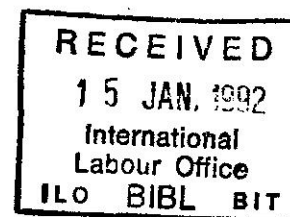


INTERNATIONAL INSTITUTE FOR LABOUR STUDIES

Discussion Papers



New Industrial Organisation Programme

DP/18/1990

**FLEXIBLE SPECIALISATION IN  
THIRD WORLD INDUSTRY:  
PROSPECTS AND RESEARCH  
REQUIREMENTS**

by

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ISBN 92-9014-481-5

*First published 1990*

*Second impression 1991*

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Requests for this publication should be sent to: ILS Publications, International Institute for Labour Studies, P.O. Box 6, CH-1211 Geneva 22 (Switzerland).

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## Introduction

During the crisis years of the 1970s and 1980s, some advanced countries experienced rapid growth of small firm industrial districts, giving rise to a new paradigm of flexible specialisation. Part I of this paper examines its relevance for less developed countries (LDCs). It is concluded that in LDCs 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 firms due to the potential for collective efficiency and flexibility. However, it is stressed 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 LDCs. The main unresolved question is to what extent and how flexible specialisation can be fostered through public policy.<sup>1</sup>

Part II of the paper contains a research agenda which sets out what questions need to be studied, what data are required, what methods of gathering empirical material would be most effective, and how such research could be organised.

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<sup>1</sup> Part I is a substantially revised version of a previous paper which benefited from discussions with many colleagues at the University of Constance, the Institute of Development Studies, Sussex, and the International Institute for Labour Studies, Geneva.



## Part I

### Small firms and flexible specialisation in LDCs

Industrial growth and employment declined during the 1980s in many LDCs. Their governments are in pursuit of 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 specialisation in advanced countries is of particular interest. One of its main conclusions is that some industrial sectors and regions with a large population of small- and medium-scale enterprises have demonstrated dynamic growth during the crisis years of the late 1970s and early 1980s. This first part of the paper examines what can be learnt from this experience, and how it can advance our understanding of small-scale industrialisation in LDCs.

Part I proceeds as follows: its first section provides a summary of the flexible specialisation model and a critique. The relevance of flexible specialisation for LDCs is examined in section 2 which constitutes the core of the paper. The final section 3 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, it remains analytically one of the most underdeveloped fields in 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 organisation 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.<sup>2</sup> This paper focuses on a particular form of industrial organisation: one in which small firms cluster around a set of related activities. As will be seen in the course of the paper, 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 old hat in industrial economics. It can be traced back to Alfred Marshall's [1890, 1927] analysis of industrial districts in Britain. The inspiration for this paper, however, 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 specialisation. Even though it refers to advanced

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<sup>2</sup> 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).

countries, even though it suffers from theoretical and empirical flaws and even though flexible specialisation 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 paper does not offer ready solutions, it merely suggests a fresh way of approaching a particular type of small-scale industrialisation in LDCs.

## 1. Flexible specialisation in advanced countries

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

### 1.1 The new paradigm

One of the main themes in the current analysis of advanced capitalist countries is that a major change in industrial organisation is underway: a relative decline of Fordist mass production and an expansion of activities based on less rigid and more adaptable structures (see, for example, Piore and Sabel [1984]; Scott [1988]; Storper [1989]; Murray [1988]; Hirst and Zeitlin [1989]). This work was 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 *Second Industrial Divide* [1984] which is summarised below.

The starting point for Piore and Sabel is the economic crisis which has beset the industrialised West for most of the 1970s and 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 specialisation. This would mean moving (i) away from rigid mass production lines and armies of disinterested semi-skilled workers used to produce standardised goods; (ii) towards a more innovative and flexible system of multi-purpose machines and skilled workers better able to respond to ceaseless 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 the latter is not identical with flexible specialisation. In the course of the paper it should become clear where they coincide and where they differ.

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 evidenced in particular by experiences in the United States;

- (ii) economies which favour flexible specialisation are flourishing, as evidenced by experiences in Italy, West 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 has been very successful and become 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 specialised equipment and narrowly trained workers; it is profitable only with markets large enough to absorb an enormous output of standardised 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 organised 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 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 organisation 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 standardised 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 industrialisation in advanced countries.

Thus the time has come for two developments to be recognised: 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, West Germany and Japan. They are the empirical base for their paradigm of flexible specialisation.

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 decentralisation. 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. 392-393].

This regional growth based on small-scale industrialisation 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 characterised not so much by the emergence of new producers as by rationalisation of existing enterprises, especially suppliers to large firms. Subcontracting continues to be widespread and multi-layered.

A major spur for technological and organisational modernisation 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.<sup>3</sup> This has helped small enterprises to come forward with their own innovations. Flexible specialisation 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 organisational 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 flow of components also characterise their internal organisation 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 specialisation? Not entirely. It seems that even large firms pursue a policy of broadly training 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, 1960s and 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 succeed; their main strategy was the production of customised goods using micro-electronic technology. The recognition gained ground 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 decentralised internally and by networks of specialised small firms. The latter can be found particularly in Baden-Württemberg. This state (in South 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 West Germany have significant recent experiences with flexible specialisation, 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 Britain) 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 customisation" [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

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<sup>3</sup> This is confirmed by Watanabe [1984]. For a detailed study on the role of flexible small-scale manufacturing in Japanese industrial growth, see Friedman [1988].



