	61 836	29.6	43.3
1976	228	2.9	104 838	38.8	52.2
1980	230	2.4	97 955	35.5	52.5
1985	184	1.5	79 580	30.2	52.0
1987	206	1.4	91 995	30.3	41.1

Source: MICTI.

The performance of large-scale business, although it maintained its relative share throughout the 1971-1987 period in terms of both jobs and production, was more closely bound up with the Peruvian economy's expansion-contraction cycles. Thus, in the 1971-1976 period, this stratum expanded in terms of numbers of companies, jobs and production, boosting its sector share in terms of our three variables. However, from 1976 onwards, the number of large-scale industry firms stopped growing and jobs were lost, while its share of production was maintained. In the more recent 1985-1987 period, when the Peruvian economy was showing signs of recovery, there was a rise in the number of firms (in fact it was medium-sized firms that were expanding into the large-scale category) and jobs, but a drop in its production share. This can be accounted for by the considerable drop in oil refining which has a significant weight in overall production.

2. Productivity

The average productivity of work measured as an aggregate value per worker shows the following results in the three business strata in question (index numbers):

Table 8: Average productivity of work measured as an aggregate value per worker
(index numbers)

Stratum	1971	1977	1987
Small-scale industry	100	100	100
Medium-scale industry	175	160	179
Large-scale industry	308	275	355

Source: MICTI.

As was to be hoped, large-scale business achieves greater productivity levels than medium-scale and small-scale enterprises. We can see that the gap between small-scale industry and large-scale industry narrowed during the 1971-76 period and widened again in the 1977-87 period. The gap between medium-scale industry and small-scale industry, on the other hand, remained fairly stable, with a trend towards a narrowing of the gap.

However, if one measures the productivity of invested capital (the "weak" factor in Peru's economy), the results change as follows (again in index numbers):

Table 9: Productivity of invested capital
(index numbers)

Stratum	1971	1977	1987
Small-scale industry	undeclared	193	100
Medium-scale industry	undeclared	135	110
Large-scale industry	undeclared	100	121

Source: MICTI.

These figures indicate an erratic performance inasmuch as small-scale industry, which in 1977 achieved the highest capital productivity, saw it fall back in relative terms by 1987. This has a lot to do with the statistical difficulties involved in measuring capital in the industrial sector. Indeed, often the figure is derived from company account books which have a variety of different methods (tax incentives) for depreciating their capital. In any case, the variations revealed by this way of measuring productivity are not as great as in the previous case, but show that small and medium-scale firms enjoy advantages as regards this "weak factor" - invested capital usage.

3. *Structure of production in small-scale industry*

For 1986, the structure of production (ISIC¹⁰ to 3-digit level) of small-scale industry appears as follows (see Table 10): in consumer goods producer activities there were 6,236 firms, representing 83.7 per cent of the total and employing 47,103 people, or 31.1 per cent of total (including medium and large-scale industry). As for intermediate goods producer activities, we estimate that small-scale industry has 2,229 firms, which represents 78.5 per cent of the total and employs 16,632 people, equal to 22.0 per cent of the total. As regards capital goods producer activities, small-scale industry has 2,067 firms, representing 81.6 per cent and employs 16,475 people, representing 36.9 per cent of the total.

4. *Main sub-sectors of production (ISIC to 4-digit level)*

For 1985, we can observe that the small industrial firms registered at the Ministry for Industry, Trade and Integration (i.e. those that fall into the "formal" category), are concentrated in a number of specific activities (to 4-digit level of ISIC). The most important of these is clothing and fashionwear with 1,054 firms and 8,137 workers, representing 10.18 per cent and 10.39 per cent of the respective totals.

The second most important branch is represented by the 980 bakery firms that employ 8,159 people nationally. This represents 9.46 per cent of firms and 10.42 per cent of jobs in the whole stratum.

The third most important branch is printing and publishing with 569 firms and 4,505 workers, representing 5.49 per cent and 5.75 per cent of the respective totals. One can see a clear-cut difference between the first two branches of small-scale industry and the others.

The fourth most important branch is the manufacture of simple metal products with 572 firms and 4,437 workers, representing 5.52 per cent and 5.67 per cent, respectively.

The fifth and sixth branch in order of importance are the manufacture of wooden furniture and sawmills with, respectively, 544 and 441 firms, and 4,010 and 3,366 workers. Taken together these two branches represent 9.51 per cent of all firms and 9.42 per cent of all workers.

The seventh branch is the manufacture of leather footwear, with 390 firms and 2,880 workers, representing 3.77 per cent and 3.68 per cent, respectively. The eighth branch is knitwear with 336 firms and 2,515 workers, representing 3.24 per cent and 3.21 per cent, respectively.

The top ten branches account for 52 per cent of firms and 54 per cent of jobs generated by the small-scale stratum of industry. The top 20 branches account for 7,555 firms and employ 58,341 workers, which represents 73 per

¹⁰ ISIC = International Standard Industrial Classification of All Economic Activities.

