

C/88-3



CENTER FOR INTERNATIONAL STUDIES  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

**Problems With the German Model:  
A Dissertation Overview<sup>1</sup>**

2545.

A WORKING PAPER  
From  
THE CENTER FOR INTERNATIONAL STUDIES  
Myron Weiner, Director

292 Main Street, Cambridge, Massachusetts 02139

**Problems With the German Model:  
A Dissertation Overview<sup>1</sup>**

2545.

Gary Herrigel, Ford Fellow

Center for International Affairs  
Harvard University  
1737 Cambridge Street  
Cambridge, MA 02138

May 1988

---

<sup>1</sup> This paper was given as a talk to the Student Political Economy Seminar Series at the Center for International Studies at MIT, April 8, 1988

I thought I would talk today about my dissertation, which is now in process. The project attempts to do two things at once: it tries to present an alternative interpretation of the history and institutional character of the German political economy; and it tries to make a case for doing political economy in a different way. The underlying interest in the entire project is to achieve a better understanding of the role of politics in industrial change. Before I get to the actual structure of the project and its argument, let me try to explain how I felt compelled to do both of these things at once with the German example.

The dissertation is very historical, yet the point of departure for the work rests in some very striking characteristics of the way that the contemporary West German political economy is changing. I initially set out to do an analysis of the process of adjustment taking place in the German mechanical engineering industry in the crisis that began in the mid- 70s. Contrary to the conventional picture of the West German political economy which portrays an industrial world dominated by large corporations, universal banks and highly concentrated and concertated industrial market behavior, I found that some of the most dynamic parts of that industry and, indeed, of the German economy as a whole today are dominated by small and medium sized producers, in markets that are not as concentrated as one would expect and with relationships to one another and to the financial system that completely circumvent the universal banks and centralized institutions of the classic German Model. Moreover, these industries are located in regions of the country that have not traditionally been associated with German industrial strength.

The density and dynamism of small and medium scale industrial activity in these regions -- in the machinery industry and elsewhere -- pressed me to find out more about the economic history of the regions: Was this small and medium sized prosperity

a relatively new phenomena? Where did it come from? How have these regions of small and medium sized producers emerged to be as successful as they are?

As it turned out, this was not an easy question to answer. Once I faced the historical question: that is, where have these firms come from, I quickly learned that they had always been there and that the phenomena of successful small and medium sized firms had been a characteristic of the those regions of the German economy, not only throughout the twentieth century, but throughout the entire history of industrialization. In fact, once I really found out how important the small and medium sized firms -- and the regions in which they were active -- had been historically in the development and evolution of Germany as an industrial society, the question about where these firms came from inexorably grew into a more theoretical question as well: i.e.: why hadn't anybody noticed that these firms existed or paid attention to the forms of industrial practice that existed in these regions? The classic model of the German political economy, drawn from the work of Gerschenkron and perfected for the contemporary period, first by Schonfield and later by Schmitter, Streeck and, especially Peter Katzenstein heaps all of its attention on centralized, large firm dominated neo-corporatist institutions and firms: How had regional differences and small and medium sized firms been blended out of this story and how could they be blended back in again?

So, with that question, I guess it is easy to see how I wound up trying to do two things at once: one political and historical about the institutional character of German industrial history and politics and the other methodological and theoretical concerning the way that people look at the problem of the politics of industrial development and change.

In order to provide a convincing account for the current importance and historical resilience of the regions dominated by small and medium sized firms in the

German economy, I have had to try to develop an alternative account of the process of industrialization in Germany and of the basic political and institutional character of the German economy as a system of industrial practice. The core empirical claim is that there has been a long historical and regionally differentiated dualism in the character of German industrial organization. The centralized Gerschenkronian world of large Corporations, universal banks and neo-corporatist organizations exists and is an extremely important part of German political and economic life. But this as I call it Autarkic form of industrial order is in many respects a regionally specific phenomenon. Alongside this familiar Gerschenkronian world is another, equally as dynamic, yet smaller scale and more decentralized system of industrial order that plays now and has traditionally played an important role in the German political economy.

Indeed decentralization vs autarky and nation vs region have been sources of continuous and decisive conflict throughout all of German industrial history. During much of the post world war two period, with the triumph of fordism and mass production in Europe, it appeared that the autarkic, national model had come into final dominance. But the experience of industry in the crisis of the 1970s and 1980s has led to the reemergence of the traditional dualism. I make this argument generally for the whole economy, all the while utilizing more detailed cases drawn from the machinery industry to bolster the argument.