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 specialisation, 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 specialisation is not just about small-scale industry. It is a paradigm that emerges from a comprehensive re-examination in advanced capitalist countries.<sup>4</sup> 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 centralisation in the productive structure, indicated by an increase in the average size of enterprises and establishments.

This reversal does not necessarily support the flexible specialisation 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 specialisation in the context of a critique of the new paradigm.

## 1.2 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 specialisation blends well into the current trend of more market and less state. "A shift away from mass production would restore the neoclassical equilibrating mechanisms" and reduce the need for Keynesian macro-economic regulation [Piore and Sabel, 1984, p. 276]. Thus, the new paradigm seems to play into the hands of neoliberals. 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

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<sup>4</sup> 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", "Systemofacture", "The End of Organised 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 industrialisation 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.

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 industrialisation.<sup>5</sup>

#### A. *The problem of definition*

Much of the debate on flexible specialisation suffers from confusion over what it means. This is hardly surprising, since *The Second Industrial Divide* does not provide a clear-cut definition.<sup>6</sup>

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 specialisation 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 casualised 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.

In order 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 specialisation.

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 specialisation covers different forms of industrial organisation 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 decentralise internally into semi-autonomous specialised units. *This paper focuses on the small firm variant, where flexible specialisation results from the clustering of small firms and a strong inter-firm division of labour*. Thus, small-scale industry does not always mean flexible specialisation. For example, small firms which are geographically and/or sectorally dispersed do not constitute such a form of industrial organisation. Close relationships between firms are essential to flexible specialisation.

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<sup>5</sup> 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].

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

Having emphasised that flexible specialisation 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 specialised 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 specialisation 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 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 focussing on the individual firm.

For example, the strength of small-scale industry in the Third Italy or South Germany cannot be grasped by analysing individual firms. Their strength lies in their clustering<sup>7</sup> and co-operative 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 recognise 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 specialisation 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 specialisation 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

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<sup>7</sup> 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.



automation, the previous distinction between mass production and flexible specialisation gets blurred and becomes less and less applicable.

*C. What has happened to markets?*

One of the building blocks in the paradigm of flexible specialisation is that mass markets are saturated and breaking up because consumers are 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 correct. 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 customised products are growing faster than those for standardised goods.

*D. Flexible casualties*

The strength of flexible specialisation 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. Macro-economic regulation is seen to be dispensable by the proponents of flexible specialisation and only regarded as necessary for mass production. In my view this is a flaw. It would only be correct as long as flexible specialisation accounts for a small part of industrial activity. The more generalised flexible specialisation 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 macro policy is the key to flexible specialisation, but that the question of demand management arises irrespective of whether goods are mass produced or made in small batches. Ignoring macro-economic regulation implies that flexible specialisation 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 specialisation 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 developmental 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 specialisation, Baden-Württemberg (South Germany), has a government pursuing a high profile modernisation 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 specialisation model suggests that there is a strategy which can be implemented by the local state. As pointed out above, neither the Third Italy nor South 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 critique but caution, since a great deal of the interest in flexible specialisation 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 summary critique of the flexible specialisation 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 organisation 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 specialisation for LDCs. This constitutes the core of the paper.

## 2. **Conditions for flexible specialisation in LDCs**

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 LDCs and the philosophy/practice of mass production.<sup>8</sup> Of course the disenchantment with one paradigm is not sufficient reason for embracing another one. Indeed, the objective is not only to explore whether there are positive footholds for flexible specialisation 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 specialisation is a paradigm of great relevance for industrialisation in less developed countries, but that it needs to be developed further through both theoretical and empirical work. To develop the argument, I

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

begin with a brief statement of what is known about small scale industry in less developed countries (LDCs).

In LDCs 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 LDCs, small-scale industry accounts for a considerable section 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 marginalised 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 generalisations 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 marginalisation 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 specialisation 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 specialisation is a paradigm that emerged from research on advanced capitalist countries. Piore and Sabel [1984] refer only briefly to LDCs when they speculate about the future:

"... it is conceivable that flexible specialisation 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 industrialised world the high-tech industries and the traditional dispersed conglomerations in machine tools, garments, textiles, and the like - all revitalised through the fusion of traditional skills and high technology" [p. 279].

In a later article, Sabel [1986a] suggests that LDCs may themselves adopt the principles of flexible specialisation 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 said before, my intention is to explore what these conditions are and what one can learn from studying LDC industry through the lens of flexible specialisation.

## 2.1 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 specialisation pre-dates the crisis but its strength has emerged since then. Crisis is also the inevitable starting point for investigating industrial development in LDCs. The crisis which beset many LDCs during the 1970s and 1980s was in proportionate terms 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 emphasised by Piore and Sabel for advanced countries is how to respond to mass markets that stop growing, become more competitive, break up. Such problems on the demand side were also faced by LDC 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, LDCs 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 LDC industry operates is one that frequently demands more than marginal change.<sup>9</sup> The capacity to adapt is - if anything - more critical than in advanced countries.

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<sup>9</sup> 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.

In the latter, flexible specialisation 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 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.<sup>10</sup>

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 sub-contracted 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 "clandestinisation" (escaping taxation and labour legislation) and to "peripheralisation" (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 marginalised - 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 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 5 per cent per year during 1984-87. However, the characterisation of recent Ghanaian

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<sup>10</sup> Based on discussions with Harald Fuhr, University of Constance, and Fuhr [1988]. In a study on Colombia, Berry, Cortes and Ishaq [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.



