2002 Award Winner
Giacomo Becattini's Contributions to Entrepreneurship and Small Business Research [1]

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"Professor Becattini has extended the analysis of purely economic effects of agglomeration to a broader perspective, including also the social, cultural and institutional foundations of local industrial growth, strengthening the socio-territorial dimension of the concept and introducing the idea of embeddedness as a key analytical concept in understanding industrial districts."

The aim of this essay is to present the research of Giacomo Beccatini, together with Charles E. Sabel the 2002 FSF-NUTEK Award Winner. Only research within the area of the Award will be presented. The presentation starts off with an introduction to the Winner's career and continues with an overview of the most important research contributions.

Career in Brief

Giacomo Becattini, born in 1927 in Florence, Italy, became professor of Economics at the University of Florence in 1968. He spent his whole academic career at the University of Florence. After his retirement in the late 1990s he has remained a very active research scholar with a whole range of international publications also into the 21st century.

Giacomo Becattini has made several important contributions to enhance our knowledge about "industrial districts" based on Alfred Marshall's reasoning in his monographs *Economics of Industry* (1879, with Mary P. Marshall), *Principle of Economics* (1890) and *Industry and Trade* (1921). In all three books Marshall elaborates on the importance of proximity for small firms in order to achieve external economies of scale. In his seminal article "From the industrial 'sector' to the industrial 'district'", published in Italian in 1979 and in English in 1989, he introduced the concept of "industrial districts" and re-discovered the Marshallian concept in an Italian context. A major contribution to the understanding of industrial districts was Becattini's strong emphasis on the role of the cultural and historical background of the districts, and he was the first to point out that a skill that appears abundant in a specific area may be scarce on the world market.

As research on industrial districts mainly originates from Italy, most of the publications on the subject are therefore in Italian. There have been many attempts to make industrial districts an internationally well-known phenomenon. The single most important contribution in this respect is the book *The Second Industrial Divide* written by Charles Sabel, and Michael Piore in 1984, using the Italian industrial districts as the main example for their macro-historical analysis. This book stirred a great deal of interest in the importance of industrial districts outside Italy.

Contributions

Giacomo Becattini is thus one of the leading exponents of research on industrial districts. In this part I will first lay out the background to his research. Then the two articles in which he introduced the concept of "industrial districts" are presented and some of Becattini's contributions explaining the importance of industrial districts are summarized. The presentation only covers publications in English). In the last section, Becattini's research on the Prato industrial district is presented.

Research on Industrial Districts

During the early years of industrialisation in the 19th century, the

[1] This presentation covers Giacomo Becattini's main contributions to entrepreneurship and small business research until around the year 2003.

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dominant view among economists was that the factory system was most efficient when the manufacturing processes were concentrated under one roof with a high degree of vertical integration. The first researcher to challenge this assumption was Alfred Marshall, who expressed a different view in his writings as far back as 1870. Through his observations of English industry, such as the cutlery works in Sheffield and metal trade in Birmingham, he came to the conclusion that for certain types of production, there were two efficient manufacturing systems: (i) the established method, based on large, vertically integrated production units, and (ii) production based on the concentration of many small factories specializing in different phases of the production process and located in the same geographic area (Becattini 2002).

As opposed to more orthodox economists, who were blinded by the economies of scale and the factory system, Marshall used concrete examples to argue that there existed a viable substitute to the traditional manufacturing system. In these early descriptions and lines of reasoning, it is possible to discern a predecessor of the framework that Marshall later called "external and internal economies" (Marshall 1890; 1921), i.e., the rationale for industrial districts rests on the creation of agglomeration economies – economies that are external to the firm but internal to the area, for groups of firms. External economies concern the productivity of the individual firm, obtained through an external division of labor between firms, which can be secured by the concentration of small firms of similar character in particular localities, thus providing an alternative to the internal economies of scale of large corporations.

