Cambridge Journal of Economics 1982, **6**, 167–184

The Emilian model: productive decentralisation and social integration

Sebastiano Brusco*

Introduction

The following essay presents a dynamic analysis of the interaction between the productive structure, the labour market, and the principal political institutions in Emilia-Romagna.

There are at least three reasons why, in recent times, many economists have focused their attention on the economy of the region (Bagnasco and Messori, 1975; Bagnasco, 1977; Filuppucci, 1978; Capecchi *et al.*, 1979).

The first is that over the last fifteen years Emilia-Romagna has had an economic performance distinctly better than many other regions in Italy, and has shown itself more resilient to crisis.

Secondly, the industrial structure which developed in Emilia-Romagna, and which is the basis for its economic performance, may also be found in other parts of Italy, so that the study of Emilia is of general interest and its results may help to understand the working of industrial districts elsewhere in Italy.

Finally, in Emilia-Romagna almost all local authorities, including the regional government, are controlled by the communist party, often in alliance with the socialist party. The region, therefore, represents a kind of test for a coalition of left wing parties in Italy which is of broader European interest.

The superior economic performance of Emilia-Romagna

Table 1 compares both the participation rate and the unemployment rate in Emilia-Romagna and in Italy as a whole over the last twelve years.

According to ISTAT (the Central Statistical Office), which generally underestimates these figures, the rate of participation in the labour force reached almost 46% in 1980, 6% higher than the national average. The contrast is even more striking if Emilia is compared with Southern Italy where less than one third of the population participates in the labour force.

On the other hand, the rate of unemployment is in general lower in Emilia-Romagna than in Italy. More detailed figures would also show that recessions reach Emilia later than other regions, and their effects are more temporary.

Two other indicators also show the superiority of economic performance of Emilia-Romagna when compared with the rest of Italy.

* Università degli studi di Modena. This article originally appeared in *Problemi della transizione*, 1980, no. 5, pp. 86–105, and has been translated and abridged by Jonathan Zeitlin and Diego Gambetta.

0309–166X/82/020167 + 18 $03.00/0

Table 1. *Participation rate and unemployment rate in Emilia-Romagna and in Italy, 1971 to 1980 (percentages)*

	Participation rate				Unemployment rate			
	Emilia		Italy		Emilia		Italy	
	Old series	New series	Old series	New series	Old series	New series	Old series	New series
1971	42·7	n.a.	36·2	38·4	2·7	n.a.	3·2	5·4
1972	41·2	n.a.	35·5	37·9	3·0	n.a.	3·7	6·4
1973	42·2	n.a.	35·5	38·0	2·9	n.a.	3·5	6·4
1974	42·4	n.a.	35·7	38·0	2·3	n.a.	2·9	5·4
1975	42·5	n.a.	35·7	38·1	2·9	n.a.	3·3	5·9
1976	42·3	n.a.	35·9	38·5	2·8	n.a.	3·7	6·7
1977		44·8		38·9		5·2		7·1
1978		44·8		38·9		5·7		7·2
1979		45·0		39·4		5·9		7·6
1980		45·9		39·9		5·7		7·6

Source: From 1970 to 1976 see ISTAT, *Rilevazione trimestrale delle forze di lavoro*; from 1977 to 1980 see ISTAT, *Rilevazione trimestrale delle forze di lavoro—nuova serie.*

From 1970 to 1979, the rate of growth of money income per head in Italy was 17·15% per year: in Emilia-Romagna over the same period income grew at an annual rate of about 18·5% (Unioncamere, 1981). Consequently, Emilian income rose from an already favourable position in 1970 to 5·6 million lire per head in 1979 compared with the average Italian income of 4·4 million per head. Moreover, the provinces of Modena and Reggio had in 1979 an income per head of 6·2 and 6·0 million lire respectively, and were the second and the fourth richest provinces in Italy (whereas in 1970, in the classification of the richest provinces, they occupied the 17th and the 12th position respectively).

Another interesting indicator is the amount of exports which originate in the region. Table 2 shows that the share of Emilian exports in total Italian exports continued to increase, almost without interruption, from 1963 to 1980.

Table 2. *Exports from Emilia-Romagna, as a percentage of total Italian exports*

1963	1964	1965	1966	1967	1968	1969	1970	1971
6·0	6·3	6·3	7·0	7·0	6·5	7·1	7·7	7·9

1972	1973	1974	1975	1976	1977	1978	1979	1980
8·1	7·9	7·5	8·6	8·4	8·8	8·8	8·9	9·4

Source: Unioncamere, *Statistiche provinciali dei movimenti valutari inerenti alle importazioni e alle esportazioni.*

The characteristics of Emilia

There are no great differences between Emilia-Romagna and Italy in the distribution of the labour force among sectors and among industries (see Tables 3 and 4). More significant are the differences in other aspects of the region's industrial structure, in particular the size distribution of firms. Table 5 shows that the proportion of the labour force employed in small productive units is always greater in Emilia than in Italy as a whole.

But the most significant point is that these small firms, often with less than 10 employees (see Table 5), are frequently grouped in relatively small zones according to their product, and give rise to monocultural areas in which all firms have a very low degree of vertical integration and the production process is carried on through the collaboration of a number of firms. In these areas only a proportion of the small enterprises market finished goods; the others work as subcontractors, executing operations commissioned by the first group of firms. Production has become widely decentralised as more and more firms which previously manufactured their own components increasingly resorted to outside suppliers. Despite union opposition, 'putting out' is now a common phenomenon.