But, in order to tell this story, I have had to try to work myself out of the categories of conventional analysis and try to do political economy in an alternative way. Against the traditional Gerschenkronian perspectives which tend to radically separate the political from the economic, and the logic of development in industry from the contingencies of history, the analysis that I have developed tries to understand the complex interaction between industrial production forms and the polity

as a profoundly historical process. Where the traditional literature wittingly or unwittingly lapses into universals when referring to the process of industrial development, I have attempted to see all historical industrial systems and forms of organization as the product of particular political and economic conflicts. The organization of industrial practice -- of production and its administration -- in my dissertation is treated as an arena of politics in the broadest possible sense.

In what follows, I will try to briefly describe what I have come up with, but I want to provoke discussion about the theoretical orientation of the dissertation, so I will stylize the historical argument that I make. I will begin by pointing to the ways in which I have found it necessary to depart from the traditional Gerschenkronian theories of political economy so that I could develop a theoretical space for the more decentralized pattern of small and medium sized producer based industrial organization. Once I have laid that out I will then move on to the way that I have attempted to use these alternative theoretical principles to tell a different story about the politics of industrial development in Germany.

#### **THEORETICAL CRITIQUE OF THE STANDARD ACCOUNT:**

My claim is that the small and medium sized producer dominated parts of the German political economy fell out of the traditional Gerschenkronian analysis for three reasons. Two have to do with the way that the process of economic and industrial development is conceived; the third has to do with the relationship between that process and politics. In order to develop my alternative account, I have had to develop an alternative way to think about each of these problems.

Reason number one is that writers in the tradition tended to assume that productive activity would be organized either by markets or by firms. Following the conception of economic progress developed in the classical tradition in economics, writers assumed that the process of economic development inexorably entailed increasing specialization, bigness and mass production. The theoretical understanding of the relationship between market and firm or hierarchy was consistent with the view that hierarchies would gradually supercede markets as the most optimal way to organize productive activity (Williamson triplet: small numbers, uncertainty and specialization). On this view, the small and medium sized producers and the regions in which they were active were considered to be simply backward. Industrialization would ultimately lead to their being consolidated into larger units.

The problem with this view is that it is too rigid. It is important to recognize that production and its administration can be profitably organized by systems that mix principles of both market and firm. The optimal solution to small numbers, uncertainty and specialization does not under all historical and economic conditions need to be the creation of hierarchies inside firms. Nor, however, must it be to relegate all transactions to the market. On the contrary, intermediate forms of organization for production and its administration, under appropriate conditions, can be superior to either alternative (Stinchcombe). Indeed, at any given time, a number of different alternative forms of organization for production and its administration may be coexistent or in competition with one another. Because the Gerschenkronian tradition did not look at this basic problem of organization as an historical and broadly political problem, it tended to overlook a multitude of viable production forms.

Reason number two for why these alternative production forms got blended out of the traditional story was that writers assumed that the constraints of efficiency restricted the range of possible viable production forms to a considerable extent.

Productive forms that did not conform with the competitive standard of efficiency set in the world economy, they believed, would not be able to reproduce themselves. The British are very important in the traditional German story: It was the overwhelming competitive challenge of British machine made, factory produced products in the 19th century that forced the Germans to adopt the specific large and centralized forms of organization that they did. The challenge of mechanized factory production from Britain forced German producers to do the same.

The problem with this characteristic of the traditional view is not that producers are in some sense constrained by considerations of efficiency. It is that the nature of those constraints have very ambiguous consequences on organization and strategy. The Gerschenkronian tradition tended to underestimate the organizational consequences of this ambiguity and hence never saw the potential resilience in the so-called backward areas. There are at least three ways in which the impact of a given international standard of efficiency on organization and strategy can be considered to be ambiguous.

First there is no one best way to meet a standard of efficiency. At any given period in history, a wide variety of organizational experiments in industry should not only be considered possible, they should be considered to be highly likely. It is just as plausible to think that a number of different forms of organization will be capable of reproducing themselves in a given competitive environment, as it is to think that only one will. Organizational experiments are not technical problems that one calculates. Rather, they are deeply political problems that are resolved always, at least potentially, with considerable conflict and struggle.