Marshall's influence on economic thinking in these areas was limited. Most of the 20th century was dominated by a belief in large-scale systems and internal economies of scale. It was not until the 1970s that a couple of Italian economists discovered some interesting phenomena in the Italian economy. In several Italian regions, both the agricultural sector and large firms were declining, but parts of the industries were growing, and the structures of these growing industries were agglomerations of small firms with tight connections to international markets. The researchers realized that high productivity in a manufacturing process could not only be achieved by investing in means of production but was related to the physical contiguity of firms – economies that were external to any one firm, but internal to an industrial sector or territorial group of firms.

Giacomo Becattini can be considered as the most prominent of these research scholars and he revitalized and developed Alfred Marshall's century-old idea of external economies of scale and industrial districts. At around the same time, the late 1970s and early 1980s, Sebastiano Brusco, professor at the University of Modena, made similar observations, but from quite a different theoretical basis. Brusco's stance was based on the thoughts of the Italian economist Piero Sraffa (1898–1983), one of the most prominent critics of Marshall's reasoning about external economies of scale. Brusco refused to accept that the advantages of localized division of labor derived from external economies of scale. Instead he recognized that small firms with modern technology could be as efficient as large firms – it is only a question of numbers – and due to the social conventions of the local community, one can have low transaction costs which may replace the internal economies of scale of the large companies. Brusco's empirical studies were based on the Emilia Romagna Region in the North-East of Italy.

What did they find? In certain places or localities where large private and state-owned companies were showing clear signs of weakness, there was a "strange" flowering of small manufacturing businesses specializing in different products, resulting in increased local income, job creation and exports. These regions were, for example, Sassuolo (ceramic tiles) and Cento (mechanical engineering) in Emilia Romagna, Prato (textiles) in Tuscany, Montegranaro (shoes) in Marche, and Nogara (wooden furniture) in Veneto. The new companies in these regions were not created inside the industrial cities and across the full range of industrial sectors. Instead, they were established across a vast geographic area, between the traditional industrial regions of the north of Italy and the economically depressed areas in the south (i.e., the Central and North-Eastern regions of Italy). These areas have been labeled the Third Italy. The firms were concentrated in relatively small areas. In addition, they were involved in industries that were considered "mature" with less growth potential (notably textiles, garments, footwear, leather goods, furniture), and "obsolete" forms of organization, primarily family-owned small firms (Becattini 2002).

However, the community of economists largely ignored these findings, and for many years Becattini and Brusco's observations were disregarded in the scientific and political debate. Most economists were uninterested in the concepts of "industrial districts" and "external economies of scale" and more fascinated by large-scale internal economies and Taylorism. This was partly the result of the skepticism towards vague concepts such as "industrial atmosphere", "belonging", and "reputation" (Becattini and Musotti 2003).

In addition, most of the works of Italian economists on industrial districts were written in Italian and, consequently, dissemination of the analyses outside Italy was limited. Not until Michael Piore and Charles Sabel published their book *The Second Industrial Divide* in 1984 did the concept gain international recognition. Piore and Sabel were inspired by the Italian industrial districts and in the book these districts were given a key role in their macro-historical analysis of the societal transformation from the Fordist mass production model to the flexible specialization of production in the industrial districts. The book not only changed the attitude of the international academic community but also that of politicians and policy-makers.

The recognition of the usefulness of the concept of industrial districts and the existence of such districts that could be analyzed with conceptual tools were followed by a terminological explosion from the notion of industrial districts to concepts like local production systems, technological districts, and clusters, concepts that partly overlap but that focus on different aspects of economic interaction (Becattini 2002). In the early 1990s, a major research project was carried out by Michael Porter and his research group at Harvard Business School and in the wake of Porter's bestselling book *The Competitive Advantage of Nations* (1990) the international interest grew still further. Porter's concept of clusters originates in Marshall and is inspired by the Italian industrial districts. Porter's clusters consist of contiguous lines of business, customers, networks, organizations, such as universities, regulatory bodies and other institutions that facilitate development in a region. He proposed four factors to explain what makes a cluster dynamic and what provides it with the potential to grow: access to specialist competence in the labor market, quality of local demand, access to specialized subcontractors, and the existence of competing companies that fosters productive rivalry. Porter's analyses and lines of reasoning gained a large audience and paved the way for the acceptance of the concept of business cluster both in mainstream economics and management.