There are many possible examples of these industrial districts: knitwear in Modena; clothes and ceramic tiles in Modena and Reggio; cycles, motorcycles and shoes in Bologna; buttons in Piacenza; tomato canning and ham in Parma; pig breeding in Reggio Emilia. But it would be a mistake to think that this phenomenon is confined to the production of

Table 3. *Employees by sector, 1980 (percentages)*

	Emilia	Italy
Agriculture	15·8	14·1
Industry	38·6	37·6
Services	45·6	48·3
Total	100·0	100·0

Source: ISTAT, *Rilevazione trimestrale delle forze di lavoro—nuova serie.*

Table 4. *Employees by industry, 1971 (percentages)*

	Emilia	Italy
Food and tobacco	11·3	7·6
Textiles	7·4	10·3
Clothing and shoes	11·4	12·2
Wood and furniture	7·8	7·5
Engineering	38·7	40·6
Non-metal minerals	11·5	6·1
Chemical	4·9	7·5
Paper and printing	3·5	4·4
Others	3·5	3·8
Total	100·0	100·0

Source: ISTAT, *5° Censimento generale dell'industria e del commercio, 1971.*

Table 5. *Employees in manufacturing industries, by size of the establishment, 1971 (percentages)*

	Emilia	Italy
Up to five employees	20·5	17·6
6–9	7·3	5·8
10–19	10·4	8·4
20–49	14·7	12·5
50–99	12·7	10·2
100–249	15·3	13·2
250–499	8·4	9·0
500 and more	10·7	23·3
Total	100·0	100·0

Source: ISTAT, *5° Censimento generale dell'industria e del commercio, 1971.*

consumer goods. Industrial districts are also common in engineering: the production of automatic machinery and packaging machinery in Bologna; of agricultural machinery and oleodynamic apparatus in Modena and Reggio; of woodworking machine tools in Carpi; of food processing machinery in Parma. In these cases, the industrial districts are less clearly defined, since they form specialised parts of the engineering sector where component producers supply the manufacturers of a wide range of finished products. This concentration of small firms also extends to the service sector and is found widely on the Adriatic riviera to which four million foreign tourists come every year.

It is also notable that there is a clear connection between the proliferation of small enterprises and the use of 'black' labour. This concept has been given many definitions (Frey, 1975). It has been applied to situations where social welfare contributions are evaded and again to cases where labour is paid lower wages than the minimum set by national agreement, works in substandard conditions, or does not receive agreed levels of supplementary bonuses and holiday pay. However defined, black labour is extremely common in Emilia-Romagna, and underpayment, tax evasion and the extraordinary flexibility of labour are all important features of the productive system.

The economy of the region is also characterised by a high income per head of the labour force engaged in agriculture (in 1971 Emilian agriculture gave work to 8·6% of all Italian agricultural workers, and produced 11·5% of the total Italian agricultural product); by active and increasingly strong cooperatives, which although concentrated in food and construction exert a powerful influence on the social and productive structure as a whole; and by a limited presence of wholly or partially state-owned enterprises.

The following sections of this paper consider various aspects of the region's industrial system—the industrial structure and industrial relations. Particular attention is paid to dynamic interactions between these, the market and the government in order to study their impact on the region's economy.

Inter-firm relations

Recent research in the Faculty of Economics at the University of Modena sheds significant light on the relations between different types of firms in this industrial structure (Brusco and Malagoli, 1981). This study focuses on the garment industry in Modena, Reggio

Emilia and the adjacent provinces, as a sector marked by an extremely low level of vertical integration. It shows that in Modena and Reggio the artisanate considered as a legal category can be divided economically into three groups: half are homeworkers inscribed under the category of artisans purely for the purpose of evading taxes and social welfare payments; one-quarter produce on their own account, having direct relations with the market for finished goods; and a final quarter are subcontractors. It is important to note that many of the independent artisans put out a good deal of the components of the finished product both to the other artisans and to the numerous female homeworkers of the region. In order to understand this structure, one must also consider the larger industrial firms of the region. Half of these enterprises undertake internally only the preparation of samples and the packing and distribution of the garments, while the bulk of the work is decentralised. The other half perform directly at least some of the work, though even these also decentralise an often substantial part.

In the neighbouring provinces, the picture is totally different. There the artisans producing on their own account constitute only 8% of the total, while the larger firms are in most cases owned by entrepreneurs from Modena and Reggio. To interpret these findings, it is necessary to consider together Modena and Reggio on the one hand and the neighbouring provinces on the other. Those artisans with direct access to the market need the dependent artisans of the neighbouring or secondary provinces as a bulwark for their own productive structure. The relationship between Modena and Reggio on the one hand and the neighbouring provinces on the other thus appears to be that of metropolis to colony, and the two together constitute a single system.

It would be tempting to interpret the relationship between the purchasers of components and their subcontractors in monopsonistic terms, as if, in other words, the enterprises producing on their own account were price makers able to compel the subcontractors to accept extremely low profits. But this is untrue, as we will see more fully below. Here it suffices to stress that the market between the two parties is almost invariably competitive. The great majority of subcontractors in fact have the ability to switch customers, if the prices offered are too low, and there is no collusion among the latter strong enough to enforce artificially low prices.

The sources of decentralisation

The principal sources of the movement towards decentralisation of the productive structure in Emilia, and in Italy more generally, are twofold. The first cause can be found in the rise of trade union power since the 1960s. Since the victories of the late 1960s, the union has acquired enough strength in the large firms to make redundancies almost impossible; to protect their shop-floor representatives and to force the employers into plant-level bargaining; to exercise a certain degree of control over working conditions; and sometimes even to impose changes in the organisation of work. Since these developments did not take place to the same extent in the smaller firms, it is only natural that the large employers sought to offset the effect of unionism by shifting production towards the small firm sector. Thus it is no coincidence that the process of vertical disintegration gathered force in Italian industry towards the end of the 1960s.

The second cause can be found in the emergence since the mid-1960s of a significant demand for more varied and customised goods, produced in short series, alongside that for standardised goods. Among the examples of this trend one can point to the much greater number of versions of each model of car than existed fifteen years ago; a multiplying of styles

in clothing and shoes; a growth in the publication of new books and magazines; and an increase in the varieties of furniture, refrigerators and sewing machines. Before the market experienced this evolution, these goods were most often produced according to the techniques originally developed by Taylor and Ford. Many of the components used in these products were made with specialised machinery, the so-called transfer machines, which were designed for the production of a single part, and which were therefore both very productive and very costly. These products were put together on elaborate assembly lines, designed in such a way that each operation was often to be completed in less than thirty seconds. Assembly lines, too, were highly costly, since they were both expensive to build, and required large amounts of planning, work study and running-in time. Both types of technology were restricted to large industry: transfer machinery because of its cost and rigidity, and assembly lines because of their dimensions alone.