Table 10: Structure of small industry* (1986) (units and thousands of Intis)

CIIU	Activity	No. of firms	%	Share	No. of jobs	%	Share	GVP** (value + inputs)	%	Share	Peruvian inputs	Imported inputs	% Peruvian inputs
311	Food	1 492	87.4	14.2	11 878	33.5	14.8	4 336 814	17.5	14.5	2 760 891	542 751	83.6
312	Food (other)	294	84.5	2.8	2 085	39.6	2.6	925 915	17.0	3.1	474 306	113 114	80.7
313	Drinks	465	84.4	4.4	3 194	23.0	4.0	1 783 383	14.6	5.9	883 850	135 175	86.7
314	Tobacco	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0	0.0
321	Textiles	702	72.1	6.7	5 239	14.3	6.5	2 101 930	13.8	7.0	1 366 897	53 204	96.3
322	Clothing	1 067	86.2	10.1	8 254	45.7	10.3	1 966 821	46.7	6.6	1 426 930	6 191	99.6
324	Leather & footwear	399	87.3	3.8	2 943	43.3	3.7	680 763	37.9	2.3	515 483	15 565	97.1
332	Wooden furniture	552	88.9	5.2	4 100	60.6	5.1	571 996	45.2	1.9	365 049	0	100.0
342	Printing and publ.	593	84.4	5.6	4 767	38.7	5.9	2 029 124	37.4	6.8	1 365 828	86 108	94.1
356	Plastic products	248	68.5	2.4	2 066	21.6	2.6	837 735	16.9	2.8	377 011	214 086	63.8
385	Professional equipt.	70	80.5	0.7	429	30.2	0.5	137 066	24.4	0.5	59 469	22 236	72.8
390	Other industries	354	88.3	3.4	2 148	49.0	2.7	237 817	19.4	0.8	287 176	48 303	85.6
	Consumer goods	6 236	83.7	59.2	47 103	31.1	58.7	15 609 364	19.9	52.0	9 882 890	1 236 733	88.9
323	Leather	191	82.7	1.8	1 467	42.6	1.8	358 863	25.2	1.2	228 116	22 517	91.0
331	Wood	588	83.4	5.6	4 425	47.9	5.5	1 188 630	53.7	3.9	864 989	11 527	98.7
341	Paper	96	64.0	0.9	571	9.1	0.7	186 036	4.0	0.6	120 420	6 148	95.1
351	Basic chemicals	162	74.7	1.5	1 319	16.4	1.6	1 097 500	16.0	3.7	478 916	276 527	63.4
352	Other chemicals	455	76.9	4.3	3 531	22.0	4.4	2 258 034	19.1	7.5	1 141 085	435 326	72.4
353	Oil refining	6	37.5	0.1	44	1.2	0.1	11 898	0.1	0.0	7 894	0	100.0
354	Oil derivatives	9	100.0	0.1	42	100.0	0.1	4 074	100.0	0.0	2 079	0	100.0
355	Tyres and rubber	62	75.6	0.6	466	17.6	0.6	265 671	13.5	0.9	127 233	51 853	71.0
361	Manufacturing of carpentry items	28	71.8	0.3	190	16.9	0.2	25 535	7.6	0.1	21 391	0	100.0
362	Glass manufacture	68	68.0	0.5	440	14.3	0.5	91 194	7.8	0.3	44 736	7 187	86.2
369	Other non-metallic minerals	459	82.6	4.4	3 444	34.3	4.3	746 827	15.7	2.5	450 969	24 144	94.9
371	Basic iron industries	46	69.7	0.4	328	4.6	0.4	69 446	1.3	0.2	43 675	403	99.1
	Intermediate goods	2 229	78.5	21.2	16 632	22.0	20.7	7 093 295	10.1	23.6	4 234 190	860 725	83.1

Table 10: Structure of small industry (1988) (units and thousands of Intis) (contd.)

CIU activity	No. of firms	%	Share	No. of jobs	%	Share	GVP** (value + inputs)	%	Share	Peruvian inputs	Imported inputs	% Peruvian inputs
381 Simple metals	1 006	84.5	9.5	7 912	47.2	9.9	2 482 960	37.2	8.3	1 400 799	329 814	80.9
382 Machinery	422	82.6	4.0	3 412	34.5	4.3	1 675 399	50.0	5.6	908 827	144 175	86.3
383 Electricals	336	77.8	3.2	2 726	29.2	3.4	2 384 683	36.7	7.9	800 670	776 099	60.8
384 Transport materials	304	75.8	2.9	2 425	28.1	3.0	760 932	13.6	2.5	495 928	30 690	94.2
Capital goods	2 087	81.6	19.6	16 475	36.9	20.5	7 303 974	33.0	24.3	3 606 124	1 280 878	73.8
Total for industry	10 532	82.1	100.0	80 210	29.5	100.0	30 006 633	17.5	100.0	17 723 204	3 378 336	84.0

Notes: * Small industry = from 5 to 19 people employed; ** GVP = gross value of production.

Source: MICTI.

cent of all firms and 74 per cent of all workers in this stratum. These branches have undergone little change in 1986 and 1987.

This means that, taking into consideration these specific branches, one can cover a high percentage of the whole range of small and medium-scale industries, which yields enormous advantages for the work of help and advice of specialist institutions.

V. Efficiency groups

After the initial introduction to the issue of "flexible specialization"¹¹ and the various approaches covered by that term, my first step was to discuss the concept at PEMTEC and at other research and support institutions as well as with entrepreneurs from small-scale and medium-scale industry. In fact, the issue aroused a great deal of interest and the few papers on the subject in our possession passed rapidly from hand to hand. We began to seek out agglomerations of small and micro firms and to take a fresh look at the groupings of small firms with which we were already familiar, in an attempt to relate such experiences to the situations presented in the texts.

In response to this display of interest, we decided to hold a conference in order to focus proper discussion on the issue and to promote further research. The conference was held in Lima on 27 August 1990 and entitled "Grupos de Eficiencia en la Pequeña y Micro Empresa" (Efficiency Groups of Small and Micro Firms).¹² The organizers were PEMTEC (Small Enterprises, Technology and Society), SASE (Monitoring, Analysis and Evaluation for Development), CIPDEL (Centre of Engineering for Development), CBK (Capital Goods Consortium) and Recursos S.A.

A summary of the cases presented to the conference by the experts as well as by entrepreneurs themselves is given below.¹³

¹¹ At the international conference on "Pequeña Empresa y Desarrollo en América Latina" (Small Firms and Development in Latin America), held in São Paulo from 28-30 March 1990, organised by the Latin American Institute (ILAM) and the International Institute for Labour Studies (IILS) of the ILO.