The Introduction of the "Industrial District" Concept

Becattini's article "The Economic Development of Tuscany: An Interpretation" (Becattini 1978/2003) in which he first introduced the term "industrial district", is a historical overview and a description of the origin of the Tuscan industrial districts.

Becattini argues that the emergence of the industrial districts can be explained historically and he traces their development over time. As long ago as the first half of the 19th century, the Tuscany region appeared to be a suitable site for industrialization, based on the region's considerable mineral resources, its financial structure, and its long history as a centre of trade. But Tuscany failed to live up to its potential. Up to World War II Tuscany had not succeeded in building a modern industrial structure. There are several reasons for this, including "exogenous factors", such as the way in which Italian unification was achieved and the relative isolation of Tuscany in terms of the construction of roads and railways. But there were also "endogenous factors", the most important of which was anti-industrialism and the maintenance of a *status quo* ensuring ample economic rewards for the landowners and the partly overlapping group of rentiers, who first appeared in the Tuscany of the Grand-Dukes and continued in the Kingdom of Italy.

However, during the interwar period, some changes could be observed. For example, some public support for heavy industries (e.g., engineering, metal and chemicals) slowed down the stagnation in the Tuscan economy, but compared to many other Italian regions, the improvements in Tuscany were fairly modest. Instead, an increased specialization in "light" industries started to emerge. This development was accompanied by a gradual modernization of Tuscan society and a growing diversification in its means of production. From the perspective of communication, the period was characterized by a steady improvement in both the road system and the region's links with the outside world. But in terms of commerce, education and degree of illiteracy (especially in the countryside) at the end of World War II, Tuscany clearly lagged behind many other regions.

From an industrial point of view, Tuscany was highly differentiated – a vast agricultural area virtually without manufacturing, although with some important mining units. In the central valleys there was a more or less unbroken string of towns and villages (not least in the Prato area) with considerable industrial concentration; different types of productive activities coexisted and firms differed considerably in size. This mix of enterprises gave rise to a social environment in which wage-laborers lived side by side with independent craftsmen. This was the economic and socio-cultural context in which the development took place, and that Becattini related to Marshall's concept of industrial districts. Becattini has reflected on the emergence of these industrial districts and argues that there are three main socio-cultural preconditions behind this development in Tuscany: (i) there was a peasant protest, particularly among women and young people against the rigidity within families and their close economic dependence on older male members, (ii) a work ethic that held a "mastery of the craft" in high esteem, and (iii) the cultural-touristic open-mindedness of the region – a long tradition of export trade and a great influx of foreigners, tourists, merchants and artists.

But there were also certain factors during and immediately after World War II that acted as a "priming mechanism" for the development in Tuscany, such as the damage caused by the war and the subsequent reconstruction. The high rate of destruction led to a high rate of public expenditure as well as the renewal of industrial and civic structures. However, according to Becattini, the logical and historical starting-point for the development in Tuscany must be sought in the labor market situation, consisting of a large pool of underemployed farm workers, who were anxious to escape the life associated with the "family farm". It was the mass of farm laborers who rejected the paternalism and subordination of earlier times but not the belief in the connection between effort and reward, or job commitment and social success. Of course, this surplus of peasants on the local labor market had also existed previously, resulting in mass emigration. The fact that this failed to occur on this occasion may be due to the influence of the exceptional expansion of international trade in the post-war period. For twenty years

However, the 1978 article in *Economic Notes* is not regarded as the starting point for the research on industrial districts. Instead the seminal article appeared in *Rivista di Economia e Politica Industriale* in 1979 entitled "Dal 'settore' industriale al 'distretto' industriale". The English translation of this article was entitled "Sectors and/or Districts: Some Remarks on the Conceptual Foundations of Industrial Economics" published in Goodman and Bamford (1989).