The advantages of mass-production technology were reduced by the diversification of the product market and the competition in terms of quality and variety which this implies. The new demand requires more flexible, even if less productive, machinery than the transfer machines, as well as methods of assembly in which tasks are less fragmented so that slightly more diverse products can be assembled. This flexible technology is much less expensive than its predecessor and, more importantly, it is quite compatible with the needs of small firms.

This trend in turn affects investment goods. Without going into much detail, one should note that the construction of sophisticated machine tools was synonymous with that of transfer machines, which were custom-built in small series or single examples. For this reason they were particularly suitable for production with a fragmented structure, insofar as the small firms possessed the relevant know-how. During the past few years, however, the shift in consumer demand has cut down the demand for these machines. What will happen in the future will depend both on the extension of the current standardisation of components and on the diffusion of numerically-controlled machine tools which may be produced in long series. It seems probable in either case, however, that even in the investment goods sector there will remain space for short runs and therefore for small firms.

Alongside the increase in unionisation and changes in demand which have provoked the fragmentation of the industrial structure, there is another element which without acting directly constitutes a necessary condition allowing the process to occur without reduction in productivity. The sectors in which decentralisation is particularly marked are those in which it is possible to fragment the productive process without having recourse to an inferior technology. For example, the Morini motorcycle plant in Bologna has 100 employees and produces an average of 20 motorcycles per day. Most of the workers in the plant are engaged in assembly, on lines on which the tasks are not very subdivided. Except for the camshaft and the engine mounting, all of the components are put out: the frame, the tank, the shock absorbers, the handlebars, the brakes, the gears and the wheels; almost the whole machine is produced by subcontractors. And the key point is that they are produced with precisely the same techniques which would have been used had the firm decided to make them directly.

In other words one should bear in mind that, despite the increase in the scale of production in the 1950s and 1960s, with certain technologies there is no advantage in producing all the components of a product under a single roof: whether they produce similar or different pieces, twenty lathes have substantially the same productivity if they are gathered together or dispersed in separate buildings. This is what economists mean when they assert that economies of scale should be calculated in the first instance for phases of production, and that the economies which result from the juxtaposition of similar operations are often negligible

(Brusco, 1975; Muller, 1976). It should be noted, therefore, that generally the sectors in which this type of industrial structure prevails are those characterised by limited economies of vertical integration. Where these conditions do not hold, as in the ceramic tiles sector, decentralisation is nearly non-existent or assumes purely legal forms.

Even if it is accepted that for many industries the importance of technical economies of scale has often been overstated in the past, it might still be objected that there exist nonetheless both indivisibilities in the administrative work of firms and significant pecuniary economies of scale. Thus small firms might experience difficulties in book keeping, in obtaining raw materials, and in obtaining credit at the same price paid by larger firms with greater bargaining power. But in this context it is extraordinary to observe how the artisans and small entrepreneurs of Emilia-Romagna have overcome these difficulties by creating associations to provide these administrative services and to coordinate purchasing and credit negotiations, thus establishing on a co-operative basis the conditions for achieving minimum economic scales of operation. These associations, which cover the whole region, prepare the pay slips, keep the books, and pay the taxes of the small firms, giving to the latter the expertise of a large office in administration and accountancy at a minimal price. Furthermore, these associations also establish technical consultancy offices, consortia for marketing and the purchase of raw and semi-fabricated materials and, most importantly, co-operatives which provide guarantees for bank loans which can thus be obtained at the lowest possible rate of interest.

Industrial relations

Turning to the field of industrial relations, the first premise of the analysis is that the industrial structure, as we have already suggested, is divided into two segments by the size of the firms. In the 'primary' sector, the trade union has two main characteristics. First of all, it is extremely strong: there labour legislation is almost always respected; trade union representatives are recognised on the shop floor; plant bargaining yields wages above those negotiated at national level, and seeks—with intermittent success—to influence the organisation of work and to establish job ladders within the firm; finally, there is a tradition of popular mobilisation which in practice enables the unions to block any factory closure. The strength of the unions both depends on and is illustrated by the fact that in Emilia, by contrast to Piedmont and Lombardy, the 'primary' sector extends downwards to include all enterprises with more than 30 employees, so that roughly half of the labour force is unionised. Secondly, the union is generally 'reasonable'; it does not bid up wages too strongly in plant bargaining and is prepared to be flexible, even if within fairly strict limits, in enforcing contractual provisions concerning layoffs, overtime, and health and safety regulation; finally, it does not put forward over-bold projects of work reorganisation within the factory.

These characteristics of trade unionism in Emilia ensure a prompt, and generally non-violent, resolution of industrial disputes. The point at which agreement will be reached is usually recognised by both parties in advance, since it can be easily derived from the going rate for plant settlement in the country. It is precisely the strength of the union and its flexibility which guarantee at the same time that the negotiations will produce a satisfactory result without concessions and that the terms of the agreement will be enforced without subsequent flare-ups of localised conflict or idleness among the workers. Thus even though the union exercises a real control over working conditions in the plant, the employer enjoys a secure climate which makes possible a greater degree of planning of the volume of production and investment.

In the 'secondary' sector, in contrast, everything works differently. But before going on to examine the 'rules of the game' in this segment of the labour market, it is necessary to draw attention to the heterogeneity of those to be found within it. Besides the artisans working on their own account and the subcontractors we have already discussed, there can be found four main groups. First, highly skilled workers, often specialised in maintenance work, who have registered as artisans in order to free their wages from the limits established in the national agreements, but who continue to perform exactly the same job during the same hours as before. Second, the various types of homeworkers: those already mentioned who are forced by their bosses to register as artisans in order to evade social security payments; those whose position has been regularised according to recent labour legislation; and those whose position remains 'irregular', some highly qualified and others without any particular skill, whether elderly or from the South. Third, moonlighters and pensioners who have returned to work, who often agree with the employer to evade all social security payments and divide the proceeds. And finally, women and students who, in evasion of all controls, accept seasonal, temporary, and precarious work of every kind.

In this world the dispersion of wages is extremely high, extending from the maintenance workers registered as artisans who can earn twice as much as their factory fellows, to the elderly or immigrant homeworkers who get less than one-third of what they would receive in the factory. Here there is little evidence of the struggle for egalitarianism which has formed so noteworthy a part of the history of the Italian unions. The Emilian unions attempt to regulate wages, unlike their counterparts elsewhere, by making collective agreements with the artisanal associations, which in turn press their members to regularise the working conditions of their employees and to respect the contracts; certain recent legislation has a similar intention (Malagoli and Mengoli, 1979). But the level of wages is fundamentally determined by three factors: the level of demand for the product; the intensity of labour; and finally the level of skill.