Second, producers in different institutional contexts are likely to react to changes in competitive conditions in ways that utilize the resources they have on hand. Past choices constrain future ones. Because the principles governing production



and its administration differ among producers in different areas, their responses are likely to differ as well. History, in other words, matters a lot in the analysis of industrial responses to the emergence of a new international standard of efficiency.

Third, it is not clear that all producers in an industry need to meet any given standard of efficiency head on all the time. Many extremely viable strategies stem from efforts of producers trying to avoid competing with others whose forms of organization or tactics they find uncongenial.

The final reason behind the Gerschenkronian tradition's inability to deal with the historical resilience of small and medium sized producers in the German economy really in many ways grows out of the previous two problems. Because they viewed hierarchy as historically superior to market, and "efficiency" as an extremely powerful constraint on organizational experimentation, traditional Gerschenkronian analysts of the German political economy considered the boundary line between the economy and the polity to be coincident with those of the firm and the market. Under regimes of private property such as those which existed in Germany, the administration of production was assumed to be the private affair of firms.

If, however, the two previous criticisms are accepted, then it is not possible to accept such a straightforward definition of the boundary between politics and the economy. If the proper form of response to a given standard of efficiency is unclear to the actors themselves or if the range of possible principles governing the organization of production and its administration is much broader than the simple dichotomy of market and firm, then the role of politics becomes at once potentially very broad and extremely difficult to specify in the abstract. At the very least it is necessary to be open to the possibility that the government can play a role in shaping the outcome of struggles around the construction of the rules and institutions that govern production and its administration. In other words, governments and politics

should not be assumed to be factors external to the way that production is organized in any given historical context; they can be potentially integral factors in the organizational solutions that producers develop. Politics doesn't stop at the boundary of the firm; it can help to shape what that boundary is.

### DUALISM IN GERMAN INDUSTRIAL DEVELOPMENT

These critical theoretical remarks have been meant to highlight the major methodological considerations underlying my alternative account of German industrial history. They have made it possible for me to create a theoretical space for the existence of a viable and resilient tradition of small and medium sized firm dominated industrial organization in Germany. Now I want to lay out the main lines of my argument itself in a way that highlights the theoretical points I have just made.

The central claim, as mentioned above is that there has been a dualism in the German industrial political economy that has existed throughout the entire history of industrialization in Germany. One of the patterns of industrialization is a decentralized-region based pattern in which production and its administration are thoroughly embedded in the institutions and social practices of the regional society. This pattern of industrialization or form of regional industrial order is located in the Rhineland west and south of the Ruhr valley, in south central Germany around Saxony and Thuringen and in the Southwest of Germany in Baden, Wuerttemberg and southern Hesse.

The other pattern of industrialization I refer to as an autarkic-firm based pattern. Here production and its administration grew to be completely embedded in the institutional structure of large vertically integrated corporations. This pattern of development took place in the Ruhr Valley and parts of Westfalen more broadly, Northern Hesse, Central Prussia, including Berlin, and in Bavaria.

My argument is that both of these forms of industrial order have proven to be historically and economically resilient throughout German history.

The narrative of the dissertation is divided chronologically into three periods. The first covers the process of industrialization and the emergence of the two different forms of industrial order during the 18th and 19th centuries up to the first world war. The second covers the period from the end of the first world war to the beginning of the crisis in the 1970s. This was a period of crisis and restructuring within both forms of industrial order that ultimately resulted in the appearance of mass production in the German economy for the first time and the apparent dominance of the autarkic-firm based pattern. The third period runs from the onset of the great post world war II economic crisis in the early 1970s to the present and is characterized by the reemergence of traditional regional differences in the character of German industry.

The focus of analysis within each period is on the process of change within the organizational principles that govern production and its administration in each of the regional forms of industrial order. The organization is quite simple: I look at the market situation that producers in each of the patterns of industrial order confronted, then I describe the way in which production was organized, both in terms of the labor process and in terms of space; then I look at the way in which production was administered: that is, how the allocation of resources was regulated and order among producers maintained. Once I have done this for each of the forms of industrial order in each period, I then look at how the different forms of industrial order were accommodated within a single political unit.

Throughout the thesis I speak generally about the industrial economy as a whole and then provide closer detail through an examination of the machinery industry. The industry is quite a good one to use as an illustrator of larger trends because it

embodies within it most of the regional and technological differences that one finds in all regions and sectors of the economy. That is, it is located in all of the major regions of the German economy and it includes volume producers, such as the producers of agricultural tractors and construction equipment; specialty producers, such as the producers of machine tools; and industrial engineering houses, such as the producers of petrochemical facilities and cement works.