In this article Becattini discussed various ways of aggregating productive units. He argues that economists who study industrial activity at an intermediate level are faced with the problem of defining an industry or sector in order to determine the boundaries of what should be regarded as internal or external to the industry or sector. Even if it were possible to determine these boundaries, the fact that industries and sectors undergo constant change would quickly make such demarcation obsolete.

An alternative way of aggregating productive units is, according to Becattini, to use Marshall's concepts of external and internal economies of scale. Becattini discusses the criticism leveled at Marshall's reasoning, especially by Piero Sraffa, who maintains that economies of scale external to the individual business but internal to the industry as a whole are extremely rare in reality. Becattini argues that Sraffa's interpretation of Marshall focuses too strongly on a single industry, whereas external economies of scale, according to Marshall, develop in such a way that they do not fit the boundaries of any single industry but apply to groups of correlated industries. Marshall believed that, in at least some manufacturing sectors, the advantages of large scale production could be equally well attained by an aggregation of a large number of small firms located in a district (a precondition being, however, that it is possible to divide the process of production into several stages, each of which can be performed with the maximum of economy in a small establishment). Becattini concludes that the Marshallian type of external economies of scale is found in certain regions of Italy.

The industrial district tends to be multisectoral, but on the other hand it is reasonably stable over time, a stability that is lacking for single industries. Thus, it is possible to study the industrial district in order to document its characteristics as well as searching for the laws that govern its formation, development and decline.

Becattini's Contributions to Our Knowledge of Industrial Districts

Prerequisites for Industrial Districts – an Outline of Postwar Italian Industrial Development

In most industrialized countries including Italy we can find a shift in the industrial structure during the 1970s and early 1980s from a focus on large scale companies toward a growing small business sector. The importance of small businesses increased in the Italian economy during the 1970s, and the proportion of self-employed was atypically high. Becattini (1990a) discusses the historical mechanisms behind the changes in the Italian economy. He maintains that the war, the reconstruction, the revival of political life, and the renewed participation in the international market gave an initial impetus to post-war industrial development.

Italian industrialization developed very rapidly in the 1950s and early 1960s but slowed down from 1963 to 1966. The first phase (1945 to 1951) of "the Italian miracle" period was devoted to the reconstruction after the war, whereas the second phase (1951 to 1963) was characterized by the take-off of the Italian economy. The annual rate of GDP growth was 5.4 percent. The period between 1963 and 1973 could be considered as a "stop-and-go" period with annual GDP growth of 4.7 percent. Initially, this period was characterized by an extensive restructuring of industry, but it ended in intense social turmoil in the early 1970s. Italian industry followed the same pattern as many western economies – small firms were seen as a remnant of the past. The third period started with the 1973 hike in oil prices. The fluctuation in industrial activity became greater, and GDP growth declined to 1.9 percent p.a. (1973–75). The whole postwar period represented a "structural evolution" of Italian industry: the agricultural sector decreased from 48 percent of total employment in 1951 to 15 percent in 1981. manufacturing employment increased from 26 to 35 percent, while the service sector increased from 26 to 50 percent from 1951 to 1981.

The industrial change also entailed a social transformation (Becattini 1990a; 2002):

– The disappearance of the *metayage* system of land tenure (sharecropping) that prevailed for centuries in many regions. The fading-out of the system produced a host of workers ready to be employed by the many small firms that required general rather than specific skills in order to produce rather unsophisticated goods.

– General demand conditions, including a higher standard of living for large segments of the middle class. Progress beyond the normal standard creates the conditions for the emergence of new sets of needs that produce a highly variable demand for differentiated and personalized goods.

– The special role played by the Italian Communist Party (PCI) in social development. Despite its official Marxist ideology, it often set ideology aside and complied with the needs of industrialization.