¹² The term "efficiency groups" is directly related to the term "collective efficiency" introduced by Piore and Sabel and developed by Schmitz. In Peru, with its long experience of collectivism, we have changed this word to rid the concept of any political connotation and have replaced it with the word "groups".

¹³ Further information about the Conference and the cases presented may be obtained from PEMTEC, José Pardo 741, piso 4, Miraflores, Lima, Peru, tel. 451741, fax (5114) 451641.

1. *The Complejo Gamarra - Manufacture and marketing of clothing and fashionwear*¹⁴

This is an area situated in the Victoria district of the city of Lima and consisting of 25 blocks bounded by the 28 de Julio, the Isabel La Católica, the Jr. Huánuco, the Jr. Gamarra and the Aviación avenues. It comprises 10 large stores (buildings of up to 11 floors, housing up to 140 shops and workshops, and a great many medium-sized galleries - 40 to 50 firms in each building). No census has been taken of the various firms but it is estimated that there are altogether between 4,000 and 6,000 shops and workshops in this zone. What distinguishes the area is the combination of economic activities present: production, trading and services and also the combination of different business sizes: micro, small-scale and medium-scale firms, with a clear predominance of the first two categories.

The economic activity of the area goes back 25 years, but its period of booming growth came in the 1970s and 1980s. As we know, Peru's economy has been through a variety of cycles over the last 20 years. This area, however, has gone on growing not only during periods of economic recovery (1969-1974, 1979-1982, 1985-1987) but also in periods of recession (1976-1978, 1983-1984, 1988-1990). The clearest indicators of this growth are the construction of the large and medium-sized buildings (galleries) and the number of commercial and industrial firms, which has not decreased over this period. The dynamism of this area has earned it a reputation as "the Peruvian Taiwan".

The typical (or average) firm occupies an area of 40 square metres and performs the functions of both workshop and sales outlet. It runs 4 sewing machines, has a mender and in some cases a collar-maker. Altogether it will employ 7 or 8 workers,¹⁵ including the owner (who is usually also in charge of administrative work). Most of these firms, whatever their scale, are family businesses. These bonds of kinship between the owner or owners and the workers transforms the typical capitalist labour relations within the workshops themselves. However, these relations cannot be considered precapitalist like those encountered in craft work.

A variety of goods is produced in the Gamarra "complex", consisting mainly of articles of clothing (baby garments, children's clothes, women's and men's wear, sports clothing, pullovers, suits, linen and woollen garments). However, they do also produce input materials (buttons, thread, wools, fabrics) and also processing products. This last point indicates the considerable extent of subcontracting practised in the area, i.e. some firms only hire out their services to others (involving embroidery, tailoring, sewing, or mending). Most of the products are low-priced, and generally of low or medium quality. They are

¹⁴ This case was prepared by the economist Ramón Ponce from the consultancy firm Recursos S.A.

¹⁵ Number equivalent to that considered by Lanz and Villarán to be the small-scale industry average.

targeted mainly at low-income brackets, even if there are a number of firms that sell to the boutiques in Miraflores and San Isidro (high-income bracket districts) and others that produce for export.

There are a number of reasons that explain the emergence and vertiginous growth of this industrial-commercial area:

- The location of the complex in a strongly commercial and geographically central area of Lima, where there is a convergence of migrant workers, transport firms, travel agents and travelling sales people.
- The collapse of large clothes-manufacturing companies in the 1970s and 1980s, for different causes such as: inefficiency, obsolescence of machinery, excessive social security costs, union disputes, etc. This freed a great many skilled workers, but left a market unsupplied.
- The absolute protection that the government provided to the domestic market in the 1970s but the only relative protection provided thereafter.
- The labour community¹⁶ and the stability of labour as well as the raising of tax levels on sales discouraged the creation of large and formal companies, providing an incentive to the creation of informal firms.
- The changes that had occurred in fashion and in marketing, involving the reduction of demand for mass-produced products and a boom in demand for more personalized products, has promoted short-run and small-scale production.

There is tough competition - especially through pricing - between the clothes manufacturers and sales people. At the same time, however, one can observe the following features of complementarity:

- (a) workshop specialization in specific products and input materials;
- (b) widespread use of subcontracting of services or garment parts;
- (c) the grouping of supply through wholesale selling, with each manufacturer maintaining its independence.

The craft tradition in Peru, which goes back to pre-Inca civilizations, helps to account for the general skilfulness of both male and female workers (and indeed the heads of firms) and their ability to learn rapidly. As for training, tailoring and clothes manufacturing schools, almost all private, as well as the arts and crafts schools, have played an important role, even if the main form of training is provided by practical work itself which is gained by rising through the different levels of complexity.

Business organization (guilds or business associations) is weak in Peru and does not appear to have played any important part in the development of the

¹⁶ Institution created in 1970 that regulated the workers' participation in profits and administration.

area. Firms belong to national and departmental (regional) organizations such as ADEX (Exporters' Association), SNI (National Society of Industries), APEMPE (Lima Association of Small and Medium-Scale Manufacturers), CONACO (National Corporation of Traders), but they do so on an individual basis.

2. *Consortium to Promote Capital Goods Industry - CBK*¹⁷

This efficiency group comprises 30 small and medium-sized firms in the metallurgy industry. Although they do not share a common geographical area (the firms are located in a variety of industrial areas in Lima), they have created a very solid organization which enables them to adopt a collective approach to a series of jobs.

Before describing this group, some mention needs to be made of capital goods manufacturing in Peru. Since the 1950s, there has been a spontaneous and gradual growth of a machinery and equipment industry for medium and small-scale mining and for the fishing industry - basically small shipping vessels. As a result of the crisis in the fishing industry, this activity has declined in importance, although it survives in tandem with the production of machinery for small and medium-sized mining concerns. However, neither of these activities has ever had any significant weight in Peru's overall industrial structure.