In this sector, moreover, redundancies are possible. Here firms are able to hire and fire as the volume of orders changes, both because legislation against unfair dismissals does not apply to firms with less than 15 employees and because of their scanty unionisation. In this sector all variations in the level of output are translated into variations in employment. By contrast, as a recent study shows, the large firms fear that a subsequent recession will leave them unable to dispose of surplus manpower and they therefore refrain from hiring unless they install new machinery (Brusco, Giovannetti and Malagoli, 1979).

The segmentation of the labour market

The two labour markets which correspond to these two types of firms are, in general, linked and movement from one to the other is possible. There are, to be sure, significant numbers of workers who are unable to gain access to the 'primary' sector: elderly or immigrant women; middle-aged peasants; and at least for a time recent agricultural immigrants working in small firms with particularly unhealthy working conditions. But when demand is expanding, anyone accustomed to factory life and able to work intensively, even if not very skilled, can find work where he or she pleases. And each worker is ultimately able to choose in which segment to work. Under such conditions of increasing demand, wage differentials between the sectors narrow markedly and choices between them are not determined by earnings. For women, their family situation is the most important consideration, while the central influences for men are such factors as preferences concerning the atmosphere in large and small factories, possibilities of acquiring skills, and networks of personal or family contacts.

Many young people, in these conditions, are able consciously to choose a temporary or part-time job, or to decide to work at whatever job, however disagreeable. This choice is possible in some cases because of the level of family income which ultimately guarantees subsistence; in other cases, it is based on a light-hearted trade-off of lower earnings against shorter hours of work. Often, this latter attitude springs from a sharp critique of the capitalist use of labour-power; always, it depends on the expectation that it will be possible to find a job when necessary.

For highly skilled workers, it is possible not only to choose the plant, but also to decide to go into business for themselves. The latter choice, while it brings a higher income, also requires longer and more intensive hours of work. Thus the question for the worker is whether or not to opt for more work and higher earnings. What is striking is not how many become artisans, but how many of those who are able do not. This is ultimately a further sign of the health of this regional economy.

If instead the labour market should become depressed, the situation would change significantly. The less skilled workers would experience much more difficulty in changing segments; then the absence of collective bargaining and of union guarantees would make themselves sharply felt. The very flexibility which currently constitutes an advantage for this sector would become an insurmountable obstacle to the organised defence of employment. The effects of a crisis would be much less for the highly skilled workers whose bargaining power gives them greater means of self-defence.

No major recession has struck Emilia-Romagna since the 1960s, and the system has easily absorbed the effects of the central bank's credit restrictions. However, some indication of what might happen in recession can be seen from what happened during the downturn in the garment industry in 1974, when many homeworkers were left without work, while those who were employed suffered cuts in real and even money wages. The black economy of the South indirectly suggests what might happen in recessionary conditions. There the overall level of unemployment is so high that even when the product market is booming individual bargaining gives rise to wages well below those agreed nationally, to frequent evasions of social security payments, and to very poor working conditions (David and Pattarin, 1975; Botta *et al.*, 1976).

In conclusion, the possibility of mobility from one segment of the labour market to the other depends on the same factors which determine wages: skill, the intensity of work, and the state of the product and labour market.

Mechanisms of labour market adjustment

Certain channels exist whereby the power to shed labour is transmitted between the small and the large firm sectors so that the system as a whole retains its flexibility. There are two main mechanisms, which are complementary rather than alternatives. The garment sector provides the most clearcut example of the first of these. There the impact of a fall in demand for the products of a particular firm depends on its level of vertical integration: where this is high, such a fall in demand will produce unemployment; where it is low, the workers employed in subcontracting firms will simply receive their orders from more successful competitors. To follow the process in more detail: when the level of integration is highest, each firm circulates its collection of samples through its own agents; collects and executes the orders; finishes, packs and sends the final product. When the level of integration is lowest, the firm which had prepared the samples and received the order will execute it through subcontractors from whom it will collect the final product for despatch.

Now suppose that (1) in both cases firms are sufficiently numerous to guarantee competition; (2) that the total demand for garments is constant, so that orders lost by one firm are taken up by another; (3) that all commissioning firms belong to the primary segment, and all subcontractors to the secondary; (4) finally, that subcontractors are able to shift easily from the production of one model to that of another.

We can now see what would happen in both cases when the styles offered by a firm are rejected by the market. In the first case (high vertical integration) the crisis in the firm will hit all the workers involved in the various phases of production. If orders fall to zero, they will have to be made redundant, even if they will be hired soon afterwards by the more successful firms. In this case the system has reached a new equilibrium by redistributing workers among firms, requiring a certain number of redundancies, which by hypothesis are tense and difficult for the firm concerned.

Under similar assumptions, we can now consider what would happen in the second type of structure, i.e. one which is characterised by a minimal degree of vertical integration. This time the firm struck by the crisis does not employ weavers, cutters, stitchers, pressers and finishers; it employs only people working on prototypes, and workers in packing and despatching goods. Only these workers directly employed by the firm will be made redundant. The vast majority of the workers actually producing the garment would continue to work as before for the subcontracting firm which employs them directly. The work which is no longer coming to the subcontractor from the firm whose styles have been rejected by the market will simply be replaced by that commissioned by its more successful competitors. In this case, too, the system imposes some redundancies in order to find its equilibrium, but these are fewer than in the preceding one, and are made by firms which have fewer employees for the same gross turnover. The equilibrium has been restored not so much through a shift in manpower as through a shift in orders. The response to a downturn has been rendered that much easier.

In presenting the second mechanism to which we initially referred, our simplifying assumptions will be to some extent opposed to those employed in describing the first. Here the global movement of demand and the type of price-formation mechanism operating in this sector will be unimportant; it is rather assumed that the subcontractors are *unable* to shift their production. The only assumption which remains as before is that the commissioning firms belong to the primary segment and the subcontracting firms to the secondary one.