– A change in world market demand. After World War II the Western world was characterized by a long and unequal increase in income that concentrated wealth in the pockets of a large segment of the middle class, who sought increasingly differentiated and personalized goods and services in order to achieve "new sensations" and social prestige.

The emergence of the Italian industrial districts should be considered in the light of this development and context. Becattini maintains that the industrial districts that primarily emerged in the North-East-Centre (NEC) regions of Italy should be seen as a stage toward the industrialization of a region. The path of the NEC-regions leads from an artisan-agricultural stage to an industrial one, through intermediate stages characterized by high territorial short-range population mobility, the subdivision of production tasks across firms within the same territory, and a gradual organization around a particular sector – the development of industrial districts.

The Characteristics of the Italian Industrial Districts

Becattini (1990b, p. 38) defines the industrial district as "a socio-territorial entity which is characterized by the active presence of both a community of people and a population of firms in one natural and historically bounded area. In the district unlike in other environments, such as manufacturing towns, community and firms tend to merge." Becattini (1990b; 2002) argues that industrial districts have certain characteristic traits:

– A population of families and businesses interacting with each other in various ways within one natural and historically well-defined area.

– The businesses can be broken down into different populations working on different phases of the production process (e.g., spinning, weaving, dyeing, finishing) organized in flexible teams often headed by a finished goods manufacturer who interacts with the external market (the *impannatore*, whose special function is to translate the capabilities of the district into products that can be sold on the market).

– The most important trait of the local community is its relatively homogeneous value system, expressed in an ethic of work, family and reciprocity. At the same time a system of institutions (the firm, the family, the church, local government, the local branches of political parties, associations of different kinds, etc.) must develop in order to spread these values throughout the district.

– There is a process of learning and utilization of knowledge in the industrial districts that includes an integration of "contextual knowledge" that is essentially tacit and deeply rooted in personal experience, and which can be acquired only through a long process of context and experience sharing, and "codified knowledge" that makes it possible to transfer knowledge from one context to another. This process of interaction from contextual to codified knowledge is complex and involves the use of metaphors and analogies which are particularly suitable for personal experiences and culturally homogenous areas such as industrial districts.

– There is a continuum of job opportunities from home-based work, part-time wage work, and self-employment, and the district has an innate tendency to constantly reallocate its human resources. Home-based workers and part-time workers constitute the link between the firm and the families and are important for increasing the income of the family beyond a bare minimum.

– A balance between competition – a struggle to improve one's own position and to satisfy market demands outside the district – and co-operation as expressed in strong personal relationships between the principals of firms engaged in the different phases of production.

– A local credit system – the local bank is an institution born and bred in the district, and closely linked to the small business community, but also deeply involved in local life, which gives it an excellent grasp of the economic conditions of small firms.

However, there are critics of the efficiency of industrial districts. Concerns have been raised about their innovative ability and their ability to adopt new technologies. The GREMI group (Groupement de Recherche Européenne sur les Milieux Innovateurs) among others has criticized industrial districts for being static as their firms enter into local relationships in order to enhance local efficiency (Camagni 1991). GREMI introduced an alternative concept "innovative milieu", i.e., a complex network of mainly informal social relationships in a limited geographic area, aimed at enhancing the local innovative capacity through synergetic and collective learning processes. Creativity and innovation are seen as the result of a collective learning process based on factors such as intergenerational transfer of know-how, imitation of best-practice and tacit circulation of innovation.

However, innovative milieus do not represent any alternative or new perspective on the industrial district. Becattini (1991) argues that industrial districts could be regarded as a "creative milieu". In order to be a source of creative processes in a territorially defined environment, different competencies have to coexist – the coexistence of divergent approaches creates the conditions for a number of challenges in the formulation of a given problem. But that is not enough – there is a need for "a linking primer" – different institutions that act as links between competencies, making them interact dynamically and promoting the dialogue between actors. Thus, the coexistence of competencies and the existence of catalysts that link them will define a "creative milieu".