### **Thesis Chapter 2: Industrialization:**

The first chapter on industrialization shows how the two different patterns of industrialization emerged and became institutionalized within the new German nation. The decisive factor determining whether or not there would be industrialization at all in Germany was the type of property relations that existed on the land. In the west and the south, there was extensive peasant ownership of land from the 15th century onwards whereas in the east the peasantry remained landless. Industry emerged in the west and the east remained a bastion of manorial farming right up until 1945.

The key factor that determined which of the industrializing regions were to develop autarkically and which were to develop in a decentralized way was the character of inheritance practices in different regions. Those regions with impartible inheritance practices<sup>2</sup> industrialized in autarkic-firm based ways while those with partible inheritance practices<sup>3</sup> industrialized in a decentralized region based way. The correspondence is exact to the regions I named above.

---

<sup>2</sup> in impartible inheritance, land is passed on, usually from father to oldest son, from generation to generation. The entire holding is transferred to a single person in the younger generation

<sup>3</sup> in systems of partible inheritance, the owner of land bequeaths a portion of his holding to each of his children. A single holding is thus fragmented into several holdings with the passing of a generation.

Inheritance structured the character of agriculture and the labor market. In those regions in which the oldest son inherited all of his fathers land, peasant farms remained of reasonable size and were relatively productive. In those areas where the land of the father was distributed amongst all of his heirs, peasant holdings became extremely fragmented and were comparatively unproductive. Most of the regions of partible inheritance, consequently, were centers of rural proto-industry. Indeed by the beginning of the 19th century, the partible inheritance regions were covered with dense and decentralized networks of petty outworkers, tied to one or several urban merchants. In most cases, regional systems of proto-industry were regulated by local principalities in mercantilist fashion. The proto-industrial system of production is a good example of a form of production and its administration in which neither market nor hierarchy is the dominant principle of organization.

But it was these different pre-industrial starting points that initially shaped the process of industrialization when it finally occurred. The catalyst for change was the appearance in the late 18th century of British machine made factory goods, particularly cotton and steel. These mostly standard products had two advantages over the more traditional products of proto-industry: they were cheaper and generally of higher quality.

Each of the sets of regions responded to this pressure from a newly emergent international standard of efficiency in different ways. In the regions of impartible inheritance, where no pre-industrial handicraft infrastructure existed, but where the nature of inheritance had created a rather large pool of landless labor, speculators -- in many cases a merchant and a person with some technological enthusiasm -- founded production facilities. The growth of the railway clearly created dollar signs in many people's eyes and it was clear that the British would not be able to supply all of the

steel, coal, locomotives, wagons etc that would be demanded in Germany. All of the steel producers in the Ruhr were founded in this way. Most of the locomotive, steam engine and wagon producers in Berlin and elsewhere had similar beginnings. The owners of capital collected labor into centralized factories and incorporated all aspects of the production process within the confines of the factory walls. To manage their operations they pioneered systems of corporate management and finance -- the merchants gradually invented a new kind of bank that pooled commercial deposits for use as long term investment capital in industry. Autarkic industrialists purchased and imitated the most advanced British technologies and, by the end of the 19th century, actually surpassed the British in size, output and technological sophistication in a wide variety of heavy industrial sectors. These producers accepted the British standard of efficiency, imitated their technologies and then created forms of organization that ultimately surpassed their rivals in efficiency and innovativeness.

The response to the emergence of British competition was very different within the decentralized regions, although equally as successful. British textiles were a direct threat to the proto-industrial textile producers. The decentralized, unmechanized character of production could not compete directly with the British wares. Aware of this, most of the regional systems shifted into more specialized areas in which the British were not as strong. This happened in many sectors, not only textiles. The traditional iron producers in the decentralized regions south of the Ruhr valley shifted, for example, into the production of specialty bells and iron ware, rather than compete with the British and emergent Ruhr producers for railroad business.

But, even though German producers in the decentralized systems sought to avoid a head on confrontation with machine-made British products, they did not turn away entirely from British technologies and principles of organization in production either. The factory came to areas of decentralized proto-industry. But it did not come all at

once; nor did it come whole sale. Only certain parts of the production of any given good was centralized into a factory; the rest continued to be produced by smaller producers or artisans in the region. There was no reason to centralize everything into factories. Centralization required the assumption of risk and few were willing to do that. Besides, the existence of a thick net of handicraft skill made it possible to subcontract out parts of the production process in a manner that was not possible in the autarkic regions. Most of the firms remained fairly small; all were highly specialized.