We can now illustrate the second mechanism with an example. Imagine a firm with 1000 employees in which a decrease in production of 10% would provoke 100 redundancies. This level of redundancies would be highly problematic in the primary segment. Imagine instead a firm which decentralises 80% of the same volume of production, which would therefore be left with 200 workers. This firm would still belong to the primary sector, while the other 800 workers would be scattered among the small enterprises of the secondary sector. This time a fall in production of 10% would require 20 redundancies in the primary sector and 80 in the secondary. The first poses no great problems, both because 20 workers are few in absolute terms and because the union is weaker in a firm with 200 employees than in one with 1000. The other 80 redundancies would pose no problems at all since they belong to the secondary sector. In this case, too, it is ultimately the secondary sector which absorbs the tensions coming from the large firms. The difference is that in this case the small firms perform this role by assuming responsibility for the major portion of the redundancies, while in the first case they coordinate the flow of subcontracted labour from the less to the more successful firms.

We can add four observations in order to clarify what has been said so far. First, the link

between the two segments of the labour market has an important implication: all attempts to impose rigidities on the secondary sector would immediately reverberate on the system as a whole. Any successful initiative, whether by the unions or by public policy, which aimed to limit the small firms' power to hire and fire would automatically rigidify the manpower management of the large enterprises. It seems as if there is, therefore, a clear alternative between two objectives, both desirable: that of maintaining the system's flexibility, and that of limiting the small enterprises' power to make workers redundant when they want.

There is only one way to avoid the dilemma of ensuring primary conditions of employment in all Emilian firms and yet preserving the flexibility of the system as a whole in a situation where demand is uncertain. To achieve such a result it would be necessary to construct a new secondary sector of firms and workers outside the region. Beyond the need to find manpower which has become ever more scarce in Emilia, this is to some extent the significance of the extension of decentralisation to the Veneto, the Marche, and even Puglia. The internal contradictions of Emilia gradually become in this way external ones, which other regions have to face and resolve.

Secondly, it often happens in some productive activities that the great majority of firms cluster in the secondary sector, irrespective of the role played by the enterprise. This is, for example, the case of knitwear in which 50% of the 'parent' firms (i.e. those with direct access to the market for finished goods) have less than 30 employees. This state of affairs reaches its limits in Prato, a Tuscan town with an analogous industrial structure, where the commissioning firm very often has no employees other than the proprietor, the so-called *impannatore* who designs the fabric and commissions the spinning, weaving, and finishing from other other enterprises.

Thirdly, it will be useful to dwell for a moment on the difference between the mechanisms discussed above and another interpretation of decentralisation as a sort of 'productive lung' for the commissioning enterprises (Paci, 1975). There it is assumed that short period variations in the demand for the product of the commissioning firm may lead from time to time to the expulsion of certain operations from the factory and their subsequent recall. In this case, variations in the level of vertical integration of the firm are understood as conjunctural manoeuvres. In our view, this practice is difficult to realise, and it has no place in the mechanisms of the 'Emilian model'.

Finally, it is necessary to ask how frequently each of our hypothetical mechanisms of labour market adjustment might actually occur. As will be apparent from the assumptions on which they are based, the answer depends on two main considerations. The first is the demand for the product: the longer and more frequent the recessions, the more often the second mechanism will operate. The other consideration points instead towards the technology used by the subcontracting firms and the ease with which they are able to shift their production.

How plausible is this hypothesis that Emilian firms are easily able to shift from one product to another? In this context we should note there are variations between the production of components and assembly and in the experience of individual sectors. In the knitwear industry, for example, there are virtually no difficulties in switching models, neither in the production of components nor in assembly; in that of women's clothes, the production of components is highly flexible, whereas the adaptation of assembly lines poses some problems, though these are easily resolved; in the food industry, the flexibility is also very high. More careful attention should be paid to the engineering sector. Generally, components are more flexible than assembly and this is the reason why decentralisation is more prominent in the former. It should be noted that in this case a subcontracting firm can easily shift not only

models but also subsectors: a firm producing stamped metal has no problem in switching from the production of, say, gas stoves to that of chair frames. Single-purpose machine tools, as remarked earlier, have next to no flexibility, whereas that of numerically controlled machine tools is extremely high. Finally, the flexibility of assembly lines is itself very variable: it is least where tasks are very fragmented and greatest where each position is assigned longer operations. Given the diversification of demand, this capacity to adapt easily to different products becomes synonymous in practice with the capacity to produce in short series at competitive costs.

In conclusion, the hypothesis that it is possible to shift quickly and easily from one product to another is certainly true for many firms and in many industries. And this fact is closely related to the capacity of Emilian firms to produce in short series.

The solidity of the industrial structure

The capacity of the 'Emilian model' to resist foreign competition, in particular that of Third World countries, is rooted in three main factors. First of all, flexibility in the use of manpower. We can add to what has been observed earlier that this feature of the industrial structure becomes all the more important when compared to the rigidity of industrial structures, such as, say, that of Milan, which are dominated by large firms. Second, there is the rather high technical level of the machinery employed. The flexible use of labour facilitates the introduction of innovations, even when they are labour-saving. As we observed earlier, when demand is expanding wages in the primary and secondary segments of the labour market are more or less the same; there is, therefore, no possibility for firms to recoup with low wages the low productivity of their machinery. It will be remembered that most markets, including those for semi-finished products, are highly competitive and this too speeds up the adoption of more sophisticated machinery. There is evidence, moreover, that in the most industrialised regions small firms experience no disadvantage relative to large ones in raising credit (Guglielmi, 1978; Filippi, 1979).

Finally, the solidity of the 'Emilian model' derives from the fact that this type of industrial structure more than any other fosters the skills and initiatives of its entrepreneurs in a variety of ways. In the first place, it spurs their emergence. The number of artisans or even major entrepreneurs previously employed as workers is very high, particularly as foremen, maintenance workers, and coordinators of putting-out networks. For each of these groups, their knowledge of some part of the productive process facilitates their passage to independent work. Even easier in some sectors, particularly that of garments, is the transition from subcontracting to direct contact with the market. Many subcontractors through their relations with their customers learn how to prepare samples, come into contact with the network of distribution, and eventually reach the point where they can circulate samples on their own. If these are well received they will produce a few copies within the firm and will put out the rest. At the same time, they will continue to work as subcontractors, thus avoiding undue risks. The system therefore operates as a 'forcing' ground for entrepreneurship.