The earliest attempts to create a capital goods sector in Peruvian industry date back to the initial period of military government, when the General Industry Law (No. 18350) came into force in 1970. The said sector was given priority status and the State set up a whole series of firms to produce a range of capital goods for agriculture and industry. Now, however, all of those companies have gone bankrupt. For its part, large-scale industry in the private sector has also had little luck, concentrating its efforts primarily on the assembly of lathes and drills imported from outside.

Since these failures, this national challenge has been taken up mainly by small and medium-sized metallurgy firms. The first steps were taken in 1988, when six small and medium-sized companies, with the support of various non-governmental organizations (NGOs) (Alternativa, CIPDEL, Ideas, and CINSEYT, among others) and the *Banco Industrial* (*Banco Estatal de Fomento*) founded the "Club del Torno" (Lathe Club) with the aim of manufacturing two 100 per cent Peruvian-manufactured lathe prototypes: one universal lathe measuring one metre between centres and a turret lathe. The club followed a "copy and adapt" strategy (a route taken by other developed and industrializing countries), using a Romanian lathe in the first case and an Italian one in the second.

In less than one year both prototypes were completed and a variety of both horizontal and turret lathes went into commercial production. This process consisted in programming and planning the division of labour among the companies involved in the manufacturing of the different components of the

¹⁷ This case was prepared by Ing. Victor Loyola, on contract to PEMTEC.

lathe, which were made either by Club members or by other outside companies, including the extensive foundry work that was required.

By November 1989, the Lathe Club had become the Consortium to Promote Capital Goods (CBK), which continued to draw in new small and medium-sized companies until by July 1990 it comprised 31 different firms. By this date there were 14 technological development projects involving the whole range of Consortium firms.

The products manufactured by Consortium members, both individually and in collaboration with other member companies, were put on display at the Pacific Fair (1989) and at the Feria del Hogar (1990) at which CBK rented relatively large areas. Below, we present a list of the main machines and equipment displayed:

Company	Machine
FASESA	Horizontal lathe; Axle rectifier
FIRMES	Turret lathe; Flour mill; Eccentric press; Speed reducer
FREMIEL	Spot welder; Wire butt welder
FLORES	Kneading machine; Dough rolling machine; Bread oven
IMEXA	Turret lathe; Eccentric press
INDAMINSA	Jewellery lathe
LAGARTO	Belt saw; Circular saw; Jack plane; Plane; Centrifugal pump
SERMEVIC	Automatic hydraulic press
SELMEC	Bench drill; Elbow plane
TORDISA	Hydraulic battering-ram pumps
LATINO	Machine for processing foods derived from maize; Grain toaster
RESINTEC	Drip sprinklers and waterers

Most of this equipment and machinery is intended to provide productive support for other small-scale activities, such as bakeries, carpenters' shops, metallurgy workshops, agro companies, metal jewellery, agriculture, etc., which are the main sectors of small-scale industry. In other words, this is a sector that could become self-sustaining, one of the key objectives of industrialization.

CBK's most striking feature is its degree of organization. The consortium has hired premises which provide a space not only for board meetings but also for frequent related activities. CBK has also acquired a micro-computer which it uses to process information of relevance to its members, and it has recruited a manager and two experts to work on the drawing up of technological development projects. The consortium also makes use of the consultancy of

specialized NGOs (such as PEMTEC). This has promoted a high degree of information and experience exchange and the handling of a number of different projects on a joint basis (involving different firms on any one project). It has also speeded up subcontracting between firms and prompted further specialization, and has given rise to a collective approach to product displays and to distribution and advertising. While this does not, of course, eliminate a certain level of competition between those firms that manufacture similar products, such competition is carried on in a "mature" manner.

The current recession, resulting from the economic measures introduced in August 1990, is holding up some of the Consortium's plans, such as joint purchases, the acquisition of a high-precision processing centre for its members (with numeric control machine tools), the organization of a quality control centre, the establishment of a sales display centre, and so on. The progress achieved thus far, however, has been truly spectacular, if one bears in mind the lack of experience in Peru of this kind of collective business initiative.

3. *Trujillo Footwear Manufacturers*¹⁸

According to calculations, there are about 1,000 small-scale and micro firms manufacturing footwear, including a number of tanneries and materials manufacturers, clustering mainly in the El Porvenir district of the city of Trujillo, 560 km to the north of Lima. The official figures for 1987 supplied by the Ministry for Industry (MICTI) indicate only 260 footwear firms in Lima: this reveals that there is a high percentage in the informal sector.

The majority of these footwear companies may be considered as belonging to the micro-industry stratum (from one to four persons employed), since they are home-based family production units. In these cases, the owner is the mainstay of the company and concentrates in his/her hands both know-how and organization. Help is usually provided by two other skilled workers (one of whom will usually be a family member) and sometimes by two further assistants.

The main products in the footwear lines are: (a) shoes for men; (b) shoes for women and sports footwear; (c) footwear for children; (d) slippers (for men, women and children). The line most produced is footwear for women - these products require a greater labour input, use fewer raw materials and less machinery; in general it may be said that this line is best suited to small-scale production, although it is fashion- and design-intensive.

The process by which this industrial grouping was formed originated in the early migrations of the 1960s that became mass migrations in the 1970s, at the time of the land reform. The majority of the small entrepreneurs originate from the Cajamarca department (region), one of the most densely populated and poor departments in Peru which is mainly an agricultural and, especially,

¹⁸ This case was prepared by Oscar Grados, Miguel Casalino and Ramón Ponce from the company Recursos S.A.

livestock rearing area. There is clearly a direct link with the sources of the main raw material for the footwear industry: leather.