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 specialised operations they can rely on other enterprises. While there are many enterprises which contribute little or nothing to this collective strength, increasing specialisation 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 LDCs would indicate the lack of studies which investigate the question of what kind of industrial organisation 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 specialisation.

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.

## **2.2 In search of collective efficiency**

The previous section focused on the capacity to adapt to a rapidly changing world as a pre-requisite for competitiveness. This section is organised 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,

South Brazil, and the cotton knitting industry of Tirippur, South 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.<sup>11</sup> In fact I would argue that it is of even greater significance *for incipient industrialisation*.

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, specialised 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 specialised 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.

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 scrapheap in which thousands of people make their living by recycling and repairing. But if our engineer cares to look s/he can see that a process of specialisation and technological upgrading is under way. What s/he 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. A severe retarding factor was the lack of electricity, only partially offset by power generation with the

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<sup>11</sup> 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].

use of discarded tractor diesel engines. The gradual technological upgrading and specialisation 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 LDC industry, particularly for small firms.

Industrial growth requires technological modernisation. For small firms in LDCs, 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 the North-East is almost exclusively concerned with large-scale weaving firms, in contrast, 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.<sup>12</sup>

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

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<sup>12</sup> The government contributed to this because aid for technological modernisation was conditional upon scrapping the old machines.



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 specialised 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 specialisation: 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.<sup>13</sup>

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 specialisation 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 specialisation, 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 specialisation" [pp. 166-7].<sup>14</sup>

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

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<sup>13</sup> 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.

<sup>14</sup> Mead's [1984] discussion of the role of "small firms in vertically disintegrated production/distribution systems in LDCs" is particularly pertinent for further research on collective efficiency.

<sup>15</sup> Again, however, it needs to be pointed out that such inter-firm 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 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 emphasises 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.

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 sub-contracting 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 subcontractors, 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 [1990] 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 specialise 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 decentralised 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.<sup>16</sup>

### 2.3 The role of surplus labour

So far I have emphasised 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 specialisation model of the advanced countries is of great relevance to less developed countries. This section suggests that there are nevertheless different outcomes due to one factor: the size of the labour surplus. In their formulation of the flexible specialisation 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 LDCs, competition emphasises 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.<sup>17</sup>

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 minimising 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 1 and 1½ times minimum wages. Women outworkers are on piece rates and earn well below the minimum wage. (One minimum wage is insufficient to cover the cost of living of an individual, let alone that of her family.)

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

<sup>17</sup> 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).

In spite of its backwardness I judged this industry to be viable. Mass production was not on the cards, first, because mechanisation 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, organisation 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 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] emphasises 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 recognise 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, here also, 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 specialised 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 how 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 specialise and upgrade their technology, the majority of producers is trapped in a low accumulation/low technology situation.

To recapture the general argument: in this section I have discussed how the size of the labour surplus influences the balance between two forms of competition, one that focuses on innovation and one that seeks to minimise the reward for labour. If in the low labour surplus regions of South Germany and the Third Italy the dynamic is more one of high wage/high technology/high quality, in vast labour surplus LDCs 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 they 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.

## 2.4 Institutional conditions

The guiding question in this part of the paper is: what are the enabling conditions for flexible specialisation? 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 specialisation model in that they steer competition towards innovation. As mentioned before, 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 specialisation 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 LDCs 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.<sup>18</sup>

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 specialisation in Europe is not simply a story of an industrial strategy pursued by local political institutions. This recognition is important for enthusiasts of flexible specialisation before they get carried away by undue optimism of replicating flexible specialisation elsewhere. This is not an argument against enthusiasm but for realism. A range of conditions are necessary for flexible specialisation to develop and grow.

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<sup>18</sup> Much of the informal sector literature of the 1970s and 1980s points this way.

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 industrialisation in LDCs depends to a considerable extent on the system of public administration and finance. Often local initiatives are stifled by a centralised decision-making process. Decentralising 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 LDCs, local government depends for its expenditure almost entirely on allocations from central government, inhibiting an entrepreneurial approach in local institutions.<sup>19</sup> 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 South Germany and particularly in the Third Italy [R. Murray et al., 1987]. There are also isolated examples from LDCs. 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 subsidised) 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 specialise in high quality products.<sup>20</sup> Such examples are, however, rare in the Philippines, as well as in other LDCs. In Kumasi, a sectoral association was established only after most of the growth in vehicle repairs/metal working/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 transactions 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 LDCs. 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 together ... The important thing is not that all firms co-operate but that some do" [R. Murray et al., 1987, p. 189]).

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

<sup>20</sup> Based on interviews carried out in Manila in October 1986.

Local efforts can be wiped out quickly by macro-economic 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 LDCs 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 specialisation to emerge in LDCs? The protection of LDC industry from imports has a history full of problems and 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 specialisation in LDCs. A consciously applied industrial policy would almost certainly have to distinguish by sectors and subsectors. Current policies of structural adjustment tend to push LDCs into liberalisation of imports. 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.<sup>21</sup>

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 LDCs experiences. Yet it is precisely on these institutional conditions that greater clarity is needed if the flexible specialisation model is to become useful for guiding policy makers.

### 3. Conclusion

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

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<sup>21</sup> This is not to argue that structural adjustment programmes are necessarily negative for small enterprise development. The effects differ according to what is liberalised (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 decentralise and simplify registration procedures (based on communication from Brigitte Späth of the International Institute for Labour Studies).