Second, by using the foresight and imagination of so many artisans and entrepreneurs, this productive structure is able to offer an extraordinary variety of products, many of them novel, which cleverly interpret the needs of consumers and the shifts in their tastes. The garment sector is an obvious example. It is sufficient to realise that it would be impossible for a few large firms to produce the enormous range of styles which are created by the hundreds of small firms. An idea, seen at a Parisian or Florentine fashion show, can be reworked in a multitude of workshops. And in this way thousands of options are offered to domestic and foreign buyers. But more important examples can be cited from the investment goods sector,

such as machines which dispense railway tickets, pack cigarettes and medicine capsules, or clean the streets; the extraordinary variety of agricultural machinery, from light tractors to fruit-harvesting platforms; or the many sophisticated hydraulic devices used in servo-mechanisms. These are all cases in which new needs are satisfied by a multitude of competing small firms which emulate and imitate each other and which as a result can give shape to new ideas with a speed that would be unthinkable in larger enterprises.

Finally, the small firms' capacity to develop new products and to devise new machines is enhanced both by the proximity of so many entrepreneurs engaged in similar activities and by the extensive collaboration between skilled workers and technicians within each firm (Brusco and Sabel, 1981). This phenomenon, which is particularly characteristic of monocultural areas, should be emphasised since it undercuts the conventional idea that research is only what scientists and technicians do in the laboratories of the big firms and not the on-the-job creativity of ordinary people who know their own needs. For instance, in the ceramic tile industry, the machines which move the tiles uninterruptedly along the glazing lines, or which detect breakages through the use of sonic waves, were not the product of formal research, but were rather developed through the collaboration of the tile firms with a number of small engineering firms.

Emilia: an 'interstitial' case?

The idea of 'interstices' is connected with a view of the world in which goods can be divided into two groups. The first group consists of goods produced in long series by large firms with highly subdivided labour; strong economies of scale mark such production processes. The second group reverses these characteristics, and is accordingly neglected by the large firms. As a result, their production, concentrated in small firms, is considered 'interstitial'. In such a classificatory system, the first type of goods are usually but often implicitly considered technologically advanced and the second backward. To this view is often added the assumption that goods produced in long series in large factories can only be reproduced with great difficulty in the Third World, in contrast to those of the second type, and are therefore less exposed to competition from developing countries. This has led some observers to conclude that the second type of production is ultimately destined to disappear from the advanced countries.

As we have seen, however, many goods produced in short series are nonetheless the fruit of enterprises which employ advanced technology and have some real market power. The simplest example is that of investment goods, which are often produced in short series or even on a one-off basis. The limit case, among these goods, is that of transfer machines, the robots used at Fiat, or the special pieces used in chemical plants; but, among Emilian products, this is true also of many automatic machines, machine tools, agricultural machines, and those used in ceramic tile production and food processing.

It is also true, to be sure, that some goods produced in short series are vulnerable to competition from Third World countries: for instance, the garment and knitwear industries, which on occasion suffer from the influx of Rumanian jackets and Indian T-shirts, or the producers of toys and stoves who face competition from Hong Kong and Poland. But on the whole it can be noted in most cases that the products of the underdeveloped countries are aimed at the bottom of the market. In other words, it seems possible to counteract the competition from these countries by shifting production up-market. These types of goods can only be produced with difficulty by such countries because of their distance from the consumers, their consequent difficulty in predicting shifts in tastes, and the low skill-level of their workforces.

The history of the Italian monocultural area is precisely the history of this specialisation and movement up-market. This is the case of ceramics in Sassuolo, or to choose a case from outside Emilia, of textiles in Prato. This process can, of course, lead to a progressive narrowing of the market, and an attendant contraction of the industry and its labour force. So far, though, the process seems to go slower than is commonly expected, either because, as in Prato, sidelines have been found to make up the lost ground or because, as we have already seen, consumer demand for quality and variety is becoming increasingly pronounced. This slow expansion in the market for sophisticated products goes alongside the need to produce in shorter series and therefore to find a means of controlling the labour force different from that developed by Fordism. All this naturally increases the space in which the small firm can operate efficiently. In conclusion, therefore, the notion of interstices seems to be weak and of limited value.

Agriculture

We can now turn our attention to the relation between industry and agriculture. There is a basic distinction to be made in this regard. Agriculture has not been able to survive in the Appenine mountains which mark the southern boundary of the region. To varying degrees, therefore, the mountains have lost their population and, to schematise a bit, only those areas which can attract tourists have managed to maintain their per capita income relative to that of the region as a whole. By contrast, the Po valley, which includes the most fertile soil in Italy, has been able to dispute with industry the labour force it requires. As a consequence, the incomes of many agricultural workers, including the day labourers, are often comparable to those of their industrial counterparts. This prosperity constitutes the principal feature of Emilian agriculture even though there remains a stratum of poor peasants which some estimate at one-third of the total agricultural labour force (Brusco, 1979).

The general prosperity of agriculture in the region can be ascribed to three main causes. First, there is the extraordinary fertility of the soil. Yet this is not a sufficient cause, since there are areas in Campania and Puglia which are even more fertile but less prosperous. The second reason is the presence of co-operatives which heavily influence the market for a wide variety of agricultural products. The diffusion and strength of co-operatives which sell Emilian agricultural products directly to consumers throughout Italy has eliminated the parasitic middlemen who still flourish in other regions. The co-operatives even manage to obtain for their members a share in the profits of the food processing industry. It is for this reason that the regional government has quite correctly chosen them as its main channel for influencing the agricultural sector, to such an extent that since its creation at the beginning of the 1970s the region has directed more than 20% of its total agricultural expenditure towards co-operatives.

It should be noted in passing that this practice of co-operative work has had its impact on industry as well. While there are no co-operative firms as such outside construction, it is plausible to suppose that these traditions of co-operation have influenced those associations of artisans and small entrepreneurs of which we have already spoken.