But there are two factors that contributed to the consolidation of this area of home-based industry. First, the training courses in footwear production skills that were held in the Trujillo prison; second, the demand for services that was generated by the two largest Lima factories, Bata and Diamante, which followed a policy of subcontracting to small manufacturers. It is not clear why they opted to work with the Trujillo footwear producers: it may have been as a result of the proximity of Trujillo to the sources of raw material. However, not until the early 1980s did there occur the significant business expansion that gave the Trujillo district its present importance and structure.

A high level of complementarity and co-operation can be recognized between tanners and manufacturers and between manufacturers themselves, not only among small and micro-scale firms but also at the medium- and large-scale level (tanneries, marketers and contractors). This has brought about a degree of collective efficiency resulting in good quality footwear (though ordinary and poor quality products also abound), and competitive pricing. The Trujillo manufacturers have thus managed to corner the regional market and successfully penetrate the markets in Lima and Arequipa, and even to start exporting to Ecuador. This has earned Trujillo a reputation as the "footwear capital".

The following business organizations have played an important role in the consolidation and development of the area: APICALZA in the district of El Porvenir and AFINCAL in the district of Florencio de Mora, which together cover the footwear micro-firms; ADEMIPE-Trujillo which brings together small and medium-scale firms, and the Trujillo Chamber of Commerce which caters for the larger tanners and distributors.

In contrast with the two previous cases, the Peruvian state has become involved as a promotor through the PROIND-Trujillo Programme to Promote Trujillo Small Industrial Enterprises, an association that emerged from an agreement between the Departmental Development Corporation (CORDELIB) and the government of West Germany. In its early years, PROIND-Trujillo played an important part in the examination of the problems facing the sector and in the application of training programmes and technical assistance to people in the footwear business. German, Italian and Argentinian expertise was brought in to help local firms with leather processing techniques as well as with design and manufacturing. However, over the last five years, as a result of poor management, PROIND has become much less effective.

There are two particular problems that hold back the development of this sector. First, the inferior quality of the leather from Peru's northern mountain area, affected by both diseases and careless stock rearing. In part this problem can be circumvented by importing leather (above all for use in shoes destined for export). The second problem is the lack of training available to entrepreneurs and workers. This represents a challenge for the regional government and NGOs. The solution of these two problems would quicken the pace of growth of this efficiency group in Trujillo.

4. Association of Small-Scale Clothes Manufacturers (APIC)¹⁹

This association, founded in Lima in 1980, initially comprised only a few dozen clothes manufacturing companies, located in the Jirón Gamarra area. APIC embodied an option for specialization that set it apart from the two more representative guild organizations: APEMIPE (Association of Small- and Medium-Scale Industrialists of Peru) and the Small Industry Committee of the National Society of Industries (SNI). Both these organizations grouped together small entrepreneurs from different industrial branches and their main function was to represent their members' interests to the various authorities and to lobby on behalf of their members for particular demands and benefits.

The specific goal that APIC sets itself is to improve production and productivity in the clothes manufacturing industry. To this end, it organizes a range of "productive" activities, that are quite different from the more "political" activities of the general guilds.

These features of APIC's work have enabled it to win over a great many clothes manufacturers throughout Peru. It now has roughly 4,000 members from micro, small- and medium-scale firms. In the middle of the 1980s, APIC decided to change its name to the Peruvian Association of Clothes Manufacturers (APIC), which did not, however, make any difference to the composition of its membership, given that large clothes manufacturers were already organized in the Clothing Garments Committee of SNI. The change of name did, however, signal an intention to expand and to break out of the micro and small-scale size limit.

This stance towards production has enabled the Association to promote a range of entrepreneurial initiatives:

- (a) The organization of groups of exporting firms. The first group, comprising 11 different firms, exported goods for a value of 350,000 dollars in 1988, reached the 1 million dollars mark in 1989, and looks set to reach the 3 million target for 1990. APIC is in the process of organizing two additional groups through which it hopes to achieve 10 million dollars worth of exports annually. The main export markets are the United States and Germany.

Collective efficiency has been achieved through the division of labour: some firms concentrate exclusively on circular weaving, others on dyeing, making-up or printing. There is a flurry of subcontracting among the group's members, occasional transfers of liquidity and an increase in worker specialization. Often one entrepreneur will travel to negotiate or close deals on behalf of the whole group.

- (b) The organization of school fairs, for which public areas (squares or parks) are hired, generally from the local council, to sell school uniforms

¹⁹ This report was prepared by Fidel Castro Z. of PEMTEC.

and other garments directly to consumers. Such fairs have become major trade events in terms both of the number of firms taking part (around 400) and of the variety and pricing of the products on offer. They regularly attract thousands of purchasers from Lima.

- (c) The concerted purchasing of machinery. Over the last few months, APIC has been negotiating the combined purchase of production machinery of the same brand, thereby achieving economies through the size of the purchase while also easing co-ordination among its members.
- (d) Joint investments for the supply of materials. APIC is planning to make a major investment in a cotton mill in Lima or in Chíncha (province to the south of Lima). Share-ownership of the firm is envisaged, with shares available to interested entrepreneurs. This project should enable association members to overcome a serious bottleneck and to expand production.

5. *Metallurgical district around Aviación Avenue*²⁰

In the "Tacora" district in Lima, inside the trapezium formed by Grau, Aviación, 28 de Julio and Ayllón avenues, there are between 500 and 700 metallurgical workshops and small foundries. The majority of these micro firms are located in a 15 acre (6 *manzanas*) area. This gives some idea of the crowded conditions.

"Tacora" has a special reputation for the inhabitants of Lima. It is well-known for its many street sellers of secondhand goods, junk, antiques, and stolen goods - mainly car and truck parts and spares. Because of the many petty criminals at work in the locality, only the keenest of antique hunters go near it. To this extent, it is a somewhat marginalized district, unlike any other area in Lima. This shady image has blinded not only people passing through from other better-off Lima districts (though not those from popular districts or from the provinces), but also the authorities and social scientists, who fail to notice the existence of dense networks of micro firms.