There are problems with the definition of flexible specialisation; 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, developed further in Part II of this paper, is to *examine whether this has also occurred in LDCs, and what the conditions are which either produce, modify or prevent such growth*. Part I of this paper 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 LDCs 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 emphasised 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 LDCs. The most exciting - but unresolved - question is to what extent and how flexible specialisation can be fostered through public policy.

A look into the future underlines the importance of further exploration of these issues.<sup>22</sup> 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 have changed the laws of scale economies at the firm, plant and product level.
- (iii) The instability of the international financial and trading system makes macro-economic management difficult (both internationally and nationally); in turn, medium or long term planning at the firm level has become more difficult.

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 LDCs will depend increasingly on the ability to supply ever-shifting markets. Low labour costs matter less than fast, innovative and reliable responses.

LDC production for *internal* markets cannot escape this requirement; first, because for many products international standards rule; 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.

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

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 organisation 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.

## Part II

### Research Agenda

The purpose of this part of the paper is to outline what research is needed for a thorough assessment of the prospects of flexible specialisation in Third World industry.

The first obstacle encountered by the researcher is that even for the European case the analysis is far from solid. There remain two major deficiencies: one is conceptual and one is empirical. These are set out in sections 1 and 2. The subsequent sections contain suggestions for research in LDCs.

#### 1. In search of clearer concepts

As shown in Part I, the concept of flexible specialisation is intuitively suggestive but remains slippery. In the relatively short time since its inception, the concept has come to be used (and abused) for different purposes and experiences. While I have continued to use the concept in Part I, the realisation has grown that it is neither analytically nor empirically viable. This does not diminish the relevance of the issues raised in Part I but it does put the need for more conceptual clarity at the top of the research agenda be it for research on the First or Third World.

As a first step in this direction I suggest *introducing the concept of collective efficiency in research on the small firm variant of flexible specialisation*. Some of the reasons have been discussed in Part I and are worth summing up here: the strength of small-scale industry in the Third Italy or South Germany cannot be grasped by analysing individual firms. Their strength lies in their clustering and co-operative competition; firms compete with each other but also complement each other through vertical links and horizontal collaboration. As a result, there is a collective ability to adapt and innovate. Moreover, it was suggested that the pursuit of collective efficiency is equally important at lower levels of industrialisation typically found in LDCs.

However, the concept of collective efficiency needs to be defined and developed further. This is not an easy task. In its pursuit it would probably be helpful to go back to Marshall's work on external economies<sup>23</sup> and to engage with the development economics debate on externalities. Since rigorous concepts remain to be developed the term "flexible specialisation" continues to be used in the remainder of this paper but refers only to its small firm variant.

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<sup>23</sup> The work by Becattini [1989] and Bellandi [1989] is very useful in this respect.

## **2. What are the policy lessons from Europe?**

The second task to be accomplished is more of an empirical nature (even though it has conceptual implications). Flexible specialisation results from the clustering of small firms and a strong inter-firm division of labour. In the European model of this form of industrial organisation, central government hardly figures. The two main enabling institutions are local government and small firm consortia. Views on whether in practice these institutions live up to the model differ. Yet clarity is required before one examines the applicability of the model in other parts of the world. Fortunately, there is now some case material available, particularly from Italy and Germany. Pulling together the institutional lessons from these experiences is an important step. This can be done primarily on the basis of secondary sources but a short field trip may be required to cover eventual gaps.

## **3. Lessons from existing material on LDCs**

The question of the applicability of the above lessons in LDCs is more complicated. It is expected, however, that some initial answers can be derived from collaborating with researchers who have collected material (for other purposes) on small firm agglomerations in LDCs. By drawing on their data and experiences answers can be sought to the following questions: is the agglomeration merely a multiplication of producers making similar products or has specialisation and inter-firm division of labour developed? Do these vertical links include a network of suppliers of material, equipment, spare parts and repair services? Are there examples of horizontal collaboration? Has there been quantitative/qualitative growth over recent years? How was it influenced by macro-economic policies? What was the role of local, public and private sector institutions? If they played a negative role, what is required to turn them into institutions enhancing small firm development effectively?

While there is relatively little material available it would be important to learn from the cases which have been studied and to draw out the policy implication. Most of the existing material is wrapped up in academic dissertations or theses but the relevant findings could be drawn out by commissioning succinct papers from the authors. Thus, at a small cost, a great amount of original research material can be mobilised for the purposes of this research programme. It should, however, be remembered that, since the material was collected in pursuit of other objectives, answers to some of the above questions may remain partial. With these objectives and provisos in mind, the commissioning of papers could be envisaged, drawing on case material from India, Indonesia, Ghana, Zimbabwe, Kenya, Peru, Ecuador and Greece. (Some of these experiences have already been referred to briefly in Part I of this paper but there is a great deal more that can be distilled from this material).

## **4. Research based on new field work**

As shown in Part I, the research on flexible specialisation in LDCs is in the initial exploratory phase, hence the research questions are still relatively open-ended. If the unit of analysis is the sectoral agglomeration of small firms in LDCs the overarching questions could be formulated as follows:

- what are the differences and similarities with their counterparts in Europe?

- what has been their growth record during the 1970s and 1980s, particularly during the crisis years?
- what are the institutional conditions which have produced, modified or prevented growth?

Section 3 above suggested how some initial answers can be derived from exploring secondary sources. However, more rigorous and in-depth investigation ultimately requires new fieldwork. The purpose of this section is to put forward some guidelines on methodology and organisation of such research.