A whole array of institutions were created to support and help administer this decentralized form of industrial production: artisans and small factory owners created cooperative banks to pool local capital for local investments. Local governments in conjunction with local producers created a wide array of vocational and technical training institutes to ensure that a steady supply of skilled labor could be employed in industry. Finally the regional governments -- in many cases independent states until 1871 -- sought to support the transformation of decentralized industry through the use of subsidies and tariffs. These small states wanted to have a prosperous economy so that they could protect themselves from their large neighbors. At the same time, however, they wanted to avoid the emergence of an important concentration of private wealth that could challenge their power. Thus they found the preservation of the small holder, decentralized character of industry to be quite congenial.

The decentralized system, thus adapted to the emergence of a new standard of efficiency in the world economy with a strategy of specialization. The principles governing production and its administration grew to be even more of a mixture of market and hierarchy than the proto-industrial system was. And, local governments engaged themselves in helping to define the development of production forms.

Together these two patterns of industrial organization constituted the 19th century system that emerged in Germany as a result of industrialization. It was

extremely dynamic and grew very rapidly. The autarkic regions grew more rapidly than the decentralized ones, but they also started from a smaller base. The most interesting feature of the national system was the way that the constitution of the Imperial Reich was set up to preserve the autonomy of the regional centers of decentralized production. The smaller federal states, such as Saxony, Wuerttemberg, and Baden were ceded all administrative power from the Imperial government as well as the right to collect direct taxes. In this way, the smaller states were able to continue to support the decentralized character of their local economies even though they were formally integrated into the larger Imperial Structure.

### Thesis Chapter 3: The Twentieth Century and Fordism:

This next chapter shows how the system that emerged in the 19th century was transformed in the course of events in the twentieth century. From one point of view it is possible to make it appear as if the autarkic pattern grew to be dominant. From another vantage point, however, it is clear that the two orders simply grew to be interdependent. The regional differences in industrial organization were never eliminated.

The first world war and the changes it wrought in the World economy completely changed the external conditions in which the German economy had industrialized during the 19th century. The immediate problem for the Germans was that they were strapped with a tremendous external debt in the form of reparations, but the longer term problem was that much of their traditional markets in Europe and in Asia had begun to industrialize. The character of demand was changing. The United States was entering world markets for the first time with mass produced manufactured products. To top that off, the world economy fell into depression in the 1930s and the level of demand for all industrial products deteriorated.



This situation created a general condition of slow growth and market uncertainty for all German producers. Growth and stability were not to be regained until the late 1950s with the common market and the stability of US international financial hegemony.

The historical combination of an initial twenty year period of instability and uncertainty followed by another twenty year period of market stability had key organizational consequences for both forms of industrial orders. Initially, both restructured their traditional forms of organization to deal with the problem of uncertainty, only to adapt those new structures to the competitive conditions that stability set in place.

For the autarkic producers, the uncertainty and market instability of the 1920's meant two things: at the level of their strategy on the market, they either sought to protect themselves from the ravages of the world market by keeping the basic products of newly industrializing countries out of their markets -- this was the strategy that the steel producers pursued; or they sought to improve their ability to customize products and moved into more higher quality markets -- this was the strategy of the large machinery producing and other manufacturing industries.

At the level of production and its organization, firms sought to rationalize their internal organizational structures to optimize the flow of materials and improve their cost structure in manufacturing.<sup>4</sup>

The most interesting developments within the autarkic order during this initial period of uncertainty came at the level of administration. Two developments in

---

<sup>4</sup> Some firms attempted to streamline their production processes, but this was generally incompatible with efforts to move into customization. Only in the steel industry, which had succeeded in gaining protection during the twenties, was there some rationalization. But even there growth was so slow that firms concentrated more on devising ways to get rid of workers and reducing wage costs than they did on improving the productivity of their production facilities.

particular were significant. Slow growth and idle capacity fostered movements of both horizontal and vertical merger. Gigantic combines were formed in the 1920's in the steel and chemical industries. They consolidated capacity in the industry and fostered on a industry wide level the kind of rationalization and streamlining of production processes that was going on within individual firms.

Many steel companies moved into the machinery business during this period by merging with large machinery producers in need of stable supplies of raw materials.