The distinctive feature of this area is the existence of groups of micro firms that established preferential links with one another. These groups do not have a formal character, although some assume the form of legally-recognized associations. What happens is that they evolve practical business guidelines involving responsibility (a kind of "ownership oblige") as well as shared benefits (defence from petty criminals and corrupt authorities, sharing-out of jobs, help in filling unusually big orders, the loaning of machinery, etc.). The origins of such groups have to do with ties of kinship or (geographical) provenance. The most cohesive and influential group consists of *punenos*: Puno is a department in the south of Peru with a predominance of peasants of Aymara origin.

²⁰ This case was prepared by Fidel Castro Z. of PEMTEC and Rodolfo Mendoza of IDEAS.

Trading activity began to take root in the area during the 1950s, with a growing specialization in the buying and selling of clothes, footwear and secondhand household utensils for low-income brackets, and in the recycling of metal items and junk. This material would be picked up by "collectors", equipped with tricycles, in the better-off, and indeed opulent, areas of Lima. There gradually grew up a lively trade in metal items and junk that attracted metallurgical and mechanics' workshops from the outlying areas of the city and from the provinces.

The workshops had little space for their work: on average 12 square metres. As a result, they shared the use of some services: water, electricity, storage space for raw materials, and large pieces of machinery. The lack of space encouraged expansion upwards, and many three-storey buildings were constructed. Most workshops lacked any title deeds: their ownership was taken for granted and not open to discussion. Relations with local councils were tense and varied in accordance with the political leanings and style of whoever was mayor.

Most of these firms are small, employing fewer than four people, and may hence be described as micro firms. They are also predominantly family-based. The husband takes charge of production, the wife looks after the display and sale of the products (in a street space of nine square metres) and the children act as assistants and guards. However, there are also firms with up to eight or ten workers, in which there is a greater division of labour and where the proprietor has a more managerial role. One firm (El Latino) stands out for its organization and efficiency: it has a three-year strategic plan, which would be the envy of many larger and formal firms.

Specialization within the area has four clearly differentiated components:

- (a) Equipment for mobile sales people. Owing to the proximity of the area to the city's principal markets, local firms began by producing the kinds of carts, tricycles and stalls on wheels used by most of Lima's mobile sales people.
- (b) The manufacturing of parts and spares for the vehicle park. Many of Lima's vehicles are 40 or 50 years old (a fact that surprises most tourists), and often, of course, no original factory-fresh spares are available. Spares have to be reconstructed by workshops either in this area or in the La Victoria district.
- (c) Production of machinery and equipment for micro industries; without abandoning the two previous production lines, the area has catered for the requirements of the micro manufacturers of the outskirts of Lima, in particular for bakeries, carpentry workshops and metallurgical workshops.
- (d) Supply of materials for small-scale foundries. The requirements of foundries in the area have attracted suppliers of materials such as scrap steel, iron, aluminium, bronze, etc.

The main metallurgical and mechanical products made in this area are:

- beds and bedsteads
- metal chairs
- bicycles and tricycles
- stalls on wheels (display tables for fruit and vegetables)
- tricycle-carts for traders
- home and industrial cookers (gas and paraffin)
- ovens and burners (oil)
- carpentry machinery
- small hydraulic presses
- jacks for cars and trucks
- a range of spares for cars and trucks.

There is a considerable degree of business organization. The following list includes the main guilds:

- (a) Association of Small Industrialists of Alicia Lastre, with 50 members, clustering in an area measuring 1,200 square metres, including buildings and heavy machinery.
- (b) Association of Campo Ferial Las Maravillas, with 800 members, mostly traders (not included in the figure given in (a)), some of whom are also involved in manufacturing.
- (c) Association of José Carlos Mariátegui, with 124 members in an area of 1,200 square metres. Of these, 120 are manufacturers and 4 are involved in marketing.
- (d) APIMUR, Association of Small Industrialists of Manzanilla, Uchuzama and Raymondi, bringing together 50 firms, most of whose owners originate from Puno.

We agree with the authors of the report in their conclusion that "if in such a marginal and depressed area as Tacora some semblance of development has been generated, maybe Peru as a whole merits greater optimism."

6. *Peruvian Association of Manufacturers of Footwear and Similar Goods (APEMEFAC)*²¹

This association was founded in 1983, initially to bring together 40 small footwear companies all based in Lima. The main activity that galvanized this specialized guild was marketing. Accordingly, since 1985 onwards, it has organized the LANCAL trade fair twice each year (winter and summer), thereby boosting the sales of the entire association.

At present, APEMEFAC combines firms of different sizes and branches, having incorporated both tanneries and materials suppliers as full members. The

²¹ This report was prepared by Fidel Castro Z. of PEMTEC.

total number of affiliated firms is now close to 500. In 1989 Northern APEMEFAC was founded, with a base in the city of Trujillo. This association held the first Northern LANCAL trade fair in 1990.

In 1988, APEMEFAC created the first exports group, with 10 member companies, and managed to introduce Peruvian footwear into the US and European markets. As is well appreciated, the international footwear market is extremely competitive. In 1989, the group exported for a value of 500,000 dollars and in 1990 it is estimated that this figure will top 1,300,000 dollars. The exporting companies supply and place their production under one brand, negotiate as one body for the services of a specialized broker and of Peruvian exports specialists. They have also evolved a collective approach to the formalities of exporting and financing. The experience of this first exports group is bound to be reproduced by other groups of APEMEFAC members soon.