#### 4.1 The unit of analysis

To start with, there is the problem of what exactly would be the object of study. It would not be any type of *small*-scale enterprise because it is not the size dimension as such that counts. What is of interest is a type of industrial organisation in which *collective efficiency* can emerge and grow. The advanced country literature tried to capture this in the concept of flexible specialisation but for purposes of empirical investigation this term has its problems. It contains elements which in themselves need to be subject to research: for example, the existence of institutional forces which steer competition towards innovation. These and other conceptual problems have been raised before. Perhaps the best way forward is to initiate studies on sectoral agglomerations of small producers since such clusters of firms are a necessary though not sufficient condition for collective efficiency.

#### 4.2 Required data

What would one need to know about such sectoral agglomerations? The main areas would be:

- (a) their historical origin;
- (b) performance:
  - indicators (or at least signs) of quantitative growth/decline of small firms over the last 10 to 15 years;
  - indicators/examples of *qualitative* growth of small firms;
  - growth indicators of large firms in same sector;
  - growth indicators of manufacturing industry in general (for comparative purposes);
- (c) composition of workforce by:
  - family/non family;
  - gender;
  - occupation;

- (d) skills:
  - organisational structure within which labour learns (in the household, formal training, from colleagues/competitors, etc);
  - range/shortages of skills (design, production, marketing, overall management);
- (e) earnings/labour turnover/working conditions by:
  - occupation;
  - family/non-family;
  - gender;
- (f) local labour market:
  - scarcity/surplus of labour by occupation/skill;
  - labour market segmentation by occupation/skill and gender;
- (g) inter-firm competition:
  - degree of competition;
  - area of competition (low cost, design/quality, copying/innovation);
- (h) inter-firm co-operation:
  - partners involved;
  - informal/formal; sporadic/regular;
  - functions involved in co-operation (technology, marketing, training, etc.);
  - reason for co-operation;
- (i) role of sectoral associations and other private institutions:
  - participatory (controlled by member) or paternalistic association (controlled by Government);
  - services supplied;
  - internal decision-making;
  - sharing of costs or profits;
- (j) access to raw materials;
- (k) access to credit;
- (l) technology:
  - impact of technical change at product, plant and firm level;<sup>24</sup>
  - access to new equipment, second-hand equipment and spare parts;

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<sup>24</sup> For a useful categorisation of the effects of electronics-based technologies on scale, see Kaplinsky [1989, Chapter 5].

- local availability of repair and maintenance services;
- (m) the role of local and regional government:
  - regulatory function of local and regional government;
  - developmental function of local and regional government;
- (n) national legal and policy framework:
  - taxation;
  - finance;
  - trade policy.

One area which is not captured in the above list and which deserves special mention concerns reinvestment. Only if surpluses are reinvested locally can sustained growth be expected. This issue is given little attention in the available case material (European or Third World), but it is central to an investigation of growth prospects and constraints. The main items to be covered are:

- (a) the use of surplus:
  - investment in manufacturing activities;
  - expansion of existing business by adding to capacity and/or innovation of machinery and products development;
  - expansion into related activities (forward/backward linkages);
  - investment in marketing
  - marketing activities of consortium (joint participation in fairs, co-operative retail outlets);
  - individual marketing activities, (separate retail enterprises);
  - investment in real estate;
  - portfolio investment;
  - savings account;
  - capital flight abroad;
  - education of children;
  - consumption;
- (b) factors affecting reinvestment:
  - legality of profit;
  - size of family (nuclear or extended);
  - social/cultural status of entrepreneurship;
  - laws and regulations;

- development of financial institutions;
- real interest rates;
- sunset/sunrise industry;
- business cycle;
- possibility of continuous, incremental growth (maybe hampered by technology, for example).

To conclude, the purpose of this subsection is not to provide an exhaustive list, but to indicate the main areas on which data are required. The degree of further disaggregation will vary with specific objectives of enquiry and with local conditions.

#### 4.3 Research method

The central proposal in this research agenda is that case studies be carried out on sectoral agglomerations of small firms. Each case study is likely to be a time-consuming project in itself because statistics on small firm economies are rarely available. Their development has to be reconstructed using a variety of different research methods in order to weld together a true picture of their performance and of the conditions which shaped it.<sup>25</sup>

In most cases it would be advisable to proceed in four stages: the first stage would consist of a questionnaire survey from which the contours of the small firm economy can be drawn in quantitative ways. The second stage would consist of in-depth case studies of a small number of firms designed to produce both quantitative and qualitative information. The purpose of the third stage would be to assess the "view from below" as expressed by the small producers, against information from other sources. Data from the small producers themselves are necessary but rarely sufficient. Additional information is needed from large firms which compete with or subcontract small firms, from technology suppliers (producers of new machinery, dealers in secondhand machinery, repair shops), from firms which supply the raw materials (producers of these materials or intermediaries), and from suppliers of credit.

The three stages outlined above focus on producers and related firms in the private sector. A fourth stage would concentrate on *institutions*, both private (for example, sectoral associations), and public (local, regional and central government agencies).<sup>26</sup>

Understanding how a sectoral agglomeration of firms works and develops is not just a function of the number of enterprises covered but also of the way the information is collected; thus the producers interviewed (small and large) should be conceived of not just

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<sup>25</sup> On appropriate research methods in the absence of secondary data a good deal can be learnt from the experience of studying the informal sector [see, e.g. Moser, 1984; Schmitz, 1982a]. The main difficulty in studying sectoral agglomerations as proposed would lie in documenting changes over time. For examples of sectoral studies which could draw on secondary data and which explicitly adopted a flexible specialisation perspective, see R. Murray et al. [1987, Parts III-VIII].