The second important development in the autarkic order was the emergence of tentative steps toward corporatist bargaining arrangements over wages and working conditions. The autarkic producers had traditionally never recognized the working classes right to organize, but were persuaded to briefly enter into a pact with the unions during the period of rapid inflation in the early twenties and then in the mid-twenties for two years in a effort to stabilize the labor market. The agreements did not last long, but they proved to be an important precedent which was revived after the second world war.

This more concentrated and conglomerated form of industrial order was reconstituted in the very different environment of post World War Two West Germany. The Nazi experience had not changed it -- indeed, it had actually worked to stabilize and arrest the process of merger that had taken place during the twenties.

The key development in the post war period at the level of production was a shift into mass production. The creation of the common market, which began to eliminate barriers to trade among the major European economies was the essential precondition for this<sup>5</sup>. Not all sectors moved in this direction, but many did, at least

---

<sup>5</sup> Two other crucial factors were: a.) the creation of a stable, European wide coal and steel cartel which effectively removed the problem of raw material supply that had inhibited the adoption of mass production processes in the 1920s; and b.) the creation of a broad base of disposable income throughout all classes in europe.

in some product lines: in particular the electrical producers, optical instruments producers, chemical producers and automobile builders. Many in the machinery industry, especially in Agricultural tractors and construction machinery moved in this direction as well.

The organizational consequences of this move for production were two fold. First, production processes were rationalized and firms began to hire large number of semi-and unskilled workers. Secondly, the spatial structure of autarkic production changed. Firms that had never before relied on sub-suppliers for components and materials now turned to them in relatively straightforward dualist fashion: i.e. firms utilized sub-contractors during peak periods of demand and then discarded them when demand fell off.

At the level of administration there were three important developments. The first was that firms began to adopt a divisional structure after american models. This allowed them to exercise centralized control over a broad variety of operating units. Secondly, the structure of autarkic industrial markets became increasingly concentrated as mass producing firms sought to stabilize their markets by eliminating their competitors. The automobile industry still had in the neighborhood of 15 independent producers in the mid fifties; that number fell to six by 1970.

The third development was the formation of corporatist forms of wage bargaining. Strong employers associations faced equally as well organized labor unions in regular wage bargaining rounds by as early as 1956. In the late sixties the desire to control the level of wages through negotiation had proceeded to the point that an

---

The creation of an income base capable of sustaining a mass production economy occurred differently in each European country. In Germany it was created through a combination of regularized wage bargaining (first established in 1956) and astute currency manipulations. The Bundesbank consistently maintained an undervalued D-Mark to sustain export growth, but also regularly revalued to increase the purchasing power of the working population.

official employer-union committee was formed and sanctioned by the state to make a "concerted Action" on wage policies.

Now, whereas the autarkic order was assuming its classic shape in this period, the decentralized producers were confronting extremely difficult organizational challenges. The instability of the initial post World War One years, coupled with inflation had created chaos among the decentralized specialist producers. Their dilemma was a unique one and the solution that they hit on extremely interesting from the point of view of traditional conceptions of the relationship between market and hierarchy.

The dilemma was that with demand for their products disrupted, producers were confronted with the choice of laying off their workers or moving into the production of any sort of product to retain them. The fact that many of the workers in the small and medium sized specialty metalworking, optical, electronic and apparel firms were highly skilled workers made the second option doubly attractive; If they laid their workers off, they were likely to lose them and their knowledge of the production process along with them. On the other hand, their high skill made the firm flexible enough to make the movement into the production of third products a plausible strategy. The problem was that if all of the specialty producers in all of the markets did that all at once, there would be absolute chaos on the market. Everyone would be competing desperately with everyone else for orders.

How did they solve this? With the help of trade associations, firms opted for a strategy that would coordinate their relationships with one another. Each firm specialized on a particular product line or group of products and ceded the remainder to other firms. This process of coordination was not easy, and in a sense it also never came to an end as firms remained in continuous contact with one another and

with the trade association. They in effect agreed to continuously renegotiate the nature of their relations with one another as technology and markets changed.

But at the same time that firms increased their individual risk by agreeing to focus their skill and productive capacity on a narrow product range, they entered into agreements with firms which helped to spread that risk. Systematic channels for the transfer of technical information were established to ensure that firms remained on top of the evolution of technology and of markets. Firms formed sales cooperatives, especially for export markets to take advantage of scale economies. Trade associations, particularly in the machinery industry helped organize cooperative, "pre-competitive" research projects at technical universities that focused on the long range technological needs of the industry.