Finally, and most importantly, the superiority of Emilian agriculture can be explained by the transformation of agrarian property relations since the war. Of all Italian regions, Emilia-Romagna was one of those in which sharecropping was most widely practiced in 1947. In the province of Modena, this type of contract covered 70% of the soil. Its decay, due more to the growth of industry than to legislation, has had deep repercussions. Many of the old landlords, whose estates often included ten to twenty sharecroppers' plots, once freed

from this system have unified them into a single capitalist farm. Some of the minor landlords, almost always belonging to the urban bourgeoisie, have preferred to keep their farms as a second activity run by a salaried manager. All the remaining proprietors, large and small, have sold their land to the peasants. These sales, which were in some cases preceded by a period of rental, have selected out a wide stratum of highly skilled peasants.

The situation, therefore, has evolved along radically different lines to those of the southern regions. There, apart from the effects of the agrarian reforms, the importance of large and medium landed property has remained unchanged; the only modifications of agricultural techniques have been those linked to irrigation; the small properties freed by migration have in practice remained blocked and often uncultivated. In Emilia, where as we have seen, the land market has been extremely active, a major part of the capital accumulated through the sale of large estates was invested in the growing industrial sector. The initial capital of many engineering, ceramic, textile, and food processing firms was drawn from this source. A final example of the integration of agriculture and industry in Emilian development can be seen in the growing tendency for workers and artisans who are employed in the towns to go to live in the countryside, where they engage in a certain amount of part-time farming.

The state and local government

The central state administration appears to play a lesser role in this region than in others. First of all, tax collection is less effective here than elsewhere, both as regards firms and private households. One might expect that in such a fragmented productive structure the longstanding deficiencies of Italian public administration might be even more striking than elsewhere. One might expect, in other words, that something similar to what happens to the trade unions (or by that token to the central statistical agencies) might happen to the state: the smaller the unit in question, the less such institutions will be able to control it. If this were true it would follow that Emilia-Romagna contributes less to the state than the other rich regions of the country. In this sense, then, it would be as if there were a transfer of income from these regions to Emilia. On the other hand, it is necessary to recall that the state also contributes less to Emilia since there are fewer public and semi-public enterprises there than in other regions.

In the case of public works, too, the absence of sound data makes any conclusions speculative. It seems certain, however, that the 'red belt' is discriminated against in terms of the distribution of public funds and credit concessions. Today perhaps this bias has eased off and is less pressing than in the past: there is no doubt, however, that such discrimination has never troubled the public conscience of the Christian Democratic Party. Another phenomenon, however, acts in the opposite direction: the extraordinary efficiency of Emilian municipal government in organising public interventions, no matter how complex; in providing financial resources; and in mobilising local forces, including Christian Democrats, in support of demands directed to the state.

A specific case may serve to exemplify this political efficiency, peculiar in Italian terms. The river Panaro, which separates the province of Modena from that of Bologna, had flooded thousands of acres of Modenese land several times between 1966 and 1973. These disasters were due to the absence of adequate flood-gates. The intervention which should have been planned by the Ministry of Public Works was instead prepared by the provincial administrations of Modena and Reggio Emilia, and was ready by 1972. The Ministry had accepted it but by 1976 nothing had happened. When the river flooded in this year for the fifth time, the municipal government of Modena convoked an assembly in the city square of its citizens and

those of the other affected towns; with the collaboration of *all* the MPs of the province so much pressure was brought to bear on the Ministry of Public Works that the funds for the long-planned flood-gates were released within fifteen days.

There is no doubt in fact that the efficiency of local government has markedly raised the real wages of Emilian workers, and has improved the quality of life. Using the minimal, even non-existent, spaces provided by a hazy legislative framework, the local governments have managed to implement policies unheard of in the rest of Italy. Two areas of intervention stand out in this respect. The first is that of social services: for example, in Reggio Emilia and Modena, nursery schools can absorb the entire demand for their services, in sharp contrast to the situation elsewhere, particularly in the South. Thus it is striking that in Bologna there are enough places in creches and nursery schools for 25% and 65% of the respective age groups; in Naples, by contrast, the corresponding figures are only 1·5% and 4% (Capecchi and Pugliese, 1978).

The second is that of urban planning and control of speculative building development. After some initial mistakes, the local governments have opted for a policy of controlled development. All possible legal instruments from expropriation and agreements to threats and inducements have been used to control the price of commercial property. As a consequence the Emilian cities have a higher proportion of publicly and co-operatively funded accommodation and lower house prices than elsewhere in Italy. The new neighbourhoods are often architecturally undistinguished but the proportion of green space per inhabitant is certainly quite high. The low price of property not only benefits private households but also promotes the prosperity of local firms. By planning for artisanal districts this policy allows small firms to buy lofts at relatively reasonable prices, and thus promotes their growth.

In other areas, too, the municipal administrations are active. Despite a certain delay they are attempting to control pollution as much as possible. They are creating a network of psychiatric consultation centres and family counselling centres. A wide range of cultural initiatives have been launched, ranging from opera to theatre to rock concerts. Finally, particularly in the past few years, attempts have been made to revive the old urban centres from which traffic has long been excluded.

Summary and conclusions

In conclusion, let us re-examine the principal component parts of the 'Emilian model' and their relation to the operation of the system as a whole. First, agriculture in this region has emerged strengthened from the reorganisation of the past two decades. Some poor peasants remain who have not been able to establish an independent farm from the collapse of share-cropping. But these groups are destined to disappear. The regional labour market is too tight to permit a rigid compartmentalisation, and the next generation is more prone to acquire industrial skills. In any case, the presence of agricultural co-operatives makes this sector rather cohesive, and certainly more resistant to recessions than elsewhere.

Second, there is a 'primary' industrial sector with advanced technology, innovative ability, high wages, and considerable union presence. Its only limitation comes from restraints on redundancies. The industrial relations system, however great its powers of mediation, imposes serious rigidities on the employers, and it is in this context that the third component of the 'Emilian model' finds its place. The 'secondary' industrial sector, consisting of small firms, shares with the 'primary' sector its advanced technology, its innovative capacity and its ability to compete on the world market, and at least when business is good pays similar wages

to most of its workforce. The true role of this sector, therefore, at least in periods of expansion, is to return flexibility in the use of labour to the entire productive structure, rather than to exploit cheap labour and so make possible the use of backward machinery. There is, however, another mechanism by which the system as a whole escapes the rigidity imposed by the unions in the larger firms: the putting-out of work to other regions, in which the classic secondary labour market characteristics of low pay and backward machinery can to some extent be found.