The main question will then be: "Can the industrial districts be regarded as a creative milieu?" One critical argument may be that, since a single sector (e.g. textile, furniture, etc.) often dominates the district, coexistence of different competences is difficult to achieve. But according to Becattini, this is only partly true, one has to consider the concrete production process – the phases of production in a textile district involve many different competencies (e.g., chemical for dying, mechanical for repairing, etc.) and different "cultures" exist. Thus, the coexistence of different competencies is therefore common within industrial districts, even those dominated by a single industry.

The Development of Prato as an Industrial District

Becattini and his co-workers under the leadership of the French historian Fernand Braudel studied the textile district of Prato for a period of 18 years. The results of the studies were presented in a four-volume work in 1997. Becattini's contribution was the final volume, which was subsequently published in English (Becattini 2001). Becattini provides an economic-historical analysis of the development of the Prato district, where the social and historical aspects are emphasized.

The Prato-district on the outskirts of Florence has a long history of textile manufacturing. In 1927 this sector employed around 11,500 people, the majority of whom worked in the large textile companies. This situation was drastically altered in the 1930s when the large companies were forced to downsize However, they showed social responsibility by assisting some of the workers in starting up their own businesses as sub-contractors. This pattern was repeated during the textile industry crisis of the 1950s. This development during the crisis in the 1950s led to a dramatic increase in the number of companies, and in 1965 the number of companies in the district approached 6,000.

In his analysis of the Prato district, Becattini divides its development into three periods:

Period 1: The "metamorphosis" phase (1945–1954)

A "massacre" of the small industries located in the South of Italy took place, leading to a strong concentration to the North. At the same time, Italian manufacturing, especially textiles, was exposed to greater international competition. However, Italy emerged fairly unscathed from this competition, exhibiting a high and steady share of world export in industries such as textile, furniture, ceramic tiles, but also in mechanical engineering.

During this period the Prato district was transformed from a traditional industrial region dominated by large companies and their many subcontractors to an industrial district. Small companies, most of which had fewer than ten employees, replaced the large companies. One factor behind this development can be found in the invention of nylon during the 1930s and its significant entry into the carded woollen production in Prato during the post-war period – the use of nylon made it possible to achieve a much wider range of goods, made from lighter, stronger fabrics which could be made in a wide range of colours and textures. This had considerable effects on the way firms were organized: articles were more numerous, had a wider range of types and colors, the series were shorter, and this situation became unmanageable for individual large companies. It was better to specialize in only one phase of production.

Period 2: The development of the Marshallian industrial district (1954–1975)

In Italy during this period there was a process of "spontaneous" proliferation of clusters of small firms, grouped together in areas and engaged in different stages of the production of certain types of products, for which demand was fragmented and variable. Thus, the formation of industrial districts is intimately linked to the process which leads to the creation of small firms in general. The development of the Prato-district was positive –production grew rapidly, the number of companies continued to grow as did employment figures. This was the golden age of the industrial districts, not least for Prato.

Period 3: Restructuring (1975–1993)

During the 1980s and early 1990s there was a great deal of fluctuation in the world economy and upturns were followed by periods of deep stagnation with strong negative consequences for the Italian export industry. The unemployment rate soared, especially among younger people in the South. Since textile production in Prato was intimately linked to the increasingly turbulent world market, the district was subject to a series of external changes. During this phase the product range was extended from comparatively standardized wollen products to include various knitted products. Many companies were established that provided peripheral services to the textile industry. The number of companies and the level of employment within textile operations gradually declined. In 1982 the textile and fashion market changed radically: woll was abandoned wool and the industry turned to other materials such as cotton, linen and silk . As a result, etween 1985 and 1990 the industrial district of Prato was hit by a severe economic crisis. The recovery was much helped by the 1992 devaluation of the lira.

The crisis of the late 1980s also meant a transformation of Prato – the district re-emerged "slimmed" and "impoverished". This phase can therefore be described as "restructuring". Accelerated by the deep worldwide recession in the mid 1990s, this restructuring was manifested in different ways, such as a shift toward high-quality products resulting in shorter series and greater market-orientation.