The effect was to preserve the decentralized character of production by rationalizing it, while at the same time intensifying the de-centered social character of many aspects of the administration of production. The boundaries between firm, industry and society grew to be completely blurred. Once again, the system of coordinated specialization was regulated neither by market nor by hierarchy. It was a complex mixture of both.

This form of coordinated specialization was also reconstituted in the post war period. The emergence of mass production did not have a uniform effect on this form of industrial organization. What happened depended upon whether or not the firms were producers of capital goods or of end products that could themselves be mass produced. In the former case, the structures of coordinated specialization were preserved, and even flourished with the development of mass production. Large volume production processes created a tremendous demand for specialty products. Many branches of the machinery industry -- particularly the machine tool industry, as well as producers within segments of electronics, optics, textiles -- are examples of this.

Those producers, on the other hand, who could mass produce their products -- such as automobile producers -- tended to move out of the structures of coordinated specialization. Daimler Benz, for example, grew in the post war period from being one specialty car producer among several into the dominant luxury sedan producer in Europe, the worlds largest producer of heavy trucks and the largest corporation in the Federal Republic.

The consequence of the dissolution of the structures of coordinated specialization in the era of mass production did not, however, result in the disappearance of the many small and medium sized producers that had constituted the decentralized order. Unable to produce final products competitively in a mass market, many firms were able to shift into a supplier role during the 1960s. This is very important because the survival of this base of small and medium sized specialist producers within a regime of mass production was extremely important in shaping the adjustment out of mass production that occurred in Germany during the late 1970s and 1980s.

But, if we step back and look at the economy as a whole at the end of this particular chapter of German industrial history it provides an interesting picture. For reasons having to do with the external character and political structure of the markets in which producers competed, both patterns of industrial organization shifted into mass production in 1960s. Large corporations emerged in the decentralized areas which resembled those which existed in the autarkic regions, while autarkic producers that had moved into mass production began utilizing outside suppliers on a scale that they never had before. The two forms of industrial order grew to be integrated.<sup>6</sup>

The development of the institutional contours of the West German state reflected, in many ways, this integration. Initially, in the Weimar Republic financial

---

<sup>6</sup> This was the system of industrial organization that was described by Schonfield in his chapters on Germany in Modern Capitalism.

relations between state and regional governments were completely reversed from those that prevailed during reich: i.e. centralized tax collection. Ultimately, this drove regions and especially cities into fiscal crisis. Indeed to a great extent, it was this structural flaw in the structure of the state that drove many decentralized producers into the hands of the Nazi's. The National Socialists offered them not decentralization, but a centralized state that served their interests rather than those of foreign powers, big capital or the labor movement.

The post World War Two Federal Republic adopted a structure that sought to combine the virtues of both local autonomy and centralization. Localities and regional governments were granted the right to collect taxes again; many sources of revenue were shared between "Bund" and "Lander"; all administration of central programs was carried out by local and regional authorities. Administrative cooperation and financial redistribution among regions were written into law and made systematic. As the integration between the two forms of industrial order within the German economy became more complete during the 1960's, the cooperative and informal relations between decentralized political bodies became more centralized. In fact, much of the literature on Politikverflechtung and planning that emerged with the coming to power of the Social Liberal coalition in 1969 focused on the cumbersomeness of the "old" decentralized structures and the need to streamline the central state's ability to intervene in the economy. Integration among the forms of industrial order in Germany resulted in calls for the reform of those institutions which, in many ways, had traditionally made it possible for both to coexist in the same polity.

The events of the 1970's and 80s have had a disintegrating effect on the integrated economy of German Fordism. The historical form that most closely resembled the traditional picture of German industrial organization actually existed for only about ten years. Moreover, the emerging situation actually raises the possibility of a role reversal: that is, current developments point to the possibility that the decentralized pattern could rise to dominance in the economy.

For many reasons that are familiar to all of us here at MIT from the work of Piore and Sabel, mass markets began to break up in the 1970s. Market conditions in all industries became increasingly uncertain and unstable; growth slowed down; newly industrializing countries began to occupy lower end parts of many industrial markets; competition in the higher end of most industrial product markets became increasingly fierce.

It should not be surprising that responses to this set of economic conditions differed between the regions traditionally associated with autarky and those associated with decentralization.