The other efficiencies achieved by this association consist in joint investment and information management. APEMEFAC has a precise knowledge of the machinery park in its particular sector of industry, having quantified the combined, complementary and individual investments undertaken to modernize the sector. This is how they have carried through a process of specialization with their members on a line of assembly with a series of mutually compatible steps. This has also given the group increased bargaining power with both Peruvian and foreign suppliers of machinery.

The association also has data banks on footwear models, input materials, customers, product and material prices and trading. Relying on such information, it tries to approach conditions of "perfect competition" among its members and to improve its bargaining position vis-à-vis other agents.

APEMEFAC has drawn up a long-term and medium-term plan as part of a strategy that it calls "the development of the leather and footwear sector in Peru". This takes into account international markets, Peruvian shortcomings and strengths and the situation of neighbouring countries.

7. *Association of Agro-Industrial Producers of the Inca-Cusco Region (ARAIISO)*²²

This recently-created association is a combination of 16 firms working in agricultural produce processing, mainly involving Andean crops, the manufacturing of sausages, dairy produce, the processing of balanced feeds for livestock, and the manufacture of equipment for agriculture and agro-industry. They are basic members of the Association of Small and Medium-scale Industrialists, APEMIPE-Cusco.

As one of its marketing efforts, ARAISO has considered the possibility of launching an exhibition and sales centre located in a commercial area of Cusco. The aim is to go straight to the consumer and to present information about the association's products. Outside the immediate region, ARAISO has

²² This report was presented by José Marmanillo, Director of ARAISO.

taken part in industrial and farmstock breeding fairs such as those held in Arequipa (neighbouring department).

As regards the international market, ARAISO members have taken part in trade missions to other Latin American countries such as Chile, Argentina, Bolivia and Brazil. They had received several letters of intent, which were being assessed at the time this report was being prepared.

ARAISO's strong points (in the view of its own members) are as follows:

- exclusive devotion of its member firms;
- the launching of activities based on its own ideas, paving the way for fast-growing low investment;
- capacity for technological innovation and adaptation;
- all members have a high level of professional education.

The main constraints on the development of the firms are:

- seasonal availability of certain raw materials;
- the limited availability of real guarantees;
- lack of installed capacity, reflected in production volumes;
- shortage of bank liquidity.

Aspects of co-operation among member firms include:

- collective use of vehicles that only a few members actually own;
- presentation of joint backing for the acquisition of machinery and equipment;
- cash loans for short-term and fast-turnover working capital;
- on-going information about new markets, raw materials and finished products;
- exchange of machinery and equipment;
- joint purchasing of input materials (packaging, labelling, wrapping materials, etc.);
- joint participation in trade-fairs and similar events;
- a basic feature of the group is the exchange of technological know-how and experience.

ARAISO maintains close links with other institutions such as the NGOs involved in promotion, research and technical assistance in the Cusco region and in Lima, the National San Antonio Abad University in Cusco, the SENATI (National Industrial Training Service) and other business associations.

The following additional "efficiency groups" were analysed during the conference:

- A. *MANVES: Manufactura Textil Villa El Salvador S.R.L.*, a firm consisting of five micro firms in the said district to organize the export of its production. It has at its disposal a total of 33 machines and 41 workers, and has already exported 6,800 cloth coats to the Soviet Union, through a Trading Company.
- B. *Association of Sellers of Materials to the Footwear Industry in the Caquetá area, Rimac district.* This group brings together more than 800 sellers situated in one block on the Avenue Caquetá. They sell all the materials necessary for the footwear industry. Their main customers are the small and micro firms in and around Lima. They achieve combined daily sales estimated at 120,000 dollars. Most of the traders are from the department of Puno, more precisely still, from the province of Huancané.
- C. *The Paruro Group for Electronic and Electrical Household Goods Repairs and Servicing.* This area, closer to the city centre, comprises 1,500 sales and repair outlets handling electronic components, radios, TVs, VCRs, electrical household equipment, microcomputers, general electrical goods. In this area people selling poor quality secondhand radios rub shoulders with highly skilled technicians and engineers. There is an association of electronic technicians comprising 400 workers who keep abreast of the latest developments by means of regular courses given by professors from the faculty of Electronics of the National University of Engineering (UNI).

Although these last two cases do not belong to the industrial sector, the member companies provide industrial firms with numerous services on either an individual or a group basis. This is one of the features of collective efficiency, which is why they have been included in our investigations.

VI. Flexible specialization in Peru?

It is too soon to carry out a comparative analysis of these efficiency groups given that we are still in the process of gathering the relevant information. Nor do we have sufficient evidence to assess such experiences using the parameters and criteria employed in Italy and other countries where flexible specialization is clearly an on-going process. We do not have enough information on the origins of efficiency groups, their growth, their economic, social and technological features, on inter-firm relations, on joint activities, on the level of competence, on relations with their surroundings and on the other indicators that Schmitz has included in his "investigation agenda" [Schmitz, 1990].

Accordingly, we have preferred on this occasion to present the groups themselves and to provide a thumbnail sketch of them, even if the detail we have for each one varies considerably. Our aim has been to show that such groups

exist, that they have expanded in the last few years (thereby countering the general trend in the Peruvian economy), that there are different levels of co-operation among the firms that comprise the efficiency groups and that therefore further investigation into this phenomenon is justified.

Although we know too little to be able to speak of the existence of flexible specialization in Peru, we can venture a few preliminary remarks.

According to Schmitz [1990] and Piore and Sabel [1984], who first developed the concept, three distinct ways or modalities in which flexible specialization can emerge have been identified:

- (1) Through the clustering of small firms that pool their efforts and share tasks and services.
- (2) Through the subdivision or partition of large firms into relatively autonomous smaller units that none the less share a common system of information-gathering and decision-making.
- (3) Through forms of co-operation between large and small firms such as subcontracting, supplying, services, assistance (in either direction).