<sup>26</sup> These stages need not necessarily be carried out in this order.



as "sources of data" but also as "informants on what is going on in the industry" [Peattie, 1982]. Interviews with respondents who have key positions in the industry, for example a supplier of materials or a major contractor, prove particularly useful since they tend to have a good overview of the sector in question. Especially in situations where for practical reasons the size of the sample has to be kept small, or where the sampling universe is unknown, interviews with such "key informants" are important.

#### 4.4 Choice of sectors

The above way of proceeding also helps to explain what is meant by a sector or sub-sector. Initially, it can be defined as the collection of *productive units* that undertake an activity in accordance with the ISIC (International Standard Industrial Classification) at three or more digits, depending on the specificity required. However, as explained earlier, additional information is desirable. *Linkage units*, such as suppliers of raw materials, credit, technology or even buyers of products; hence, for the purpose of the research and debate, a sector or sub-sector should be understood as the collection of productive units and its relevant linkage units.

When it comes to the search for appropriate sectors, the first point to make is that the choice is not unlimited. Some of the flexible specialisation literature gives the impression that this form of industrial organisation is applicable across manufacturing. This is not so. Industry can be broadly divided into that part which produces *dimensional* products, such as chemical fibres, oil, cement or steel, and that part which makes discrete products, such as cars, computers, furniture, shoes or clothes. Dimensional products require continuous flow methods of production in which flexible specialisation is not applicable. Discrete products can be made in (a) large batch, (b) small batch and (c) customised fashion. Small firms are generally limited to the latter two. Within these there is, however, a range of sub-sectors which small firm clusters can operate in and which goes well beyond the most frequently cited examples of garments and shoes, stretching into the many sub-sectors of metalworking and mechanical engineering, wood-working, ceramics and others.

Of course, in the proposed research, the unit of analysis is not the sector but the sectoral agglomeration of small firms. Some Third World examples were referred to in Part I and also in an earlier section of Part II. So as to obtain a more extensive list it would be useful to contact specialists who have expertise on both small-scale industry and specific countries. In this way, it should be possible to construct at least a list of possible sectors/locations for study.

Unless there were resources to study a large number of such sectoral agglomerations, there is no chance of a random sample. The likelihood is that researchers would pick cases which show from the outset at least some sign of success. This does not matter as long as it is clear to the researcher and made clear to those who use their findings. Economic and social science has a good record on negative lessons but a poor one on positive lessons. If there are success stories there is a strong case for learning from them, especially after a decade or two of crisis in many parts of Third World industry.

The value of case studies on sectoral agglomeration is considerably enhanced if findings can be compared with those of other studies. Indeed, both for theoretical and policy purposes, inter-sectoral, inter-regional and international research is necessary to gain a new understanding of industrial development and new conclusions for policy. No single researcher can undertake this task. Hence a significant advance in this field requires inputs from several researchers and institutions. This underlines the need for networking in such research.

#### 4.5 Challenges for analysis and policy formulation

The purpose of this final section of the research agenda is to look further afield and anticipate tasks that would arise in the stages of analysing the empirical material and drawing out policy implications. The thrust of this research agenda has been that case studies on sectoral agglomerations are essential building blocks of a research programme. If these studies confirm that the sectoral agglomerations have been relatively successful and if the enabling conditions can be clearly identified, further work would be concerned mainly with issues of emulating these experiences elsewhere. More precisely, work at that stage would be organised around the following question: to what extent and how can the enabling conditions be reproduced? To this end it would be important to take on three challenges:

- *macro-economic*: since what is possible for some (sectors and regions) may not be possible for many, it is necessary to enquire: (a) what economic space there is nationally and internationally for a generalisation of flexible specialisation; (b) what the effects would be on the rest of the economy if such a generalisation occurred.
- *public administration*: if flexible specialisation can be fostered, it is likely to require new approaches in public intervention - approaches which cut across established boundaries of public and private sectors, of central and local administration. The task would be to identify the principles which should govern such public intervention.
- *the role of foreign aid*: where new initiatives require financial or human resources from outside, foreign aid institutions can help to overcome such constraints. The task would be to identify ways in which donor agencies could enhance such new initiatives taking into account their past lessons in promoting small enterprise development in LDCs.