Piore and Sabel's The Second Industrial Divide (1984)

The research on the Italian industrial districts failed to attract international attention until Michael Piore and Charles Sabel published their book *The Second Industrial Divide* in 1984. The book, which was written in the wake of the mid 1970s crisis, gives a macro-historical review of industrial development from the beginning of the extensive mechanization in the early nineteenth century to the crisis during the 1970s. In this historical review, the authors concentrate on the US development although the development in other countries, e.g. West Germany, France, Italy and Japan, is also analyzed.

In the book Piore and Sabel argue that political interventions in the economy (e.g., formation of oil cartels, and the operation of the welfare state) aggravated the crisis, but the crisis had deeper causes resulting from the shortcomings of the industrial development model founded on mass production. Seen from the perspective of hundreds of years of economic development, we find that breakthroughs in the use of labor and machines are followed by periods of expansion, which culminate in crises that reveal the limitations of existing arrangements. In this respect, two kinds of crises were identified. The first is characterized by the realization that existing institutions no longer succeed in securing a match between the production and the consumption of goods, while the second concerns the choice of technology itself – and it is these movements when the path of technological development itself is at issue that Piore and Sabel call "industrial divides".

The first industrial divide occurred in the 19th century with the introduction of mass production – initially in Great Britain and then in the US. When the first Ford Model T rolled out from the factory at Highland Park, Michigan, in 1913 it could be regarded as the culmination of a century long mass-production experience. Mass production replaced a technology characterized by craftsmanship, where skilled workers used their tools in a flexible manner, allowing them to adapt to changes in the market. Business success was based in equal measure on cooperation and competition. However, the introduction of mass production presupposed market stabilization and homogenization, which is a prerequisite for large production volumes. This type of production required large investments in highly specialized equipment. These conditions formed the very basis for the establishment of large companies. Thus, it is possible to observe a dramatic development of large companies during the period 1870–1920. Subsequently, Keynes' ideas regarding the possibilities of the State to control aggregate supply and demand had a great impact on fiscal policy in many countries, thus further strengthening the preconditions for mass production.

The central point in Piore and Sabel's book is that the 1970s and early 1980s were characterized by the second industrial divide. Their line of argument is, among other things, that mass production, large systems and state regulation have gradually hindered industrial investment and development. These problems began in the late 1960s but continued during the whole of the 1970s. The crisis began with the social unrest of the late 1960s. That was followed by a crisis in the international monetary system in 1971 – the abandonment of fixed exchange rates and the shift to a system of floating currencies. The crisis of the 1970s was further exacerbated by the two oil shocks in 1973 and in 1979. During these crises interest rates increased, and the industrial world was finally driven into a prolonged recession characterized by rapid inflation and rising unemployment.

The authors point to two competing strategies at the firm level for dealing with the new situation. The first strategy is based on the principles of mass production and consists of linking the production facilities as well as the markets of the advanced countries with the fastest-growing third-world countries. This presupposes multinational operations in order to be able to stabilize world markets in a way that individual countries cannot. The second strategy is a return to the methods of craftsmanship that were abandoned during the first industrial divide. Piore and Sabel use the term "flexible specialization", which is characterized by technically sophisticated and specialized companies, which nevertheless create great flexibility by means of network co-operation. The authors especially highlight Emilia Romagna in Italy as a model in this respect – the industrial districts were, according to Piore and Sabel, distinguished by flexibility, skilled labor and a society that places a premium on cooperation between specialized companies.

In the final chapters of their book, Piore and Sabel place these two firm-level strategies in the context of their national economies. They argue that whether firms drift toward flexible specialization or maintain the mass production model depends on their country's adaptation to mass production, where Piore and Sabel's interpretation and prognosis were that the US and France can be expected to follow a mass-production path, whereas Italy, West Germany and Japan, with a strong craftmanship tradition would be more likelyy to favor a shift in the direction of flexible specialization.

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