Two things happened in the decentralized regions. First, the use of sub-contracting increased dramatically. In an effort to reduce their fixed costs and shift some of the costs of product development onto specialized suppliers, larger firms began to radically reduce their levels of vertical integration. Many actually transferred know-how and resources onto smaller subcontractors to ensure that they would be technologically competent.

The second thing that happened in these areas was that many small and medium sized supplier firms began to produce their own specialized products. The dis-integration of large firms created a host of opportunities for specialist producers with ingenuity.



The interesting thing about these developments is that they have been supported by a host of background institutions in the decentralized regions that have been in place, often since the middle of the 19th century: regional governments have been very active in providing assistance with technology transfer; local vocational training and research institutes have been important conduits of technological information and know-how for smaller producers; trade associations and other private associations have been extremely active and successful in organizing research projects and fostering communication and specialization among small and medium sized producers.

The response of producers in autarkic regions has followed similar lines. Yet because the regional background conditions are so different from the regions of decentralized production, the process of dis-integration has been more halting. In an effort to increase the rate at which they develop new products and the flexibility that they have on the market, large corporations have moved to deconstruct the centralized "americanesque" divisional structures that they built in the 1960s. The trend is toward the devolution of increasing amounts of autonomy and decision making power on the operating units of the firms. Divisions are being separated from the parent company and transformed into fully independent companies. The holding structure in the autarkic corporation is beginning to increasingly provide the kinds of services to its operating units that trade associations and regional governments provide to producers in the decentralized order: they perform long term research and help to foster communication and specialization among the operating units.

The problem for the autarkic producers is that they are not always able to decentralize their production as much as they would like to. The legacy of fully autarkic industrialization has worked to their disadvantage: autarkic regions not only have a very poor infrastructure of small and medium sized supplier firms, they also have an underdeveloped institutional infrastructure of vocational and technical training

facilities and research institutes with active connection with small and medium sized suppliers. The decentralization of production in the Ruhr and in parts of Bavaria is actually blocked by this underdeveloped infrastructure of small and medium sized job shops and specialist firms with supporting infrastructure.

The situation in the autarkic areas today is far from certain. But the irony of the situation is that it is ambiguous in exactly the way my criticisms of the Gerschenkronian tradition claims response to the emergence of a new standard of efficiency in the world economy should be. It is not clear that autarkic firms will be able to shake the tradition of autarky and work to create an infrastructure that will support the suppliers they need. Large firms are now searching to find some balance or admixture of market and hierarchy in the way that they produce goods and they are finding that it is a highly political process. Furthermore, it is not at all clear that the federal or regional authorities will be able to intervene to provide the public infrastructure that such a system of decentralized production requires. Past choices constrain the options that are open to producers in the present in responding to changes in the character of international standards of efficiency. Neither the federal government nor the regional governments in North Rhine Westfalia where the Ruhr is located, nor in Bavaria have traditions of dealing with small and medium sized producers. There is no institutional infrastructure to be activated as there was in the traditional decentralized regions.

Finally, it is important to point out that the reorganization of production and its administration in the autarkic regions in the face of new competitive pressures in the world economy is a process in which the boundaries of the firm with the rest of society are being redefined. Whether or not the federal or local governments prove capable of providing the services needed to foster a more radical decentralization of

production, it is clear that either way the role of government and politics will have been decisive in that process.

At the level of the polity as a whole, progressive decentralization and increasingly uneven economic performance in different regions has been reflected, once again, in changing relations between the Bund and Laender. Increasingly uneven regional economic performance in the FRG has placed increasingly contradictory pressures on the Central government and the central peak associations. The consequence of this has been that the movement toward de facto centralization of the 1960s and 70s has been completely arrested. Indeed, there are signs that things are moving in the other direction. The most striking and politically significant and controversial sign of this is that Regional governments and cities are taking increasing responsibility for industrial and trade policy. They compete with one another and many times undermine the external bargaining power of the central state in international negotiations. Unlike the previous two major periods of redefinition of relations between the regions and the state in German history, however, the constitutional structure of the Federal Republic seems capable of accommodating a movement toward greater decentralization. Defacto relations between the various levels of government will simply more closely resemble the de jure relations in the basic law.

### **Chapter 5: Conclusion:**

**Implications for the Study of German industrial Development.**

**Implications for the way that we think about the relationship between industry and politics.**

**Broader significance of Gerschenkron and the German case.**