All the cases we have presented here fit into the first category, i.e. they are the result of a process of banding together between micro and small firms (and in some cases involving medium-size firms also). No instances of partition or subdivision of large firms (second category) are known, and there have been very few instances of co-operation between large and small firms (third category) - and these have been confined to cases of subcontracting.²³

This suggests that the drive towards new forms of industrial organization may be coming from small and micro firms rather than from large firms - as is the case in many developed countries. In this sense, the Peruvian case seems closer to the Italian than to the Japanese model of flexible specialization.

This should not surprise us given that in Peru the large-scale industry stratum (200 workers and over) has displayed very little economic and technological dynamism [Vega Centeno, 1983]. Indeed, this stratum is a direct product of the process of import substitution. It has imported a massive amount of (generally capital-intensive) technology from abroad, it has enjoyed a high level of protection, it has benefited from a range of state subsidies, and has maintained a monopoly and oligopoly position in Peru's small domestic markets. It has stood in the way of innovation, in terms of products, processes and forms of organization.

By contrast, the small and micro company strata have operated in competitive circumstances and have enjoyed no special state favours. Yet they have achieved not only economic growth but also technological dynamism, as witnessed by their capacity for innovation. A recent investigation drew attention to this flair for technological innovation in the small-scale metallurgical industry.

²³ In Peru there are three subcontracting markets: based in Lima, Arequipa and Trujillo, but their development is still at an early stage.

Here are a few examples: the manufacturing of 80-ton hydraulic presses in a workshop measuring 50 square metres and employing five workers; the manufacture of electrical transformers in which the silicon steel is replaced; an original kneading-rolling machine for bakery use; an industrial drier with two built-in energy sources; a high-frequency bag-sealer; and a new process for manufacturing paper napkins [Villarán, 1989a].

In this sense, some of the groups outlined in the above possess the basic feature singled out by Piore and Sabel: "flexible specialization is a strategy of permanent innovation: adaptation to incessant change, instead of an attempt to control it." [Piore and Sabel, 1984, p. 17].

It is therefore no accident that this sector has also brought forth new forms of industrial organization (innovations in organization) which have enabled it to compete with larger strata and to set its sights on foreign markets. To account for this, we have to consider not only the immediate background but also the collective and co-operative traditions of the Peruvian people. This brings us to that form of small firm development that Sengenberger has termed "the community-based model" [Sengenberger, 1988].

Another way to approach flexible specialization is to see the phenomenon from the viewpoint of "Industrial Districts", the original formulation of which can be traced back to Marshall. Here, the phenomenon is defined in terms of the geographical location of firms. Piore attempts to summarize the results of various world-wide enquiries by drawing out the main features of industrial districts [Piore, 1990]:

1. technological dynamism;
2. combination of competence and co-operation;
3. existence of a distinct "culture", social structure or sense of community;
4. existence of economic and social networks;
5. spontaneous and unpredictable character of their success and failure (though individual input remains important);
6. continuous ripple effect development;
7. free exchange of information.

Although not all efficiency groups share the same geographical area, it is worth contrasting these features with the cases presented above. In every case one encounters more than one of these features. In particular, one may observe the presence of features 1, 2, 4, and 7. Obviously this does not entitle us to speak of industrial districts or of flexible specialization. But nor can we discard the concept.

Above all, I am keen to underline the various different levels of co-operation and inter-relation that all these cases display. It is a form of co-operation between independent economic units (almost all privately owned). In other words, it does not fit into the narrow view of co-operation that applied

only to the internal affairs of individual firms (co-operatives, communal firms, socially-owned firms), that became so prevalent in our country and provided a paradigm for the Latin American Left. What we are witnessing are new forms of organization that presuppose changes in organization and in relations at the level not only of the companies themselves (first level) but also between different companies (second level).

I do not wish to speculate on the relevance of the concept of flexible specialization to Peru and similar countries. We shall leave the answers to such questions for a later time, when the results of further investigations enable us to reach conclusions.

However, I do believe that the aim is fully justified. CEPAL has described the 1980s as the lost decade. Our economies stagnated and many previous advances were reversed. Unemployment and underemployment increased, as did poverty, reaching broader sectors of the population than in the past [CEPAL, 1990]. There is widespread agreement that industrialization through import substitution petered out and that it is essential to compete in the international markets. There is also a consensus, however, that development cannot be achieved merely by opening up our economies and trimming the state.

We need new development strategies: new paradigms and flexible specialization could be a realistic alternative even if only because we already have a small and micro business sector that is dynamic and expanding. I expect that profound doubts regarding such sectors may be hard to eradicate: between seeing them on the one hand as the expression of underdevelopment and pockets of poverty and, on the other hand, as expressions of modernity and a chance for growth. We have tried to show that to some extent they already fit into the second category and that this may be increasingly the case in the future.²⁴

There is plenty of evidence to view small business (broadly defined) as the basis for a new development strategy. The State, in a new role as a non-interventionist promoter, can and must provide backing for this sector in order to encourage its development and that of the country as a whole.

Peru is going through a very special phase in its development. In 1990, a new President of the Republic was elected (with the open support of all those involved in micro and small enterprises) and the first Vice-President of the Republic was, until just before the election, the President of FENAPI (the National Federation of Small- and Medium-Scale Industry Associations). The political parties and civil society as a whole have been forced to recognize the vital role played by this sector of the economy. As a result, the conditions now seem right to review its role in economic development and to channel all necessary resources accordingly.

²⁴ Recent investigations into the informal sector show that 29 per cent of micro companies (from all sectors) generate a surplus, enabling them to accumulate and expand [Carbonetto et al., 1988]. This percentage is greater among small-scale firms and in productive sectors, especially in industry.

For all these reasons, Peru may well represent a perfect laboratory for testing out the strategy of across-the-board flexible specialization.

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