## References

- Amin, A. 1989. "Flexible specialisation and small firms in Italy: Myths and realities", in *Antipode*, April.
- Amin, A.; Robins, K. 1989. *Industrial districts and regional development: Limits and possibilities*, Centre for Urban and Regional Development Studies, University of Newcastle-upon-Tyne, February (mimeo).
- Bagnasco, A. 1977. *Tre Italie: La problematica territoriale dello sviluppo*, Bologna, Il Mulino.
- Becattini, G. 1978. "The development of light industry in Tuscany: An interpretation", in *Economic Notes*, No. 3.
- . 1989. "Sectors and/or districts: Some remarks on the conceptual foundations of industrial economics", in Goodman, E.; Bamford, J. (eds.): *Small firms and industrial districts in Italy*, London and New York, Routledge.
- . (ed.) 1987. *Mercato e forze locali: Il distretto industriale*, Bologna, Il Mulino.
- Bellandi, M. 1989. "The industrial district in Marshall", in Goodman, E.; Bamford, J. (eds.): *Small firms and industrial districts in Italy*, London and New York, Routledge.
- Berry, A.; Cortes, M.; Ishaq A. 1989. *On the dynamism of small and medium industry in Colombia: some possible lessons*, Department of Economics, University of Toronto (mimeo).
- Best, M. 1986. "Strategic planning and industrial policy", in *Local Economy*, No. 1.
- Bienefeld, M. 1975. "The informal sector and peripheral capitalism: The case of Tanzania", in *IDS Bulletin*, Vol. 6, No. 3.
- . 1982. "The international context for national development strategies: Constraints and opportunities in a changing world", in Bienefeld, M.; Godfrey, M. (eds.): *The struggle for development*, Chichester, John Wiley.
- . 1985. "The lessons of Africa's industrial failure", in *IDS Bulletin*, Vol. 16, No. 3.
- Bienefeld, M.; Godfrey, M. 1975. "Measuring unemployment and the informal sector", in *IDS Bulletin*, Vol. 7, No. 3.
- Brusco, S. 1982. "The Emilian Model: Productive decentralization and social integration", in *Cambridge Journal of Economics*, Vol. 6, No. 2.
- . 1986. "Small firms and industrial districts: The experience of Italy", in Keeble, D.; Wever, E. (eds.): *New firms and regional development in Europe*, London, Croom Helm.
- Cadène, P. 1989. *Development in a "backward area" as a result of general development: a case study of the marble industry in a tehsil of South Rajasthan*, Centre d'Etudes de l'Inde et de l'Asie du Sud, Paris (mimeo); French version published in *Tiers Monde*, July-September 1989.
- Cawthorne, P. 1989. *Amoebic capitalism as a form of accumulation: the case of expansion in the cotton knitwear industry in a South Indian town*, Development Policy and Practice Group, Open University, Milton Keynes (mimeo).
- Cochrane, A. 1986. "What's in a strategy? The London Industrial Strategy and municipal socialism", in *Capital and Class*, No. 28.
- Dawson, F. 1988. *Small-scale industry development in Ghana: A case study of Kumasi*, Report submitted to ESCOR/ODA, Brunel University, September (mimeo).
- Erdmenger, K.; Fach, W.; Simonis, G. 1988. "Modernität als Staatsräson - Über technologiepolitische Praktiken und Perspektiven in der Bundesrepublik Deutschland", in Dose, N.; Drexler, A. (eds.): *Technologieparks*, Westdeutscher Verlag.
- Escobar Latapí, A. 1988. "The rise and fall of an urban labour market: Economic crisis and the fate of small workshops in Guadalajara, Mexico", in *Bulletin for Latin American Research*, Vol. 7, No. 2.

- FitzGerald, E.V.K. 1989. *The impact of macroeconomic policies on small-scale industry: Some analytical considerations*, Working Paper - Sub-series on Money, Finance and Development - No. 29, Institute of Social Studies, The Hague, June.
- Friedman, D. 1988. *The misunderstood miracle - Industrial development and political change in Japan*, Ithaca and London, Cornell University Press.
- Fuhr, H. 1988. "Kleinindustrie und Probleme der Kleinindustrieförderung in Lateinamerika - Einige Beispiele aus Ecuador und Peru", in *Lateinamerika Nachrichten*, Vol. 16, No. 1, January/March.
- GLC. 1985. *The London Industrial Strategy*, Greater London Council.
- Gough, J. 1986. "Industrial policy and socialist strategy", in *Capital and Class*, No. 29.
- Herrigel, G. 1987. *The political economy of industry: Mechanical engineering in the FRG*, Cambridge (Ma.), Massachusetts Institute of Technology (mimeo).
- Hirst, P.; Zeitlin, J. (eds.). 1989. *Reversing industrial decline? Industrial structure and policy in Britain and her competitors*, Oxford, Berg.
- Hoffman, K.; Kaplinsky, R. 1988. *Driving force: Autos, components and global restructuring*, UNCTC Study, Westview Press (Co.)
- Kaplinsky, R. 1984. *Automation: The technology and society*, London, Longmans.
- . 1989. *The economies of small*, Institute of Development Studies, University of Sussex (mimeo).
- Lenin, V.I. 1898. "The Handicraft Census of 1894-95 in Perm Gubernia, and general problems of 'handicraft' industry", republished in Lenin, *Collected works*, 1977.
- Lipton, M. 1984. "Family, fungibility and formality: Rural advantages of informal non-farm enterprise versus the urban-formal state", in Samir Amin (ed.): *Human resources, employment and development*, Vol. 5, Developing Countries, Macmillan.
- Looye, J.W. 1987. "Pequena manufatura em cidades de porte médio: o setor metal-mecânico no Cariri, Ceará", in: *ANPEC, XV Encontro Nacional de Economia*, Salvador, Bahia, December.
- Lyberaki, A. 1988. *Small firms and flexible specialisation in Greek industry*, DPhil Thesis, University of Sussex.
- MacEwen Scott, A. 1979. "Who are the self-employed?" in Bromley, R.; Gerry, C. (eds.): *Casual work and poverty in Third World cities*, Chichester, John Wiley.
- Maier, H.E. 1987. *Das Modell Baden-Württemberg: Über institutionelle Voraussetzungen differenzierter Qualitätsproduktion - Eine Skizze*, Discussion Paper IIM/LMP 87-10a, Wissenschaftszentrum Berlin für Sozialforschung.
- Marshall, A. 1890. *Principles of economics*, 1st edition, London.
- . 1927. *Industry and trade*, 3rd edition, London.
- McKean, C. 1988. *Small-scale manufacturing - The potential and limitations for growth - The case of wood products in Ecuador*, MPhil Dissertation, University of Sussex.
- Mead, D. 1982. "Small industries in Egypt: An exploration of the economics of small furniture producers", in *International Journal of Middle East Studies*, Vol. 14, No. 2.
- . 1984. "Of contracts and sub-contracts: Small firms in vertically disintegrated production/distribution systems in LDCs", in *World Development*, Vol. 12, Nos. 11/12.
- Moser, C. 1984. "The informal sector reworked: Viability and vulnerability in urban development", in *Regional Development Dialogue*, Vol. 5, No. 2, Autumn.
- Murray, F. 1987. "Flexible specialisation in the 'Third Italy'", in *Capital and Class*, No. 33.
- Murray, R. 1988. "Life after Henry (Ford)", in *Marxism Today*, October.