Finally, all this takes place under the watchful eye of a local government which helps to raise real wages and to improve the quality of life. The state on the other hand, for better and for worse, plays a lesser role than in other regions.

This complex productive apparatus gives the worker a wide range of choices and opportunities: to the more skilled the opportunity to go into business for themselves; to others the ability to choose in which firm to work; and to young people the possibility of alternating periods of work with periods of 'life'. The work force can be set along a continuum with two opposite poles: artisans working to the limit of their capacity to earn a high income, and youth prepared to trade off low wages for short hours of work. More generally, therefore, it can be stated that each worker is able to decide how to divide life between work and leisure in a context which measures precisely the amount of labour expended and converts it into income.

From this above all comes the widespread certitude that this system is rich in opportunities for all, and that everyone is ultimately the master of his own fate. Such certitude is amongst the basic elements of the political consensus enjoyed by those who have attempted to guide and control this development process. For the same reason, however, there is little sympathy for those who do not share the basic values of the system and hostility and even contempt for those who criticise it from outside.

Cohesion and closure have been reinforced by the virtuous circle fuelled by the continuous prosperity of the past two decades. Flexibility and entrepreneurship produce high rates of growth, which push up family incomes; high incomes permit increased education and the accumulation of skills; and local government keeps the environmental consequences of development within tolerable limits. This circle depends on one basic condition: 'when you work you work, without cheating yourself or anyone else'.

Thus cultural as well as economic factors lead us to emphasise the freer role played by market forces in Emilia and the more authentically capitalist character of its development as compared to other Italian regions. This can be seen in the extensive role played by individual initiative; in the system's capacity to regain the flexibility lost to the unions in the large factory by segmenting the productive structure and exporting its contradictions; and in the relative absence of the national state, both in terms of public spending and tax collection. To a certain extent, however, this absence of the state has been compensated for by the initiatives of those few efficient public institutions more closely linked to the civil society of the region. Thus there has been realised in Emilia a harmonious mixture of discordant elements, but one whose complexity makes it difficult to take it as a model: efficient institutions despite the absence of the state, and active trade unions which control only half of the labour force.

So long as demand continues to expand, this social and productive structure will face only the problem of integrating into itself those who declare themselves to be outside it. But some doubt remains that this system might react badly to a deep and prolonged recession. Consider for example what happened to Turin in response to the Fiat redundancies in October 1980, and what would happen in Emilia if the success of a new Mary Quant were to

create as many redundancies among knitwear workers. In Turin the clash between employer and resistant workers was clear cut and was moderated by special state unemployment funds and so the situation was controlled.

In Emilia, unless the local entrepreneurs could quickly copy and improve on the new styles (which could well happen), the dynamic interaction of the parts of the industrial district which guarantee a flexible response to the product market could quickly deteriorate in a competitive scramble for orders. This, in the condition where trade unions only partially control the labour market, could put downward pressure on wages, and cause a reduction of prosperity and a dismantling of the productive structure upon which that prosperity is based.

Bibliography

Bagnasco, A. 1977. *Tre Italie: la problematica territoriale dello sviluppo*, Bologna, Il Mulino

Bagnasco, A. and Messori, M. 1975. *Tendenze dell'economia periferica*, Torino, Valentino

Botta, P., Fonte, M., Improta, L., Pugliese, E. and Ruggero, F. 1976. La struttura del settore calzaturiero a Napoli, *Inchiesta*, no. 23

Brusco, S. 1975. Organizzazione del lavoro e decentramento produttivo nel settore metalmeccanico, *Sindacato e piccola impresa* (a cura della FLM di Bergamo), Bari, De Donato

Brusco, S. 1979. *Agricoltura ricca e classi sociali*, Milano, Feltrinelli

Brusco, S., Giovannetti, E. and Malagoli, W. 1979. *La relazione tra dimensione e saggio di sviluppo nelle imprese industriali: una ricerca empirica*, Modena

Brusco, S. and Malagoli, W. 1981. Disintegrated firms and industrial districts: the case of the knitwear industry in Italy, paper presented at the Third Conference of the International Working Party on Labour Market Segmentation, mimeo, Modena

Brusco, S. and Sabel, C. 1981. Artisan production and economic growth, in Wilkinson, F. (ed.), *The Dynamics of Labour Market Segmentation*, London, Academic Press

Capecchi, V. *et al.* 1979. *La piccola impresa in Italia*, Bari, De Donato

Capecchi, V. and Pugliese, E. 1978. Bologna Napoli: due città a confronto, *Inchiesta*, no. 34–36

David, P. and Pattarin, E. 1975. Retroterra rurale e condizione operaia femminile: il settore della maglieria, *Inchiesta*, no. 20

Fillippi, E. 1979. La struttura finanziaria delle medie imprese italiane, *Thema*, no. 4

Filippucci, C. 1978. L'occupazione ed il valore aggiunto in Emilia-Romagna: un'analisi disaggregata per settore di attività economica, *Statistica*, no. 3

Frey, L. (ed.) 1975. *Lavoro a domicilio e decentramento dell'attività produttiva nei settori tessile e dell'abbigliamento in Italia*, Milano, Angeli

Guglielmi, M. 1978. I problemi finanziari dello sviluppo della piccola e media impresa—un confronto regionale, *Orientamenti nuovi per la piccola e media industria*, no. 9

ISTAT, *5° Censimento generale dell'industria e del commercio—1971*, Roma

ISTAT, *Rilevazione trimestrale della forze di lavoro*, Roma

ISTAT, *Rilevazione trimestrale delle forze di lavoro—nuova serie*, Roma

Malagoli, W. and Mengoli, P. 1979. Lavoro a domicilio e artigianato nel comparto della maglieria, *Città e regione*, no. 5

Muller, J. 1976. La dimensione dell'impresa e l'integrazione verticale, *Rivista di Economia e Politica Industriale*, no. 2

Paci, M. 1975. Crisi, ristrutturazione e piccola impresa, *Inchiesta*, no. 20

Unioncamere 1981. *Il reddito prodotto nelle provincie italiane nel 1979*, Roma

Unioncamere, *Statistiche provinciali dei movimenti valutari inerenti alle importazioni e alle esportazioni*, Roma