- Murray, R. et al. 1987. *Cyprus Industrial Strategy*, Report of UNDP/UNIDO Mission, IDS, Sussex, December.
- Peattie, L.R. 1982. "What is to be done with the 'informal sector'? A case study of shoe manufacturers in Colombia", in Safa, H.I. (ed.): *Towards a political economy of urbanisation in Third World countries*, Delhi, Oxford University Press.
- Piore, M.; Sabel, C. 1983. "Italian business development: Lessons for US industrial policy" in Zysman, J.; Tyson, L. (eds.): *American industry in international competition*, Ithaca, Cornell University Press.
- . 1984. *The second industrial divide: Possibilities for prosperity*, New York, Basic Books.
- Pollert, A. 1988. "Dismantling flexibility", in *Capital and Class*, No. 34.
- Riedel, J. et al. 1988. *Small-scale manufacturing and repair activities in the urban area of Techiman/Ghana*, Munich, IFO Institute for Economic Research.
- Riedel, J.; Schmitz, H. 1989. *Grass-Root industrialization in a Ghanaian town*, Munich-London, Weltforum Verlag.
- Sabel, C. 1986a. "Changing models of economic efficiency and their implications for industrialization in the Third World", in Foxley, A. et al.: (eds.): *Development, Democracy and the art of trespassing*, University of Notre Dame Press.
- . 1986b. "Struktureller Wandel der Produktion und neue Gewerkschaftsstrategien", in *Prokla* 62.
- Sabel, C.; Zeitlin, J. 1985. "Historical alternatives to mass production: Politics, markets and technology in 19th century industrialization", in *Past and Present*, No. 108.
- Sayer, A. 1989. "Post Fordism in question", in *International Journal of Urban and Regional Research*, Vol. 13, No. 4, December.
- Schmitz, H. 1982a. *Manufacturing in the backyard*, London, Frances Pinter.
- . 1982b. "Growth constraints on small-scale manufacturing in developing countries: a critical review", in *World Development*, Vol. 10, No. 6.
- . 1985a. *Technology and employment practices in developing countries*, London, Croom Helm.
- . 1989. *Flexible specialisation - A new paradigm of small-scale industrialisation?*, Discussion Paper 261, IDS, Sussex.
- Scott, A.J. 1988. "Flexible production systems and regional development: the rise of new industrial spaces in North America and Western Europe", in *International Journal of Urban and Regional Research*, Vol. 12, No. 2.
- Sengenberger, W. 1988. "Economic and social perspectives of small enterprises", in *Labour and Society*, Vol. 13, No. 3, July.
- Sengenberger, W.; Loveman, G. 1987. *Smaller units of employment: A synthesis report on industrial reorganisation in industrialised countries*, Discussion Paper DP/3/1987 (rev. 88), New Industrial Organisation Programme, Geneva, International Institute for Labour Studies.
- Sorge, A.; Hartmann, G.; Warner, M.; Nicholas, I. 1983. *Microelectronics and manpower in manufacturing*, Aldershot, Gower.
- Storper, M. 1989. "The transition to flexible specialisation in the US film industry: external economies, the division of labour, and the crossing of industrial divides", in *Cambridge Journal of Economics*, Vol. 13, No. 2, June.
- Storper, M.; Walker, R. 1989. *The capitalist imperative: Territory, technology and industrial growth*, Oxford, Blackwell (forthcoming).
- Smyth, I. 1989. *Agglomeration of small scale industries: A case study of the Indonesian rattan industry*, The Hague, Institute of Social Studies, The Hague, July (mimeo).

- Toye, J. 1987. "Development theory and the experience of development: Issues for the future", in Emmerij, L. (ed.): *Development policies and the crisis of the 1980s*, Paris, Development Centre, OECD.
- Watanabe, S. 1983. *Market structure, industrial organisation and technological development: The case of the Japanese electronics-based NC machine tool industry*, Geneva, ILO, World Employment Programme Research Working Paper, No. 111.
- . 1984. *Microelectronics and employment in the Japanese automobile industry*, Working Paper 129, Technology and Employment Programme, WEP 2-22, ILO, Geneva.
- Williams, K. et al. 1987. "The end of mass production?", in *Economy and Society*, Vol. 16, No. 3, August.
- Zeitlin, J. 1985. "Markets, technology and collective services: A strategy for local government intervention in the London clothing industry", in Greater London Council *Strategy for the London Clothing Industry: A debate*, Economic Policy Group Strategy Document, No. 39, May.



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